Officer: XM1284

PREMIUM PROCESSING
COVERSHEET
PLEASE RETURN THE REQUESTED INFORMATION AND
ALL SUPPORTING DOCUMENTS **WITH**
THIS PAGE ON TOP TO:
USCIS/TSC
ATTN: RFE/NOID/NOIR/NOIT
6046 N BELT LINE RD STE 140
IRVING, TX 75038-0014

Please check the appropriate box regarding if there is a new Form G-28, Notice of Entry of Appearance as Attorney or Accredited Representative, additional fees, additional forms, etc. Please place the new Form G-28, additional fees, additional forms directly under this sheet.

Yes, there is:

☐	**A New G-28**	☐	**Additional Fees**
☒	**Additional Forms**	☐	**Other:**

If you have moved, write your current address in the blank area below. Please be sure to write clearly.

(Select appropriate check box)

☐ **Applicant/Beneficiary** ☐ **Petitioner**

New Address:

As required by Section § 265.1 Reporting change of address. "Except for those exempted by section 263(b) of the Act, all aliens in the United States required to register under section 262 of the Act must report each change of address and new address within 10 days of such change in accordance with instructions provided by USCIS."

REQUEST FOR EVIDENCE

I-140 Immigrant Petition for Alien Worker

IOE0937802162

XAVIER DO REGO, GUSTAVO DARTAGNAN
XAVIER DO REGO, GUSTAVO DARTAGNAN

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

Application for Permanent Employment Certification
Form ETA-9089
U.S. Department of Labor

***IMPORTANT**: Please review and read the filing instructions carefully before completing the Form ETA-9089. A copy of the instructions can be found at https://www.dol.gov/agencies/eta/foreign-labor. If you are not submitting these forms electronically, please complete ALL required fields/items containing an asterisk (*) and any fields/items where a response is conditional and must be completed if applicable as indicated by the section (§) symbol.*

In accordance with Federal Regulations at 20 CFR 656.17(a)(1), incomplete applications will be denied by the Department of Labor. If submitting this form non-electronically, ALL fields/items must be completed. In fields/items for which there is no answer, enter "N/A" or "0" (zero) if the field/item is a number field. If submitting this form electronically, you may leave fields/items for which there is no answer blank, and, at the end of each page, you will be asked to confirm your desire to leave these fields/items blank. When the application is printed, all fields/items intentionally left blank will be automatically pre-populated with "N/A."

A. Employer Information

1. Legal Business Name * N/A		
2. Trade Name/Doing Business As (DBA), if applicable § N/A		
3. Address 1 * N/A		
4. Address 2 *(apartment/suite/floor and number)* § N/A		
5. City * N/A	6. State * N/A	7. Postal Code * N/A
8. Country * N/A	9. Province § N/A	
10. Telephone Number * N/A	11. Extension § N/A	
12. Federal Employer Identification Number *(FEIN from IRS)* * N/A	13. NAICS Code * N/A	
14. Number of current employees on payroll in the area of intended employment * N/A	15. Year Commenced Business * (if household, year issued FEIN) N/A	
16. Is the employer a closely held corporation, partnership, or sole proprietorship in which the foreign worker has an ownership interest? *	❑ Yes ❑ No	
17. Is there a familial relationship between the foreign worker and the owners, stockholders, partners, corporate officers, and/or incorporators? *	❑ Yes ❑ No	

B. Employer Point of Contact Information

The information contained in this Section must be that of an employee of the employer who is authorized to act on behalf of the employer in labor certification matters. The information in this Section must be different from the agent or attorney information listed in Section C, except when the attorney is an employee of the employer.

1. Contact's Last (family) Name * N/A	2. First (given) Name * N/A	3. Middle Name(s) § N/A	
4. Contact's Job Title * N/A			
5. Address 1 * N/A			
6. Address 2 *(apartment/suite/floor and number)* § N/A			
7. City * N/A	8. State * N/A	9. Postal Code * N/A	
10. Country * N/A	11. Province § N/A		
12. Telephone Number * N/A	13. Extension § N/A	14. Business Email Address * N/A	

PERM Case Number: _____ Case Status: _____ Determination Date: _____ Expiration Date: _____

Application for Permanent Employment Certification
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C. Attorney or Agent Information (If applicable)

1. Indicate the type of representation for the employer in the filing of this application. * (*complete the remainder of this section if "Attorney" or "Agent" is marked)*		■ Attorney Agent None
2. Attorney or Agent's Last (family) Name §	3. First (given) Name §	4. Middle Name(s) §
HAVERROTH SILVA	Otavio	N/A
5. Address 1 §		
PO Box 90487		
6. Address 2 *(apartment/suite/floor and number)* §		
N/A		
7. City §	8. State §	9. Postal Code §
San Diego	CA	92169
10. Country §	11. Province §	
United States	N/A	
12. Telephone Number §	13. Extension §	14. Law Firm/Business Email Address §
(510) 241-9336	N/A	otavio@legalhs.com
15. Law Firm/Business Name §		16. Law Firm/Business FEIN §
HS Law Corp		92-1209542

If "Attorney" is marked in question C.1 or an Attorney is acting as an "Agent", complete questions 17 to 19 below.

17. State Bar Number(s) §	18. State of highest court where attorney is in good standing §
343486	California
19. Name of the highest state court where attorney is in good standing §	
Supreme Court of California	

D. Foreign Worker Information

1. A completed **Appendix A** identifying the foreign worker being sponsored for permanent employment by the employer named in Section A of this application is attached. *	■ Yes ☐ No
2. Has the employer contracted with an agent or attorney that also represents the foreign worker covered by this application? *	☐ Yes ■ No

E. Job Opportunity and Wage Information

1. Enter the valid Prevailing Wage Determination (PWD) case number issued by the Department of Labor to identify the job opportunity and prevailing wage(s) covered by this application. *	**N/A - National Interest Waiver**
2. If a valid PWD has not been obtained due to the employer being required, by notice from a Certifying Officer, to currently undergo supervised recruitment in accordance with 20 CFR 656.21, indicate whether a completed Form ETA-9141 is attached to this application. *	☐ Yes ☐ No N/A
3. Offered Wage * From: $ N/A . N/A * To: $ N/A . N/A	4. Per *(Choose only one)* * Hour Week Bi-Weekly Month Year

5. Additional conditions about the offered wage. *(Enter up to 500 characters)* §

Self-petitioned Form I-140 (EB-2) with a request for a National Interest Waiver under INA 203(b)(2)(B)(i); no prevailing wage determination or labor certification is required. Offered wage reflects the Founder/Chief Executive compensation for Year 1 stated in the business plan for Dartagnan Telco Solutions, Dallas, Texas.

F. Area of Intended Employment Information

a. Worksite Information

1. Type of worksite location that best describes where work will be performed (Choose only one): *
   a. ■ Business premises
   b. ☐ Employer's private household (includes live-in and domestic household worker)
   c. ☐ Employee's private residence (when work is performed directly out of the residence)
   d. ☐ No one specific worksite address or physical location

If submitting this form non-electronically and marked "No one specific worksite address or physical location," enter "N/A" or "0" (zero), as appropriate, in questions 2- 7 below , complete questions 8 and 8a, and continue to Section F.b.

2. Worksite Address *	To be determined		
3. Worksite Address § *(apartment/suite/floor and number)*	N/A		
4. City *	Dallas	5. County *	Dallas
6. State/District/Territory *	Texas	7. Postal Code *	To be determined
8. MSA/OES Area Code *	19100	8a. MSA Name/OES Area Title *	Dallas-Fort Worth-Arlington, TX

b. Additional Worksites

1. Will work be performed in geographic areas other than the one identified in Section F.a above? *	❑ Yes ■ No
2. If "Yes" is marked in question F.b.1, indicate whether a completed **Appendix B** is attached to this application. §	❑ Yes ❑ No ■ N/A

c. Other Definable Geographic Area(s)

Complete this question only where the specific MSA(s) are not known or the expected area(s) of intended employment are dispersed over a wide geographical area. If submitting this form non-electronically, and not applicable, enter "N/A." If the job opportunity requires roving, travel or possible relocation, enter the phrase "Various Worksites," otherwise, enter "N/A" .

1. Identify the geographic area(s) where work will be performed. For example, this can include a listing of cities or townships/states, counties/states, or states located within a geographic region *(up to 1,500 characters).* §

N/A

G. Additional Job Opportunity Information and Other Requirements

1. Is this a permanent position offering full-time employment of generally 35 hours or more? *	■ Yes ❑ No
2. Is the employer seeking permanent labor certfication for a live-in household domestic service worker? *	❑ Yes ■ No
2a. If "Yes" is marked in Question G.2, indicate whether the foreign worker possesses one year of paid experience as a live-in household domestic service worker? *§*	❑ Yes ❑ No ■ N/A
2b. If "Yes" is marked in Question G.2, indicate whether the employer and foreign worker have executed the required employment contract? *§*	❑ Yes ❑ No ■ N/A
2c. If "Yes" is marked in Question G.2b, indicate whether the employer provided a copy of the employment contract to the foreign worker? *§*	❑ Yes ❑ No ■ N/A
3. Will the employer accept a foreign diploma/degree equivalent to the employer's required U.S. diploma/degree identified in Section F of the PWD identified in Question E.1? *	❑ Yes ❑ No ■ N/A
4. Is the foreign worker currently working for the employer submitting this application? *	❑ Yes ■ No
4a. If "Yes" in Question G.4, indicate whether the foreign worker only qualifies for the job opportunity by virtue of the employer's alternative requirements identified in Section F of the PWD identified in Question E.1. *§*	❑ Yes ❑ No ■ N/A
4b. If "Yes" in Questions G.4 and G.4a, please select the applicable statement describing the employer's willingness to accept any suitable combination of education, experience, or training. *§*	❑ I ACCEPT ❑ I **DO NOT** ACCEPT
5. Is the employer relying solely on the experience the foreign worker while working for the employer, including as a contract employee to qualify him/her for the job opportunity covered by this application? *	❑ Yes ■ No
5a. If "Yes" in Question G.5, did the foreign worker gain any of the qualifying experience with the employer in a position substantially comparable to the job opportunity identified in Section F of the PWD identified in Question E.1? *§*	❑ Yes ❑ No ■ N/A
5b. If "Yes" in Question G.5, did the employer pay for any of the foreign worker's education or training necessary to satisfy any of the employer's requirements for the job opportunity identified in Section F of the PWD identified in Question E.1? *§*	❑ Yes ❑ No ■ N/A

If "Yes" is marked in any of the questions below, complete one (1) section of the Form ETA-9089, Appendix C to provide a brief explanation justifying the response.

6. Does the job opportunity require the worker to live on the employer's premises? *	❑ Yes ■ No
7. Does the job opportunity identified in Section F of the PWD identified in Question E.1 involve a combination of occupations? *	❑ Yes ■ No
8. Is proficiency in a foreign language required or preferred to perform the job duties identified in Section F of the PWD identified in Question E.1? *	❑ Yes ■ No
9. Do the job requirements identified in Section F of the PWD identified in Question E.1 exceed the Specific Vocational Preparation (SVP) level assigned to the occupation as shown in the O*NET Job Zones? *	❑ Yes ❑ No ■ N/A
10. Did the employer use a credentiaing service to qualify the foreign worker's education and/or experience requirements in Section F of the PWD identified in Question E.1? *	❑ Yes ❑ No ■ N/A
11. Has the employer received payment of any kind for the submission of this application? *	❑ Yes ■ No
12. Has the employer had a layoff in the occupation involved in this application or in a related occupation within the 6 months immediately preceding the filing of this application in the area of intended employment? *	❑ Yes ■ No

H. Recruitment Information

a. Supervised Recruitment

1. Is the employer required, by notice from a Certifying Officer, to currently undergo supervised recruitment in accordance with 20 CFR 656.21? *	❑ Yes ■ No

b. Occupation Type - All must complete this section.

Mark ONE appropriate box below: *	
❑	1a. This application is for a **professional occupation** (which includes a college or university teacher not selected using the competitive recruitment process) and the recruiting was conducted in accordance with 20 CFR 656.17(e)(1).
❑	1b. This application is for a **non-professional occupation** and the recruiting was conducted in accordance with 20 CFR 656.17(e)(2).
❑	1c. This application is for a **college or university teacher** and the candidate was selected using the **competitive recruitment process** in accordance with 20 CFR 656.18. *(Skip c. and d. of Section H. and go to Appendix D)*
❑	1d. None of the above apply because this application is for a **Schedule A or sheepherder occupation.**
❑	1e. None of the above apply because this application is for a **professional athlete.**

c. Professional/Non-Professional Recruitment Information

Complete this section if 1a or 1b is marked in Question H.b above.			
1a. Start date of SWA job order §	N/A	1b. End date of SWA job order §	N/A
2. Is there a Sunday edition of a newspaper (of general circulation) in the area of intended employment? §			❑ Yes ❑ No ■ N/A
2a. Name of newspaper of general circulation in which an advertisement was placed. § N/A			2b. Advertisement date § N/A
3. Which of the following did the employer use to place the other advertisement for the job opportunity? *(Choose only one)* § ❑ Newspaper of general circulation ❑ Professional journal ■ N/A			
3a. Name of newspaper or professional journal in which an advertisement was placed. § N/A			3b. Advertisement Date § N/A

d. Additional Recruitment Requirements for Professional Occupations

Complete this section if 1a is marked in Question H.b above. A minimum of three (3) recruitment events listed below must be completed.						
❑	Job fair §	1a.	From: N/A	1b.	To:	N/A
❑	Employer website §	2a	From: N/A	2b.	To:	N/A
❑	Job search website §	3a	From: N/A	3b.	To:	N/A
❑	On-campus recruiting §	4a.	From: N/A	4b.	To:	N/A
❑	Trade or professional organization §	5a.	From: N/A	5b.	To:	N/A
❑	Private employment firm §	6a.	From: N/A	6b.	To:	N/A
❑	Employee referral program §	7a.	From: N/A	7b.	To:	N/A
❑	Campus placement office §	8a.	From: N/A	8b.	To:	N/A
❑	Local or ethnic newspaper §	9a.	From: N/A	9b.	To:	N/A

❑	Radio and/or TV advertisement **§**	10a. From:	N/A	10b. To:	N/A

e. Notice of Posting - All must complete this section.

Mark **ALL** that apply in the appropriate box(es) below:

❑	1a. **Bargaining Representative** Notice of this filing has been provided to the bargaining representative for workers in the occupation in which the foreign worker will be employed at least 30 days before, but not more than 180 days before, the date the application was filed.
❑	1b. **No Bargaining Representative – Physical Notice** Notice of this filing has been physically posted to employees for consecutive business days in a conspicuous location at the places of employment at least 30 days before, but not more than 180 days before, the date this application was filed.
❑	1c. **No Bargaining Representative – Electronic Notice** Notice of this filing has been disseminated electronically at least one (1) time, which is the employer's normal practice of informing current employees of job vacancies at least 30 days before, but not more than 180 days before, the date this application was filed.
❑	1d. **No Bargaining Representative – In-House Media** Notice of this filing has been disseminated using all in-house media, which is the employer's normal practice of informing current employees of job vacancies at least 30 days before, but not more than 180 days before, the date this application was filed.
❑	1e. **No Bargaining Representative – Private Household** Notice of this filing has been posted physically and/or disseminated electronically, in accordance with the employer's normal practice of informing current employees in the private household at least 30 days before, but not more than 180 days before, the date this application was filed.
❑	1f. The employer **DID NOT** post the notice of filing.

I. Employer Labor Condition Statements *- All must complete this section. Applications for Professional Athletes must attest to only condition statements 1 - 7.*

(1) The offered wage equals or exceeds the prevailing wage determined pursuant to 20 CFR 656.40 and 656.41, and the wage the employer will pay to the foreign worker to begin work will equal or exceed the prevailing wage that is applicable at the time the foreign worker begins work or from the time the foreign worker is admitted to take up the certified employment.

(2) The wage offered is not based on commissions, bonuses, or other incentives, unless the employer guarantees a prevailing wage paid on a weekly, bi-weekly, or monthly basis that equals or exceeds the prevailing wage.

(3) The employer has enough funds available to pay the wage or salary offered the foreign worker.

(4) The employer will be able to place the foreign worker on the payroll on or before the date of the foreign worker's proposed entrance into the United States.

(5) The job opportunity does not involve unlawful discrimination by race, creed, color, national origin, age, sex, religion, handicap, or citizenship.

(6) The employer's job opportunity is not:

(i) Vacant because the former occupant is on strike or locked out in the course of a labor dispute involving a work stoppage; or
(ii) At issue in a labor dispute involving a work stoppage.

(7) The job opportunity's terms, conditions, and occupational environment are not contrary to Federal, state or local law.

(8) The job opportunity has been and is clearly open to any U.S. worker.

(9) The U.S. workers who applied for the job opportunity were rejected for lawful job-related reasons.

(10) The job opportunity is for full-time, permanent employment for an employer other than the foreign worker.

1. **I certify** under penalty of perjury my knowledge of and compliance with the applicable Labor Condition Statements above covering the conditions of employment for the job opportunity and foreign worker covered by this application. 20 CFR 656.10(c). *	❑ Yes ❑ No

J. Preparer

Complete this section if the preparer of this application is a person other than the one identified in either Section B (employer point of contact) or Section C (attorney or agent) of this application.

1. Last (family) Name §	2. First (given) Name §	3. Middle Name(s) §
N/A	N/A	N/A

4. Law Firm/Business FEIN §	5. Law Firm/Business Name §
N/A	N/A

6. Law Firm/Business Email Address §
N/A

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date:02/28/2029

Application for Permanent Employment Certification
Form ETA-9089 – Appendix A: Foreign Worker Information
U.S. Department of Labor

FOREIGN WORKER INFORMATION

A. Foreign Worker Contact Information

1. Foreign Worker's Last (family) Name * XAVIER DO REGO		
2. Foreign Worker's First (given) Name * Gustavo Dartagnan		
3. Foreign Worker's Middle Name(s) * N/A		
4. Address 1 *(current)* * 1815 Sao Casemiro Ave		
5. Address 2 *(apartment/suite/floor and number)* ***§*** N/A		
6. City * Araucaria	7. State * N/A	8. Postal Code * 83701990
9. Country * Brazil	10. Province ***§*** Parana	
11. Date of Birth *(mm/dd/yyyy)* * 09/23/1978	12. Class of Admission * N/A	13. Alien Registration Number (A#) (if applicable) * N/A
14. Country of Birth * Brazil		
15. Country of Citizenship or Nationality * Brazil		

B. Foreign Worker Education §

a. Educational Attainment Information 1

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity ☐ None ☐ High School/GED ☐ Associate ☐ Bachelor's ☐ Master's ☐ Doctorate (PhD) ■ Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained Postgraduate Specialization	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field) Management Development	
1c. Name of Institution that issued the degree/diploma FAE University Center	
1d. Name of Country of institution identified in question 1c Brazil	1e. Month/year attained (*mm/yyyy*) 06/2018

b. Educational Attainment Information 2

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity ☐ None ☐ High School/GED ☐ Associate ■ Bachelor's ☐ Master's ☐ Doctorate (PhD) ☐ Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field) Electrical Engineering	
1c. Name of Institution that issued the degree/diploma Federal University of Parana	
1d. Name of Country of Institution identified in question 1c Brazil	1e. Month/year attained (*mm/yyyy*) 05/2006

PERM Case Number: _____ Case Status: _____ Determination Date: _____ Expiration Date: _____

***B. Foreign Worker Education** (continued)*

c. Educational Attainment Information 3

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity ☐ None ☐ High School/GED ☐ Associate ☐ Bachelor's ☐ Master's ☐ Doctorate (PhD) ☐ Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)	
1c. Name of Institution that issued the degree/diploma	
1d. Name of Country of Institution identified in question 1c	1e. Month/year attained (*mm/yyyy*)

d. Educational Attainment Information 4

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity ☐ None ☐ High School/GED ☐ Associate's ☐ Bachelor's ☐ Master's ☐ Doctorate (PhD) ☐ Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)	
1c. Name of Institution that issued the degree/diploma	
1d. Name of Country of Institution identified in question 1c	1e. Month/year attained (*mm/yyyy*)

e. Educational Attainment Information 5

1. Education: U.S. Diploma/Degree attained relevant to the job opportunity ☐ None ☐ High School/GED ☐ Associate's ☐ Bachelor's ☐ Master's ☐ Doctorate (PhD) ☐ Other Degree (JD, MD, etc.)	
1a. If "Other Degree" in question 1, specify the diploma/degree attained	
1b. Specify major(s) and/or field(s) of study (may list more than one related major and more than one field)	
1c. Name of Institution that issued the degree/diploma	
1d. Name of Country of Institution identified in question 1c	1e. Month/year attained (*mm/yyyy*)

C. Foreign Worker Training Qualifications §

a. Training, Certification(s), and/or License(s) Information 1

1. Name of Institution/School/Training provider Conselho Regional de Engenharia e Agronomia do Parana (CREA-PR)
1a. Name of training, coursework, experience received Professional License

1b. Training/Certifications/licenses attained (if applicable) PR-88187/D		
1c. Start date of training (*mm/yyyy*)	1d. End date of training (*mm/yyyy*)	1e. Month/year awarded (*mm/yyyy*)

b. Training, Certification(s), and/or License(s) Information 2

1. Name of Institution/School/Training provider BROADCOM and others		
1a. Name of training, coursework, experience received VMware VSAN: Management and Operations [V7]		
1b. Training/Certifications/Licenses attained (if applicable)		
1c. Start date of training (*mm/yyyy*)	1d. End date of training (*mm/yyyy*)	1e. Month/year awarded (*mm/yyyy*) 05/2022

c. Training, Certification(s), and/or License(s) Information 3

1. Name of Institution/School/Training provider BROADCOM and others		
1a. Name of training, coursework, experience received VMware vSAN: Troubleshooting [V7]		
1b. Training/certifications/licenses attained (if applicable)		
1c. Start date of training (*mm/yyyy*)	1d. End date of training (*mm/yyyy*)	1e. Month/year awarded (*mm/yyyy*) 05/2022

D. Foreign Worker Training Qualifications §

a. Skills, Abilities, and Proficiencies 1

1. Name of Employer/Institution/School/Training Provider Federal University of Parana	
1a. Country Brazil	1b. State, Territory, or Province Parana
1c. Description of specific skills, abilities, and/or proficiencies the foreign worker possesses or attained, which help establish whether the foreign worker meets the requirements identified for the job opportunity *(up to 1,500 characters)* Finished Intermediate Level English Course	

b. Skills, Abilities, and Proficiencies 2

1. Name of Employer/Institution/School/Training Provider	
Italian Culture Center - Parana	
1a. Country	1b. State, Territory, or Province
Brazil	Parana

1c. Description of specific skills, abilities, and/or proficiencies the foreign worker possesses or attained, which help establish whether the foreign worker meets the requirements identified for the job opportunity *(up to 1,500 characters)*

Italian Language – Level B1

E. Foreign Worker Work Experience §

a. Work Experience 1

1. Employer Name			
Winprovit			
1a. Address 1			
774 Vasco da Gama Ave			
1b. Address 2			
Space 08			
1c. City or Town			1d. Postal Code
Vila Nova de Gaia			4430247
1e. Country		1f. State, Territory, or Province	
Portugal		Porto District	
1g. Job Title			
SR Telecom Engineer			
1h. Start Date *(mm/yyyy)*	1i. End Date *(mm/yyyy)*	1j. Present	1k. Hours Worked Per Week
10/2022	Present	■ Yes ☐ No	40

1l. Job Duties: Specify details of the job (work tasks performed, use of tools/equipment, supervision, etc.) (*up to 3,500 characters*)

Managed telecommunications projects related to voice network infrastructure and system migrations.
Provided technical support for mobile and fixed voice network operations.
Developed and maintained Linux automation solutions to improve operational efficiency.
Designed and implemented Python-based software and automation tools for telecommunications systems.
Automated configuration, firmware upgrades, and backup processes for network devices.
Oversaw regulatory compliance initiatives, including FCC STIR/SHAKEN robocall mitigation requirements.
Developed monitoring and observability solutions integrating network performance indicators and operational alerts.
Supported network reliability, fault mitigation, and performance analysis through data-driven dashboards and reporting.

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Alura Online Education
Name of training: Python Brazil: data validation in the national standard
Month/year awarded: 04/2022

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Alura Online Education
Name of training: Python Collections part 1: lists and tuples
Month/year awarded: 04/2022

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Alura Online Education
Name of training: Python: understanding Object-Oriented Programming
Month/year awarded: 04/2022

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd
Name of training: UMG8900 Fundamental Training
Month/year awarded: 04/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: MRFC System Fundamental and Data Configuration Training
Month/year awarded: 03/2012

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: IMS Overview Training
Month/year awarded: 02/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: CSC3300 Data Configuration Training
Month/year awarded: 03/2012

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: MRP6600 Data Configuration Training
Month/year awarded: 03/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: ATS9900 Fundamental Training
Month/year awarded: 04/2012

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: IMS Operation and Maintenance Training
Month/year awarded: 02/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: HSS9820 Data Configuration Training
Month/year awarded: 03/2012

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: IMS ATCA Platform (Hardware/OMS2600) Training
Month/year awarded: 02/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: OSTA2.0 Hardware Platform Training
Month/year awarded: 02/2012

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: IMS Operation and Maintenance Training SPG 2800
Month/year awarded: 02/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: 1CG9815 Operation and Maintenance Training
Month/year awarded: 05/2012

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: SSAR Training Center, Huawei Technologies Co., Ltd.
Name of training: CSC3300/HSS9820 Operation and Maintenance Training and Provisioning Suscribers
Month/year awarded: 03/2012

For Public Burden Statement, see the Instructions for Form ETA-9089.

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: FIAP – Centro Universitário
Name of training: DevOps & Agile Culture
Month/year awarded: 12/2020

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Acme Packet
Name of training: Net-Net Session Director Advanced Configuration
Month/year awarded: 11/2019

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Genband Knowledge Services
Name of training: A218 – C–20–Adaptive Application Engine (A2) Administration
Month/year awarded: 09/2011

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Genband Knowledge Services
Name of training: SP2K15 – Signaling Point 2000 Signaling Gateway Operations, Administration and Maintenance
Month/year awarded: 09/2011

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Genband Knowledge Services
Name of training: C2015 C20 Solution fault Management
Month/year awarded: 10/2011

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Genband Knowledge Services
Name of training: C2010 – C20 Solution Overview
Month/year awarded: 09/2011

For Public Burden Statement, see the Instructions for Form ETA-9089.

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Genband Knowledge Services
Name of training: ATCA15 – C20–ATCA Operations and Maintenance
Month/year awarded: 09/2011

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Genband Knowledge Services
Name of training: S330/S340 Basic Operations, Administration, Maintenance & Provisioning Course
Month/year awarded: 07/2011

For Public Burden Statement, see the Instructions for Form ETA-9089.

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Nortel
Name of training: 1775A CS 2000 – Compact/CS 2100 – Operations and Maintenace
Month/year awarded: 05/2010

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: IWF – Consultoria e Treinamento
Name of training: Signaling in NGN Networks
Month/year awarded: 04/2010

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Alcatel Lucent University
Name of training: Started Pack Enterprise
Month/year awarded: 09/2009

B. Supplemental Information 2 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Alcatel Lucent University
Name of training: VoIP Advanced
Month/year awarded: 10/2009

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	C	1a. Section Name or Category of Supplemental Information	**Foreign Worker Training Qualifications**

1b. Supplemental Information. *(up to 1,500 characters)*

Training, Certification(s), and/or License(s) Information
Name of institution: Alcatel Lucent University
Name of training: CPU Loading & Redundancy
Month/year awarded: 10/2009

B. Supplemental Information 2 §

1. Section and Item Number	E	1a. Section Name or Category of Supplemental Information	**Foreign Worker Work Experience**

1b. Supplemental Information. *(up to 1,500 characters)*

Work Experience
Employer name: Vivo/Telefonica Brazil
Address of Employer: 2197 Dr. Darios Lopes dos Santos St. Curitiba – Parana/Brazil 80210–010
Job title: Telecom Consultant
Start date – End date: 04/2018 – 09/2022
Job duties: Managed datacenter installations, infrastructure planning, and capacity optimization activities. Supported onboarding and deployment of Virtual Network Functions (VNFs) in VMware Telco Cloud environments. Prepared Requests for Quotation (RFQs) and evaluated technical proposals from vendors and service providers. Developed automation scripts and deployment templates for virtualized network environments. Provided troubleshooting and technical support for cloud and virtualized infrastructure systems. Collaborated with vendors and international teams on deployment, observability, and continuous delivery/testing initiatives. Developed systems to support telecommunications regulatory compliance and operational monitoring. Assisted in implementing and validating new virtualized network technologies and cloud configurations.

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	E	1a. Section Name or Category of Supplemental Information	**Foreign Worker Work Experience**

1b. Supplemental Information. *(up to 1,500 characters)*

Work Experience
Employer name: Vivo/Telefonica Brazil
Address of Employer: 2197 Dr. Darios Lopes dos Santos St. Curitiba – Parana/Brazil 80210-010
Job title: Telecom Specialist at Voice Core Engineering
Start date – End date: 05/2012 – 04/2018
Job duties: Planned network capacity expansions and infrastructure growth initiatives. Researched and evaluated new technologies for telecommunications product development.Provided technical leadership for voice network and telecommunications projects.Supported provisioning guidelines, process automation, and operational improvements.Prepared Requests for Quotation (RFQs) and evaluated technical proposals from vendors and partners.Assisted in the integration and expansion of voice and VoIP network infrastructures.Supported deployment of SIP-based telephony solutions and interconnection projects between telecom operators.Developed systems and tools for network usage analysis, capacity monitoring, and growth planning.

B. Supplemental Information 2 §

1. Section and Item Number	E	1a. Section Name or Category of Supplemental Information	**Foreign Worker Work Experience**

1b. Supplemental Information. *(up to 1,500 characters)*

Work Experience
Employer name: Vivo/Telefonica Brazil
Address of Employer: 2197 Dr. Darios Lopes dos Santos St. Curitiba – Parana/Brazil 80210-010
Job title: Senior Telecom Analyst – Specialized Voice Support
Start date – End date: 09/2009 – 05/2012

Job duties: Provided third-level technical support for NGN voice network operations. Supported network expansion projects and commissioning of new telecommunications equipment. Coordinated with vendors on complex technical issues and disaster recovery activities. Developed technical procedures, provisioning templates, and operational support tools for network management. Delivered technical training and guidance to junior support teams. Assisted in improving voice-network stability, service quality, and customer experience through standardized configurations and process improvements.

For Public Burden Statement, see the Instructions for Form ETA-9089.

OMB Approval: 1205-0451
Expiration Date: 02/28/2029

SUPPLEMENTAL INFORMATION

A. Supplemental Information 1 §

1. Section and Item Number	E	1a. Section Name or Category of Supplemental Information	Foreign Worker Work Experience

1b. Supplemental Information. *(up to 1,500 characters)*

Work Experience
Employer name: Vivo/Telefonica Brazil
Address of Employer: 2197 Dr. Darios Lopes dos Santos St. Curitiba – Parana/Brazil 80210-010
Job title: Support Analyst – Vono Team
Start date – End date: 05/2008 – 09/2009

Job duties: Provided technical leadership for VoIP network operations and related infrastructure projects. Delivered technical support and research and development for VoIP services and platforms. Managed Asterisk-based VoIP environments, including dial-plan configuration and system integrations. Supported integration of telephony systems with databases, web services, and NGN network infrastructure. Implemented virtualization, version control, and security improvements for VoIP platforms. Developed and deployed new VoIP features and communication solutions to enhance customer services. Assisted in the creation and support of wholesale VoIP solutions and large-scale traffic operations.

B. Supplemental Information 2 §

1. Section and Item Number	E	1a. Section Name or Category of Supplemental Information	Foreign Worker Work Experience

1b. Supplemental Information. *(up to 1,500 characters)*

Work Experience
Employer name: Vivo/Telefonica Brazil
Address of Employer: 2197 Dr. Darios Lopes dos Santos St. Curitiba – Parana/Brazil 80210-010
Job title: Support Analyst – Corporate Support
Start date – End date: 06/2006 – 05/2008

Job duties: Supported new customer activations and configuration change requests for VoIP services. Provided technical support for IP PBX and VoIP-based communication products and platforms. Assisted with configuration, provisioning, and troubleshooting of voice communication systems. Developed configuration templates and automation tools to improve operational efficiency and reduce configuration errors.

For Public Burden Statement, see the Instructions for Form ETA-9089.

Employment OMB Approval: 1205-0451
Expiration Date: 02/28/2029

Application for Permanent Employment Certification
Form ETA-9089 – Final Determination: Permanent Employment Certification Approval
U.S. Department of Labor

PERMANENT EMPLOYMENT CERTIFICATION APPROVAL

A. U.S. Government Agency Use Only

Pursuant to the provisions of Sections 212(a)(5)(A) of the Immigration and Nationality Act, as amended, the Department hereby certifies that there are not sufficient workers who are able, willing, and qualified, and who will be available at the time of application for a visa and admission into the United States and place needed to fill the job opportunities for which certification is sought, and the permanent employment of the foreign worker will not adversely affect the wages and working conditions of workers in the United States similarly employed.

Therefore, by virtue of the signature below, the Department hereby acknowledges granting certification for the following *Application for Permanent Employment Certification* (Form ETA-9089):

1. DOL Case Number		2. Case Status
3. Employer Legal Business Name		4. Employer FEIN
5. Foreign Worker's Last (family) Name		
6. Foreign Worker's First (given) Name		
7. Foreign Worker's Middle Name(s)		
8. Job Title		
9. SOC Code	10. SOC Occupational Title	
Labor Certification Validity Information		
11. Filing Date	12. Determination Date	13. Expiration Date
14. Department of Labor Office of Foreign Labor Certification *(electronic signature)*		

Pursuant to 20 CFR 656, the aforementioned permanent labor certification is valid only for the job opportunity, the foreign worker, and the area of intended employment specified on the approved Form ETA-9089, including all appendices and any modifications approved by the Department. The aforementioned filing date on this approved *Application for Permanent Employment Certification*, established under 20 CFR 656.17(c), may be used as a priority date by the Department of Homeland Security and the Department of State, as appropriate. This approved *Application for Permanent Employment Certification* will expire if not filed in support of *Immigrant Petition for Alien Workers* (Form I-140) with the Department of Homeland Security by the aforementioned expiration date.

The foreign worker covered by this approved *Application for Permanent Employment Certification* has declared under Section B below, under penalty of perjury, that the foreign worker has read and reviewed every page of Appendix A for this approved Form ETA-9089, takes full responsibility for the accuracy of all information contained therein, and intends to accept permanent employment in the job opportunity specified on the approved Form ETA-9089, including all appendices, offered by the employer if granted a visa or an adjustment of status based on this permanent labor certification.

The employer covered by this approved *Application for Permanent Employment Certification* has declared under Section D below under penalty of perjury that it has read and reviewed every page of this approved Form ETA-9089, including all appendices, and takes full responsibility for the accuracy of all information contained therein and all documentation supporting this approved *Application for Permanent Employment Certification*, including any representations made by the employer's authorized preparer, agent or attorney, as applicable.

OMB Approval: 1205-0451
Expiration Date:02/28/2029

Application for Permanent Employment Certification
Form ETA-9089 – Final Determination: Permanent Labor Certification Approval
U.S. Department of Labor

B. Foreign Worker Declaration

I declare under penalty of perjury that I have read and reviewed all information contained in Appendix A of this approved Form ETA-9089, and that to the best of my knowledge the information contained therein is true and accurate. *I understand that to knowingly and/or willfully furnish materially false information in the preparation of this form and any supplement thereto or to aid, abet, or counsel another to do so is a federal offense punishable by fines, imprisonment, or both (18 U.S.C. 2, 1001, 1546, 1621).*

I **further declare** that I am the person identified under Section A, Fields 5, 6, and 7 above. I did not participate in any activities involving the interviewing or consideration of U.S. workers and intend to accept permanent employment in the job opportunity specified on this approved Form ETA-9089, including all appendices, offered by the employer if granted a visa or an adjustment of status based on this permanent labor certification.

1. Signature *	2. Date Signed *
Gustavo Dortagnan Zavin do Rego	10/23/2026

C. Attorney or Agent Declaration

I declare under penalty of perjury that I am an attorney for the employer, or that I am an employee of, or hired by, the employer listed in Section C of the Form ETA-9089, and that I have been designated by that employer in accordance with 20 CFR 656.10(b) to act on its behalf in connection with this application.

I hereby certify that I have provided to the employer the entire Form ETA-9089, appendices, and all supporting documentation for review and to the best of my knowledge the information contained herein is true and accurate, including the employer's declaration regarding activities that I have undertaken on the employer's behalf in connection with this application. *I understand that to knowingly and/or willfully furnish materially false information in the preparation of this form and any supplement hereto or to aid, abet, or counsel another to do so is a federal offense punishable by fines, imprisonment, or both (18 U.S.C. 2, 1001, 1546, 1621).*

1. Attorney or Agent's Last (family) Name *	2. First (given) Name *	3. Middle Initial §
HAVERROTH SILVA	Otavio	N/A
4. Firm/Business Name §		
HS Law Corp		
5. Signature *		6. Date Signed *
		10/23/2026

D. Employer Declaration

I hereby designate the agent or attorney identified in Section C (if any) of the Form ETA-9089 to represent me for the purpose of labor certification and, by virtue of my signature in Field 5 below, **I take full responsibility** for the accuracy of any representations made by my agent or attorney, and my designated preparer identified in Section C above, on every page of the Form ETA-9089, including all appendices, and documentation supporting this application.

I declare under penalty of perjury that I have read and reviewed this application, including every page of the Form ETA-9089, appendices, and supporting documentation, and that to the best of my knowledge the information contained therein is true and accurate. *I understand that to knowingly and/or willfully furnish materially false information in the preparation of this form and any supplement thereto or to aid, abet, or counsel another to do so is a federal offense punishable by fines, imprisonment, or both (18 U.S.C. 2, 1001, 1546, 1621).*

1. Last (family) Name *	2. First (given) Name *	3. Middle Initial §
4. Title *		
5. Signature *		6. Date Signed *

For Public Burden Statement, see the Instructions for Form ETA-9089.

PERM Case Number: _____ Case Status: _____ Determination Date: _____ Expiration Date: _____

October 1, 2026

U.S. Department of Homeland Security
U.S. Citizenship and Immigration Services
Texas Service Center
6046 N Belt Line Rd STE 140
Irving, TX 75038-0014

GUSTAVO DARTAGNAN XAVIER DO REGO
c/o OTAVIO HAVERROTH SILVA
HS LAW CORP
PO BOX 90487
SAN DIEGO, CA 92169

U.S. Citizenship and Immigration Services

IOE0937802162

RE: GUSTAVO DARTAGNAN XAVIER DO REGO
I-140, Immigrant Petition for Alien Worker

PREMIUM PROCESSING

IMPORTANT: THIS NOTICE CONTAINS YOUR UNIQUE NUMBER. THE ORIGINAL NOTICE MUST BE SUBMITTED WITH THE REQUESTED EVIDENCE.

You are receiving this notice because U.S. Citizenship and Immigration Services (USCIS) requires additional evidence to process your form. Please provide the evidence listed on the attached page(s). Include duplicate copies if you are requesting consular notification.

Your response must be received in this office by November 3, 2026.

You are encouraged to respond to this request as early as possible, but no later than the deadline provided above. If you do not respond to this notice with the requested evidence within the allotted time, your case may be denied. 8 Code of Federal Regulations (8 CFR) 103.2(b)(13)(i).

You must submit all requested evidence at the same time. If you submit only some of the requested evidence, USCIS will consider your response a request for a decision on the record. 8 CFR 103.2(b)(11).

If you submit a document in any language other than English, the document must be accompanied by a full and **complete** English translation. The translator must certify that the translation is accurate and he or she is competent to translate from that language to English. **If you submit a foreign language translation in response to this request for evidence, you must also include a copy of the foreign language document.**

Processing of your I-140 will resume upon receipt of your response. If you have not heard from USCIS after **45 days of responding**, you may contact the Texas Service Center Premium Processing at email address tsc-premium.processing@uscis.dhs.gov.

REQUEST FOR EVIDENCE

Reference is made to this Form I-140, Immigrant Petition for Alien Worker, seeking classification as a member of the professions holding an advanced degree or an alien of exceptional ability, who is also seeking to waive the job offer requirements in the national interest of the United States for GUSTAVO DARTAGNAN XAVIER DO REGO (self-petitioner), filed on his own behalf. The priority date for this petition is July 30, 2026.

Please note that the terms you, petitioner, self-petitioner and beneficiary are used interchangeably throughout the notice to refer to GUSTAVO DARTAGNAN XAVIER DO REGO.

The self-petitioner intends to work as a chief executive for his own company.

In order to establish eligibility, the self-petitioner must establish that:

- The self-petitioner qualifies for the requested classification; and
- An exemption from the requirement of a job offer, and thus of a labor certification, is in the national interest of the United States.

I. Eligibility for the Requested Classification

The self-petitioner submitted evidence with Form I-140 which establishes he holds titulo de Engenheiro Eletricista from Universidade Federal do Parana in Curitiba, Brazil; issued on May 10, 2006. It is noted that according to the Electronic Database for Global Education (EDGE), published by the American Association of Collegiate Registrars and Admissions Officers (AACRAO), the self-petitioner's titulo de Engenheiro Eletricista represents attainment of a level of education comparable to a bachelor's degree in the United States. In addition, employment letters from his current and former employers verify his progressive work experience in the field for more than five years after completing his titulo de Engenheiro Eletricista on May 10, 2006; and thus, qualifies as a member of the professions holding an advanced degree or equivalent.

The self-petitioner qualifies as a member of the professions holding an advanced degree or equivalent. Therefore, at this time, USCIS does not need to evaluate whether the self-petitioner also qualifies as an alien of exceptional ability.

II. National Interest Waiver

The only issue is whether the self-petitioner established that a waiver of the job offer requirement, and a labor certification, is in the national interest.

USCIS has designated *Matter of Dhanasar*, 26 I&N Dec. 884 (AAO 2016) ("*Dhanasar*") as a precedent decision. That decision rescinded the earlier precedent decision, *Matter of New York State Dep't of Transp. ("NYSDOT")*, 22 I&N Dec. 215 (Acting Assoc. Comm'r 1998), regarding national interest waivers under Section 203(b)(2)(B)(i) of the Immigration and Nationality Act, and introduced a new three-prong test for determining eligibility. Under *Dhanasar*, USCIS may grant a national interest waiver as a matter of discretion if the self-petitioner demonstrates by a preponderance of the evidence that:

- The self-petitioner's proposed endeavor has both substantial merit and national importance;
- The self-petitioner is well positioned to advance the proposed endeavor; and
- On balance, it would be beneficial to the United States to waive the requirements of a job offer and thus of a labor certification.

If these three elements are satisfied, USCIS may approve the national interest waiver as a matter of discretion.

While the evidence of record establishes that the self-petitioner's proposed endeavor has substantial merit, it does not establish that his proposed endeavor has national importance; he is well positioned to advance the proposed endeavor; and on balance, it would be beneficial to the United States to waive the requirements of a job offer and thus of a labor

certification. Therefore, USCIS requests additional evidence.

First Prong: The Proposed Endeavor's Substantial Merit and National Importance

The first prong, substantial merit and national importance, focuses on the specific endeavor that the foreign national proposes to undertake. *Matter of Dhanasar*, 26 I&N Dec. 884, 889 (AAO 2016).

The self-petitioner submitted the following evidence to establish that he meets this requirement:

- A cover letter from the self-petitioner's counsel;
- The self-petitioner's business plan; and
- Industry reports and articles on topics such as the December 19, 2025, Presidential Actions, titled "Winning the 6G Race"; the July 2025, White House Policy Blueprint, titled "*Winning the Race: America's AI Action Plan*"; An Open Letter to President Donald Trump and the 119th Congress; 2025 telecom industry outlook | Deloitte Insights; Fact Sheet: President Donald J. Trump Reprioritizes Cybersecurity Efforts to Protect America; Adjusting Imports of Semiconductors, Semiconductor Manufacturing Equipment, and Their Derivative Products Into the United States; November 2025 Ericsson Mobility Report; …

The Proposed Endeavor's Substantial Merit

The endeavor's merit may be demonstrated in a range of areas such as business, entrepreneurialism, science, technology, culture, health, or education. *Id.*

The self-petitioner intends to work as a chief executive for his own company. The self-petitioner describes his proposed endeavor in his business plan as follows:

> Dartagnan Telco Solutions will be established by Mr. Gustavo Dartagnan Xavier do Rego as *a* technology-driven telecommunications engineering company focused on the development and implementation of Al-enabled network architecture, advanced VoIP infrastructure solutions, and intelligent telecommunications observability systems across the United States.
>
> The company will be headquartered in Dallas, Texas, a major telecommunications and technology hub that continues to attract large-scale infrastructure investments and hosts a strong ecosystem of telecom providers, data centers, and network technology companies. This strategic location enables the company to operate within one of the most relevant environments for telecommunications innovation and large-scale infrastructure deployment in the country.

The self-petitioner's counsel states, "Mr. Xavier's proposed endeavor is to develop and implement advanced telecommunications solutions involving carrier-grade voice networks, VoIP infrastructure, SIP signaling, IMS environments, Session Border Controllers, Next Generation Networks, telecom cloud platforms, network automation, Al-enabled observability, AIOps, and telecommunications reliability engineering. To advance this endeavor, he intends to establish and lead Dartagnan Telco Solutions in the United States as a specialized telecommunications engineering and infrastructure optimization company. The company will be headquartered in Dallas, Texas, and will provide advanced telecommunications engineering services to clients across the United States, including telecommunications operators, enterprise organizations, technology companies, digital infrastructure providers, data centers, and cloud infrastructure operators. Although the company will be strategically based in Dallas, its service model is not limited to a local market. Because many telecommunications engineering services can be delivered remotely, Dartagnan Telco Solutions will be positioned to support clients nationwide while maintaining centralized operations in Texas (Exhibit C.I)."

The record therefore shows that the self-petitioner's proposed endeavor of intending to work as a chief executive for his own company has substantial merit.

The Proposed Endeavor's National Importance

In determining national importance, the relevant question is not the importance of the field, industry, or profession in which the individual will work; instead USCIS must focus on "the specific endeavor that the foreign national proposes to undertake." *See Dhanasar*, 26 I&N Dec. at 889. In *Dhanasar*, the AAO noted that they "look for broader implications" of the proposed endeavor and that "[a]n undertaking may have national importance for example, because it has national or even global implications within a particular field." *Id.* AAO also stated that "[a]n endeavor that has significant potential to employ U.S. workers or has other substantial positive economic effects, particularly in an economically depressed area, for instance, may well be understood to have national importance." *Id.* at 890.

To evaluate whether the self-petitioner's proposed endeavor satisfies the national importance requirement, USCIS must look to evidence documenting the "potential prospective impact" of his proposed endeavor work. *Id.* at 889.

The self-petitioner is applying for a waiver of the job offer requirement. While it is not necessary for the self-petitioner to have a job offer from a specific employer, USCIS can consider information about the self-petitioner's current and prospective positions to illustrate the capacity in which the self-petitioner intends to work in order to determine whether the self-petitioner's proposed endeavor meets the requirements of the first prong of the *Dhanasar* analytical framework.

The self-petitioner intends to work as chief executive for his own company. However, the self-petitioner's endeavor of intending to work as a chief executive for his own company does not demonstrate a national importance; rather, the impact is limited to the self-petitioner, his business and his clientele.

In the same way that Dhanasar finds that a classroom teacher's proposed endeavor is not nationally important because it will not impact the field more broadly, USCIS finds that the self-petitioner has not shown the self-petitioner's proposed endeavor in this case stands to sufficiently extend beyond an organization and its clients to impact the industry or field more broadly.

The self-petitioner's counsel states, "Through this endeavor, Mr. Xavier intends to provide advanced engineering solutions for carrier-grade voice networks, VoIP infrastructure, SIP signaling, IMS environments. Session Border Controllers, Next Generation Networks, telecom cloud platforms, AI-enabled observability, AIOps, automation, and NextG/6G readiness. The company's model is designed to serve telecommunications operators, enterprise organizations, technology companies, digital infrastructure providers, data centers, and cloud infrastructure operators beyond a single employer or local market.

Accordingly, Dartagnan Telco Solutions' national importance rests on its broader prospective impact in three connected areas: strengthening the reliability and resilience of telecommunications infrastructure used by critical sectors; advancing modernization, automation, and intelligent network operations; and supporting the transition of U.S. telecommunications systems from legacy environments to cloud-based, virtualized, and next-generation architectures.

The market, policy, and industry research supporting this section is provided in Exhibit C.I, with each source identified in the corresponding reference citation, including the source link, where the information is discussed."

The self-petitioner appears to claim this prong has been met based on the importance of the profession in which he will work. The self-petitioner submitted industry reports and articles on topics such as the December 19, 2025, Presidential Actions, titled "Winning the 6G Race"; the July 2025, White House Policy Blueprint, titled "*Winning the Race: America's AI Action Plan*"; An Open Letter to President Donald Trump and the 119th Congress; 2025 telecom industry outlook | Deloitte Insights; Fact Sheet: President Donald J. Trump Reprioritizes Cybersecurity Efforts to Protect America; Adjusting Imports of Semiconductors, Semiconductor Manufacturing Equipment, and Their Derivative Products Into the United States; November 2025 Ericsson Mobility Report; … In determining national importance, the relevant question is not the importance of the industry, field, or profession in which an individual will work; instead, to assess national importance, USCIS focuses on the "specific endeavor that the beneficiary proposes to undertake." *See Dhanasar*, 26 I&N Dec. at 889. *Dhanasar* provided examples of endeavors that may have national importance, as required by the first prong, having "global or even national implications within a particular field, such as those resulting from certain improved manufacturing processes or medical advances" and endeavors that have broader implications, such as "significant potential to employ U.S. workers or has other substantial positive economic effects, particularly in an economically depressed area." *Id.* at 889-90.

The counsel further states, "The national importance of Mr. Xavier's proposed endeavor is further supported by recent federal policy statements identifying communications infrastructure, next-generation networks, Al infrastructure, and cybersecurity as matters of national priority. Dartagnan Telco Solutions is directly aligned with these priorities because the company will provide telecommunications engineering solutions focused on legacy modernization, network reliability, AI-enabled observability, automation, secure interconnection, and NextG/6G readiness."

The self-petitioner asserts that his proposed endeavor is of national importance because it aligns with and supports several national initiatives. USCIS has considered whether the self-petitioner established that his proposed work as a chief executive for his own company would impact an area that is the subject of national government initiatives. The self-petitioner submitted several national initiatives and industry reports to support his assertion. The government initiatives and industry reports help show the substantial merit of the self-petitioner's proposed endeavor. However, the fact that a self-petitioner is qualified for and may accept a position in an industry or sector that is the subject of national initiatives is not sufficient, in and of itself, to establish the national importance of a specific endeavor. The self-petitioner must still demonstrate the potential prospective impact of his proposed work and how it impacts those national initiatives. While these national initiatives and industry reports indicate an array of topics that are important to and of interest to the U.S. government, their focus is on the U.S. government's role in carrying out the orders; they do not specifically show the government's interest in the self-petitioner's proposed endeavor or similar endeavors.

In *Dhanasar*, the self-petitioner submitted detailed evidence "describing U.S Government interest and investment in his research," not merely in that self-petitioner's industry or occupational category in general. *Id.* at 892 (emphasis added). Because the publications referenced by the self-petitioner providing generalized information regarding telecommunication do not address the self-petitioner, the specific endeavor he proposes to undertake, and how the proposed endeavor may have the type of broader implications contemplated by the first *Dhanasar* prong, they do not establish how the proposed endeavor may have national importance. *See id.* at 889-90.

For instance, an undertaking may have national importance, because it has national or even global implications within a particular field, such as those resulting from certain improved manufacturing processes or medical advances. *Dhanasar*, 26 I&N Dec. at 889. The record does not establish that the self-petitioner's proposed endeavor would have national or global implications within a particular field.

The self-petitioner has not demonstrated that the specific endeavor the self-petitioner proposes to undertake has significant potential to employ U.S. workers or otherwise offers substantial positive economic effects for our nation. The self-petitioner has not shown that benefits to the regional or national economy resulting from the self-petitioner's proposed endeavor would reach the level of "substantial positive economic effects" contemplated by *Dhanasar*. *Id* at 890.

The self-petitioner's counsel states, "Mr. Xavier's proposed endeavor satisfies this consideration because Dartagnan Telco Solutions is structured to create direct employment, support indirect job creation, generate tax revenue, and contribute to the broader telecommunications and digital infrastructure economy. The business plan projects workforce expansion from five professionals in Year1 to 21 employees by Year 5, including telecommunications engineers, network optimization engineers, telecom automation and observability engineers, project managers, client support specialists, sales professionals, customer service representatives, and administrative personnel."

The self-petitioner states in his business plan, "Overall, the company's workforce will expand from 5 employees in Year 1 to 21 employees by Year 5, reflecting Dartagnan Telco Solutions' planned operational growth and increasing demand for telecommunications engineering services. Total payroll is projected to grow from $358,450 in Year 1 to $2,133,081 by Year 5, consistent with the company's phased hiring strategy and expanding service capacity."

USCIS has reviewed the staffing and revenue projections in the submitted business plan. The self-petitioner asserts in his business plan that his company will employ 5 employees in year 1 and increase to 21 by year 5 and his business plan forecasts total payroll expenses of US$ 358,450 in Year 1 to US$ 2,133,081 by year 5.

USCIS will first consider the self-petitioner's assertion that his creation of a new business will have significant potential to employ U.S. workers. While the self-petitioner provided a business plan for the proposed company, he did not present sufficient supporting evidence corroborating the assertions and figures. The self-petitioner did not

demonstrate how his business plan's claimed payroll and employment projections, even if credible or plausible, have significant potential to employ U.S. workers or otherwise offer substantial positive economic effects for our nation. Although the business plan forecasts total payroll expenses of US$ 358,450 in Year 1 to US$ 2,133,081 by year 5, the self-petitioner did not establish the significance of this data to show that the benefits to the regional or national economy would reach the level of "substantial positive economic effects" contemplated by *Dhanasar. Id.* at 890. Similarly, even though the business plan claims the creation of 5 jobs in Year 1 to 21 jobs by Year 5, the self-petitioner did not demonstrate the relevance of these numbers and show that such future staffing levels would provide substantial economic benefits to Dallas, Texas or the U.S. economy more broadly at a level commensurate with national importance. The business plan does not indicate that the self-petitioner will establish his company in an economically depressed area, that it would employ a significant population of workers in such an area, or that the endeavor would offer a region or its population a substantial economic benefit through employment levels, business activity, or related tax revenue.

More importantly, the evidence does not demonstrate that even if the business was able to employ 21 workers, this would have substantial positive economic effects in Dallas, Texas. The self-petitioner has not shown that benefits to the regional or national economy resulting from the self-petitioner's proposed endeavor would reach the level of "substantial positive economic effects" contemplated by *Dhanasar. Id* at 890.

While the self-petitioner's proposed endeavor may stimulate economic activity to some level, it is also the self-petitioner's burden to demonstrate the economic effects of his proposed endeavor will be substantial and at a level commensurate with national importance. Here, the self-petitioner has not sufficiently demonstrated the proposed endeavor has significant potential to employ U.S. workers or otherwise offer substantial positive economic effects beyond his company and its clients, such that it would have broader implications for the United States.

Although the self-petitioner highlights his background and qualifications, the need for individuals like him, and the importance of the industry and occupation, it does not, by itself, establish that the specific proposed endeavor stands to impact the broader field or otherwise has implications rising to the level of national importance.

Broad assertions are insufficient to show the self-petitioner meets this prong. The truth is to be determined not by the quantity of evidence alone, but by its quality. USCIS examines each piece of evidence for relevance, probative value, and credibility, both individually and within the context of the totality of the evidence, to determine whether the fact to be proven is probably true. *See Matter of Chawathe*, 25 I&N Dec. 369 (AAO 2010). Simply going on record without supporting documentary evidence is not sufficient for purposes of meeting the burden of proof in these proceedings. *Matter of Soffici*, 22 I&N Dec. 158,165 (Comm. 1998) [citing *Matter of Treasure Craft of California*, 14 I&N Dec. 190 (Reg'l. Comm. 1972)]. The assertions of counsel do not constitute evidence. *Matter of Obaigbena*, 19 I&N Dec. 533, 534 n.2 (BIA 1988) [citing *Matter of Ramirez-Sanchez*, 17 I&N Dec. 503, 506 (BIA 1980)].

Accordingly, the self-petitioner's proposed work does not meet the national importance part of the first prong of the *Dhanasar* framework.

As such, please submit evidence to establish that the self-petitioner's proposed endeavor has national importance. This evidence must demonstrate the endeavor's potential prospective impact.

Evidence to establish that the self-petitioner's proposed endeavor has national importance consists of, but is not limited to, the following:

- A detailed description of the proposed endeavor and why it is of national importance,
- Documentary evidence that supports the self-petitioner's statements and establishes the endeavor's national importance. Such evidence must demonstrate the endeavor's potential prospective impact, and may consist of, but is not limited to, evidence showing that the proposed endeavor:
    - Has national or even global implications within a particular field;
    - Has significant potential to employ U.S. workers or has other substantial positive economic effects, particularly in an economically depressed area;
    - Will broadly enhance societal welfare or cultural or artistic enrichment; and
    - Impacts a matter that a government entity has described as having national importance or is the subject

of national initiatives.

cond Prong: Whether the Self-Petitioner is Well Positioned to Advance the Proposed Endeavor

The second prong shifts the focus from the proposed endeavor to the foreign national. *See Dhanasar*, 26 I&N. Dec. at 890. To determine whether he or she is well positioned to advance the proposed endeavor, USCIS considers factors including, but not limited to: the individual's education, skills, knowledge and record of success in related or similar efforts; a model or plan for future activities; any progress towards achieving the proposed endeavor; and the interest of potential customers, users, investors, or other relevant entities or individuals. *Id.* at 890.

The self-petitioner submitted the following evidence to establish that he meets this requirement:

- A cover letter from the self-petitioner's counsel;
- The self-petitioner's business plan;
- Evidence of the self-petitioner's membership;
- Evidence of the self-petitioner professional registration and licensing;
- Several letters of support;
- The self-petitioner's resume;
- The self-petitioner's academic credentials;
- Several certificates of completion; and
- The self-petitioner's employment verification letters.

A review of USCIS records and the self-petitioner's file shows the self-petitioner intends to work as a chief executive for his own company.

The self-petitioner's counsel states, "Mr. Xavier satisfies this standard because his education, technical background, professional trajectory, and documented record of telecommunications engineering work directly align with the proposed endeavor. His foreign academic credentials were evaluated by Carnegie Evaluations LLC as equivalent in the United States to a Bachelor of Science in Electrical Engineering and one year of graduate study in Business Administration. His Electrical Engineering curriculum included coursework directly related to telecommunications and network infrastructure, including computer networks, principles of communication, antennas, digital communication, telecommunications systems planning, digital signal processing, transmission systems, computer programming, electronic devices, electricity and magnetism, and related engineering subjects. His graduate-level study in Business Administration further supports his ability to manage technical teams, evaluate operational strategy, and lead the proposed U.S. company.

Mr. Xavier's record further demonstrates a sustained commitment to professional development and technical specialization throughout his career. In addition to his academic credentials, he has completed more than thirty specialized training programs and professional courses covering advanced telecommunications systems, VoIP infrastructure, Next Generation Networks (NGN), Session Border Controllers, virtualization technologies, cloud-based telecommunications environments, infrastructure automation, DevOps methodologies, Python programming, and network observability. His training includes specialized coursework provided by industry- recognized organizations and technology vendors such as Alcatel-Lucent. GENBAND, VMware, FIAP, and Alura, covering subjects including VoIP Advanced, NGN Signaling, telecommunications platform administration, virtualization management, infrastructure troubleshooting, DevOps & Agile Culture, and Python-based automation and software development. Among these, he was the only professional his company selected to attend Genband's C2015 C20 - Solution Fault Management course in Raleigh, North Carolina (October 2011), per the official GENBAND US LLC invitation letter (Exhibit C.II). These continuing education efforts demonstrate his proactive commitment to maintaining expertise in rapidly evolving telecommunications technologies.

This academic foundation is reinforced by nearly two decades of progressive experience in telecommunications engineering. Mr. Xavier's career has centered on the same technical areas that define Dartagnan Telco Solutions' proposed services: carrier-grade voice networks, VoIP infrastructure, SIP signaling, IMS environments, Session

Border Controllers, Next Generation Networks, telecom cloud platforms, automation, observability, network optimization, interoperability, and telecommunications reliability. His background is therefore not merely generally related to the proposed endeavor; it is the technical basis on which the endeavor is built."

In support of this criterion the self-petitioner submitted evidence of his educational background and professional qualification in the field, evidence of his professional registration and membership, several certificates of completion and his progressive work experience. However, participating in activities such as continuing educational courses/professional programs, maintaining professional licenses and attending workshops and seminars are inherent to the occupation of any professional in any field.

While the self-petitioner's education and progressive work experience in the endeavor renders him eligible for the requested visa classification, he has not shown that his academic background and work experience has influenced or that he is well positioned to advance his proposed endeavor.

The self-petitioner submitted evidence of his educational background and professional qualifications in the field. USCIS looks to a variety of factors in determining whether a self-petitioner is well positioned to advance their proposed endeavor and education is merely one factor among many that may contribute to such a finding. However, not every individual who possesses the necessary educational and professional credentials, skills, training, and who worked in the field will be found to be well positioned to advance the proposed endeavor.

The self-petitioner's counsel states, "The documentary record also includes professional registration and licensing evidence that reinforces Mr. Xavier's formal standing in the engineering field. His materials identify professional license documentation from the Regional Council of Engineering and Agronomy of Paraná (CREA- PR), under registration number PR-88 187/D, supporting that his academic and professional qualifications were recognized within the Brazilian engineering regulatory framework. This evidence is relevant to the second prong because it shows that Mr. Xavier's qualifications are not limited to academic credentials or self-reported experience; they are also supported by professional engineering registration documentation tied to the same technical field in which he proposes to advance the U.S. endeavor.

The record further includes Mr. Xavier's 2026 Certificate of Membership in the IEEE Communications Society14, identifying him as a member in good standing. This professional affiliation is relevant because IEEE Communications Society is a global technical community dedicated to communications and networking technology, the same field in which Mr. Xavier has built his career and now proposes to advance Dartagnan Telco Solutions. While this membership is not presented as an independent basis for EB-2 eligibility, it provides additional corroborating evidence of Mr. Xavier's continued professional engagement with the telecommunications and communications engineering field. His affiliation with IEEE Communications Society reinforces the consistency between his academic background, professional registration documentation, technical experience, and proposed U.S. endeavor focused on telecommunications infrastructure modernization, network reliability, automation, observability, and next-generation communications readiness."

The self-petitioner submitted documentation of his professional certifications and professional membership. The evidence does not establish that these professional registration and professional membership represent a record of success in his field or that they are otherwise an indication that he is well positioned to advance the field.

The self-petitioner's counsel states, "The record also includes independent expert testimonials from telecommunications professionals, engineers, and senior industry colleagues who have first-hand knowledge of Mr. Xavier's technical work, professional trajectory, and contributions to complex telecommunications environments. These letters are relevant to the second prong because they do not merely offer general praise. They provide concrete examples of Mr. Xavier's work in VoIP, SIP, IMS, SBC, NGN, telecom cloud, automation, observability, interoperability, network stability, and carrier-grade infrastructure modernization."

The self-petitioner submitted letters from individuals in his field which discuss his work in the field. For instance:

Andre Luiz Garcia Ruiz, Canonical Brasil Servicos de Software Ltda, Sao Paulo, Brazil, states:

> Mr. Xavier developed a series of configuration templates and automation tools hosted on a central server accessible to employees across multiple cities. This initiative directly addressed the need for consistent, reliable equipment configuration, reducing human error and improving service stability across multiple locations. By creating these tools and accompanying procedures, he significantly reduced the margin for error and the deployment time. His work extended beyond execution to the creation of a technical framework that improved the departments overall quality and output. He quickly became a technical leader in voice-over-IP solutions, owing to his mastery of signaling protocols and telephony infrastructure.

Fernando Tauscheck, Electrical Engineer, Randstad Brazil Human Resources Ltd, states:

> One aspect that consistently distinguishes Mr. Rego from many professionals I have encountered at companies such as Huawei and Alcatel Lucent is his hybrid engineering profile. It is uncommon to find individuals who combine a solid command of telecommunications network architecture with advanced proficiency in automation using Python and Linux. This combination is particularly relevant in environments where information technology and telecommunications software converge, such as telco cloud deployments and virtualized network functions. I have also observed his ability to address interoperability issues in multi-vendor environments, which is critical in large-scale networks, as well as his strategic approach to capacity planning to avoid inefficient capital investments.

Likewise, the self-petitioner's other references speak of his personal and professional attributes. In addition, the authors of the letters claim the self-petitioner's work has influenced the field. However, the authors of the letters failed to demonstrate how the self-petitioner's work influenced the field or industry and went beyond his organization. Additionally, the record does not establish the self-petitioner's roles to the extent that he should be credited with the success of the overall projects or any interest that they generated. Without this evidence, it cannot be proven that the self-petitioner's work on those projects is indicative of a record of success or otherwise demonstrate he is well positioned to advance his proposed endeavor.

As a matter of discretion, USCIS may use opinion statements submitted by the self-petitioner as advisory. *Matter of Caron Int'l, Inc.*, 19 I&N Dec. 791, 795 (Comm'r 1988). However, USCIS will reject an opinion or give it less weight if it is not in accord with other information in the record or if it is in any way questionable. *Id.* USCIS is ultimately responsible for making the final determination regarding an individual's eligibility for the benefit sought; the submission of expert opinion letters supporting Form I-140 is not presumptive evidence of eligibility. *Id., see also Matter of D-R-,* 25 I&N Dec. 445,460 n.13 (BIA 2011) (discussing the varying weight that may be given expert testimony based on relevance, reliability, and the overall probative value). Here, the advisory opinion is of little probative value as it does not contain detailed information to show the self-petitioner is well positioned to advance the proposed endeavor.

The self-petitioner states, "The company's future activities are also supported by a structured hiring plan. Dartagnan Telco Solutions is projected to begin operations with five professionals in Year 1 and expand to 21 employees by Year 5, including telecommunications engineers, network optimization engineers, telecom automation and observability engineers, project managers, client support specialists, sales professionals, customer service representatives, and administrative personnel. In addition to direct employment, the business plan estimates that the company's growth may support approximately 32 indirect jobs by Year 5 through independent contractors, outsourced marketing services, legal professionals, technicians, vendors, and other service providers needed to support business operations, client acquisition, compliance, and telecommunications engineering projects."

The *Dhanasar* decision spelled out several factors which can be considered in determining whether a self-petitioner is well-positioned to advance their proposed endeavor, including several which are pertinent to entrepreneurial endeavors. These include a record of success in similar efforts, any progress towards achieving the proposed endeavor, and the interest of potential customers, users, investors, or other relevant entities or individuals. In this case, the record lacks evidence which supports any of these factors. Specifically, although the evidence includes the self-petitioner's resume and several letters from individuals in his field, there is no evidence that he has previously attempted or succeeded in starting a new business in the United States. In addition, the record lacks documentation of any progress towards achieving this endeavor, which might include securing any necessary funding, renting or purchasing physical

space for the business, and the hiring of employees and contractors. Further, there is no indication in the record that the self-petitioner has successfully gathered interest from potential investors or customers. While "we do not ... require self-petitioners to demonstrate that their endeavors are more likely than not to ultimately succeed," *Dhanasar* at 890, here the record does not show that the self-petitioner has made any preparations for starting his new business.

Because the record is insufficient to demonstrate that the self-petitioner is well-positioned to advance the proposed endeavor, it has not established that he satisfies the second prong of the *Dhanasar* framework.

Although the self-petitioner highlights his background and qualifications, the need for individual like him, the importance of the industry and occupation, and discussed the field in which he works, it does not, by itself, establish that he is well-positioned to advance the specific proposed endeavor.

Broad assertions are insufficient to show the self-petitioner meets this prong. The truth is to be determined not by the quantity of evidence alone, but by its quality. USCIS examines each piece of evidence for relevance, probative value, and credibility, both individually and within the context of the totality of the evidence, to determine whether the fact to be proven is probably true. *See Matter of Chawathe*, 25 I&N Dec. 369 (AAO 2010). Simply going on record without supporting documentary evidence is not sufficient for purposes of meeting the burden of proof in these proceedings. *Matter of Soffici*, 22 I&N Dec. 158,165 (Comm. 1998) [citing *Matter of Treasure Craft of California*, 14 I&N Dec. 190 (Reg'l. Comm. 1972)]. The assertions of counsel do not constitute evidence. *Matter of Obaigbena*, 19 I&N Dec. 533, 534 n.2 (BIA 1988) [citing *Matter of Ramirez-Sanchez*, 17 I&N Dec. 503, 506 (BIA 1980)].

Because the record is insufficient to demonstrate that the self-petitioner is well-positioned to advance the proposed endeavor, it has not established that he satisfies the second prong of the *Dhanasar* framework.

As such, please submit evidence to establish that the self-petitioner is well positioned to advance the proposed endeavor.

Evidence which best establishes that the self-petitioner is well positioned to advance the proposed endeavor will document his or her qualifications (skills, experience and track record), support (financial and otherwise) and commitment (plans and progress) to drive the endeavor forward, and will support projections of future work in the proposed endeavor. USCIS may consider factors including, but not limited to, the following:

- The self-petitioner's education, skills, knowledge, and record of success in related or similar efforts:
  - To show a self-petitioner's education, skills, knowledge, and record of success in related or similar efforts, he or she may submit one or more pieces of evidence from the following non-exhaustive list:
    - Degrees, certificates, or licenses in the field;
    - Patents, trademarks, or copyrights owned by the self-petitioner;
    - Letters from experts in the self-petitioner's field, describing his or her past achievements and providing specific examples of how he or she is well positioned to advance his or her endeavor. Testimonial letters should include information about the expert's own credentials, such as a curriculum vitae;
    - Published articles and/or media reports about the self-petitioner's achievements or current work;
    - Documentation demonstrating a strong citation history;
    - Evidence that the self-petitioner's work has influenced his or her field of endeavor;
    - Evidence demonstrating the self-petitioner has a leading, critical or indispensable role in the endeavor or similar endeavors; and
    - Evidence showing that the self-petitioner's past inventions or innovations have been used or licensed by others in the field.
- A model or plan for future activities:
  - To show a model or plan for future activities, the self-petitioner may submit one or more pieces of evidence from the following non-exhaustive list:
    - A plan describing how the self-petitioner intends to continue his or her work in the United States;
    - A detailed business model, when appropriate;
    - Correspondence from prospective/potential employers, clients or customers; and

- Documentation reflecting feasible plans for financial support.

- Any progress towards achieving the proposed endeavor:
  - To show progress towards achieving the proposed endeavor, a self-petitioner may submit one or more pieces of evidence from the following non-exhaustive list:
    - Evidence of grants the self-petitioner has received listing the amount and terms of the grants, as well as the grantees;
    - Copies of contracts, agreements, or licenses resulting from the proposed endeavor or otherwise demonstrating the self-petitioner is well positioned to advance the proposed endeavor;
    - Evidence of achievements that the self-petitioner intends to build upon or further develop (including the types of documentation listed under "self-petitioner's education, skills, knowledge, and record of success in related or similar efforts"); and
    - Evidence demonstrating the self-petitioner has a leading, critical or indispensable role in the endeavor.
- The interest of potential customers, users, investors, or other relevant entities or individuals:
  - To show interest of potential customers, investors, or other relevant individuals, a self-petitioner may submit one or more pieces of evidence from the following non-exhaustive list:
    - Letters from a government entity demonstrating its interest in the proposed endeavor;
    - Evidence that the self-petitioner has received investment from U.S. investors, such as venture capital firms, angel investors, or start-up accelerators, in amounts that are appropriate to the relevant endeavor;
    - Evidence that the self-petitioner has received awards, grants, or other indications of relevant non-monetary support (for e.g., using facilities free of charge, etc.) from Federal, State, or local government entities with authority over the field of endeavor;
    - Evidence demonstrating how the self-petitioner's work is being used by others, such as:
      - Contracts with companies using products, projects, or services that the self-petitioner developed or assisted in developing;
      - Documents showing licensed technology or other procedural or technological advancements developed in whole or in part by the self-petitioner and relied upon by others; and
      - Patents or licenses awarded to the self-petitioner with documentation showing why the particular patent or license is significant to the field.
- Other evidence that the self-petitioner is well-positioned to advance the endeavor.

Note: The self-petitioner may be well positioned to advance the endeavor even if there is no certainty that the proposed endeavor will be a success. However, unsubstantiated claims are insufficient and would not meet the self-petitioner's burden of proof.

Third Prong: Whether, On Balance, It Would be Beneficial to the United States to Waive the Requirements of a Job Offer, and Thus of a Labor Certification

The third prong requires the self-petitioner to demonstrate that, on balance, it would be beneficial to the United States to waive the requirements of a job offer and thus of a labor certification. *See Dhanasar*, 26 I&N. Dec. at 890.

In performing this analysis, USCIS may evaluate factors such as: whether, in light of the nature of the foreign national's qualifications or the proposed endeavor, it would be impractical either for the foreign national to secure a job offer or for the petitioner to obtain a labor certification; whether, even assuming that other qualified U.S. workers are available, the United States would still benefit from the foreign national's contributions; and whether the national interest in the foreign national's contributions is sufficiently urgent to warrant forgoing the labor certification process. In each case, the factor(s) considered must, taken together, indicate that on balance, it would be beneficial to the United States to waive the requirements of a job offer and thus of a labor certification. *Id. at 890-891.*

The self-petitioner's counsel states, "Mr. Xavier's proposed endeavor does not fit neatly within the traditional labor certification framework because it is not designed around a single employer, a fixed job opening, or a geographically

limited position. He does not seek to occupy one conventional telecommunications engineering role for one company. Instead, he intends to establish and lead Dartagnan Telco Solutions as Founder and Chief Telecommunications Architect, providing specialized telecommunications engineering services to multiple U.S. clients, including telecommunications operators, enterprise organizations, technology companies, data centers, cloud infrastructure operators, and digital infrastructure providers. Because the labor certification process is generally structured around one employer and one defined position, it would not adequately capture the entrepreneurial, technical, and multi-client nature of the work Mr. Xavier proposes to undertake. Accordingly, requiring a job offer and labor certification would be impractical in light of both the nature of the proposed endeavor and Mr. Xavier's intended role in advancing it."

Factors USCIS may consider whether, in light of the nature of the self-petitioner's qualifications or proposed endeavor, it would be impractical either for the self-petitioner to secure a job offer or for a U.S. employer to obtain a labor certification for the self-petitioner. *Id.* Based on the evidence submitted for the second prong, the self-petitioner has not presented evidence that his knowledge or skills are not easily articulated in a labor certification. In addition, the record does not demonstrate that it would be impractical either for the self-petitioner to secure a job offer or a U.S. employer to obtain a labor certification for the self-petitioner.

The self-petitioner has not demonstrated, as claimed, that he presents benefits to the United States through his proposed endeavor that outweigh those inherent in the labor certification process.

The self-petitioner's counsel states, "The United States would also benefit from Mr. Xavier's contributions even assuming that other l qualified U.S. telecommunications professionals are available. His proposed value is not limited to filling an available engineering vacancy. Rather, it lies in applying nearly two decades of specialized experience in carrier-grade voice networks, VoIP infrastructure, SIP signaling, IMS environments, Session Border Controllers, Next Generation Networks, telecom cloud platforms, automation, observability, interoperability, and network reliability to a company designed to serve multiple infrastructure-dependent clients. His recent U.S.-related work, including migration support for more than 600 B2B customers, backup automation for more than 100 voice-network devices, and observability work involving approximately 75 million records per day and more than 8,000 KPIs, further demonstrates that his expertise is directly tied to complex, high-impact telecommunications environments. Therefore, the benefit to the United States is not simply the availability of one additional telecommunications professional, but the broader deployment of Mr. Xavier's proven infrastructure-oriented expertise through a specialized U.S. enterprise."

Factors USCIS may consider in evaluating whether an individual meets *Dhanasar's* third prong include whether the United States would benefit from those contributions regardless of the availability of other qualified U.S. workers. *Id.* However, the self-petitioner has not demonstrated that he has impacted the field beyond the normal expectation of a professional or academic with an advanced degree. As such, the self-petitioner has not submitted sufficient evidence to establish that he is well positioned to advance the proposed endeavor as required by the second prong of the *Dhanasar* framework. In addition, the self-petitioner has not shown that he offers contributions of such value that, over all, they would benefit the nation even if other qualified U.S. workers were available.

The self-petitioner's counsel states, "The national interest in his proposed contributions also supports forgoing the labor certification process. Federal policy materials have identified next-generation communications networks, critical infrastructure resilience, cybersecurity, and AI-enabled infrastructure as nationally important priorities. Dartagnan Telco Solutions is directly aligned with those priorities because its proposed services focus on telecommunications modernization, AI-enabled observability, AIOps, automation, secure interconnection, legacy migration, network reliability, and NextG/6G readiness. These are not isolated private business objectives; they relate to the modernization and resilience of communications systems that support emergency communications, healthcare, cloud services, digital commerce, enterprise operations, and other infrastructure-dependent sectors. This alignment shows that the requested waiver would advance nationally important infrastructure objectives, rather than merely facilitating Mr. Xavier's private employment."

However, the self-petitioner has not shown an urgent national interest in his own contributions. The self-petitioner did not submit sufficient evidence to indicate that the labor certification process restricts his ability to work in the field or to disseminate his knowledge through publications or presentations.

Factors USCIS may consider in evaluating whether an individual meets *Dhanasar's* third prong include the national interest in the self-petitioner's contribution is sufficiency urgent to warrant forging the labor certification process. The self-petitioner submitted evidence in the form of industry reports and government initiatives to demonstrate that the national interest in his contributions is sufficiently urgent. However, although the record conveys a level of urgency for the self-petitioner's contributions through advancement of his proposed endeavor, it is not clear that the national interest in those contributions is sufficiently urgent to require their implementation prior to completion of the labor certification process.

The fact that the self-petitioner is qualified for and may accept a position in an industry or sector that is the subject of national initiatives is not sufficient, in and of itself, to demonstrate that the national interest in his contributions is sufficiently urgent. The self-petitioner must still demonstrate the potential prospective impact of his proposed work and how it impacts those national initiatives.

USCIS also consider whether the record documents interest in an individual's proposed endeavor from government agencies or quasi-governmental entities in the United States. Letters of interest from one or more of these agencies or entities can help explain how granting the waiver may outweigh the benefits of the job offer and labor certification requirement by, for example, explaining a particular urgency, or by detailing how the United States would benefit from an individual's contributions, even if other U.S. workers are available. However, the record does not contain evidence of interest from government agencies or quasi-government entities that would support waiving the requirements of a job offer.

The self-petitioner's counsel states, "The proposed endeavor also has meaningful potential to create U.S. jobs and generate positive economic effects. The business plan projects that Dartagnan Telco Solutions will begin with five professionals in Year 1 and expand to 21 employees by Year 5, including telecommunications engineers, network optimization engineers, telecom automation and observability engineers, project managers, client support specialists, sales professionals, customer service representatives, and administrative personnel. The company's projected growth is supported by sales forecasts increasing from $533,000 in Year 1 to $3,069,936 by Year 5. The plan further estimates that the company's 21 direct jobs by Year 5 would support approximately 32 indirect jobs through contractors, outsourced services, vendors, legal professionals, technicians, marketing support, and other service providers. Thus, the waiver would not bypass the U.S. labor market to the detriment of U.S. workers; it would allow Mr. Xavier to build an enterprise specifically designed to employ, support, and collaborate with U.S. workers."

Factors USCIS may consider in evaluating whether an individual meets *Dhanasar's* third prong include job creation that results in "substantial positive economic effects".

USCIS has reviewed the staffing and revenue projections in the submitted business plan. The self-petitioner asserts in his business plan that his company will employ 5 employees in year 1 and increase to 21 by year 5 and his business plan forecasts total payroll expenses of US$ 358,450 in Year 1 to US$ 2,133,081 by year 5.

USCIS will first consider the self-petitioner's assertion that his creation of a new business will have significant potential to employ U.S. workers. While the self-petitioner provided a business plan for the proposed company, he did not present sufficient supporting evidence corroborating the assertions and figures. The self-petitioner did not demonstrate how his business plan's claimed revenue and employment projections, even if credible or plausible, have significant potential to employ U.S. workers or otherwise offer substantial positive economic effects for our nation. Although the business plan claims the creation of 5 jobs in year 1 to 21 jobs in year 5, the self-petitioner did not demonstrate the relevance of these numbers and show that such future staffing levels would provide substantial economic benefits to regions in Dallas, Texas or the U.S. economy more broadly.

The self-petitioner has not shown that benefits to the regional or national economy resulting from the self-petitioner's proposed endeavor would reach the level of "substantial positive economic effects" contemplated by *Dhanasar*. *Id* at 890. The record does not contain sufficient evidence to demonstrate that self-petitioner's proposed endeavor benefits would be beneficial to the United States.

The self-petitioner's counsel states, "Mr. Xavier's self-employment further weighs in favor of the waiver because it is structured in a manner that generally does not adversely affect U.S. workers. He is not seeking to replace or undercut a

U.S. worker in a preexisting position. Instead, he seeks to create and operate a specialized telecommunications engineering company that will generate payroll, engage vendors and contractors, use outsourced services, and expand access to advanced telecommunications expertise for U.S. clients. His business model is additive to the U.S. market: it creates a platform for job creation, technical service delivery, infrastructure improvement, and collaboration within the telecommunications ecosystem. Because Mr. Xavier's self-employment is designed to create economic activity and support U.S. workers rather than displace them, this factor weighs strongly in favor of waiving the job offer and labor certification requirements."

Factors USCIS may consider in evaluating whether an individual meets *Dhanasar*'s third prong include whether the self-petitioner is self-employed in a manner that generally does not adversely affect U.S. workers.

The self-petitioner asserts that he meets *Dhanasar*'s third prong because he intends to work as a chief executive for his own company. USCIS policy guidance does not create a presumption of eligibility for entrepreneurs. Rather, it calls for flexibility in evaluating the evidence in each case, while affirming entrepreneurs still bear the burden of proof to establish that they meet each of the *Dhanasar* prongs. For instance, a stated intention to create jobs in an economically depressed area does not invariably establish national importance. Rather, *Dhanasar* calls for job creation at a level that produces "substantial positive economic effects." *Matter of Dhanasar*, 26 I&N Dec. at 890. The self-petitioner has not shown that the proposed endeavor would yield that level of job creation. The record does not contain sufficient evidence to demonstrate that self-petitioner's proposed endeavor benefits would be beneficial to the United States.

Although the self-petitioner highlights his background and qualifications, the need for individual like him, the importance of the industry and occupation, and discussed the field in which he works, it does not, by itself, establish that he meets this prong.

Broad assertions are insufficient to show the self-petitioner meets this prong. The truth is to be determined not by the quantity of evidence alone, but by its quality. USCIS examines each piece of evidence for relevance, probative value, and credibility, both individually and within the context of the totality of the evidence, to determine whether the fact to be proven is probably true. *See Matter of Chawathe*, 25 I&N Dec. 369 (AAO 2010). Simply going on record without supporting documentary evidence is not sufficient for purposes of meeting the burden of proof in these proceedings. *Matter of Soffici*, 22 I&N Dec. 158,165 (Comm. 1998) [citing *Matter of Treasure Craft of California*, 14 I&N Dec. 190 (Reg'l. Comm. 1972)]. The assertions of counsel do not constitute evidence. *Matter of Obaigbena*, 19 I&N Dec. 533, 534 n.2 (BIA 1988) [citing *Matter of Ramirez-Sanchez*, 17 I&N Dec. 503, 506 (BIA 1980)].

Thus, the self-petitioner has not shown that on balance, it is advantageous to waive the requirement of the job offer and thus labor certification.

As such, please submit evidence to establish that, on balance, it would be beneficial to the United States to waive the requirements of a job offer and thus of a labor certification. This balance was described in *Dhanasar* as on one hand protecting the domestic labor supply through the creation of the labor certification process, while on the other hand recognizing that in certain cases the benefits inherent in the labor certification process can be outweighed by other factors that are also deemed to be in the national interest.

USCIS may evaluate factors including, but not limited to, the following:

- Whether, in light of the nature of the self-petitioner's qualifications or proposed endeavor, it would be impractical either for the self-petitioner to secure a job offer or for the self-petitioner to obtain a labor certification;
- Whether, even assuming that other qualified U.S. workers are available, the United States would still benefit from the self-petitioner's contributions;
- Whether the national interest in the self-petitioner's contributions is sufficiently urgent to warrant forgoing the labor certification process;
- Whether the self-petitioner's endeavor may lead to potential creation of jobs; and
- Whether the self-petitioner is self-employed in a manner that generally does not adversely affect U.S. workers.

Missing Form ETA-9089

In order to apply for a waiver of the labor certification requirement (NIW), Form I-140 must contain the following:



- An original and properly completed, uncertified Application for Permanent Employment Certification Form ETA-9089;
- A Form ETA-9089 – Appendix A: Foreign Worker Information; and
- A fully executed copy of page 2 of Form ETA-9089, Final Determination.

See https://www.uscis.gov/newsroom/alerts/uscis-updates-filing-procedures-for-form-i-140. Without these requirement forms, the self-petitioner does not meet the requirements of 8 CFR Section 204.5(k)(4)(ii).

It is noted that the self-petitioner submitted a Form ETA-9089 – Appendix A: Foreign Worker Information; a Form ETA-9089 – Appendix C: Supplemental Information and a Final Determination page containing the self-petitioner and the counsel's signature. However, the self-petitioner did not submit an original and properly completed, uncertified Application for Permanent Employment Certification Form ETA-9089, as required by the Department of Labor (DOL). The DOL provides the following instruction on its website:

> NOTE: Form ETA-9089, Final Determination is for completion and submission ONLY when submitting Form I-140 to USCIS in support of a Schedule A or National Interest Waiver. When submitting the form to USCIS, please sign and submit a fully executed copy of page 2 along with Form ETA-9089 and the appropriate appendices. *See* https://www.dol.gov/agencies/eta/foreign-labor/forms.

Therefore, please submit original and properly completed, uncertified Application for Permanent Employment Certification Form ETA-9089. Form I-140 must be supported by an original and properly completed labor certification, and contain the original signatures of the petitioner, the beneficiary and the attorney or agent (if any).

PLACE THE ENCLOSED COVERSHEET ON TOP OF YOUR RESPONSE. SUBMISSION OF EVIDENCE WITHOUT THIS COVERSHEET WILL DELAY PROCESSING OF YOUR CASE AND MAY RESULT IN A DENIAL.

Sincerely,

Carrie M. Selby
Associate Director, Service Center Operations

October 28, 2026

VIA USPS

USCIS/TSC
ATTN: RFE/NOID/NOIR/NOIT
6046 N BELT LINE RD STE 140
IRVING, TX 75038-0014

RE: Response to Request for Evidence issued October 1, 2026, on Form I-140, Immigrant Petition for Alien Worker (EB-2 National Interest Waiver), on behalf of Mr. Gustavo Dartagnan Xavier do Rego — Receipt No. IOE0937802162

Dear Immigration Officer:

We respectfully submit this response on behalf of **Mr. Gustavo Dartagnan Xavier do Rego** (hereinafter "Mr. Xavier" or "the Petitioner") to the Request for Evidence ("RFE") issued on October 1, 2026, by U.S. Citizenship and Immigration Services ("USCIS"), Texas Service Center, concerning his Form I-140 petition under the Employment-Based Second Preference (EB-2) classification as a professional holding an advanced degree, together with a request for a National Interest Waiver ("NIW") pursuant to Section 203(b)(2)(B)(i) of the Immigration and Nationality Act ("INA").

This response is submitted within the deadline established by USCIS, November 3, 2026, and includes additional documentary evidence and legal arguments addressing the specific concerns identified in the RFE. The petition was initially filed on July 30, 2026, with a request for premium processing.

Mr. Xavier is an electrical engineer who graduated from the Universidade Federal do Paraná (UFPR) in 2006 and subsequently pursued graduate-level studies in management at FAE Centro Universitário. He has accumulated nearly two decades of progressive professional experience in telecommunications engineering, specializing in carrier-grade voice networks, VoIP infrastructure, SIP signaling, IP Multimedia Subsystem (IMS), Session Border Controllers (SBCs), Next Generation Networks (NGN), cloud virtualization, network automation, observability, and network reliability.

His professional trajectory encompasses significant technical contributions to GVT, Vivo, and Telefônica Brasil, including participation in network modernization, IMS implementation, and the UNICA virtualization program. More recently, he has performed telecommunications engineering activities supporting Optimum (Altice USA) through Winprovit, further strengthening his experience with telecommunications infrastructure serving the U.S. market.

Building upon this extensive technical background, Mr. Xavier proposes to establish and lead **Dartagnan Telco Solutions Inc.**, a telecommunications engineering company based in Dallas, Texas, dedicated to providing specialized services across four interconnected areas: (1) network architecture, VoIP infrastructure, and legacy modernization; (2) performance engineering and optimization; (3) AI-enabled observability, AIOps, and automation; and (4) secure interconnection, regulatory compliance, and NextG/6G readiness.

Through these activities, the proposed endeavor seeks to support the modernization, reliability, interoperability, security, and operational efficiency of telecommunications infrastructure serving

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operators, enterprises, technology companies, data centers, and digital infrastructure providers throughout the United States.

The proposed business structure has been updated from a limited liability company to a contemplated Texas for-profit corporation, Dartagnan Telco Solutions Inc.; this administrative change does not alter the substantive telecommunications engineering endeavor described in the original petition.

We respectfully submit the following response, supported by the original petition record and additional documentary evidence, to address each concern identified by USCIS.

RFE OVERVIEW — ISSUES ALREADY ESTABLISHED AND MATTERS REQUIRING ADDITIONAL EVIDENCE

The RFE acknowledges two findings in favor of Mr. Xavier's petition: **(1) his eligibility for the EB-2 classification as a member of the professions holding an advanced degree; and (2) the substantial merit of his proposed endeavor**. Accordingly, these elements are not disputed in this response.

The remaining issues identified by USCIS concern:

1. **First Prong — National Importance:** Whether the specific proposed endeavor has prospective implications extending beyond the Petitioner's company and direct clients; whether its projected employment and economic effects are sufficiently substantiated; and whether the evidence establishes national importance beyond the general significance of the telecommunications industry or its alignment with federal priorities.
2. **Second Prong — Well Positioned to Advance the Proposed Endeavor:** Whether Mr. Xavier's professional qualifications are supported by evidence of specific achievements and attributable contributions; whether he has demonstrated success in similar entrepreneurial activities; and whether the record establishes concrete implementation progress, feasible financial support, and interest from prospective customers, investors, or other relevant stakeholders.
3. **Third Prong — On Balance:** Whether the entrepreneurial nature of the proposed endeavor makes a conventional job offer and labor certification impractical; whether the United States would benefit from Mr. Xavier's contributions even if qualified U.S. workers are available; and whether the prospective national benefits, including substantiated employment and economic effects, justify waiving those requirements.
4. **Form ETA-9089 Documentation:** Submission of the properly completed, uncertified **Form ETA-9089, Application for Permanent Employment Certification**, together with the applicable Appendix A and signed Final Determination, to address the documentary deficiency identified by USCIS.

Under *Matter of Dhanasar*, 26 I&N Dec. 884 (AAO 2016), the Petitioner must establish that the proposed endeavor has substantial merit and national importance, that he is well positioned to advance it, and that, on balance, waiving the job offer and labor certification requirements would benefit the United States.

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The applicable standard is the **preponderance of the evidence**. Accordingly, the Petitioner must demonstrate that it is **more likely than not** that the remaining eligibility requirements are satisfied when the record is considered as a whole.

In response, the Petitioner submits a Business Plan Supplement (RFE Exhibit A), contemporaneous professional and technical records, evidence of recurring entrepreneurial activity, documented business-establishment preparations, financial resources, supporting FCC authorities, and additional implementation-related materials (RFE Exhibits B–O).

The following sections address the outstanding findings in the RFE and explain how the original petition, together with the supplemental evidence, establishes eligibility for the requested National Interest Waiver.

I. FIRST PRONG — THE PROPOSED ENDEAVOR HAS NATIONAL IMPORTANCE

The substantial-merit component of the first prong has already been acknowledged by USCIS, as discussed in the RFE Overview, and is therefore not revisited here.

The RFE raises four principal concerns regarding national importance: (a) whether the proposed endeavor's prospective impact extends beyond the Petitioner, his company, and its direct clients; (b) whether the projected economic effects are sufficiently supported by objective evidence; (c) whether the evidence concerning federal telecommunications priorities establishes the national importance of this specific proposed endeavor, rather than merely demonstrating the importance of the telecommunications industry generally; and (d) whether the endeavor's proposed location supports a finding of national importance.

The updated record addresses each concern through the Business Plan Supplement, federal regulatory authorities, documented economic modeling, and evidence concerning the proposed endeavor's intended implementation.

Under *Matter of Dhanasar*, 26 I&N Dec. 884 (AAO 2016), national importance is evaluated in light of the proposed endeavor's prospective impact. Relevant considerations may include broader implications within a particular field, significant potential for employment creation, and substantial positive economic effects. As demonstrated below, Mr. Xavier's proposed endeavor presents several complementary grounds supporting a finding of national importance.

(a) The Endeavor's Prospective Impact Extends Beyond the Company and Its Direct Clients

The RFE questions whether the proposed endeavor would generate benefits beyond the Petitioner, his company, and its immediate clients. The Business Plan Supplement (RFE Exhibit A, Section 2.0) addresses this concern by demonstrating how the proposed telecommunications engineering services may benefit users and organizations across interconnected networks, where failures in routing, authentication, or network performance can affect parties beyond a single provider.

The endeavor seeks to generate these broader benefits through four complementary service lines:

1. Interconnection, Compliance, Security, and NextG Readiness.

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The proposed services include secure network interconnection, caller identification authentication, and technical support for telecommunications compliance. FCC 25-15, *Advanced Methods to Target and Eliminate Unlawful Robocalls* (RFE Exhibit J), discusses the substantial economic harm associated with illegal and unwanted calls, including estimated annual costs of approximately $13.5 billion. FCC Public Notice DA 24-73 further addresses Robocall Mitigation Database requirements and restrictions involving noncompliant providers.

By supporting the implementation of applicable authentication, interconnection, and mitigation measures, the endeavor seeks to improve communications security and reliability beyond individual contracting entities.

Mr. Xavier's documented experience with SIP integration, IMS monitoring, carrier-grade voice modernization, and event-processing technologies provides a technical foundation for delivering these services through the proposed multi-client enterprise (RFE Exhibits E and G).

2. Network Architecture, VoIP Infrastructure, and Legacy Modernization.

The endeavor includes modernization of legacy voice systems, migration to IP-based infrastructure, and improvements in network interoperability and communications continuity.

As discussed in the Business Plan Supplement, the February 2024 AT&T Mobility outage reportedly disrupted more than 92 million calls, including over 25,000 calls to 911, illustrating the broader public consequences of telecommunications infrastructure failures.

The proposed services seek to address comparable reliability and interoperability challenges affecting businesses, consumers, healthcare organizations, and emergency communications.

3. Performance Engineering and Optimization.

The proposed services aim to improve routing efficiency, network reliability, service quality, and operational continuity. Because telecommunications networks exchange traffic across provider boundaries, improvements may reduce call failures and enhance communications stability for users beyond the immediate contracting provider (RFE Exhibit A).

4. AI-Enabled Observability, AIOps, and Automation.

The endeavor includes AI-enabled monitoring, automated fault detection, and operational analytics intended to identify network anomalies, accelerate corrective action, and reduce disruptions affecting interconnected communications systems.

Its broader relevance lies in applying these technologies to communications infrastructure reliability and resilience, rather than merely adopting artificial intelligence as a commercial tool.

Mr. Xavier's prior engineering work provides a concrete example of how such technical services may produce effects beyond an individual telecommunications provider. As confirmed by Darian José Rodríguez Del Carmen, Director of Engineering at Optimum Communications, Mr. Xavier developed automation supporting the migration of more than 600 business customers across approximately 100 localities in 14 states, including hospitals, public safety agencies, and educational institutions (RFE Exhibit O). The continuity and interoperability of communications serving these institutions can also benefit patients, local residents, and other users who rely on interconnected telecommunications networks, including those served by different carriers. Although these prior accomplishments do not independently establish the national importance of the proposed endeavor, they illustrate a practical mechanism through which the proposed

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company's modernization, automation, and network-reliability services could generate broader benefits if successfully implemented across multiple client environments.

Collectively, these service lines establish a specific mechanism through which the proposed endeavor may produce benefits beyond its direct clients, including improved interoperability, communications security, operational resilience, and continuity of essential services.

The Business Plan Supplement also identifies planned technical publications, workshops, industry presentations, and knowledge-transfer activities intended to disseminate specialized engineering practices beyond individual engagements.

The prospective broader impact of the proposed endeavor is not based solely on the importance of telecommunications infrastructure. Rather, it derives from the proposed delivery of specialized engineering services across multiple telecommunications environments, the development of transferable technical methodologies, and the planned dissemination of engineering knowledge through publications, workshops, and professional training (RFE Exhibit A, Sections 2.0 and 5.2). These activities provide identifiable mechanisms through which the endeavor could influence network reliability, interoperability, and operational practices beyond individual client engagements, subject to successful implementation and adoption. Accordingly, these prospective benefits support a finding of national importance under *Matter of Dhanasar*.

(b) The Projected Economic Effects Are Supported by Documented Methodology and External Benchmarks

The RFE questions whether the proposed endeavor's employment and economic projections are sufficiently substantiated and capable of producing meaningful regional or national effects.

The Business Plan Supplement (RFE Exhibit A, Section 3.0) addresses these concerns through documented assumptions, project-based revenue calculations, staffing projections, and external benchmarks.

The endeavor projects **38 engineering projects in Year 1 and 180 in Year 5, totaling approximately 556 projects over five years**. Annual revenue is projected to increase from **$533,000 to $3,069,936**, while direct employment grows from **5 to 21 positions**, with corresponding annual payroll increasing from **$358,450 to $2,133,081**.

1.2.1 Supplement at a Glance Table

Indicator	Year 1	Year 5	Five years
Projects (Business Plan)	38	180	556
Revenue (Business Plan)	$533,000	$3,069,936	$8,885,639
Positions at the Company	5	21	20 hires
Payroll (Business Plan)	$358,450	$2,133,081	$6,155,346
Average pay per employee	$71,690	$101,575	-
Jobs supported in Texas, including suppliers	7.9	33.1	-
Earnings supported in Texas	$486,847	$2,897,151	$8,360,192
Taxes from the Company's operations	$77,162	$475,877	$1,361,339

Sources: Business Plan; BEA, RIMS II; analysis in Section 3.0.

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To substantiate commercial feasibility, the Supplement compares estimated revenue per billable hour of **$132–$144, expressed in Year 1 prices**, with publicly available GSA CALC+ labor-rate benchmarks for telecommunications and network engineering services.

Using the U.S. Bureau of Economic Analysis (BEA) RIMS II methodology, the Supplement estimates that 21 direct positions in Year 5 could support approximately **33 total jobs in Texas**, including indirect effects. A separate national economic-impact analysis projects approximately **64 supported jobs** under its stated assumptions. These estimates represent alternative geographic and methodological perspectives and should not be added together.

The Supplement further projects approximately **$1,361,339 in cumulative tax contributions over five years**.

Although these figures are prospective and depend on the company's ability to secure projects, recruit personnel, and execute its implementation plan, the Supplement provides project-volume assumptions, pricing benchmarks, staffing projections, and economic-impact methodologies that permit an assessment of the endeavor's anticipated economic effects. These projections are presented as evidence of potential impact, rather than guaranteed outcomes or proof of existing customer commitments.

Considered together with the infrastructure-related benefits discussed in Section I(a), these documented projections provide additional support for the proposed endeavor's prospective national importance under *Matter of Dhanasar*.

(c) Federal Telecommunications Priorities Are Connected to the Specific Services of the Proposed Endeavor

The RFE correctly distinguishes the general importance of the telecommunications industry from the prospective national importance of a specific proposed endeavor.

The Business Plan Supplement (RFE Exhibit A, Section 2.0) and supporting FCC materials (RFE Exhibit J) establish a connection between Dartagnan Telco Solutions' proposed services and identifiable U.S. telecommunications infrastructure challenges, including:

- **Emergency communications and interoperability:** Network modernization and IP-based migration services relevant to the transition toward Next Generation 911.
- **Network reliability and resilience:** Performance engineering, AI-enabled observability, and automated fault detection intended to improve communications continuity.
- **Security and regulatory compliance:** Caller authentication, robocall mitigation, and secure interconnection services addressing applicable FCC requirements.
- **Legacy modernization and NextG readiness:** Engineering services supporting the transition to modern, interoperable telecommunications architectures.

These connections demonstrate that the proposed endeavor is designed to address specific technical and regulatory needs rather than merely operate within a nationally important industry.

Mr. Xavier's documented participation in telecommunications modernization initiatives, including the UNICA virtualization program (**RFE Exhibit G),** further supports the technical foundation of the proposed services, although his prior experience is not independently offered as proof of national importance.

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Accordingly, the endeavor's alignment with identifiable federal telecommunications priorities, considered alongside its potential effects beyond direct clients and its planned dissemination of technical knowledge, provides additional support for its prospective national importance under *Matter of Dhanasar*.

(d) National Importance Does Not Require the Endeavor to Be Located in an Economically Depressed Area

The RFE raises concerns regarding the absence of evidence that the proposed endeavor will operate in an economically depressed area. However, *Matter of Dhanasar* does not make such a location a mandatory requirement for establishing national importance; rather, economic benefits in disadvantaged areas represent one potential consideration.

Although Dartagnan Telco Solutions is planned to be headquartered in Dallas, Texas, its proposed telecommunications engineering services are intended to reach operators, enterprises, and infrastructure providers throughout the United States, with anticipated benefits extending beyond its immediate clients.

Mr. Xavier has also taken steps toward establishing local business connections, including his membership in the **SDFP Innovation Center in South Dallas since October 12, 2026 (RFE Exhibit I)**. While this membership does not establish operations in an economically distressed area or actual job creation, it supports his documented preparations to advance the proposed enterprise.

In conclusion, the evidence presented under the First Prong addresses the RFE's national-importance concerns through the endeavor's prospective infrastructure-related benefits, economic projections, alignment with specific federal telecommunications requirements, and anticipated effects beyond its direct customers. Considered collectively, these factors support a finding of national importance under *Matter of Dhanasar*.

II. SECOND PRONG — MR. XAVIER IS WELL POSITIONED TO ADVANCE THE PROPOSED ENDEAVOR

The RFE questions whether Mr. Xavier's academic credentials and professional experience sufficiently establish his positioning; whether the record demonstrates concrete achievements in related efforts; whether the supporting letters establish the significance of his contributions; whether he possesses relevant entrepreneurial experience; whether meaningful steps have been taken toward implementing the proposed U.S. enterprise; and whether adequate financial resources and evidence of commercial interest support the proposed endeavor.

The updated record directly addresses these concerns through contemporaneous professional records, documented technical accomplishments, evidence of entrepreneurial activity, financial documentation, and verifiable preparatory steps toward the establishment of Dartagnan Telco Solutions Inc.

Importantly, *Dhanasar* does not require a petitioner to demonstrate that the proposed endeavor has already achieved its intended results. Rather, the inquiry concerns whether the Petitioner possesses the qualifications, experience, resources, and demonstrated preparation necessary to advance the endeavor.

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As explained below, Mr. Xavier's documented professional achievements, combined with his established international consulting experience and concrete business preparation, demonstrate that he is well positioned to advance the proposed endeavor.

(a) Documented Record of Success in Efforts Directly Related to the Proposed Endeavor

The RFE questions whether Mr. Xavier's professional credentials and recommendation letters establish a sufficiently documented record of success in activities related to his proposed endeavor. The additional evidence addresses this concern through contemporaneous engineering records, project assignments, technical correspondence, and independent vendor communications demonstrating his involvement in carrier-grade telecommunications modernization, SIP/IMS integration, virtualization, performance optimization, and network reliability.

1. UNICA Network Virtualization Program — Telefônica Brasil

April 2018 meeting minutes expressly identify Mr. Xavier ("Dartagnan") as an engineering participant assigned to Telefônica Brasil's UNICA network virtualization program (RFE Exhibit G). Project documentation identifies eight associated data-center locations, while Telefônica Brasil's SEC Form 20-F filings corroborate the broader modernization and virtualization initiative.

Although these records do not establish that he directed the entire program, they objectively document his participation in a substantial telecommunications initiative directly relevant to the proposed endeavor's network architecture, infrastructure modernization, and NextG readiness services.

2. Vivo1–Vivo2 SIP Network Integration

September 2015 correspondence identifies Mr. Xavier among the engineers involved in activating an integrated SIP route between the Vivo1 and Vivo2 networks (RFE Exhibit E). This evidence demonstrates practical experience in carrier-grade network integration, signaling interoperability, SIP routing, and secure interconnection, all directly related to the proposed services.

3. Freedom IMS and SIP Mobility Project — GVT

Contemporaneous project correspondence identifies Mr. Xavier as an engineering focal point responsible for technical coordination, testing, and documentation in GVT's Freedom IMS/SIP mobility initiative (RFE Exhibit E).

The original petition further documents the project's commercial reach, including more than 50,000 downloads across 156 Brazilian cities, and its second-place recognition among telecommunications operators at the 2013 Tele.Síntese Annual Award for Innovation in Communications.

While these results are attributable to the project rather than exclusively to Mr. Xavier, his documented responsibilities demonstrate experience supporting telecommunications solutions from technical development and testing through operational deployment.

4. Independent Recognition from Technology Vendors

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Contemporaneous correspondence from Genband acknowledges Mr. Xavier's participation in technical RFP activities, while Huawei communications recognize work involving GVT's Session Border Controller infrastructure (RFE Exhibit E).

These third-party business records independently corroborate his involvement in vendor coordination, equipment modernization, and specialized engineering activities relevant to the proposed endeavor.

5. Engineering Contributions Supporting Optimum (Altice USA)

Through his commercial relationship with Winprovit, Mr. Xavier has performed specialized engineering services supporting Optimum's U.S. telecommunications operations.

Contemporaneous records document several relevant assignments and accomplishments:

- Adtran IAD modernization: On May 15, 2025, Jason Webber expressly identified Mr. Xavier among the engineers who successfully completed a Metaswitch/Adtran IAD firmware-upgrade batch and thanked him for his contributions. Keith Fludd subsequently acknowledged his continued support in resolving intermittent Adtran registration issues (RFE Exhibit E).
- Kafka integration: March 12, 2025, correspondence specifically requested Mr. Xavier's participation in reviewing operational materials and supporting Kafka-related integration requirements (RFE Exhibit E).
- IMS monitoring and Cacti: Additional correspondence documents his involvement in KPI monitoring and integration activities associated with IMS migration (RFE Exhibit E).
- Advanced network automation: In a May 8, 2026, organizational communication, Luciano Ramos reported that Optimum's Zero Touch Response initiative had automated 54 critical network-event triggers across Mobile, Voice, and Wireless Services using Kafka-driven event streaming and automation frameworks (RFE Exhibit M).

The 54 automated triggers represent an organizational achievement and are not attributed exclusively to Mr. Xavier. Nevertheless, this evidence, considered alongside his documented Kafka and IMS-related assignments, establishes the technical environment in which he has worked and its direct relevance to the proposed endeavor's AI-enabled observability, automation, and network-reliability services.

The Business Plan Supplement (RFE Exhibit A, Section 4.4) further describes technical improvements attributed to his work, including network observability, migration automation, and backup procedures involving numerous network devices, as reported by his supervisor.

These contributions are further substantiated by a signed October 13, 2026, **letter from Mr. Darian José Rodríguez Del Carmen,** Director of Engineering, MVNO Mobile, at Optimum Communications, who states that he has directly supervised Mr. Xavier since October 2022 **(RFE Exhibit O).** Mr. Rodríguez specifically attributes to Mr. Xavier the development of automation that increased the success rate of a business-voice equipment migration from approximately 60% to 100%, involving more than 600 business customers across approximately 100 localities in 14 states. **He also confirms Mr. Xavier's development of monitoring middleware processing more than 8,000 measurement types and approximately 75 million records daily, associated with a reported 45% reduction in the duration of critical network disruptions**. The letter further identifies his work integrating automated alerts with Optimum's

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Zero Touch Response system, monitoring emergency 911 call routes, and automating equipment backups. Unlike generalized descriptions of team accomplishments, this firsthand supervisory account identifies Mr. Xavier's individual technical responsibilities and their documented operational outcomes, directly addressing USCIS's concerns regarding the attribution and significance of his prior achievements.

The supervisor's firsthand account is further corroborated by contemporaneous, assignee-specific Jira project records previously submitted with the original petition (Original Petition, Exhibit C.II). These records identify Mr. Xavier as the assigned engineer for the Kafka/middleware integration supporting KPI delivery to Grafana (MFWE-148), Zero Touch Response automation development and testing (MFWE-1318 and MFWE-1319), and mobile-platform health-status dashboards (OWR-3156). Unlike general descriptions of organizational achievements, these records provide contemporaneous evidence linking Mr. Xavier to identifiable technical assignments and deliverables. Considered together with Mr. Rodríguez's detailed account of their operational results (RFE Exhibit O), they substantiate Mr. Xavier's individual engineering contributions and his demonstrated capacity to advance the proposed endeavor's observability, automation, and network-reliability services.

Collectively, these records establish more than general professional experience. They document Mr. Xavier's participation in identifiable engineering projects, operational implementations, network modernization initiatives, and technical coordination across multiple telecommunications organizations and vendors.

Importantly, the additional evidence addresses the RFE's concerns regarding the original recommendation letters by providing independently generated business records, including project assignments, meeting minutes, operational correspondence, and vendor acknowledgments—that corroborate his responsibilities and contributions.

His demonstrated experience across different operators, technologies, and network environments provides a documented foundation for advancing comparable engineering services through Dartagnan Telco Solutions' proposed multi-client business model.

(b) Specialized Qualifications and Demonstrated Ability to Transfer Technical Knowledge

The RFE distinguishes eligibility for the EB-2 advanced-degree classification from the requirement that the Petitioner be well positioned to advance the proposed endeavor. Mr. Xavier's positioning is supported not only by his electrical engineering education, CREA-PR registration, advanced managerial studies, specialized technical training, and IEEE Communications Society membership, as documented in the original petition, but also by his demonstrated application and dissemination of technical knowledge.

In **2007**, Mr. Xavier developed and delivered training on **IAD and VoxNG technologies**, including instructional and troubleshooting materials used in corporate support operations and training activities involving professionals in several Brazilian cities.

In **2010**, he served as an instructor in GVT's **20-hour Next Generation Network (NGN) switching training program**, supported by contemporaneous course records, attendance

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documentation, and instructional materials (RFE Exhibit H). Additional professional communications document his involvement in technical workshops addressing NGN operations, SIP engineering, and VoIP infrastructure.

These activities demonstrate his ability to develop technical materials, communicate complex engineering procedures, and transfer specialized knowledge to other professionals—capabilities directly relevant to the proposed enterprise.

As detailed in the Business Plan Supplement (RFE Exhibit A, Section 5.2), Dartagnan Telco Solutions intends to incorporate technical handovers, employee and client training, publications, case studies, workshops, and industry presentations into its operational model, with **technical articles and case studies beginning in Year 1 and workshops beginning in Year 2**.

Accordingly, Mr. Xavier's documented qualifications and prior instructional experience provide a concrete foundation for both the proposed engineering services and the planned dissemination of technical knowledge, further supporting his positioning under the second prong of *Matter of Dhanasar*.

(c) Concrete Progress Toward Implementation — Verifiable Preparatory Activities

The RFE finds that the record lacks documentation of progress toward achieving the proposed endeavor, including evidence of necessary funding, business premises, hiring, and interest from potential investors or customers. The additional evidence addresses the concern regarding implementation progress by documenting concrete preparatory activities undertaken by Mr. Xavier, while the Business Plan Supplement identifies the remaining steps toward formal business establishment and operations.

The preparatory steps undertaken in October 2026 represent continued progress toward implementing the same telecommunications engineering endeavor described in the original petition filed on July 30, 2026, rather than a new or materially different proposed endeavor. The corporate name-reservation submission, preliminary business-formation arrangements, and engagement with the SDFP Innovation Center document subsequent implementation efforts consistent with the originally proposed business model (RFE Exhibits B, I, and N). These post-filing activities are presented as evidence of continued preparation, not as a substitute for establishing eligibility at the time of filing. Mr. Xavier's qualifications, prior engineering accomplishments, entrepreneurial experience, and demonstrated technical capabilities, as documented in the original petition, provide the pre-filing foundation for his positioning to advance the endeavor. The October 2026 evidence supplements that existing record by showing concrete steps toward its prospective implementation, without representing that the proposed corporation has been formed or commenced operations.

1. Texas Business-Name Reservation

On October 21, 2026, Brazus Texas Inc., acting in connection with Mr. Xavier's business-formation preparations, submitted an Application for Name Reservation for “Dartagnan Telco Solutions Inc.” to the Texas Secretary of State, under Tracking No. 15037006930001 (RFE

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Exhibit B). The submission reflects Mr. Xavier's updated intention to establish a Texas for-profit corporation rather than a limited liability company. The Secretary of State's acknowledgment confirms receipt of the application, but does not establish that the name reservation has been approved or that the corporation has been formed.

2. Website, Commercial Identity, and Business Development Materials

Mr. Xavier developed the website **dartagnantelcosolutions.com**, together with professional business cards and company presentation materials describing the proposed enterprise's leadership, specialized telecommunications services, and intended market (RFE Exhibit D). Because Dartagnan Telco Solutions has not yet been formed, the current versions of these materials present the proposed U.S. company and its intended services without indicating a founding date; references to twenty years of experience describe Mr. Xavier's individual professional career, not an operating history of the company.

These materials demonstrate preparation for future marketing, professional networking, and customer outreach, consistent with the services and business model described in the Business Plan Supplement.

3. Professional Networking and Innovation-Center Membership

On October 12, 2026, Mr. Xavier obtained Community Membership at the **SDFP Innovation Center in South Dallas**, under Membership ID 459 (RFE Exhibit I).

This membership documents engagement with a local business and innovation community relevant to the company's intended Dallas location, although it does not establish operational activity, secured customers, or existing business premises.

4. Defined Implementation Schedule

The Business Plan Supplement (RFE Exhibit A) outlines a structured implementation schedule addressing entity formation, registered-agent designation, Employer Identification Number (EIN), business banking, launch-capital allocation, workspace arrangements, and personnel recruitment. As clarified by the updated corporate-formation documentation **(RFE Exhibits B and N),** Mr. Xavier currently anticipates establishing a Texas for-profit corporation in 2027, although a definitive incorporation date has not been established.

The staffing plan projects **five positions in Year 1**, with subsequent expansion tied to anticipated project volume and revenue.

These activities represent planned milestones rather than completed operations. Mr. Xavier does not claim that the proposed U.S. enterprise has commenced consulting services, hired personnel, or generated revenue. Implementation remains prospective and subject to applicable work-authorization requirements.

The preliminary corporate-formation arrangements are further corroborated by an October 21, 2026, letter from Camila Schuh of Brazus Texas Inc. (RFE Exhibit N). The letter confirms the administrative submission of the corporate name-reservation application and describes Mr. Xavier's stated plan to establish a Texas for-profit corporation in 2027. It also clarifies that the corporation has not yet been formed, that no U.S. operations are planned for the remainder of 2026, and that future accounting, payroll, and compliance services have not been contracted. This evidence documents a specific preparatory step without representing that incorporation, office arrangements, or business operations have already been completed.

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5. AWS Activate Cloud Credits and Technology Infrastructure Preparation

On October 16, 2026, Mr. Xavier applied to the AWS Activate program using the proposed company's business email address, **contact@dartagnantelcosolutions.com**. On October 19, 2026, AWS confirmed the issuance of promotional cloud-service credits, and the corresponding billing record documents **$1,000 in available AWS Activate credits**, valid for eligible services through October 31, 2028 (RFE Exhibit K).

These credits may support future cloud-based development, testing, automation, and observability activities. They constitute promotional technology resources, **not cash financing, operational revenue, or evidence that the company has commenced business activities**.

6. Commercial Supplier Account and Credit Application — TD SYNNEX

An online credit application submitted to **TD SYNNEX on October 17, 2026**, documents Mr. Xavier's preliminary efforts to establish access to technology suppliers and potential procurement channels relevant to the proposed engineering services (RFE Exhibit L).

The application does not establish an approved credit facility, executed supplier agreement, or existing commercial partnership, but provides additional evidence of preparations for future operations.

Collectively, these documented activities, the Texas name-reservation application, business website and commercial materials, innovation-center membership, implementation schedule, AWS promotional credits, and TD SYNNEX application, demonstrate verifiable progress in preparing the proposed enterprise.

Although the company has not yet commenced operations, these steps supplement the Business Plan with objective evidence of business-development efforts, directly addressing the RFE's concerns regarding the Petitioner's preparation and positioning to advance the proposed endeavor.

(d) Documented Financial Resources Supporting the Proposed Endeavor

The RFE identifies the absence of documented funding and requests evidence of feasible plans for financial support. The updated record addresses this concern through financial documentation identifying Mr. Xavier's assets and resources relevant to the proposed enterprise's initial capitalization (RFE Exhibit F).

The submitted evidence includes:

- **Facebank:** U.S.-dollar account balances of approximately US$2,500, including fixed-deposit information, and a bank reference letter, both dated October 9, 2026;
- **Nomad:** Investment account valued at approximately **$18,468.17** as of September 2026;
- **Visão Prev:** Pension holdings valued at approximately **R$190,789.44** as of August 2026, approximately **$38,051.34**[1]; and

[1] https://www.bcb.gov.br/conversao

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- **Additional assets:** A residential property located in Curitiba, Paraná, Brazil, appraised at R$580,000[2] **(approximately US$115.676),** which represents a potential source of additional funding subject to its future sale and the availability of proceeds, together with other financial account and credit-facility information analyzed in the Business Plan Supplement.

The Business Plan Supplement (RFE Exhibit A, Section 4.2) evaluates these resources against the proposed **$100,000 initial launch budget** and identifies their intended allocation toward technical infrastructure, software and engineering tools, initial personnel costs, business development, and operating expenses.

Importantly, the financial analysis distinguishes among bank balances, investments, retirement holdings, real estate, and credit facilities, recognizing differences in liquidity, accessibility, and immediate availability. Accordingly, the Petitioner does not represent that all reported assets constitute cash currently available for investment.

The proposed enterprise's specialized engineering and consulting model relies primarily on professional expertise, technical tools, and client acquisition rather than capital-intensive manufacturing facilities. The documented resources, considered together with the proposed budget and phased implementation schedule, therefore provide evidence of Mr. Xavier's financial preparation and a defined approach to funding the endeavor.

Additionally, Mr. Xavier has obtained **$1,000 in AWS Activate promotional cloud-service credits** (RFE Exhibit K). These credits may support future technical activities but are not treated as cash financing or included in the proposed $100,000 startup capitalization.

Taken together, the financial documentation and Business Plan Supplement address the RFE's request for evidence of feasible financial support and further substantiate Mr. Xavier's preparation to advance the proposed endeavor.

(e) Demonstrated Entrepreneurial Experience and Evidence of Commercial Demand for His Specialized Services

The RFE questions the absence of demonstrated success in establishing a business in the United States and evidence of interest from potential customers, investors, or other relevant stakeholders. Although Mr. Xavier has not yet established or operated Dartagnan Telco Solutions Inc. in the United States, his existing Brazilian consulting enterprise provides documented entrepreneurial experience directly relevant to the proposed business model.

As detailed in the Business Plan Supplement (RFE Exhibit A, Section 4.4), Mr. Xavier established his Brazilian information technology consulting company in **2022** and has provided specialized services through an international commercial relationship with **Winprovit – Soluções Inteligentes S.A., based in Portugal**. The original petition includes supporting corporate and contractual documentation.

The additional evidence includes **six consecutive monthly invoices**, issued by his Brazilian company to Winprovit between April and September 2026 (RFE Exhibit C):

- **April 2026:** US$4,737.60;

[2] Central Bank's PTAX selling rate, R$5.0140, on October 20, 2026.

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- **May 2026:** US$4,512.00;
- **June 2026:** US$4,527.00;
- **July 2026:** US$4,060.80;
- **August 2026:** €4,737.60; and
- **September 2026:** R$25,654.78.

These invoices document recurring commercial activity through an independently operated professional-services business, rather than salaried employment alone. Through this relationship, Mr. Xavier has also performed specialized telecommunications engineering work supporting **Optimum's U.S. network operations**.

This experience is directly relevant to Dartagnan Telco Solutions' proposed multi-client consulting model, which contemplates expanding similar engineering services through additional personnel, specialized service lines, and a broader customer base.

Although the existing Winprovit relationship does not establish a future contract with the proposed U.S. company or a binding commitment from prospective American customers or investors, it provides objective evidence of actual commercial demand for Mr. Xavier's expertise and his prior ability to deliver specialized services through an entrepreneurial structure.

Taken together, the evidence presented under the Second Prong establishes a documented foundation for advancing the proposed endeavor: contemporaneous records of telecommunications modernization, SIP/IMS integration, Kafka-related assignments, Adtran upgrades, network monitoring, vendor coordination, and advanced automation environments (RFE Exhibits E, G, and M); specialized qualifications and technical knowledge-transfer experience (RFE Exhibit H); verifiable business preparations, including the Texas name-reservation application, commercial materials, SDFP Innovation Center membership, AWS Activate credits, and TD SYNNEX application (RFE Exhibits B, D, I, K, L, N and O); identifiable financial resources and a structured implementation plan (RFE Exhibits A and F); and established entrepreneurial experience supported by recurring international consulting invoices (RFE Exhibit C).

Considered collectively, rather than in isolation, these records demonstrate Mr. Xavier's relevant experience, capabilities, resources, and preparation to advance the proposed enterprise. While *Matter of Dhanasar* does not require certainty of future success, it requires a showing that the Petitioner is well positioned to advance the proposed endeavor. **Under the preponderance-of-the-evidence standard, the totality of the record establishes that it is more likely than not that Mr. Xavier satisfies the second prong of *Matter of Dhanasar*.**

III. THIRD PRONG — ON BALANCE, WAIVING THE JOB OFFER AND LABOR CERTIFICATION REQUIREMENTS WOULD BENEFIT THE UNITED STATES

Under *Matter of Dhanasar*, 26 I&N Dec. 884 (AAO 2016), the third prong requires determining whether, on balance, waiving the job offer and labor certification requirements would benefit the United States. The RFE questions the impracticality of labor certification, the benefits of Mr. Xavier's contributions even if qualified U.S. workers are available, and whether the national

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interest in those contributions is sufficiently urgent. It also questions the evidentiary support for the proposed employment and economic benefits.

The following evidence addresses these concerns in light of the endeavor's entrepreneurial structure, Mr. Xavier's qualifications, documented implementation preparations, and prospective telecommunications infrastructure benefits.

(a) The Nature of the Proposed Endeavor Makes a Traditional Job Offer and Labor Certification Impractical

The RFE questions whether obtaining a conventional job offer or labor certification would be impractical given the nature of Mr. Xavier's proposed endeavor.

Mr. Xavier intends to establish and lead **Dartagnan Telco Solutions Inc.**, a Dallas-based telecommunications engineering consultancy serving multiple U.S. operators, enterprises, technology companies, data centers, and infrastructure providers. Rather than filling a vacancy with a single employer, he proposes to develop an independent enterprise offering four specialized service lines: (1) Network Architecture, VoIP Infrastructure, and Legacy Modernization; (2) Performance Engineering and Optimization; (3) AI-Enabled Observability, AIOps, and Automation; and (4) Interconnection, Compliance, Security, and NextG Readiness.

His proposed responsibilities encompass business development, technical leadership, project design and oversight, knowledge transfer, and recruitment of specialized personnel. These functions are inseparable from establishing and developing the enterprise itself.

Although entrepreneurship does not automatically justify a waiver, a traditional employer-sponsored labor certification would evaluate a particular job opportunity rather than the broader multi-client business model and its prospective infrastructure, knowledge-transfer, and employment benefits.

The Business Plan Supplement (RFE Exhibit A, Sections 4.5 and 5.0) details the proposed implementation and staffing schedule. Preparatory evidence includes the Texas business-name reservation application (RFE Exhibit B), website and commercial materials (RFE Exhibit D), SDFP Innovation Center membership (RFE Exhibit I), and approved AWS Activate promotional cloud-service credits (RFE Exhibit K).

These documented preparations support Mr. Xavier's intention to develop an independent enterprise rather than seek placement in an existing engineering position. Accordingly, the entrepreneurial nature of the proposed endeavor weighs in favor of waiving the conventional job offer and labor certification requirements.

(b) The United States Would Benefit Even Assuming Qualified U.S. Workers Are Available

The RFE questions whether Mr. Xavier's contributions would benefit the United States even if qualified American telecommunications engineers are available.

The Petitioner does not claim that qualified U.S. professionals are unavailable or that his expertise is entirely unique. Rather, the anticipated benefit derives from combining his documented technical experience with a specialized, multi-client enterprise capable of providing infrastructure services, transferring engineering knowledge, and creating employment opportunities.

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His professional record documents participation in GVT's Freedom IMS project, Vivo network integration, Telefônica Brasil's UNICA virtualization program, and engineering activities supporting Optimum through Winprovit. These projects involved SIP/IMS integration, Session Border Controllers, virtualization, reliability, and technical knowledge transfer (RFE Exhibits E, G, and H).

The Business Plan Supplement (RFE Exhibit A, Section 2.0) connects the proposed services to network interoperability, modernization, secure interconnection, operational reliability, and automated monitoring. Because telecommunications networks exchange traffic across provider boundaries, improvements in routing, authentication, and reliability may benefit users beyond the immediate contracting customer.

The proposed enterprise also incorporates technical handovers, professional training, articles, case studies, workshops, and industry presentations (RFE Exhibit A, Section 5.2). Mr. Xavier's documented instructional experience provides a foundation for these knowledge-dissemination activities (RFE Exhibit H).

Importantly, the business model anticipates recruiting qualified U.S. engineering, operational, sales, and administrative professionals rather than relying exclusively on Mr. Xavier's individual labor.

Thus, even assuming the availability of qualified U.S. workers, the proposed endeavor offers prospective benefits through specialized multi-client services, knowledge transfer, and additional employment opportunities. This consideration favors the requested waiver.

(c) The National Interest in the Proposed Contributions Is Sufficiently Important and Time-Sensitive to Favor Waiving Labor Certification

The RFE questions whether the national interest in Mr. Xavier's contributions is sufficiently important or urgent to warrant waiving labor certification.

The Petitioner does not contend that all telecommunications engineering work is inherently urgent or that federal telecommunications priorities automatically establish NIW eligibility. Instead, the Business Plan Supplement (RFE Exhibit A, Sections 2.0 and 5.3) and FCC materials (RFE Exhibit J) identify existing operational and regulatory needs directly related to the proposed services.

Telecommunications reliability and emergency communications. The FCC's investigation of the February 2024 AT&T Mobility outage documented more than **92 million calls that could not be completed** and more than **25,000 affected 911 calls**. This incident illustrates the public-safety implications of network failures and the relevance of the proposed company's modernization, performance engineering, observability, fault-detection, and automation services.

Caller authentication, robocall mitigation, and network security. FCC Public Notice **DA 24-73** and the Eighth Report and Order, **FCC 25-15** (RFE Exhibit J), establish a regulatory context involving robocall mitigation, provider accountability, and communications security. The proposed enterprise intends to assist providers with applicable technical implementation, secure interconnection, and compliance-related engineering requirements.

Legacy modernization and next-generation communications. Developments involving Next Generation 911, IP-based infrastructure, legacy network migration, and evolving interoperability requirements create continuing needs for specialized engineering services. These needs

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correspond to Mr. Xavier's documented SIP, IMS, network integration, and virtualization experience and the company's proposed VoIP modernization and NextG-readiness services.

These are existing infrastructure and regulatory concerns, not merely speculative future technologies. Although no telecommunications provider is shown to have retained Dartagnan Telco Solutions Inc for a specific compliance deadline, the proposed services are designed to address identifiable and continuing needs.

The Business Plan Supplement establishes a phased implementation schedule, with operations contemplated after the necessary organizational steps and subject to applicable work authorization. Requiring a conventional single-employer labor certification would not directly assess the broader, multi-client infrastructure objectives of the proposed entrepreneurial model.

Accordingly, the request for a waiver is supported by the combined consideration of Mr. Xavier's proposed entrepreneurial model, his documented technical contributions, the anticipated dissemination of specialized knowledge, and the prospective employment benefits of the endeavor. The public-safety, network-reliability, security, regulatory, and infrastructure-modernization needs addressed by the proposed services provide additional context for this balancing analysis, rather than serving as the sole basis for the requested waiver.

(d) The Proposed Endeavor Has the Potential to Create U.S. Jobs and Generate Positive Economic Effects

The RFE questions whether the Business Plan's projected staffing, payroll, and broader economic effects are adequately supported. The Business Plan Supplement (RFE Exhibit A, Section 3.0) provides additional assumptions and methodology for evaluating these projections.

The proposed enterprise anticipates **5 company positions in Year 1, increasing to 21 by Year 5**, with projected annual payroll rising from **$358,450 to $2,133,081**. Planned roles include telecommunications engineers, network optimization and automation specialists, project managers, client-support personnel, sales professionals, and administrative employees.

Using the U.S. Bureau of Economic Analysis **RIMS II** methodology, the Supplement estimates that the projected 21 direct company positions in Year 5 could support approximately **33 total jobs in Texas**. A separate national analysis estimates approximately **64 supported jobs**. These are alternative geographic estimates, not additive totals.

The Supplement also projects approximately **$1,361,339 in cumulative tax contributions over five years**, contingent on the company's anticipated financial and operational performance. These figures are forecasts, not existing employment, realized tax payments, or guaranteed economic outcomes.

Mr. Xavier's entrepreneurial experience provides additional context for the proposed business model. His Brazilian consulting enterprise maintains a recurring international commercial relationship with Winprovit, documented by service invoices (RFE Exhibit C), through which he has supported telecommunications engineering activities for Optimum's U.S. operations. Although this relationship does not establish future contracts for the proposed U.S. company, it demonstrates experience delivering specialized services through an independent commercial structure.

The proposed enterprise intends to build upon this experience by expanding its service capabilities, hiring qualified U.S. professionals, and engaging suppliers and contractors as

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operations develop. Its projected employment benefits are therefore presented as an additional favorable consideration, not as an independent basis for waiver eligibility.

Considered as a whole, the evidence supports a favorable determination under the third prong of *Matter of Dhanasar*. Mr. Xavier proposes an independent, multi-client telecommunications engineering enterprise rather than a conventional employer-sponsored position; his documented experience and preparations support his capacity to advance it; and the proposed services address identifiable infrastructure, public-safety, regulatory, and modernization needs while offering prospective benefits through knowledge transfer, U.S. employment, and economic activity.

The Petitioner respectfully submits that, **under the preponderance-of-the-evidence standard, it is more likely than not that, on balance, the prospective benefits of permitting Mr. Xavier to advance this endeavor outweigh the considerations favoring a conventional job offer and labor certification**, thereby satisfying the third prong of *Matter of Dhanasar*, 26 I&N Dec. 884 (AAO 2016).

IV. RESPONSE TO REQUEST FOR FORM ETA-9089 DOCUMENTATION

The RFE identifies the absence of the main Form ETA-9089, *Application for Permanent Employment Certification*, from the original petition. To address this deficiency, the Petitioner submits the required uncertified documentation pursuant to 8 C.F.R. § 204.5(k)(4)(ii), including:

1. **Form ETA-9089 — Application for Permanent Employment Certification;**
2. **Form ETA-9089, Appendix A — Foreign Worker Information;** and
3. **Form ETA-9089 — Final Determination**, duly completed and signed as applicable.

These documents are submitted directly to USCIS in support of the pending EB-2 National Interest Waiver petition, not as a labor certification approved by the Department of Labor. The information provided is consistent with the Petitioner's qualifications, professional experience, and proposed occupation.

Accordingly, the Petitioner respectfully requests that USCIS accept the enclosed documentation as responsive to the deficiency identified in the RFE.

V. FINAL CONSIDERATIONS

The Petitioner respectfully submits that the original petition, considered together with the additional evidence provided in response to the Request for Evidence, establishes eligibility for a National Interest Waiver under *Matter of Dhanasar*, 26 I&N Dec. 884 (AAO 2016).

As acknowledged in the RFE, USCIS has already determined that **Mr. Gustavo Dartagnan Xavier do Rego qualifies for the underlying EB-2 advanced-degree classification and that his proposed endeavor possesses substantial merit**. The supplemental record addresses the remaining issues concerning national importance, his positioning to advance the endeavor, and the benefits of waiving the job offer and labor certification requirements.

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First Prong — National Importance. The Business Plan Supplement (RFE Exhibit A) demonstrates how the proposed telecommunications engineering services are intended to address network modernization, operational reliability, secure interconnection, AI-enabled observability, and regulatory implementation, with prospective benefits extending beyond individual clients. Supporting FCC materials (RFE Exhibit J), together with documented economic projections and external benchmarks, further substantiate the endeavor's prospective broader impact.

Second Prong — Well Positioned to Advance the Proposed Endeavor. Contemporaneous professional records document Mr. Xavier's experience in telecommunications integration, IMS/SIP infrastructure, virtualization, network optimization, technical knowledge transfer, and advanced operational environments (RFE Exhibits E, G, H, M and O). His established Brazilian consulting enterprise and recurring commercial relationship with Winprovit (RFE Exhibit C), together with documented business preparations, financial resources, and the phased implementation plan (RFE Exhibits A, B, D, F, I, K, and L), provide additional evidence of his capacity and preparation to advance the proposed U.S. enterprise.

Third Prong — Benefit of Waiving Labor Certification. The proposed endeavor involves developing an independent, multi-client telecommunications engineering company rather than filling a conventional employer-sponsored position. Its prospective contributions to infrastructure reliability, modernization, technical knowledge dissemination, U.S. employment, and economic activity, considered alongside Mr. Xavier's qualifications and implementation preparations, support a favorable balancing determination under *Dhanasar*.

Form ETA-9089 Documentation. The Petitioner also submits the applicable uncertified Form ETA-9089 documentation identified in Section IV to address the separate documentary deficiency raised in the RFE.

Request for Approval. The Petitioner does not rely solely on the general importance of the telecommunications industry, professional credentials, or unsupported projections. Instead, the petition is supported by contemporaneous technical records, demonstrated entrepreneurial experience, identifiable financial resources, documented implementation steps, and a defined business model addressing the concerns identified by USCIS.

Under the applicable **preponderance-of-the-evidence standard**, the evidence must be evaluated in its totality. The Petitioner respectfully submits that the record establishes that **it is more likely than not that Mr. Xavier satisfies all three prongs of *Matter of Dhanasar*** and qualifies for a National Interest Waiver under INA § 203(b)(2)(B)(i).

Accordingly, the Petitioner respectfully requests that USCIS find the Request for Evidence satisfactorily addressed and approve his Form I-140 petition under the EB-2 classification with a National Interest Waiver.

Respectfully submitted,



Otavio Haverroth Silva

California Bar No. 343486

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EXHIBIT LIST — DOCUMENTS SUBMITTED WITH THIS RFE RESPONSE

The following exhibits are designated "RFE Exhibit" to distinguish them from the exhibits submitted with the original Form I-140 petition.

RFE Exhibit A — Business Plan Supplement
Business Plan Supplement for Dartagnan Telco Solutions, prepared by Nextus Plan, Mauricio Dacio da Silva, CFP®, October 2026 (25 pages).

RFE Exhibit B — Texas Corporate Name Reservation Documentation

Texas Secretary of State acknowledgment dated October 21, 2026, confirming receipt of an Application for Name Reservation for "Dartagnan Telco Solutions Inc." (Tracking No. 15037006930001). The application remains subject to review and does not constitute confirmation of an approved reservation or completed incorporation.

RFE Exhibit C — Evidence of Recurring International Consulting Services
Six monthly service invoices (NFS-e), April–September 2026, issued by Gustavo Dartagnan Xavier do Rego Consultoria em Tecnologia da Informação Ltda. to Winprovit – Soluções Inteligentes S.A., Portugal.

RFE Exhibit D — Proposed Company Website and Marketing Materials
Current website printout from dartagnantelcosolutions.com, business card, and company brochure (October 2026), describing the proposed company prior to its formation.

RFE Exhibit E — Contemporaneous Telecommunications Engineering and Project Records
Vivo1–Vivo2 pilot correspondence (September 2015); Optimum IAD firmware-upgrade acknowledgment (May 2025); Kafka integration assignment correspondence (March 2025); IMS KPI/Cacti monitoring assignment (November 2024); Genband RFP acknowledgment (December 2013); Huawei SBC-upgrade acknowledgment (August 2012); and GVT Freedom Project technical description (July 2012).

RFE Exhibit F — Financial Resources and Asset Documentation
Facebank account balances (approximately US$2,500) and bank reference letter (October 9, 2026); Nomad investment account statement (September 2026); property registration, and Visão Prev pension statement (August 2026).

RFE Exhibit G — UNICA Program and Network Virtualization Records
Telefônica Brasil SEC Form 20-F excerpts (2017 and 2019); UNICA data-center locations correspondence (April 2018); and meeting minutes identifying Mr. Xavier's UNICA engineering assignment (April 2018).

RFE Exhibit H — Technical Training and Knowledge-Transfer Records
Central NGN course administration and related records (August 2010); IAD/VoxNG technical training correspondence and supporting records from five Brazilian cities (2007).

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RFE Exhibit I — SDFP Innovation Center Membership Documentation
JoinIt membership record and membership card for the SDFP Innovation Center, South Dallas (Member No. 459; membership effective October 12, 2026).

RFE Exhibit J — Federal Communications Commission Regulatory Materials
FCC Eighth Report and Order, FCC 25-15, *Advanced Methods to Target and Eliminate Unlawful Robocalls* (adopted February 27, 2025); and FCC Public Notice DA 24-73 concerning the Robocall Mitigation Database (released January 25, 2024) and AT&T incident on 2024.

RFE Exhibit K — AWS Activate Technology Resource Documentation
AWS Activate application acknowledgment (October 16, 2026); approval confirmation (October 19, 2026); and AWS Billing and Cost Management record documenting $1,000 in promotional cloud-service credits, expiring October 31, 2028.

RFE Exhibit L — TD SYNNEX Commercial Credit Application
Online commercial credit application submitted October 17, 2026, in connection with preliminary supplier-related and business-development preparations.

RFE Exhibit M — Optimum Technology Leadership Communications
Organizational communications from Luciano Ramos dated August 8, 2025, and May 8, 2026, concerning telecommunications middleware development and Zero Touch Response (ZTR) automation, including 54 reported network-event triggers. Submitted to document the relevant technical environment and organizational initiatives, without attributing all such initiatives to Mr. Xavier individually.

RFE Exhibit N — Corporate Formation and Administrative Preparation Letter: Signed letter dated October 21, 2026, from Camila Schuh, Brazus Texas Inc., documenting the submission of the name-reservation application for Dartagnan Telco Solutions Inc., the proposed formation of a Texas for-profit corporation in 2027, and the current status and limitations of the preliminary administrative arrangements.

RFE Exhibit O — Supplemental Expert and Supervisory Letter from Optimum Communications: Signed letter dated October 13, 2026, from Darian José Rodríguez Del Carmen, Director of Engineering, MVNO Mobile, Optimum Communications, describing Mr. Xavier's individual engineering responsibilities and technical accomplishments involving robocall mitigation, business-voice migration automation, network observability, middleware development, Zero Touch Response integration, emergency 911 monitoring, and equipment-backup automation.

ADDITIONAL REQUIRED FORM DOCUMENTATION

Submitted separately from the lettered RFE exhibits in response to USCIS's documentary request:

- **Form ETA-9089 — Application for Permanent Employment Certification**, properly completed and uncertified;
- **Form ETA-9089, Appendix A — Foreign Worker Information**; and
- **Form ETA-9089 — Final Determination**, completed and signed as required.

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Exhibit list

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Evidence of the Petitioner’s technical leadership in the Freedom Project – designation as engineering focal point, project documentation and adoption results (GVT, 2012–2014)	73-95

RFE Exhibit F — Financial Resources and Asset Documentation

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RFE Exhibit G — UNICA Program and Network Virtualization Records

Beneficiary’s Role in Telefônica Brasil’s (Vivo) UNICA Network Virtualization Program – SEC Form 20-F (FY2019) Excerpt, Meeting Minutes Naming the Beneficiary, and E-mail Listing UNICA Data Center Sites	130-141

RFE Exhibit H — Technical Training and Knowledge-Transfer Records

Proof that the Petitioner served as instructor of the Central NGN Course for support teams (GVT, August 23–27, 2010)	142-156
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RFE Exhibit I — SDFP Innovation Center Membership Documentation

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AWS Activate Founders Program – Approval and US$1,000 Cloud Credit Issued to Dartagnan Telco Solutions	238-240

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RFE Exhibit M — Optimum Technology Leadership Communications

Fortune – Company Profile of Optimum Communications (formerly Altice USA), Fortune 500 Rank No. 462	242
Optimum – CPTO Organizational Communication from Luciano Ramos Reporting the IMS Core Team’s Middleware Development for Kafka-Based Network Telemetry	243-248

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RFE Exhibit A — Business Plan Supplement

DARTAGNAN TELCO SOLUTIONS

Business Plan Supplement

Prepared for: Gustavo Dartagnan Xavier do Rego
Form I-140: Receipt IOE0937802162
Request for Evidence: October 1, 2026
Location: Dallas, TX

Prepared by:
Nextus Plan

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1.0 Executive Summary

1.1 Purpose and Scope

Dartagnan Telco Solutions is the telecommunications engineering company that Mr. Gustavo Dartagnan Xavier do Rego[1] will establish in Dallas, Texas, to develop and implement AI-enabled network architecture, advanced VoIP infrastructure and telecommunications observability systems for operators, enterprises and infrastructure providers across the United States. Its business plan, filed with the petition (the Business Plan),[2] organizes the work into four service lines, named here in shortened form: (1) Network Architecture, VoIP and Legacy Modernization; (2) Performance Engineering and Optimization; (3) AI-Enabled Observability, AIOps and Automation; and (4) Interconnection, Compliance, Security and NextG Readiness.

In a Request for Evidence issued on October 1, 2026,[3] U.S. Citizenship and Immigration Services found that the endeavor has substantial merit and asked for further evidence on who benefits from it beyond the Company and its clients, on the basis and economic meaning of the plan's figures, on the steps taken to launch the Company, and on the nature of Mr. Xavier's role and the timing of the need. Counsel asked Nextus Plan to document each point with figures and public sources. Sections 2.0 to 5.0 follow the order of counsel's list, and Section 6.0 explains the methods and defines the technical terms.

The endeavor, including the Company, its Dallas base, its four service lines, its projections and its staffing, remains as filed. Mauricio Dacio, Founder of Nextus Plan, prepared the analysis, and his curriculum vitae appears in the Appendix.

1.2 Summary of Findings

Because U.S. telephone networks are interconnected, engineering work on one provider's network affects callers on connected networks. The FCC's report on the February 2024 AT&T Mobility outage, caused by one misconfigured network element, records more than 92 million blocked calls and more than 25,000 failed calls to 911, while the agency puts consumer losses from illegal and unwanted calls at $13.5 billion a year. Each service line addresses federal obligations, most of them adopted or updated between 2024 and 2026, from the delivery of 911 traffic over IP to the robocall mitigation filings now required of all voice providers (Section 2.0).

Revenue in the Business Plan results from 38 projects in Year 1 and 180 in Year 5, priced at $8,000 to $18,000 each in Year 1. Expressed in Year 1 prices, that revenue equals $132 to $144 per billable hour, within the range of federal contract rates for comparable engineering work.

[1] Also referred to as Mr. Xavier and the Founder; Dartagnan Telco Solutions is also referred to as the Company.
[2] Dartagnan Telco Solutions, *Business Plan*, March 2026, prepared by Nextus Plan and filed with Form I-140 (the Business Plan). Section and table numbers cited here refer to that document.
[3] USCIS, Texas Service Center, Request for Evidence, Form I-140, receipt IOE0937802162, October 1, 2026.

Under BEA multipliers for Texas, the 21 positions of Year 5 would support about 33 jobs and $2.9 million of earnings in the state, the Company's own included, counting supplier effects but not household spending; national multipliers that also count household spending raise the total to about 64 jobs (Section 3.0).

The domain, the website, English sales materials and membership in a South Dallas innovation center are in place, the Texas name reservation has been filed, and the $100,000 launch budget is backed by assets worth about $167,100 (Section 4.0). Mr. Xavier's role will combine ownership decisions with technical authority over all client work, and each project will end by handing its procedures to the client's engineers (Section 5.0).

1.2.1 Supplement at a Glance Table

Indicator	Year 1	Year 5	Five years
Projects (Business Plan)	38	180	556
Revenue (Business Plan)	$533,000	$3,069,936	$8,885,639
Positions at the Company	5	21	20 hires
Payroll (Business Plan)	$358,450	$2,133,081	$6,155,346
Average pay per employee	$71,690	$101,575	-
Jobs supported in Texas, including suppliers	7.9	33.1	-
Earnings supported in Texas	$486,847	$2,897,151	$8,360,192
Taxes from the Company's operations	$77,162	$475,877	$1,361,339

Sources: Business Plan; BEA, RIMS II; analysis in Section 3.0.

2.0 Reach of the Endeavor Beyond the Company and Its Clients

USCIS accepts the merit of the endeavor but questions its reach, finding that "the impact is limited to the self-petitioner, his business and his clientele." The subsections follow counsel's list: beneficiaries outside the client relationship, federal rules tied to each service line, effects on the field, and a description of the endeavor.

2.1 Beneficiaries Beyond the Paying Client

Comparing the endeavor to the work of the classroom teacher in the precedent it cites, the Request finds no showing that the endeavor "stands to sufficiently extend beyond an organization and its clients to impact the industry or field more broadly." Work on telephone networks extends past the client because a call between customers of two providers passes through the facilities of both and, often, of intermediate carriers, which is why the FCC observed in 2025 that "a call will transit multiple networks."[4] When a session border controller, a routing table or a caller ID signature is wrong at one provider, the people affected include customers of the other networks that exchange traffic with it.

[4] FCC, *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Eighth Report and Order, FCC 25-15, February 27, 2025, paras. 2, 9 and 31. https://docs.fcc.gov/public/attachments/FCC-25-15A1.pdf

According to the FCC's report on the AT&T Mobility outage of February 22, 2024, a single network element, installed without the peer review that the carrier's own procedures required, cut service to more than 125 million devices for at least 12 hours, blocked more than 92 million voice calls and prevented more than 25,000 calls from reaching 911 centers, and the report adds that people "were unable to reach family members, employers, health care professionals, schools, and other forms of assistance."[5] Robocalls follow the same routes, and the FCC estimates that illegal and unwanted calls cost consumers $13.5 billion a year, citing Federal Trade Commission data of $850 million lost each year to phone fraud, with a median loss of $1,480.[6] Caller ID authentication protects a consumer only if every carrier on the path passes the signature on unaltered.[7] Since February 2024 every voice provider, including carriers that only transport traffic, must keep a robocall mitigation plan in the FCC's database, and providers may not accept traffic from carriers missing from it.[8]

Mr. Xavier has done this work for Optimum, an operator with more than four million residential and business customers in 21 states.[9] His supervisor assigned him the compliance work under DA 24-73 and STIR/SHAKEN. Automating the migration of more than 600 business clients, among them organizations in health care, public safety, education, finance and energy, he raised the success rate from 60% to 100% (letter of Darian Jose Rodriguez Del Carmen, in the record). Such clients depend on what the Cybersecurity and Infrastructure Security Agency calls the "enabling function" of the Communications Sector across all critical infrastructure sectors, including the emergency services that rely on it for "receiving emergency 9-1-1 calls."[10]

2.1.1 Beneficiaries Outside the Client Relationship Table

Group	How the Company's work reaches it	Source
Customers of other carriers	Their calls cross interconnection points and session border controllers the Company will design and monitor	FCC 25-15
Consumers targeted by robocalls	Call signing, verification and mitigation programs reduce spoofed and fraudulent calls	FCC 25-15; DA 24-73
911 callers and call centers	Change controls and monitoring reduce outages; 911 traffic reaches new 911 systems over IP	FCC outage report; FCC 24-78
Hospitals, schools and public agencies on business lines	Their lines stay in service through migrations and network changes	Record letter; FCC data

[5] FCC Public Safety and Homeland Security Bureau, *February 22, 2024 AT&T Mobility Network Outage: Report and Findings*, July 22, 2024, paras. 1, 3 and 29. https://docs.fcc.gov/public/attachments/DOC-404150A1.pdf
[6] FCC 25-15, paras. 2 and 31.
[7] 47 CFR § 64.6302(b) (intermediate providers must pass caller identification information on unaltered). https://www.ecfr.gov/current/title-47/section-64.6302
[8] FCC Wireline Competition Bureau, Public Notice DA 24-73, Robocall Mitigation Database filing deadlines, January 25, 2024. https://docs.fcc.gov/public/attachments/DA-24-73A1.pdf
[9] Optimum Communications, Inc. (formerly Altice USA), investor website, accessed October 15, 2026; revenue of $8.59 billion in 2025 (Form 10-K). https://investors.optimum.com/ Fortune, Optimum Communications profile, updated June 3, 2026: 462nd on the 2026 Fortune 500 list. https://fortune.com/company/altice-usa/
[10] Cybersecurity and Infrastructure Security Agency, "Communications Sector." https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/critical-infrastructure-sectors/communications-sector

Group	How the Company's work reaches it	Source
Law enforcement agencies	VoIP networks are configured to support court-authorized intercepts	CALEA

Sources: documents cited in Sections 2.1 and 2.2.

2.2 Federal Rules and Programs Tied to Each Service Line

In the officer's view, the initiatives in the record, which concern 6G, artificial intelligence, semiconductors and cybersecurity, "do not specifically show the government's interest in the self-petitioner's proposed endeavor or similar endeavors." The items in Table 2.2.1 are narrower: binding rules, a funded program, a proposed rule and an FCC investigation report, each aimed at the problem one service line addresses, most of them dated between 2024 and 2026.

2.2.1 Federal Requirements Addressed by Each Service Line Table

Service line	Federal rule or program	What it requires or funds
1. Architecture, VoIP and Legacy Modernization	FCC 24-78, Next Generation 911 order (in effect since November 25, 2024)[11]	Delivery of 911 traffic "in IP-based Session Initiation Protocol (SIP) format" within 6 or 12 months of a 911 authority's request
	FCC 26-19, network modernization order (March 2026)[12]	Removal of rules that required providers "to keep aging copper lines in place," while requiring providers that discontinue interconnection trunks to "ensure seamless 911 connectivity"
2. Performance Engineering and Optimization	47 CFR § 4.9[13]; FCC 24-5, Resilient Networks order (April 2024)[14]	Reporting of outages of 30 minutes or more affecting 900,000 user minutes; infrastructure status reports during emergencies
3. Observability, AIOps and Automation	FCC report on the AT&T Mobility outage (July 2024); 47 CFR § 4.9	Findings of missing peer review, testing and change controls; notice to affected 911 centers within 30 minutes of discovery
4. Interconnection, Compliance, Security and NextG Readiness	FCC 25-15 (2025) and DA 24-73 (2024)	Call-blocking duties, robocall mitigation filings by every provider, refusal of traffic from unlisted carriers
	FCC 25-25, proposed rule (June 2025)[15]	Caller ID authentication for providers still on non-IP networks
4. Interconnection,	CALEA (FCC 05-153)[16]; NTIA	Intercept capability for VoIP providers; $1.5

[11] FCC, *Facilitating Implementation of Next Generation 911 Services*, Report and Order, FCC 24-78, July 18, 2024, 89 FR 78066, paras. 3 to 5. https://docs.fcc.gov/public/attachments/FCC-24-78A1.pdf

[12] FCC, *Reducing Barriers to Network Improvements and Service Changes; Accelerating Network Modernization*, Report and Order, FCC 26-19, March 26, 2026, paras. 1 and 6. https://docs.fcc.gov/public/attachments/FCC-26-19A1.pdf

[13] 47 CFR § 4.9 (outage reporting thresholds and notification deadlines). https://www.ecfr.gov/current/title-47/section-4.9

[14] FCC, *Resilient Networks; Disruptions to Communications*, Second Report and Order, FCC 24-5, 89 FR 25535 (April 11, 2024). https://docs.fcc.gov/public/attachments/FCC-24-5A1.pdf

[15] FCC, *Call Authentication Trust Anchor*, Notice of Proposed Rulemaking, FCC 25-25, 90 FR 25186 (June 16, 2025). https://www.federalregister.gov/documents/2025/06/16/2025-10998/call-authentication-trust-anchor

[16] FCC, First Report and Order, FCC 05-153, 70 FR 59664 (October 13, 2005), applying CALEA to facilities-based broadband and interconnected VoIP providers. https://www.federalregister.gov/documents/2005/10/13/05-20606/communications-assistance-for-law-enforcement-act-and-broadband-access-and-services

Service line	Federal rule or program	What it requires or funds
Compliance, Security and NextG Readiness	Innovation Fund[17]	billion for open, interoperable wireless equipment

Sources: FCC, eCFR and NTIA documents cited in the table.

These obligations fall on thousands of organizations, with Robocall Mitigation Database filings rising to approximately 9,000 once the requirement covered every provider,[18] and in June 2025 the country still had 15 million switched access lines on legacy technology, 8.6 million of them serving businesses and government, alongside 63 million interconnected VoIP subscriptions.[19]

2.3 Effects on the Field as a Whole

The officer also saw no evidence of "national or global implications within a particular field." The Company's methods will outlast each project, because the tools it will build, such as configuration templates, firmware-upgrade scripts and performance collectors for carrier platforms, will be reused from client to client. Its monitoring work will rest on OpenTelemetry, an open-source, vendor-neutral standard of the Cloud Native Computing Foundation,[20] so that what is built for one network can be carried to another. Migration procedures proven on one platform will become the playbook for the next, as when Mr. Xavier's standardized templates allowed more than 40 session border controllers to be deployed in one year at Vivo (Telefônica Brasil) (letter of Pedro Javier Chia Luna, in the record). Each project will close with the transfer of its procedures to the client's own engineers (Section 5.2).

Smaller operators stand to gain the most from this transfer, given the constraints the FCC recognized when it set the deadline for caller ID authentication and gave providers with 100,000 or fewer lines two more years, finding that "a barrier to STIR/SHAKEN implementation for small voice service providers is the substantial cost, despite resource constraints, to implement STIR/SHAKEN."[21] Regional carriers carry the same robocall mitigation duties as national carriers, and they and enterprises with their own voice platforms are among the Company's target clients (Section 4.3). In his own career, Mr. Xavier carried out the first acceptance testing and certification of a virtual network function in Brazil, a task previously performed only by teams in Spain, and saw teams in several cities use his templates and tools (letter of Andre Luiz Garcia Ruiz). At Optimum, the observability system he built processes about 75 million records a day, including emergency-call volumes (résumé, in the record).

[17] National Telecommunications and Information Administration, Public Wireless Supply Chain Innovation Fund. https://www.ntia.gov/funding-programs/public-wireless-supply-chain-innovation-fund

[18] FCC, *Improving the Effectiveness of the Robocall Mitigation Database*, FCC 24-135, 91 FR 343 (January 6, 2026). https://www.govinfo.gov/content/pkg/FR-2026-01-06/pdf/2026-00010.pdf

[19] FCC Office of Economics and Analytics, *Voice Telephone Services: Status as of June 30, 2025*, May 2026, page 2, Figure 2 and Reference Data. https://docs.fcc.gov/public/attachments/DOC-421558A1.pdf

[20] OpenTelemetry, "What is OpenTelemetry?" https://opentelemetry.io/docs/what-is-opentelemetry/

[21] FCC, *Call Authentication Trust Anchor*, Second Report and Order, FCC 20-136, October 1, 2020, paras. 40 and 41. https://docs.fcc.gov/public/attachments/FCC-20-136A1.pdf

2.4 Detailed Description of the Endeavor

The Request also asks for "a detailed description of the proposed endeavor." Dartagnan Telco Solutions will be a Texas for-profit corporation, headquartered in Dallas and led by Mr. Xavier as Founder and Chief Telecommunications Architect, selling engineering projects, delivered remotely and on site in any state, to telecommunications operators, enterprises with their own voice platforms, data centers and cloud communications providers (Table 2.4.1).

2.4.1 The Four Service Lines Table

Service line	Problem addressed	Work the Company will deliver	Founder's prior work
1. Network Architecture, VoIP and Legacy Modernization	Migration of customers off legacy switches and copper, and of 911 calls to new IP systems, without service gaps	SIP, IMS and session border controller design; migration plans; interoperability tests; cutovers	600+ business clients migrated at Optimum; Huawei IMS and Vivo-GVT network integration
2. Performance Engineering and Optimization	Congestion and signaling faults that drop or block calls on shared routes	Indicator analysis, traffic engineering, capacity planning, routing tuning	Capacity planning at Vivo; 25% capacity gain on the Vono platform
3. AI-Enabled Observability, AIOps and Automation	Faults found after customers or 911 centers are affected; manual configuration errors	Telemetry pipelines, dashboards, alerts, anomaly detection, automated configuration	IMS observability at Optimum (45% less critical downtime); backups of 100+ devices
4. Interconnection, Compliance, Security and NextG Readiness	Spoofed calls, STIR/SHAKEN and database duties, other compliance duties such as CALEA, virtualization	SIP interconnection design, call signing and verification, mitigation programs, regulatory compliance work, readiness plans	STIR/SHAKEN and DA 24-73 work at Optimum; first VNF certification in Brazil

Sources: Business Plan, Sections 1.1 and 3.0; résumé and letters in the record.

3.0 Economic Effects and Employment

After restating the projections of the Business Plan (five employees in Year 1 and 21 in Year 5, payroll rising from $358,450 to $2,133,081 and sales rising from $533,000 to $3,069,936), the Request concludes that the self-petitioner "did not present sufficient supporting evidence corroborating the assertions and figures." Sections 3.1 to 3.4 trace each projection to its inputs and measure its effect on Dallas, Texas and the national economy.

3.1 Basis of the Projections

Every revenue figure in the Business Plan results from two inputs: the number of projects in each service line and the price of each project. Together the lines grow from 38 projects in Year 1 to 180 in Year 5, while prices begin between $8,000 and $18,000 and rise 5% a year, the plan's only price escalation (Table 3.1.1).

3.1.1 Projects, Prices and Revenue by Service Line Table

Service line	Projects Y1	Price Y1	Revenue Y1	Projects Y5	Price Y5	Revenue Y5
1. Network Architecture, VoIP and Legacy Modernization	12	$18,000	$216,000	57	$21,879	$1,252,675
2. Performance Engineering and Optimization	11	$15,000	$165,000	52	$18,233	$956,905
3. AI-Enabled Observability, AIOps and Automation	8	$12,000	$96,000	37	$14,586	$543,383
4. Interconnection, Compliance, Security and NextG Readiness	7	$8,000	$56,000	33	$9,724	$316,973
Total	**38**	**$14,026 avg.**	**$533,000**	**180**	**$17,055 avg.**	**$3,069,936**

Source: Business Plan, Table 5.4.1. Project counts are rounded; revenue uses the unrounded counts of the financial model.

The General Services Administration publishes, through its CALC+ tool, the hourly ceiling rates awarded to contractors on federal schedules, a public benchmark for these prices, including 377 rates for telecommunications engineering categories and 3,312 for network engineering. Computed from those rates, the medians are $115.46 and $131.90 and the 75th percentiles $139.63 and $161.38.[22] At the telecommunications median, an architecture and modernization project at $18,000 pays for about 156 hours, roughly four weeks of one engineer's time, and an interconnection and compliance project at $8,000 pays for about 69 hours. Both sizes are consistent with scoped tasks such as a session border controller deployment or a call-authentication setup.

Table 3.1.2 applies the same test to the whole forecast, dividing revenue by the billable hours the staffing plan provides: engineers at 75% of a 2,080-hour year; the Founder, project managers and client support specialists at 50%; and no billable time for sales or administrative staff. In Year 1 prices, revenue per billable hour stays within $132 to $144, a range that lies between the median and the 75th percentile of the network engineering rates and close to the 75th percentile of the telecommunications rates, so at these utilization levels the forecast does not require rates above those federal buyers already pay for comparable labor.

[22] U.S. General Services Administration, CALC+ labor ceiling rates, searches for "telecommunications engineer" (377 rates) and "network engineer" (3,312 rates), current-year prices, accessed October 15, 2026. https://open.gsa.gov/api/dx-calc-api/

3.1.2 Billable Capacity and Revenue per Hour Table

Indicator	Year 1	Year 2	Year 3	Year 4	Year 5
Engineers (average in the year)	1.9	3	5	6	8
Project managers and client support specialists	0	2	3	4	5
Billable hours available	4,030	7,800	11,960	14,560	18,720
Revenue per billable hour	$132	$151	$147	$162	$164
Same, in Year 1 prices	$132	$144	$133	$140	$135

Sources: Business Plan, Tables 5.4.1 and 6.3 and Monthly Personnel Plan; GSA, CALC+; hours computed by Nextus Plan.

The 92% gross margin reflects the format of the Business Plan's financial statements, in which salaries are operating expenses and only project-specific costs (licenses, test tools and travel, set at 8% of each price) count as cost of sales; after payroll and other expenses, the net margin is 7.05% in Year 1 and 8.75% in Year 5 (Business Plan, Table 7.2.1). Break-even comes at three projects a month, because dividing monthly fixed costs of $36,575 by the average Year 1 margin per project ($14,026 less $1,122 of direct cost) gives 2.8 projects. The monthly forecast reaches that pace in Month 5 and averages 3.2 projects a month in Year 1 and 6.7 in Year 2, while the working capital reserve keeps cash above $45,000 in the slower first months (Section 4.2). Mr. Xavier has served Optimum without interruption since October 2022, and he plans to offer that work through the Company once it is formed (Section 4.3).

3.2 Economic Effects in Dallas, Texas and the United States

The Request states that the self-petitioner "did not demonstrate the relevance of these numbers and show that such future staffing levels would provide substantial economic benefits to Dallas, Texas or the U.S. economy more broadly." This supplement measures those benefits with the Regional Input-Output Modeling System (RIMS II) of the U.S. Bureau of Economic Analysis (BEA), whose multipliers estimate how one business's spending spreads to other businesses in a state.[23] The RIMS II table used covers industry 541300 (Architectural, engineering, and related services), which contains the Company's classification (NAICS 541330), and its Texas multipliers draw on the 2017 national accounts and 2022 regional data.[24] Because the Business Plan states the Company's own jobs and payroll, the direct-effect multipliers apply: each job at the Company supports 0.578 jobs at Texas suppliers, and each payroll dollar supports $0.358 of supplier earnings. These Type I multipliers leave out household spending, so the estimates in Table 3.2.1 are a lower bound.

3.2.1 Jobs, Earnings and Output Supported in Texas Table

Effect	Year 1	Year 2	Year 3	Year 4	Year 5
Jobs at the Company	5	9	13	17	21

[23] U.S. Bureau of Economic Analysis, *RIMS II: An Essential Tool for Regional Developers and Planners*. https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf

[24] BEA, RIMS II, Table 3.5, Total Multipliers, industry 541300 (Type I), 2017 national benchmark and 2022 regional data, Texas. https://apps.bea.gov/regional/rims/rimsii/

Effect	Year 1	Year 2	Year 3	Year 4	Year 5
Jobs at Texas suppliers	2.9	5.2	7.5	9.8	12.1
Total jobs in Texas	7.9	14.2	20.5	26.8	33.1
Payroll at the Company	$358,450	$806,110	$1,202,557	$1,655,148	$2,133,081
Earnings at Texas suppliers	$128,397	$288,749	$430,756	$592,874	$764,070
Total earnings in Texas	$486,847	$1,094,859	$1,633,313	$2,248,022	$2,897,151
Output in Texas	$782,497	$1,725,407	$2,572,581	$3,457,549	$4,506,973
Value added (state GDP)	$484,870	$1,069,139	$1,594,086	$2,142,451	$2,792,721

Sources: BEA, RIMS II, Table 3.5 (541300, Texas, Type I): direct-effect employment 1.5784 and earnings 1.3582; final-demand output 1.4681 and value added 0.9097; Business Plan, Tables 6.2, 6.3 and 7.2.1.

The Business Plan's estimate of 32 indirect jobs by Year 5 came from national multipliers that the Economic Policy Institute published in 2019 and that include household spending. The plan used the figure for "Other professional, scientific, and technical services," 154.3 indirect jobs per 100 direct jobs; the figure for "Architectural, engineering, and related services," the industry that matches the Company, is 204.1, of which 90.0 are at suppliers and 114.1 come from household spending.[25] On that basis the 21 positions of Year 5 would support about 43 jobs elsewhere in the U.S. economy, so the plan's figure is conservative; the Texas estimate is lower still because it counts only purchases made inside the state.

Table 3.2.2 compares the Year 5 salary of each position, when the full team is in place, with May 2025 wages in the Dallas-Fort Worth-Arlington area for the occupation whose duties match it.[26] Every position pays at or above the 25th percentile of its occupation, five of the ten pay above the median, and average pay per employee, $101,575, is about twice the area median for all occupations ($51,440). Pay is lower in the early years because two positions open partway through Year 1 and salaries rise every year, by 5% for staff and 15% for the Founder.

3.2.2 Year 5 Pay Compared with Dallas-Fort Worth Wages Table

Position (Business Plan)	Year 5 pay	Matching occupation (SOC)	25th percentile	Median
Founder and Chief Telecommunications Architect	$174,901	Computer Network Architects (15-1241)	$106,020	$137,900
Telecommunications Engineer	$113,771	Computer Network Architects (15-1241)	$106,020	$137,900
Telecommunications Network Optimization Engineer	$127,628	Computer Network Architects (15-1241)	$106,020	$137,900
Telecommunications Project Manager	$87,516	Project Management Specialists (13-1082)	$76,740	$98,900
Client Support Specialist	$99,186	Computer Network Support Specialists (15-1231)	$56,200	$75,930
Telecom Automation and Observability Engineer	$109,396	Network and Computer Systems Administrators (15-1244)	$80,990	$103,260

[25] Josh Bivens, "Updated Employment Multipliers for the U.S. Economy," Economic Policy Institute, January 23, 2019, Table 1, rows 127 and 133. https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

[26] U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics, May 2025, Dallas-Fort Worth-Arlington, TX metropolitan area. https://www.bls.gov/oes/current/oes_19100.htm

Position (Business Plan)	Year 5 pay	Matching occupation (SOC)	25th percentile	Median
Sales Telecommunications Engineer	$102,103	Sales Engineers (41-9031)	$101,080	$133,280
Sales Representative	$87,517	Sales Representatives of Services (41-3091)	$46,780	$63,280
Administrative Manager	$72,930	First-Line Supervisors of Office and Administrative Support Workers (43-1011)	$57,320	$73,070
Customer Service Representative	$51,052	Customer Service Representatives (43-4051)	$36,660	$44,990
Average per employee (payroll / 21)	**$101,575**	**All Occupations (00-0000)**	**$36,800**	**$51,440**

Sources: Business Plan, Table 6.2 (Year 5 payroll per position); BLS, OEWS, May 2025, Dallas-Fort Worth-Arlington.

Taxes from the Company's own operations appear in Table 3.2.3: the business income taxes and employer payroll taxes of the Business Plan plus the Social Security and Medicare contributions withheld from employees, 7.65% of wages.[27] Over five years they total about $1.36 million, a figure that understates the public revenue tied to the plan because it leaves out federal income tax withheld from salaries and taxes on the $2.2 million of supplier earnings. Texas levies no personal income tax;[28] state and local revenue from this activity will therefore come mainly from sales and property taxes as employees and suppliers spend their earnings.

3.2.3 Taxes from the Company's Operations Table

Tax	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Business income taxes (Business Plan)	$13,896	$35,446	$57,514	$68,676	$99,388	$274,920
Employer payroll taxes (Business Plan)	$35,845	$80,611	$120,256	$165,515	$213,308	$615,535
Employee Social Security and Medicare	$27,421	$61,667	$91,996	$126,619	$163,181	$470,884
Total	**$77,162**	**$177,724**	**$269,766**	**$360,810**	**$475,877**	**$1,361,339**

Sources: Business Plan, Table 7.2.1; IRS, Topic No. 751; computed by Nextus Plan.

Turning to location, the Request observes that the Business Plan "does not indicate that the self-petitioner will establish his company in an economically depressed area." Section 9.1 of the Business Plan profiled ZIP code 75215 in South Dallas, which the 2025 Distressed Communities Index rates as the most distressed of the 81 ZIP codes in Dallas County (score 94.1).[29] In October 2026 Mr. Xavier became a community member of the SDFP (South Dallas/Fair Park) Innovation Center, a workspace and business-support center in ZIP code 75210, near Fair Park, that was set up to provide "low cost work spaces, business development training, access to funding" to the

[27] Internal Revenue Service, Topic No. 751, "Social Security and Medicare Withholding Rates." https://www.irs.gov/taxtopics/tc751

[28] Texas Constitution, Article 8, Section 24-a; Texas Comptroller, list of state taxes. https://comptroller.texas.gov/taxes/

[29] Economic Innovation Group, 2025 Distressed Communities Index (2019-2023 data), ZIP codes 75210 and 75215, interactive map data, accessed October 15, 2026. https://eig.org/distressed-communities-interactive/

southern Dallas community.[30] The index rates 75210 as distressed as well (score 81.6), with 26.5% of its residents in poverty, a third of prime-age adults not working and median household income at 33% of the metropolitan median. The center's plans that include a business address and workspace cost $40 to $80 a month, well within the Business Plan's Year 1 rent budget of $18,000.

3.3 Hiring of U.S. Workers

The officer found that the self-petitioner "did not demonstrate how his business plan's claimed payroll and employment projections … have significant potential to employ U.S. workers." Besides the Founder, the plan opens 20 positions over five years (Table 3.3.1), each to be filled in the Dallas-Fort Worth labor market by workers authorized to work in the United States, whose eligibility the Company will verify on Form I-9 as federal law requires.[31]

3.3.1 Hiring Schedule and Profiles Table

Position	Hiring dates	Profile	Starting pay
Telecommunications Engineer (3)	Y1 Month 1; Y3; Y5	Engineering degree; VoIP, SIP and IMS platforms	$95,200
Network Optimization Engineer (3)	Y1 Month 6; Y3; Y5	Engineering degree; traffic and capacity analysis	$110,250
Automation and Observability Engineer (2)	Y1 Month 9; Y4	Python and Linux; monitoring and alerting	$94,500
Sales Representative (2)	Y1 Month 1; Y4	Business-to-business technology sales	$72,000
Project Manager (3)	Y2; Y3; Y5	Network deployment projects	$75,600
Client Support Specialist (2)	Y2; Y4	Network support and incident handling	$85,680
Sales Telecommunications Engineer (2)	Y2; Y4	Solution design and technical proposals	$88,200
Administrative Manager (1)	Y2	Office administration and hiring support	$63,000
Customer Service Representative (2)	Y3; Y5	Client communication and service requests	$46,305

Source: Business Plan, Tables 6.2, 6.3 and 6.5 and Monthly Personnel Plan; starting pay is the first full-year salary.

These profiles are well represented in the metropolitan labor market, which in May 2025 employed 5,900 computer network architects, 11,740 network and computer systems administrators, 3,340 network support specialists, 43,120 project management specialists and 2,690 sales engineers.[32] Recruitment will draw on WorkInTexas.com, the job-matching system of the Texas Workforce Commission,[33] the telecommunications engineering graduates of the University of Texas at Dallas, which offers master's and doctoral degrees in the field,[34] and the

[30] SDFP Innovation Center, 3225 Martin Luther King Jr. Blvd., Suite 130, Dallas, TX 75210 (sdfpinnovationcenter.com): description and membership plans in its membership portal, accessed October 15, 2026. https://app.joinit.com/o/sdfpinc

[31] USCIS, "I-9, Employment Eligibility Verification." https://www.uscis.gov/i-9

[32] BLS, OEWS, May 2025, Dallas-Fort Worth-Arlington.

[33] Texas Workforce Commission, WorkInTexas.com. https://www.workintexas.com/

[34] The University of Texas at Dallas, 2026 Graduate Catalog, Telecommunications Engineering Program. https://catalog.utdallas.edu/2026/graduate/programs/ecs/telecom-engineering

SDFP Innovation Center's network in South Dallas for the customer service and administrative positions.

3.4 Economic Effects in Relation to the Endeavor's Field-Wide Effects

The Request notes that "USCIS policy guidance does not create a presumption of eligibility for entrepreneurs." The jobs and taxes measured above follow from the engineering work described in Section 2.0, and Table 3.4.1 links the two. Over five years the Business Plan schedules 556 projects, each inside a network that exchanges calls with others, so their results will appear beyond both the Company and the client.

3.4.1 Five-Year Projects and Their Reach Beyond the Client Table

Service line	Projects, Years 1-5	Effect outside the client
1. Network Architecture, VoIP and Legacy Modernization	176	Calls completed without interruption during migrations; 911 traffic delivered to new IP systems
2. Performance Engineering and Optimization	161	Fewer dropped and blocked calls on routes shared with other carriers
3. AI-Enabled Observability, AIOps and Automation	117	Faults corrected before they spread to other networks and to 911 calling
4. Interconnection, Compliance, Security and NextG Readiness	103	Caller ID verified across carriers; fewer spoofed calls; lawful intercepts supported
Total	**556**	

Sources: Business Plan, Table 5.4.1; Sections 2.1 and 2.2. Line totals add rounded yearly counts and sum to 557; the total follows the plan's Total Unit Sales row.

4.0 Capacity to Carry Out the Plan

Having accepted Mr. Xavier's degree and experience for the advanced-degree classification, the Request asks for a record of success in similar efforts, a plan for future activities, progress toward the endeavor and the interest of potential customers or investors.

4.1 Progress to Date

According to the Request, "the record lacks documentation of any progress towards achieving this endeavor." Table 4.1.1 lists the steps taken so far, with dates and supporting documents.

4.1.1 Steps Taken Toward the Company Table

Date	Step	Supporting document
March 2026	Business Plan completed: four service lines, Dallas headquarters, five-year staffing and financial plan	Business Plan, in the record
June 19, 2026	Domain dartagnantelcosolutions.com registered[35]	Registry record
By October 12, 2026	Bilingual website published, presenting the services and the Dallas base	Website printout
October 2026	English business card and company brochure with a	Business card and brochure

[35] Verisign registry record (RDAP) for dartagnantelcosolutions.com, registration event of June 19, 2026, accessed October 15, 2026. https://rdap.verisign.com/com/v1/domain/dartagnantelcosolutions.com

Date	Step	Supporting document
	Dallas-area (469) telephone number	
October 12, 2026	Community membership in the SDFP Innovation Center, South Dallas (member no. 459, valid until October 12, 2027)[36]	Membership card and account page
October 21, 2026	Name reservation for "Dartagnan Telco Solutions Inc." filed with the Texas Secretary of State through Brazus Texas Inc., tracking no. 15037006930001[37]	Filing receipt and Brazus Texas Inc. letter
October 2026	Sources of the $100,000 investment documented (the property appraisal was filed with the petition)	Section 4.2

Sources: documents listed in the table.

Once accepted, the reservation holds the name for 120 days and can be renewed on the same form. The certificate of formation, which costs $300 and designates the registered agent and registered office in Texas,[38] will follow. The Company will be formed in 2027 as a Texas for-profit corporation rather than a limited liability company. To that end, an application to reserve the name "Dartagnan Telco Solutions Inc." was filed with the Texas Secretary of State on October 21, 2026, through Brazus Texas Inc., Mr. Xavier's accounting firm (filing reference no. 15037006930001; letter of Brazus Texas Inc. dated October 21, 2026, enclosed by counsel). This choice concerns only the Company's legal form and does not change the endeavor, its Dallas base, its service lines, its projections or its staffing, all of which remain as filed.

4.2 Funding Plan

For funding, the Request lists "documentation reflecting feasible plans for financial support." Section 2.5 of the Business Plan budgets $100,000, made up of $40,000 of startup expenses (the largest being equipment and software at $15,000, marketing at $8,000 and the rent deposit at $5,000) and $60,000 of working capital. The plan calls this amount Mr. Xavier's personal equity; Table 4.2.1 identifies the assets behind it.

[36] SDFP Innovation Center.
[37] Texas Secretary of State, Form 501, Application for Reservation or Renewal of Reservation of an Entity Name (120 days; fee $40). https://www.sos.state.tx.us/corp/forms/501_boc.pdf
[38] Texas Secretary of State, Form 202, Certificate of Formation, For-Profit Corporation (fee $300). https://www.sos.state.tx.us/corp/forms/202_boc.pdf

4.2.1 Sources of the $100,000 Investment Table

Source	Amount	U.S. dollars	Documentation
Residential property in Curitiba, Paraná, to be sold	R$580,000 (appraised)	$115,676	Appraisal and registration, in the record
PGBL private pension plan, to be redeemed	About R$150,000	$29,916	Plan statement
U.S.-dollar account with Nomad	About US$19,000	$19,000	Account statement
U.S.-dollar account with Facebank	About US$2,500	$2,500	Account statement
Total of the four sources	**R$730,000 and US$21,500**	**$167,092**	**Compared with $100,000 required**

Sources: documents listed; converted at the Central Bank of Brazil PTAX rate of R$5.0140 per U.S. dollar, October 20, 2026.[39]

The four sources exceed the launch budget by about $67,100, and the two U.S.-dollar accounts, worth about $21,500, are already available for formation costs, while his current professional income (Section 4.4) continues as the Company is formed. The Business Plan's monthly cash flow confirms that $100,000 suffices, with cash starting at $60,000 after the startup expenses, falling to its low of $45,957 in Month 2 and closing Year 1 at $118,959; the plan requires no loans in any year.

4.3 Client Interest and Market Entry

On market entry, the officer found "no indication in the record that the self-petitioner has successfully gathered interest from potential investors or customers." Dartagnan Telco Solutions will begin with the client relationship Mr. Xavier already has and with buyers that public registries identify (Table 4.3.1).

4.3.1 Target Clients for Years 1 and 2 Table

Client group	Source of the target list	Lines	How the Company will reach it
Optimum Communications (formerly Altice USA)	Engagement of Mr. Xavier since October 2022	1, 3, 4	Offer the current work through the Company
Voice providers in the Robocall Mitigation Database, starting in Texas	FCC database (about 9,000 filings)	4, 1	Direct outreach, workshops, industry conferences
Regional carriers and cable operators with legacy switches	FCC voice data (15 million legacy lines)	1, 2	Introductions through platform makers such as Ribbon
Enterprises, hospitals and public agencies in Dallas-Fort Worth with their own voice platforms	Business Plan, Section 2.1; SDFP Innovation Center network	2, 3	Local networking, website and LinkedIn content, referrals
Data centers and cloud communications providers in Dallas-Fort Worth	Business Plan, Section 4.3 (150+ data centers)	3, 4	Proposals by the Sales Telecommunications Engineer

Sources: Business Plan; FCC documents cited in Section 2.2.

With 376 hours of training on Ribbon platforms (formerly Nortel and GENBAND), more than 370 hours on Huawei IMS and 80 hours on Oracle Acme Packet session border controllers (résumé, in

[39] Banco Central do Brasil (Central Bank of Brazil), PTAX exchange rates, U.S. dollar selling rate, October 20, 2026. https://www.bcb.gov.br/conversao

the record), Mr. Xavier will give the Company an entry point with these buyers. Ribbon Communications, the maker of the first of these platforms, has its headquarters in Plano, in the Dallas-Fort Worth area.[40]

4.4 Entrepreneurial Record

The officer noted that "there is no evidence that he has previously attempted or succeeded in starting a new business in the United States." Mr. Xavier has run his own business since 2022, when he opened a single-owner company in Brazil, registered as Gustavo Dartagnan Xavier do Rego Consultoria em TI, to sell his engineering services abroad. Through it, under a contract with Winprovit, he has worked since October 2022 as a senior telecommunications engineer on Optimum's U.S. network, and his company has billed between R$280,000 and R$335,000 a year (about $55,800 to $66,800). The arrangement is a one-person version of the model the Company will scale, in which an outside firm performs engineering work for a U.S. operator under contract.

His supervisor at Optimum reports that the OpenTelemetry-based observability platform he introduced reduced critical downtime by 45% and that his migration automation cut a projected three-year effort to one, while his backup automation covered more than 100 network devices. Earlier, at GVT, a Brazilian operator later merged into Vivo (Telefônica Brasil), he led the technical work on Freedom, a service that let customers use their landline number on a smartphone; it reached more than 50,000 downloads in 156 cities and received the 2013 Tele.Síntese innovation award, placing second among communications operators (letters of Darian Jose Rodriguez Del Carmen and Luis Carlos Beu; résumé).

4.5 Implementation Timeline

The Request lists "a model or plan for future activities." Table 4.5.1 links the steps already taken to the hiring and service phases of the Business Plan (Sections 2.3, 5.4 and 6.1 and the Appendix).

4.5.1 Implementation Milestones Table

Period	Milestone	Team
June to October 2026	Domain, website, English materials, SDFP Innovation Center membership, Texas name reservation	1
Launch	Certificate of formation, registered agent, employer identification number, business bank account, transfer of capital	1
Months 1 and 2	First Telecommunications Engineer and Sales Representative hired; workspace in Dallas; first project invoiced in Month 2	3
Months 3 to 9	First projects in all four lines by Month 5, when the break-even pace of three projects a month is reached; Network Optimization Engineer (Month 6) and Automation and Observability Engineer (Month 9) hired	5
Year 2	Project Manager, Client Support Specialist, Sales Telecommunications Engineer and Administrative Manager hired; 80 projects	9
Year 3	Second Telecommunications Engineer, Network Optimization Engineer and	13

[40] SEC EDGAR company record, Ribbon Communications Inc., business address 6500 Chase Oaks Boulevard, Plano, TX 75023. https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0001708055

Period	Milestone	Team
	Project Manager; first Customer Service Representative; 113 projects	
Year 4	Second Client Support Specialist, Automation and Observability Engineer, Sales Telecommunications Engineer and Sales Representative; 145 projects	17
Year 5	Third Telecommunications Engineer, Network Optimization Engineer and Project Manager; second Customer Service Representative; 180 projects	21

Sources: Business Plan, Sections 2.3, 5.4 and 6.1, and Monthly Sales Forecast and Personnel Plan tables.

5.0 Operating Model, Knowledge Dissemination and Timing

The last questions in the Request concern the nature of Mr. Xavier's role, the way his knowledge will spread to other organizations and the timing of the need.

5.1 Founder-Led, Multi-Client Operating Model

The officer wrote that the self-petitioner "has not presented evidence that his knowledge or skills are not easily articulated in a labor certification." The Business Plan describes a role that combines ownership of the Company with technical authority over many client engagements at once; Mr. Xavier will direct 38 projects for several clients in Year 1, and the Company will deliver 180 a year with 21 people by Year 5. Under Section 6.5 of the plan his duties include setting the technical and commercial direction, designing the architectures delivered to each client, supervising the engineering teams, deciding on hiring, pricing and investment, and building partnerships with operators and equipment vendors.

The other 20 positions in the plan are defined, salaried jobs of the type found in any engineering firm (Table 3.3.1). The Founder's role will carry the ownership decisions on which those positions depend and will extend to every client the Company will serve, in different networks and states, during the same year. Mr. Xavier will found and fund the Company himself (Table 4.2.1) and open its 20 positions to workers with U.S. work authorization.

5.2 Knowledge Dissemination Plan

A related finding is that the self-petitioner "did not submit sufficient evidence to indicate that the labor certification process restricts his ability to work in the field or to disseminate his knowledge through publications or presentations." Within the delivery model itself, every project will close with written procedures and a working session for the client's engineers, so that the client can operate and replicate what has been installed. Beyond its clients, the Company will publish and present its methods through the channels in Table 5.2.1, all funded within the marketing and employee-education budgets of the Business Plan.

5.2.1 Knowledge Dissemination Channels Table

Channel	Audience	Frequency	Basis in the plan
Handover sessions and written procedures at each project close	Client engineering and operations teams	Every project: 38 in Year 1, 180 in Year 5	Detailed in this supplement
Technical articles and case studies on the website and LinkedIn	Engineers at operators and enterprises	Quarterly from Year 1	Section 5.2 (technical resources)
Workshops on call authentication and IP migration	Smaller and regional voice providers	Twice a year from Year 2	Detailed in this supplement; marketing budget
Presentations at industry conferences such as SIPNOC and IEEE Communications Society events	Operators, vendors and engineers	At least once a year from Year 2	Section 5.0 (trade shows)
Training program for new hires	The 20 people the Company will hire	At each hire; formal program from Year 2	Table 7.2.1 (employee education, from Year 2)

Sources: Business Plan, Sections 5.0 and 5.2 and Table 7.2.1; this supplement.

Mr. Xavier passed on his knowledge the same way at GVT, where he taught the 20-hour internal course on the next generation network (NGN) switching platform in 2010, developed procedures and training for junior teams and trained other departments on the Freedom softphone (résumé and letter of Luis Carlos Beu). He holds a 2026 membership in the IEEE Communications Society, whose conferences are among the venues in Table 5.2.1.

5.3 Timing of the Need

Finally, the Request finds it "not clear that the national interest in those contributions is sufficiently urgent to require their implementation prior to completion of the labor certification process." The developments in Table 5.3.1 carry dates already set or costs that accrue every month, and each falls within one of the Company's service lines.

5.3.1 Dated Developments in the Company's Field Table

Date	Development	Lines
February 2024	Every voice provider must keep a robocall mitigation plan in the FCC database; beginning May 28, 2024, providers may not accept traffic from unlisted intermediate carriers (DA 24-73)	4
July 2024	FCC report: one configuration error blocked more than 92 million calls and more than 25,000 calls to 911 at AT&T Mobility	2, 3
From November 2024	NG911 rules in effect: each valid request from a 911 authority starts a 6- or 12-month deadline for IP delivery of 911 traffic (FCC 24-78)	1, 4
February 2025	FCC strengthens call-blocking rules and restates its $13.5 billion annual estimate of consumer losses (FCC 25-15)	4
June 2025	FCC proposes caller ID authentication for providers still on non-IP networks (FCC 25-25); 15 million legacy lines remain, 3.2 million fewer than a year earlier	1, 4
March 2026	FCC removes rules that required providers to maintain aging copper lines, with conditions to protect 911 connectivity (FCC 26-19)	1

Sources: FCC documents cited in Sections 2.1 and 2.2.

The FCC's estimate of $13.5 billion a year in consumer losses equals about $1.1 billion a month. Legacy lines are disappearing at a pace of more than three million a year, and the 8.6 million business and government lines still on that technology face migration to IP or retirement, often while the customer depends on them every day. NG911 deadlines run request by request, and each one requires the provider to route 911 calls over SIP, the protocol at the center of Mr. Xavier's work.

6.0 Methodology, Sources and Limitations

6.1 Methodology

- Revenue, volumes, prices, staffing, payroll, taxes and cash come from the Business Plan as filed; averages, hours, ratios and tax totals are derived from them.
- Project prices were converted into hours at the median CALC+ rate for telecommunications engineering, and revenue per billable hour was compared with the CALC+ rates for telecommunications and network engineering. Billable capacity assumes 75% of a 2,080-hour year for engineers, 50% for the Founder, project managers and client support specialists, and none for other staff. Figures in "Year 1 prices" exclude the plan's 5% annual price escalation.
- The Texas estimates of jobs and earnings apply the RIMS II direct-effect multipliers (Type I) for industry 541300 to the Company's positions and payroll, and the estimates of output and value added apply the final-demand multipliers to its sales. The Economic Policy Institute multipliers serve as a national cross-check.
- Each position was matched to the BLS occupation whose duties best fit the position's description in Section 6.5 of the Business Plan. Amounts in Brazilian reals were converted at the Central Bank of Brazil PTAX rate of R$5.0140 per U.S. dollar for October 20, 2026.

6.2 Assumptions and Limitations

- RIMS II assumes fixed purchasing patterns and no supply constraints, as the BEA user guide explains; Type I multipliers exclude household spending, so the Texas estimates are conservative.
- Because output and value added use the industry-average purchasing pattern while jobs and earnings use the Company's own staffing, the two sets of figures are not added together.
- CALC+ rates are ceiling prices on federal schedules; commercial rates for specialized telecommunications work may be higher.
- Balances, appraisals and the Brazilian company's revenue in Sections 4.2 and 4.4 were provided by Mr. Xavier and are supported by the documents counsel encloses with the response.

6.3 Glossary of Terms

6.3.1 Glossary Table

Term	Meaning
VoIP and SIP	Calls carried as data over IP; SIP is the protocol that sets them up.
IMS	IP Multimedia Subsystem: carrier core for voice over IP, 4G and 5G.
Session border controller	Equipment that controls and secures calls between two networks.
Legacy (TDM) network	The older circuit-switched telephone network on copper lines.
STIR/SHAKEN	FCC caller ID framework: carriers sign and verify calling numbers.
Robocall Mitigation Database	FCC registry of providers' caller ID and robocall mitigation plans.
CALEA	1994 federal law requiring support for court-authorized intercepts.
NG911	Next Generation 911: the IP-based 911 system, which receives SIP calls.
NextG	Term for the network generations after 5G, including 6G.
Observability and AIOps	Collecting and analyzing network performance data, with statistical and machine-learning methods, to find and fix faults quickly.

Mauricio Dacio da Silva, CFP®
Founder, Nextus Plan
October 2026

APPENDIX

Curriculum Vitae of the Preparer

Mauricio Dacio da Silva, CFP®

Founder and Managing Director, Nextus Plan LLC, Orlando, Florida

Certifications and Examinations

CFP®, Certified Financial Planner

FINRA Securities Industry Essentials (SIE) Exam

FINRA Series 63, Uniform Securities Agent State Law Exam (in progress)

Education

MBA in Financial Management: Investment and Capital Market September 2016

Fundação Getulio Vargas, São Paulo, Brazil

Evaluated as equivalent to a U.S. Master of Business Administration in Financial Management from a regionally accredited institution (World Academic Research Center, Inc., August 13, 2021)

Bachelor of Business Administration March 2011

São Judas Tadeu University, São Paulo, Brazil

Evaluated as equivalent to a U.S. Bachelor of Business Administration from a regionally accredited institution (same evaluation)

Professional Experience

Nextus Plan LLC, Orlando, Florida June 2025 to Present

Founder and Managing Director

- Lead and structure a specialized business plan development firm serving U.S. and international clients across multiple industries, including technology, healthcare, construction, retail, environmental services, and professional consulting.
- Oversee all business operations, including strategic planning, service design, financial management, client acquisition, and partnership development with law firms and consulting partners.
- Lead the development and refinement of proprietary business plan methodologies, templates, and analytical frameworks to ensure accuracy, consistency, and scalable delivery.
- Manage and supervise a growing team of business plan developers, providing training, performance evaluations, and continuous professional development to strengthen writing quality, analytical skills, and operational efficiency.

- Direct the end-to-end creation of complex business plans, including market research, competitive analysis, operational modeling, and full financial projections.
- Maintain oversight of high-priority cases, ensuring alignment with client objectives, regulatory requirements, and strategic positioning for investment, expansion, or immigration purposes.
- Build and maintain strong relationships with attorneys, corporate clients, entrepreneurs, and strategic partners, ensuring clear communication and high client satisfaction.
- Implement internal operational processes for workflow management, quality control, revision cycles, and deadline tracking, increasing delivery efficiency and team productivity.
- Conduct internal financial planning, including budgeting, forecasting, cost control, and performance analysis to support sustainable growth.
- Oversee marketing and brand development activities such as content strategy, client proposals, digital presence, and outreach campaigns aimed at expanding the company's market reach.

Martell Consulting, Los Angeles, California August 2020 to May 2025

Business Plan Director and Senior Business Plan Developer

- Led the end-to-end development of business plans across multiple industries, applying expertise gained from delivering more than 1000 tailored plans for U.S. and international clients.
- Directed the Business Plan Department, overseeing daily operations, workflow management, quality control, and delivery timelines to ensure consistency and high standards.
- Managed and mentored a team of business plan developers, providing training, performance feedback, and structured development programs to enhance technical writing and analytical skills.
- Designed internal methodologies, templates, and process frameworks to standardize business plan creation, improving efficiency and reducing delivery time.
- Conducted comprehensive market research, competitive assessments, and industry analysis to support evidence-based business planning and strategic positioning.
- Developed complete financial models including revenue projections, profit & loss statements, cash flow forecasts, personnel planning, capital expenditure estimates, and financial feasibility analyses.
- Collaborated with cross-functional departments, including legal teams, marketing, operations, and client relations to align each plan with client objectives and regulatory requirements.
- Served as the primary reviewer for complex or high-priority plans, ensuring accuracy, clarity, and strategic coherence before delivery to clients or partners.
- Presented finalized business plans, financial projections, and strategic recommendations to senior leadership and key stakeholders, supporting decision-making and client presentations.
- Managed client relationships throughout the full engagement lifecycle, ensuring clear communication, expectation management, and high satisfaction ratings.

Banco Itaú Unibanco S.A., São Paulo, Brazil September 2016 to May 2019

Relationship Manager

- Managed a portfolio of 800 customers with an annual sales value of R$800 million, utilizing a digital platform for efficient customer engagement.
- Generated monthly management reports for 200 managers to facilitate informed decision-making when negotiating products and services.
- Fostered strong, lasting relationships with customers to ensure their continued loyalty and satisfaction.
- Established trusted consulting relationships with key accounts, client stakeholders, and executive sponsors, providing expert guidance and support.
- Ensured timely and successful delivery of tailored solutions based on customers' needs and objectives.
- Conducted comprehensive business analysis to confirm customer satisfaction with products and services.
- Informed customers about additional products and services offered by the company, promoting cross-selling opportunities.
- Monitored and tracked key account metrics, such as quarterly sales results and annual forecasts, to measure performance and inform future strategies.
- Communicated the progress of monthly and quarterly initiatives to both internal and external stakeholders, maintaining transparency and accountability.
- Negotiated contracts and closed deals with a focus on maximizing profits while providing value to customers.
- Served as the primary point of contact for all customer account management matters, addressing concerns and ensuring exceptional service.

Banco Bradesco S.A., São Paulo, Brazil August 2009 to April 2014

Administrative Supervisor

- Supervised daily administrative operations of the branch, ensuring organized workflows and consistent support to customer-facing and back-office teams.
- Performed cash control activities, including cash balancing, vault reconciliation, handling of physical currency, and daily closing of branch cash operations.
- Monitored cash flow, vault levels, and ATM replenishment, maintaining adequate cash availability and full compliance with internal security standards.
- Managed document processing and records administration, including account openings, contracts, compliance files, and mandatory regulatory documentation.
- Ensured operational compliance with internal policies, security procedures, and Brazilian Central Bank regulations.
- Supported internal and external audits by preparing required documentation, cash reports, transaction logs, and administrative records.

- Oversaw inventory and supply management, including procurement requests, stock control, and distribution of administrative materials.
- Coordinated work schedules, task delegation, and staff workflow, improving operational efficiency and adherence to deadlines.
- Prepared administrative and performance reports, consolidating financial movements, internal controls, and operational indicators.
- Identified and implemented process improvements across administrative routines, reducing operational errors and increasing productivity.

Repromax Copiadora Ltda., São Paulo, Brazil June 2005 to February 2008

Financial Analyst

- Prepared comprehensive production monitoring reports for the Board of Directors, providing valuable insights into company performance and progress.
- Developed and offered clients improved payment alternatives for services rendered, ensuring flexibility and convenience.
- Monitored daily customer payments, maintaining accurate records and ensuring timely collection.
- Issued invoices, bank slips, and proposals, managing documentation efficiently and accurately.
- Conducted client visits to present tailored proposals and proactively prospect new clients, contributing to business growth.
- Analyzed financial data to identify trends, potential risks, and areas for improvement in order to make informed recommendations to the management team.
- Collaborated with other departments to optimize processes, reduce costs, and enhance overall company efficiency.
- Assisted in the preparation of annual budgets and financial forecasts, providing the foundation for strategic planning and decision-making.
- Ensured compliance with financial regulations and company policies, maintaining accurate records, and minimizing potential risks.

Languages

Portuguese, English and Spanish

Additional Training

EDI Certificate in ESOL International, General English, Dublin, Ireland August 2014 to July 2015

General English, English Language Centers, Vancouver, Canada June 2010 to July 2010

RFE Exhibit B — Texas Corporate Name Reservation Documentation

Gmail

Gustavo Dartagnan Xavier <gustavodartagnan@gmail.com>

FW: Received: Submission for DARTAGNAN TELCO SOLUTIONS INC (15037006930001)

camila@brazustax.com <camila@brazustax.com> 21 de outubro de 2026 às 15:39
Para: Gustavo Dartagnan Xavier <gustavodartagnan@gmail.com>

fyi

From: DoNotReply@sos.texas.gov <DoNotReply@sos.texas.gov>
Sent: Wednesday, October 21, 2026 7:48 AM
Subject: Received: Submission for DARTAGNAN TELCO SOLUTIONS INC (15037006930001)

Office of the Texas Secretary of State

Tracking Number: 15037006930001

Entity Name: DARTAGNAN TELCO SOLUTIONS INC

Document Type: Application for Name Reservation

Submission Date: October 21, 2026

Dear Camila Albernaz Schuh:

The Office of the Texas Secretary of State (SOS) has received the above-referenced business entity filing document submission.

Please note that this notification is not evidence that your submission has been accepted for filing. All documents submitted for filing must be reviewed for statutory compliance.

You will be notified by email when your document is either accepted or rejected, which will also include information on the next applicable steps.

To monitor the progress of this submission, please follow these steps: login to SOSPortal, select the **Business Filings** tile, and locate the **Tracking Number** provided above in the **My Records - Submissions** table.

Sincerely,

Business Filings Team
Business & Public Filings Division
Office of the Texas Secretary of State

RFE Exhibit C — Evidence of Recurring International Consulting Services

MUNICIPALITY OF CURITIBA

ELECTRONIC SERVICE INVOICE - NFS-e

Invoice Number

4

Issue Date

04/17/2026 12:40 PM

Verification Code

NFS41069022247751467000137000000000000426043453792858

SERVICE PROVIDER

Company Name: GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA DA INFORMACAO LTDA
CNPJ: 47.751.467/0001-37
Address: RUA ESTADOS UNIDOS 2196
Neighborhood: BOA VISTA
ZIP Code: 82540030
Municipal Registration: 10442580
Municipality/State: Curitiba - PR
Phone: (41)98836-0365
Email:
Website:

SERVICE RECIPIENT

Name / Company Name: WINPROVIT - SOLUÇÕES INTELIGENTES. S.A NIF 507478045
Address: RUA CÉSAR DAS NEVES 163 Porto
Neighborhood: PORTUGAL
ZIP Code:
CPF / CNPJ:
Municipality/State: Abroad - Abroad
Phone:
Email:

DESCRIPTION OF SERVICES

Invoice: #043
Date: Apr. 17 - 2026
Information Technology Consulting
$ 4,737.60
Conversion Result: 23,688.47
Exchange rate date: 04/16/2026
Exchange Rate: 1 United States Dollar/USD (220) = 5.0001 Real/BRL (790) | 1 Real/BRL (790) = 0.199996 United States Dollar/USD (220) - Pursuant to Law No. 12,741/2012, the total percentage of taxes levied on this service is approximately 7.08%

Net Invoice Amount = R$23,688.47

TOTAL INVOICE AMOUNT - R$23,688.47

Activity Code

CNAE: 6204-0/00 – Information Technology Consulting
Service Item: -

Tax Calculation Basis (R$)	ISS Rate (%)	ISS Amount (R$)
23,688.47	0.00	0.00

Translator's Note: ISS - Municipal Service Tax (*Imposto sobre Serviços de Qualquer Natureza*).

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

PREFEITURA MUNICIPAL DE CURITIBA

NOTA FISCAL DE SERVIÇOS ELETRÔNICA - NFS-e

Número da Nota

4

Data da emissão

17/04/2026 12:40

Código de Verificação

NFS41069022247751467000137000000000000426043453792858

PRESTADOR DE SERVIÇOS

Razão Social: GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA DA INFORMACAO LTDA
CNPJ: 47.751.467/0001-37
Endereco: RUA ESTADOS UNIDOS 2196
Bairro: BOA VISTA
CEP: 82540030
Inscrição Municipal: 10442580
Município/UF: Curitiba - PR
Telefone: (41)98836-0365
E-mail:
Web site:

TOMADOR DE SERVIÇOS

Nome / Razão Social: WINPROVIT - SOLUÇÕES INTELIGENTES. S.A NIF 507478045
Endereco: RUA CÉSAR DAS NEVES 163 Porto
Bairro: pORTUGAL
CEP:
CPF / CNPJ:
Município/UF: EX - EX
Telefone:
E-mail:

DISCRIMINAÇÃO DOS SERVIÇOS

Invoice: #043
Date: 17 - abr. - 2026
Consultoria em tecnologia da informação
$4 737,60
Resultado da conversão: 23.688,47
Data cotação utilizada: 16/04/2026
Taxa: 1 Dólar dos Estados Unidos/USD (220) = 5,0001 Real/BRL (790) I 1 Real/BRL (790) = 0,199996 Dólar dos Estados Unidos/USD (220) - Conforme Lei 12.741/2012, o percentual total de impostos incidentes neste serviço prestado é de aproximadamente 7.08%

Valor líquido da Nota Fiscal = R$ 23.688,47

VALOR TOTAL DA NOTA - R$ 23.688,47

Código da Atividade

CNAE: 6204-0/00 - Consultoria em tecnologia da informação
Item de Serviço: -

Base de cálculo (R$)	Alíquota ISS (%)	Valor do ISS (R$)
23.688,47	0,00	0,00

MUNICIPALITY OF CURITIBA

ELECTRONIC SERVICE INVOICE - NFS-e

Invoice Number

5

Issue Date

05/15/2026 3:52 PM

Verification Code

NFS41069022247751467000137000000000000526050786425406

SERVICE PROVIDER

Company Name: GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA DA INFORMACAO LTDA
CNPJ: 47.751.467/0001-37
Address: RUA ESTADOS UNIDOS 2196
Neighborhood: BOA VISTA
ZIP Code: 82540030
Municipal Registration: 10442580
Municipality/State: Curitiba - PR
Phone: (41)98836-0365
Email:
Website:

SERVICE RECIPIENT

Name / Company Name: WINPROVIT - SOLUÇÕES INTELIGENTES. S.A
Address: RUA CÉSAR DAS NEVES 163 4200-002
Neighborhood: PORTO
ZIP Code:
CPF / CNPJ:
Municipality/State: - - Abroad
Phone:
Email:

DESCRIPTION OF SERVICES

Invoice: # 0003
Date: 05/15/2026
Information Technology Consulting. Supplier Purchase Order No. 260194: For hours of information technology consulting services provided during the month of May 2026.
Total to Be Converted: $4,512.00
Conversion Result: 22,471.11
Exchange Rate Date: 05/14/2026
Exchange Rate: 1 United States Dollar/USD (220) = 4.9803 Real/BRL (790) – 1 Real/BRL (790) = 0.2007911 United States Dollar/USD (220)
- Pursuant to Law No. 12,741/2012, the total percentage of taxes levied on this service is approximately 7.08%.

Net Invoice Amount = R$ 22,471.11

TOTAL INVOICE AMOUNT - R$22,471.11

Activity Code

CNAE: 6204-0/00 – Information Technology Consulting
Service Item: -

Tax Calculation Basis (R$)	ISS Rate (%)	ISS Amount (R$)

Translator's Note: ISS - Municipal Service Tax (*Imposto sobre Serviços de Qualquer Natureza*).

22,471.11	0.00	0.00

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

PREFEITURA MUNICIPAL DE CURITIBA

NOTA FISCAL DE SERVIÇOS ELETRÔNICA - NFS-e

Número da Nota

5

Data da emissão

15/05/2026 15:52

Código de Verificação

NFS4106902224775146700013700000000000052605078642540 6

PRESTADOR DE SERVIÇOS

Razão Social: GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA DA INFORMACAO LTDA
CNPJ: 47.751.467/0001-37
Endereco: RUA ESTADOS UNIDOS 2196
Bairro: BOA VISTA
CEP: 82540030
Inscrição Municipal: 10442580
Município/UF: Curitiba - PR
Telefone: (41)98836-0365
E-mail:
Web site:

TOMADOR DE SERVIÇOS

Nome / Razão Social: WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.
Endereco: RUA CÉSAR DAS NEVES 163 4200-002
Bairro: PORTO
CEP:
CPF / CNPJ:
Município/UF: - - EX
Telefone:
E-mail:

DISCRIMINAÇÃO DOS SERVIÇOS

Invoice: # 0003
Date: 05/15/2026
Consultoria em tecnologia da informação. Nota de Encomenda a Fornecedor No. 260194: Referente a horas de prestação de serviço de consultoria em tecnologia da informação durante o mês de Maio de 2026.
Total a Converter: $4,512.00
Resultado da conversão: 22.471,11
Data cotação utilizada: 14/05/2026
Taxa: 1 Dólar dos Estados Unidos/USD (220) = 4,9803 Real/BRL (790) - 1 Real/BRL (790) = 0,2007911 Dólar dos Estados Unidos/USD (220)
- Conforme Lei 12.741/2012, o percentual total de impostos incidentes neste serviço prestado é de aproximadamente 7.08%

Valor líquido da Nota Fiscal = R$ 22.471,11

VALOR TOTAL DA NOTA - R$ 22.471,11

Código da Atividade

CNAE: 6204-0/00 - Consultoria em tecnologia da informação
Item de Serviço: -

Base de cálculo (R$)	Alíquota ISS (%)	Valor do ISS (R$)

22.471,11	0,00	0,00

MUNICIPALITY OF CURITIBA

ELECTRONIC SERVICE INVOICE - NFS-e

Invoice Number

6

Issue Date

06/22/2026 10:05 AM

Verification Code

NFS41069022247751467000137000000000000626064698624370

SERVICE PROVIDER

Company Name: GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA DA INFORMACAO LTDA
CNPJ: 47.751.467/0001-37
Address: RUA ESTADOS UNIDOS 2196
Neighborhood: BOA VISTA
ZIP Code: 82540030
Municipal Registration: 10442580
Municipality/State: Curitiba - PR
Phone: (41)98836-0365
Email:
Website:

SERVICE RECIPIENT

Name / Company Name: WINPROVIT - SOLUÇÕES INTELIGENTES. S.A
Address: RUA CÉSAR DAS NEVES 163 4200-002
Neighborhood: PORTO
ZIP Code:
CPF / CNPJ:
Municipality/State: - - Abroad
Phone:
Email:

DESCRIPTION OF SERVICES

Invoice #0004 | Date: 06/19/2026

Information Technology Consulting | Supplier Purchase Order No. 260194: For hours of information technology consulting services provided during the month of June 2026.

TOTAL: $4,527.00

Conversion Result: 23,285.07

Exchange Rate Date: 06/19/2026

Exchange Rate:

1 United States Dollar/USD (220) = 5.1436 Real/BRL (790) | 1 Real/BRL (790) = 0.1944164 United States Dollar/USD (220) - Pursuant to Law No. 12,741/2012, the total percentage of taxes levied on this service is approximately 7.08%.

Net Invoice Amount = R$ 23,285.07

TOTAL INVOICE AMOUNT - R$ 23,285.07

Activity Code

CNAE: 6204-0/00 – Information Technology Consulting
Service Item: -

Tax Calculation Basis (R$)	ISS Rate (%)	ISS Amount (R$)
23,285.07	0.00	0.00

Translator's Note: ISS - Municipal Service Tax (*Imposto sobre Serviços de Qualquer Natureza*).

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

PREFEITURA MUNICIPAL DE CURITIBA

NOTA FISCAL DE SERVIÇOS ELETRÔNICA - NFS-e

Número da Nota

6

Data da emissão

22/06/2026 10:05

Código de Verificação

NFS4106902224775146700013700000000000062606469862437O

PRESTADOR DE SERVIÇOS

Razão Social: GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA DA INFORMACAO LTDA
CNPJ: 47.751.467/0001-37
Endereco: RUA ESTADOS UNIDOS 2196
Bairro: BOA VISTA
CEP: 82540030
Inscrição Municipal: 10442580
Município/UF: Curitiba - PR
Telefone: (41)98836-0365
E-mail:
Web site:

TOMADOR DE SERVIÇOS

Nome / Razão Social: WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.
Endereco: RUA CÉSAR DAS NEVES 163 4200-002
Bairro: PORTO
CEP:
CPF / CNPJ:
Município/UF: - - EX
Telefone:
E-mail:

DISCRIMINAÇÃO DOS SERVIÇOS

Invoice #0004 | Date: 06/19/2026
Consultoria em tecnologia da informação | Nota de Encomenda a Fornecedor No. 260194: Referente a horas de prestação de serviço de consultoria em tecnologia da informação durante o mês de Junho de 2026.
TOTAL $4,527.00
Resultado da conversão: 23.285,07
Data cotação utilizada: 19/06/2026
Taxa:
1 Dólar dos Estados Unidos/USD (220) = 5,1436 Real/BRL (790) 1 Real/BRL (790) = 0,1944164 Dólar dos Estados Unidos/USD (220) - Conforme Lei 12.741/2012, o percentual total de impostos incidentes neste serviço prestado é de aproximadamente 7.08%

Valor líquido da Nota Fiscal = R$ 23.285,07

VALOR TOTAL DA NOTA - R$ 23.285,07

Código da Atividade

CNAE: 6204-0/00 - Consultoria em tecnologia da informação
Item de Serviço: -

Base de cálculo (R$)	Alíquota ISS (%)	Valor do ISS (R$)
23.285,07	0,00	0,00

NFSe Nota Fiscal de Serviço Eletrônica

DANFSe v2.0
NFS-e Auxiliary Document

Curitiba / PR
Generating Environment: 2
Environment Type: Production

NFS-E ACCESS KEY
41069022247751467000137000000000000826070319876653

The authenticity of this NFS-e can be verified by scanning this QR code or by searching for the access key on the national NFS-e portal

NFS-E NUMBER	NFS-E TAX PERIOD	NFS-E ISSUE DATE AND TIME
8	07/14/2026	07/14/2026 05:39:38 AM
DPS NUMBER	**DPS SERIES**	**DPS ISSUE DATE AND TIME**
100000000000045	11111	07/14/2026 05:39:36 AM
NFS-E ISSUER	**NFS-E STATUS**	**PURPOSE**
Service Provider	Regular	0

SERVICE PROVIDER / SUPPLIER

CNPJ / CPF / NIF	Municipal Indicator (Registration)	Phone
47.751.467/0001-37	-	(41) 9686-9828
Name / Company Name	**Municipality / State Abbreviation**	**IBGE Code / Zip Code**
GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA ...	Curitiba / PR	4106902 / 82540-030
Address	**Email**	
RUA ESTADOS UNIDOS, 2196, BOA VISTA	MEUCNPJ@CONTABILIZEI.COM.BR	
Simples Nacional Status as of the Tax Period	**Tax Assessment Regime under Simples Nacional (SN)**	
Not Enrolled	-	

SERVICE RECIPIENT / PURCHASER

CNPJ / CPF / NIF	Municipal Indicator (Registration)	Phone
-	-	-
Name / Company Name	**Municipality / State Abbreviation**	**IBGE Code / Zip Code**
WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.	-	-
Address	**Email**	
-	-	

THE RECIPIENT IS THE SERVICE RECIPIENT / PURCHASER OF THE TRANSACTION

INTERMEDIARY OF THE TRANSACTION NOT IDENTIFIED IN THE NFS-e

SERVICE PROVIDED

National / Municipal Tax Code	NBS Code	Place of Service / State Abbreviation / Country
010601	115011000	Portugal

IT advisory and consulting services.

Service Description
Invoice: #046
Date: July 14, 2026
Information Technology Consulting
USD 4,060.80 - Pursuant to Law No. 12,741/2012, the total percentage of taxes levied on this service is approximately 7.08%

MUNICIPAL TAXATION (ISSQN)

ISSQN Taxation Type	Municipality / State Abbreviation / Country where ISSQN is levied	
Non-Taxable	-	
Special ISSQN Tax Regime	**ISSQN Immunity Type**	**Suspension of ISSQN Enforceability**	**Suspension Process Number**
None	-	-	-
Municipal Benefit	**Municipal Benefit Calculation**	**Total Deductions/Reductions**	**Unconditional Discount**
-	-	-	-
ISSQN Tax Base	**Applied Rate**	**ISSQN Withholding**	**ISSQN Calculated**
-	0.00%	Not Withheld	-

FEDERAL TAXATION (EXCLUDING CBS)

IRRF	Social Security Contribution - Withheld	Social Contributions - Withheld
-	-	-
PIS - Self-Assessed Tax Debit	**COFINS - Self-Assessed Tax Debit**	**Description of Social Contributions - Withheld**
-	-	PIS/COFINS/CSLL Not Withheld

IBS / CBS TAXATION

CST / cClassTrib	Transaction Indicator / IBGE Tax Incidence Code / Municipality / State Abbreviation	
410 / 410004	100301	
Tax Base Exclusions and Reductions	**Tax Base After Exclusions and Reductions**	**IBS / CBS Rate Reduction**	**IBS State / Municipal Rate**
-	R$ 20,781.96	-	-
Effective Municipal Rate - IBS	**Calculated Municipal Amount - IBS**	**Effective State Rate - IBS**	**Calculated State Amount - IBS**
-	R$ 0.00	-	R$ 0.00
Total Calculated Amount - IBS	**CBS Rate**	**Effective Rate - CBS**	**Total Calculated Amount - CBS**
R$ 0.00	-	-	R$ 0.00

TOTAL NFS-E AMOUNT

Transaction / Service Amount	Unconditional Discount	Conditional Discount
R$ 20,781.96	-	-
Total Withholdings (ISSQN / Federal Taxes)	**Net NFS-e Amount**	**Total IBS/CBS**	**Net NFS-e Amount + IBS/CBS**
-	R$ 20,781.96	R$ 0.00	R$ 20,781.96

ADDITIONAL INFORMATION

Approximate Total Taxes Pursuant to Law No. 12,741/2012: Federal: R$ 0.00; State: R$ 0.00; Municipal: R$ 0.00

Acknowledgment Date	Identification and Signature	NFS-e No. / NFS-e Key
-	-	41069022247751467000137000000000000826070319876653

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

Translator's Note – Legend:

BC ISSQN – Municipal Service Tax (ISSQN) Base (*Base de Cálculo do ISSQN*);
BM - Municipal Benefit (*Benefício Municipal*);
CBS - Social Contribution on Goods and Services (*Contribuição Social sobre Bens e Serviços*);
cClassTrib - IBS/CBS Tax Classification Code (*Código de Classificação Tributária do IBS e da CBS*);
COFINS - Contribution for the Financing of Social Security (*Contribuição para o Financiamento da Seguridade Social*);
CST - IBS/CBS Tax Status Code (*Código de Situação Tributária do IBS e da CBS*);
DPS - Service Provision Declaration (*Declaração de Prestação de Serviços*);
IBGE - Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*);
IBS - Tax on Goods and Services (*Imposto sobre Bens e Serviços*);
IRRF - Withholding Income Tax (*Imposto de Renda Retido na Fonte*);
ISSQN - Municipal Service Tax (*Imposto Sobre Serviços de Qualquer Natureza*);
NBS - Brazilian Classification of Services, Intangibles, and Other Operations That Affect Assets (*Nomenclatura Brasileira de Serviços, Intangíveis e outras Operações que Produzam Variações no Patrimônio*);
NFS-e - Electronic Service Invoice (*Nota Fiscal de Serviço Eletrônica*);
NIF - Tax Identification Number (*Número de Identificação Fiscal*);
PIS - Social Integration Program (*Programa de Integração Social*);
SN - Simplified Tax Regime (*Simples Nacional*).

NFSe Nota Fiscal de Serviço Eletrônica

DANFSe v2.0
Documento Auxiliar da NFS-e

Curitiba / PR
Ambiente Gerador: 2
Tipo de Ambiente: Produção

CHAVE DE ACESSO DA NFS-E
41069022247751467000137000000000000826070319876653

A autenticidade desta NFS-e pode ser verificada pela leitura deste código QR ou pela consulta da chave de acesso no portal nacional da NFS-e

NÚMERO DA NFS-E 8	**COMPETÊNCIA DA NFS-E** 14/07/2026	**DATA E HORA DA EMISSÃO DA NFS-E** 14/07/2026 05:39:38	
NÚMERO DA DPS 100000000000045	**SÉRIE DA DPS** 11111	**DATA E HORA DA EMISSÃO DA DPS** 14/07/2026 05:39:36	
EMITENTE DA NFS-E Prestador	**SITUAÇÃO DA NFS-E** Regular	**FINALIDADE** 0	

PRESTADOR / FORNECEDOR

CNPJ / CPF / NIF 47.751.467/0001-37	**Indicador Municipal (Inscrição)** -	**Telefone** (41) 9686-9828	
Nome / Nome Empresarial GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA ...	**Município / Sigla UF** Curitiba / PR	**Código IBGE / CEP** 4106902 / 82540-030	
Endereço RUA ESTADOS UNIDOS, 2196, BOA VISTA	**E-mail** MEUCNPJ@CONTABILIZEI.COM.BR		
Simples Nacional na Data de Competência Não Optante	**Regime de Apuração Tributária pelo SN** -		

TOMADOR / ADQUIRENTE

CNPJ / CPF / NIF -	**Indicador Municipal (Inscrição)** -	**Telefone** -	
Nome / Nome Empresarial WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.	**Município / Sigla UF** -	**Código IBGE / CEP** -	
Endereço -	**E-mail** -		

O DESTINATÁRIO É O PRÓPRIO TOMADOR/ADQUIRENTE DA OPERAÇÃO

INTERMEDIÁRIO DA OPERAÇÃO NÃO IDENTIFICADO NA NFS-e

SERVIÇO PRESTADO

Código de Tributação Nacional / Municipal 010601	**Código da NBS** 115011000	**Local da Prestação / Sigla UF / País** Portugal	

Assessoria e consultoria em informática.

Descrição do Serviço
Invoice: #046
Date: 14 - jul. - 2026
Consultoria em tecnologia da informação
USD 4,060.80 - Conforme Lei 12.741/2012, o percentual total de impostos incidentes neste serviço prestado é de aproximadamente 7.08%

TRIBUTAÇÃO MUNICIPAL (ISSQN)

Tipo de Tributação do ISSQN Não Incidência	**Município / Sigla UF / País da Incidência do ISSQN** -		
Regime Especial de Tributação do ISSQN Nenhum	**Tipo de Imunidade do ISSQN** -	**Suspensão da Exigibilidade do ISSQN** -	**Número Processo Suspensão** -
Benefício Municipal -	**Cálculo do BM** -	**Total Deduções/Reduções** -	**Desconto Incondicionado** -
BC ISSQN -	**Alíquota Aplicada** 0,00%	**Retenção do ISSQN** Não Retido	**ISSQN Apurado** -

TRIBUTAÇÃO FEDERAL (EXCETO CBS)

IRRF -	**Contribuição Previdenciária - Retida** -	**Contribuições Sociais - Retidas** -	
PIS - Débito Apuração Própria -	**COFINS - Débito Apuração Própria** -	**Descrição Contrib. Sociais - Retidas** PIS/COFINS/CSLL Não Retidos	

TRIBUTAÇÃO IBS / CBS

CST / cClassTrib 410 / 410004	**Indicador de Operação / Código IBGE Incidência / Município / Sigla UF** 100301		
Exclusões e Reduções da Base de Cálculo -	**Base de Cálculo Após Exclusões e Reduções** R$ 20.781,96	**Red. Alíquota IBS / Red. Alíquota CBS** -	**Alíquota - IBS UF / IBS Mun** -
Alíq. Efetiva Municipal - IBS -	**Valor Apurado Municipal - IBS** R$ 0,00	**Alíq. Efetiva Estadual - IBS** -	**Valor Apurado Estadual - IBS** R$ 0,00
Valor Total Apurado - IBS R$ 0,00	**Alíquota - CBS** -	**Alíquota Efetiva - CBS** -	**Valor Total Apurado - CBS** R$ 0,00

VALOR TOTAL DA NFS-E

Valor da Operação / Serviço R$ 20.781,96	**Desconto Incondicionado** -	**Desconto Condicionado** -	
Total das Retenções (ISSQN / Federais) -	**Valor Líquido da NFS-e** R$ 20.781,96	**Total do IBS/CBS** R$ 0,00	**Valor Líquido da NFS-e + IBS/CBS** R$ 20.781,96

INFORMAÇÕES COMPLEMENTARES

Totais Aproximados dos Tributos cfe. Lei nº 12.741/2012: Federais: R$ 0,00 ; Estaduais: R$ 0,00 ; Municipais: R$ 0,00

Data Cientificação -	**Identificação e Assinatura** -	**Nº NFS-e / Chave NFS-e** 41069022247751467000137000000000000826070319876653

NFSe Nota Fiscal de Serviço Eletrônica

DANFSe v2.0
NFS-e Auxiliary Document

Curitiba / PR
Generating Environment: 2
Environment Type: Production

NFS-E ACCESS KEY
41069022247751467000137000000000001226090547043945

The authenticity of this NFS-e can be verified by scanning this QR code or by searching for the access key on the national NFS-e portal

NFS-E NUMBER	NFS-E TAX PERIOD	NFS-E ISSUE DATE AND TIME
12	09/15/2026	09/15/2026 01:56:43 PM
DPS NUMBER	**DPS SERIES**	**DPS ISSUE DATE AND TIME**
100000000000049	11111	09/15/2026 01:56:42 PM
NFS-E ISSUER	**NFS-E STATUS**	**PURPOSE**
Service Provider	Regular	0

SERVICE PROVIDER / SUPPLIER

CNPJ / CPF / NIF	Municipal Indicator (Registration)	Phone
47.751.467/0001-37	-	(41) 9686-9828
Name / Company Name	**Municipality / State Abbreviation**	**IBGE Code / Zip Code**
GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA ...	Curitiba / PR	4106902 / 82540-030
Address	**Email**	
RUA ESTADOS UNIDOS, 2196, BOA VISTA	MEUCNPJ@CONTABILIZEI.COM.BR	
Simples Nacional Status as of the Tax Period	**Tax Assessment Regime under Simples Nacional (SN)**	
Not Enrolled	-	

SERVICE RECIPIENT / PURCHASER

CNPJ / CPF / NIF	Municipal Indicator (Registration)	Phone
-	-	-
Name / Company Name	**Municipality / State Abbreviation**	**IBGE Code / Zip Code**
WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.	-	-
Address	**Email**	
-	-	

THE RECIPIENT IS THE SERVICE RECIPIENT / PURCHASER OF THE TRANSACTION

INTERMEDIARY OF THE TRANSACTION NOT IDENTIFIED IN THE NFS-e

SERVICE PROVIDED

National / Municipal Tax Code	NBS Code	Place of Service / State Abbreviation / Country
010601	115011000	Portugal

IT advisory and consulting services.

Service Description
Invoice Number: 047
Issue Date: August 18, 2026
Due Date: August 31, 2026

Information Technology Consulting
Supplier Purchase Order No. 260194: For hours of information technology consulting services provided during the month of August 2026.

Conversion From: Euro/EUR (978)
Amount to Be Converted: 4,737.60
To: Real/BRL (790)
Conversion Result: 28,545.93
Exchange Rate Date: 08/18/2026

MUNICIPAL TAXATION (ISSQN)

ISSQN Taxation Type	Municipality / State Abbreviation / Country where ISSQN is levied	
Non-Taxable	-	
Special ISSQN Tax Regime	**ISSQN Immunity Type**	**Suspension of ISSQN Enforceability**	**Suspension Process Number**
None	-	-	-
Municipal Benefit	**Municipal Benefit Calculation**	**Total Deductions/Reductions**	**Unconditional Discount**
-	-	-	-
ISSQN Tax Base	**Applied Rate**	**ISSQN Withholding**	**ISSQN Calculated**
-	0.00%	Not Withheld	-

FEDERAL TAXATION (EXCLUDING CBS)

IRRF	Social Security Contribution - Withheld	Social Contributions - Withheld
-	-	-
PIS - Self-Assessed Tax Debit	**COFINS - Self-Assessed Tax Debit**	**Description of Social Contributions - Withheld**
-	-	PIS/COFINS/CSLL Not Withheld

IBS / CBS TAXATION

CST / cClassTrib	Transaction Indicator / IBGE Tax Incidence Code / Municipality / State Abbreviation		
410 / 410004	100302		
Tax Base Exclusions and Reductions	**Tax Base After Exclusions and Reductions**	**IBS / CBS Rate Reduction**	**IBS State / Municipal Rate**
-	R$ 28,545.93	-	-
Effective Municipal Rate - IBS	**Calculated Municipal Amount - IBS**	**Effective State Rate - IBS**	**Calculated State Amount - IBS**
-	R$ 0.00	-	R$ 0.00
Total Calculated Amount - IBS	**CBS Rate**	**Effective Rate - CBS**	**Total Calculated Amount - CBS**
R$ 0.00	-	-	R$ 0.00

TOTAL NFS-E AMOUNT

Transaction / Service Amount	Unconditional Discount	Conditional Discount
R$ 28,545.93	-	-
Total Withholdings (ISSQN / Federal Taxes)	**Net NFS-e Amount**	**Total IBS/CBS**	**Net NFS-e Amount + IBS/CBS**
-	R$ 28,545.93	R$ 0.00	R$ 28,545.93

ADDITIONAL INFORMATION

Approximate Total Taxes Pursuant to Law No. 12,741/2012: Federal: R$ 0.00; State: R$ 0.00; Municipal: R$ 0.00

Acknowledgment Date	Identification and Signature	NFS-e No. / NFS-e Key
-	-	41069022247751467000137000000000001226090547043945

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

Translator's Note – Legend:

BC ISSQN – Municipal Service Tax (ISSQN) Base (*Base de Cálculo do ISSQN*);
BM - Municipal Benefit (*Benefício Municipal*);
CBS - Social Contribution on Goods and Services (*Contribuição Social sobre Bens e Serviços*);
cClassTrib - IBS/CBS Tax Classification Code (*Código de Classificação Tributária do IBS e da CBS*);
COFINS - Contribution for the Financing of Social Security (*Contribuição para o Financiamento da Seguridade Social*);
CST - IBS/CBS Tax Status Code (*Código de Situação Tributária do IBS e da CBS*);
DPS - Service Provision Declaration (*Declaração de Prestação de Serviços*);
IBGE - Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*);
IBS - Tax on Goods and Services (*Imposto sobre Bens e Serviços*);
IRRF - Withholding Income Tax (*Imposto de Renda Retido na Fonte*);
ISSQN - Municipal Service Tax (*Imposto Sobre Serviços de Qualquer Natureza*);
NBS - Brazilian Classification of Services, Intangibles, and Other Operations That Affect Assets (*Nomenclatura Brasileira de Serviços, Intangíveis e outras Operações que Produzam Variações no Patrimônio*);
NFS-e - Electronic Service Invoice (*Nota Fiscal de Serviço Eletrônica*);
NIF - Tax Identification Number (*Número de Identificação Fiscal*);
PIS - Social Integration Program (*Programa de Integração Social*);
SN - Simplified Tax Regime (*Simples Nacional*).

NFSe Nota Fiscal de Serviço Eletrônica

DANFSe v2.0
Documento Auxiliar da NFS-e

Curitiba / PR
Ambiente Gerador: 2
Tipo de Ambiente: Produção

CHAVE DE ACESSO DA NFS-E
41069022247751467000137000000000001226090547043945

A autenticidade desta NFS-e pode ser verificada pela leitura deste código QR ou pela consulta da chave de acesso no portal nacional da NFS-e

NÚMERO DA NFS-E 12	**COMPETÊNCIA DA NFS-E** 15/09/2026	**DATA E HORA DA EMISSÃO DA NFS-E** 15/09/2026 13:56:43	
NÚMERO DA DPS 100000000000049	**SÉRIE DA DPS** 11111	**DATA E HORA DA EMISSÃO DA DPS** 15/09/2026 13:56:42	
EMITENTE DA NFS-E Prestador	**SITUAÇÃO DA NFS-E** Regular	**FINALIDADE** 0	

PRESTADOR / FORNECEDOR

CNPJ / CPF / NIF 47.751.467/0001-37	**Indicador Municipal (Inscrição)** -	**Telefone** (41) 9686-9828	
Nome / Nome Empresarial GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA ...	**Município / Sigla UF** Curitiba / PR	**Código IBGE / CEP** 4106902 / 82540-030	
Endereço RUA ESTADOS UNIDOS, 2196, BOA VISTA	**E-mail** MEUCNPJ@CONTABILIZEI.COM.BR		
Simples Nacional na Data de Competência Não Optante	**Regime de Apuração Tributária pelo SN** -		

TOMADOR / ADQUIRENTE

CNPJ / CPF / NIF -	**Indicador Municipal (Inscrição)** -	**Telefone** -	
Nome / Nome Empresarial WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.	**Município / Sigla UF** -	**Código IBGE / CEP** -	
Endereço -	**E-mail** -		

O DESTINATÁRIO É O PRÓPRIO TOMADOR/ADQUIRENTE DA OPERAÇÃO

INTERMEDIÁRIO DA OPERAÇÃO NÃO IDENTIFICADO NA NFS-e

SERVIÇO PRESTADO

Código de Tributação Nacional / Municipal 010601	**Código da NBS** 115011000	**Local da Prestação / Sigla UF / País** Portugal	

Assessoria e consultoria em informática.

Descrição do Serviço

Invoice Number: 047
Issue Date: 18 - ago. - 2026
Due Date: 31 - ago. - 2026

Consultoria em tecnologia da informação
Nota de Encomenda a Fornecedor No. 260194: Referente a horas de prestação de serviço de consultoria em tecnologia da informação durante o mês de Agosto de 2026.

Conversão de: Euro/EUR (978)
Valor a converter: 4.737,60
Para: Real/BRL (790)
Resultado da conversão: 28.545,93
Data cotação utilizada: 18/08/2026

TRIBUTAÇÃO MUNICIPAL (ISSQN)

Tipo de Tributação do ISSQN Não Incidência	**Município / Sigla UF / País da Incidência do ISSQN** -		
Regime Especial de Tributação do ISSQN Nenhum	**Tipo de Imunidade do ISSQN** -	**Suspensão da Exigibilidade do ISSQN** -	**Número Processo Suspensão** -
Benefício Municipal -	**Cálculo do BM** -	**Total Deduções/Reduções** -	**Desconto Incondicionado** -
BC ISSQN -	**Alíquota Aplicada** 0,00%	**Retenção do ISSQN** Não Retido	**ISSQN Apurado** -

TRIBUTAÇÃO FEDERAL (EXCETO CBS)

IRRF -	**Contribuição Previdenciária - Retida** -	**Contribuições Sociais - Retidas** -	
PIS - Débito Apuração Própria -	**COFINS - Débito Apuração Própria** -	**Descrição Contrib. Sociais - Retidas** PIS/COFINS/CSLL Não Retidos	

TRIBUTAÇÃO IBS / CBS

CST / cClassTrib 410 / 410004	**Indicador de Operação / Código IBGE Incidência / Município / Sigla UF** 100302		
Exclusões e Reduções da Base de Cálculo -	**Base de Cálculo Após Exclusões e Reduções** R$ 28.545,93	**Red. Alíquota IBS / Red. Alíquota CBS** -	**Alíquota - IBS UF / IBS Mun** -
Alíq. Efetiva Municipal - IBS -	**Valor Apurado Municipal - IBS** R$ 0,00	**Alíq. Efetiva Estadual - IBS** -	**Valor Apurado Estadual - IBS** R$ 0,00
Valor Total Apurado - IBS R$ 0,00	**Alíquota - CBS** -	**Alíquota Efetiva - CBS** -	**Valor Total Apurado - CBS** R$ 0,00

VALOR TOTAL DA NFS-E

Valor da Operação / Serviço R$ 28.545,93	**Desconto Incondicionado** -	**Desconto Condicionado** -	
Total das Retenções (ISSQN / Federais) -	**Valor Líquido da NFS-e** R$ 28.545,93	**Total do IBS/CBS** R$ 0,00	**Valor Líquido da NFS-e + IBS/CBS** R$ 28.545,93

INFORMAÇÕES COMPLEMENTARES

Totais Aproximados dos Tributos cfe. Lei nº 12.741/2012: Federais: R$ 0,00 ; Estaduais: R$ 0,00 ; Municipais: R$ 0,00

Data Cientificação -	**Identificação e Assinatura** -	**Nº NFS-e / Chave NFS-e** 41069022247751467000137000000000001226090547043945

NFSe Nota Fiscal de Serviço Eletrônica

DANFSe v2.0
NFS-e Auxiliary Document

Curitiba / PR
Generating Environment: 2
Environment Type: Production

NFS-E ACCESS KEY
41069022247751467000137000000000001126090920459630

The authenticity of this NFS-e can be verified by scanning this QR code or by searching for the access key on the national NFS-e portal

NFS-E NUMBER	NFS-E TAX PERIOD	NFS-E ISSUE DATE AND TIME
11	09/15/2026	09/15/2026 01:10:54 PM
DPS NUMBER	**DPS SERIES**	**DPS ISSUE DATE AND TIME**
100000000000048	11111	09/15/2026 01:10:53 PM
NFS-E ISSUER	**NFS-E STATUS**	**PURPOSE**
Service Provider	Regular	0

SERVICE PROVIDER / SUPPLIER

CNPJ / CPF / NIF	Municipal Indicator (Registration)	Phone
47.751.467/0001-37	-	(41) 9686-9828
Name / Company Name	**Municipality / State Abbreviation**	**IBGE Code / Zip Code**
GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA ...	Curitiba / PR	4106902 / 82540-030
Address	**Email**	
RUA ESTADOS UNIDOS, 2196, BOA VISTA	MEUCNPJ@CONTABILIZEI.COM.BR	
Simples Nacional Status as of the Tax Period	**Tax Assessment Regime under Simples Nacional (SN)**	
Not Enrolled	-	

SERVICE RECIPIENT / PURCHASER

CNPJ / CPF / NIF	Municipal Indicator (Registration)	Phone
-	-	-
Name / Company Name	**Municipality / State Abbreviation**	**IBGE Code / Zip Code**
WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.	-	-
Address	**Email**	
-	-	

THE RECIPIENT IS THE SERVICE RECIPIENT / PURCHASER OF THE TRANSACTION

INTERMEDIARY OF THE TRANSACTION NOT IDENTIFIED IN THE NFS-e

SERVICE PROVIDED

National / Municipal Tax Code	NBS Code	Place of Service / State Abbreviation / Country
010601	115011000	Portugal

IT advisory and consulting services.

Service Description
Invoice Number: 048
Issue Date: September 15, 2026

Information Technology Consulting - Supplier Purchase Order No. 260194: For hours of information technology consulting services provided during the month of September 2026. - Pursuant to Law No. 12,741/2012, the total percentage of taxes levied on this service is approximately 7.08%.

MUNICIPAL TAXATION (ISSQN)

ISSQN Taxation Type	Municipality / State Abbreviation / Country where ISSQN is levied	
Non-Taxable	-	
Special ISSQN Tax Regime	**ISSQN Immunity Type**	**Suspension of ISSQN Enforceability**	**Suspension Process Number**
None	-	-	-
Municipal Benefit	**Municipal Benefit Calculation**	**Total Deductions/Reductions**	**Unconditional Discount**
-	-	-	-
ISSQN Tax Base	**Applied Rate**	**ISSQN Withholding**	**ISSQN Calculated**
-	0.00%	Not Withheld	-

FEDERAL TAXATION (EXCLUDING CBS)

IRRF	Social Security Contribution - Withheld	Social Contributions - Withheld
-	-	-
PIS - Self-Assessed Tax Debit	**COFINS - Self-Assessed Tax Debit**	**Description of Social Contributions - Withheld**
-	-	PIS/COFINS/CSLL Not Withheld

IBS / CBS TAXATION

CST / cClassTrib	Transaction Indicator / IBGE Tax Incidence Code / Municipality / State Abbreviation	
410 / 410004	100302	
Tax Base Exclusions and Reductions	**Tax Base After Exclusions and Reductions**	**IBS / CBS Rate Reduction**	**IBS State / Municipal Rate**
-	R$ 25,654.78	-	-
Effective Municipal Rate - IBS	**Calculated Municipal Amount - IBS**	**Effective State Rate - IBS**	**Calculated State Amount - IBS**
-	R$ 0.00	-	R$ 0.00
Total Calculated Amount - IBS	**CBS Rate**	**Effective Rate - CBS**	**Total Calculated Amount - CBS**
R$ 0.00	-	-	R$ 0.00

TOTAL NFS-E AMOUNT

Transaction / Service Amount	Unconditional Discount	Conditional Discount
R$ 25,654.78	-	-
Total Withholdings (ISSQN / Federal Taxes)	**Net NFS-e Amount**	**Total IBS/CBS**	**Net NFS-e Amount + IBS/CBS**
-	R$ 25,654.78	R$ 0.00	R$ 25,654.78

ADDITIONAL INFORMATION

Approximate Total Taxes Pursuant to Law No. 12,741/2012: Federal: R$ 0.00; State: R$ 0.00; Municipal: R$ 0.00

Acknowledgment Date	Identification and Signature	NFS-e No. / NFS-e Key
-	-	41069022247751467000137000000000001126090920459630

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

Translator's Note – Legend:

BC ISSQN – Municipal Service Tax (ISSQN) Base (*Base de Cálculo do ISSQN*);
BM - Municipal Benefit (*Benefício Municipal*);
CBS - Social Contribution on Goods and Services (*Contribuição Social sobre Bens e Serviços*);
cClassTrib - IBS/CBS Tax Classification Code (*Código de Classificação Tributária do IBS e da CBS*);
COFINS - Contribution for the Financing of Social Security (*Contribuição para o Financiamento da Seguridade Social*);
CST - IBS/CBS Tax Status Code (*Código de Situação Tributária do IBS e da CBS*);
DPS - Service Provision Declaration (*Declaração de Prestação de Serviços*);
IBGE - Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*);
IBS - Tax on Goods and Services (*Imposto sobre Bens e Serviços*);
IRRF - Withholding Income Tax (*Imposto de Renda Retido na Fonte*);
ISSQN - Municipal Service Tax (*Imposto Sobre Serviços de Qualquer Natureza*);
NBS - Brazilian Classification of Services, Intangibles, and Other Operations That Affect Assets (*Nomenclatura Brasileira de Serviços, Intangíveis e outras Operações que Produzam Variações no Patrimônio*);
NFS-e - Electronic Service Invoice (*Nota Fiscal de Serviço Eletrônica*);
NIF - Tax Identification Number (*Número de Identificação Fiscal*);
PIS - Social Integration Program (*Programa de Integração Social*);
SN - Simplified Tax Regime (*Simples Nacional*).

NFSe Nota Fiscal de Serviço Eletrônica

DANFSe v2.0
Documento Auxiliar da NFS-e

Curitiba / PR
Ambiente Gerador: 2
Tipo de Ambiente: Produção

CHAVE DE ACESSO DA NFS-E
41069022247751467000137000000000001126090920459630

A autenticidade desta NFS-e pode ser verificada pela leitura deste código QR ou pela consulta da chave de acesso no portal nacional da NFS-e

NÚMERO DA NFS-E 11	**COMPETÊNCIA DA NFS-E** 15/09/2026	**DATA E HORA DA EMISSÃO DA NFS-E** 15/09/2026 13:10:54	
NÚMERO DA DPS 100000000000048	**SÉRIE DA DPS** 11111	**DATA E HORA DA EMISSÃO DA DPS** 15/09/2026 13:10:53	
EMITENTE DA NFS-E Prestador	**SITUAÇÃO DA NFS-E** Regular	**FINALIDADE** 0	

PRESTADOR / FORNECEDOR

CNPJ / CPF / NIF 47.751.467/0001-37	**Indicador Municipal (Inscrição)** -	**Telefone** (41) 9686-9828	
Nome / Nome Empresarial GUSTAVO DARTAGNAN XAVIER DO REGO CONSULTORIA EM TECNOLOGIA ...	**Município / Sigla UF** Curitiba / PR	**Código IBGE / CEP** 4106902 / 82540-030	
Endereço RUA ESTADOS UNIDOS, 2196, BOA VISTA	**E-mail** MEUCNPJ@CONTABILIZEI.COM.BR		
Simples Nacional na Data de Competência Não Optante	**Regime de Apuração Tributária pelo SN** -		

TOMADOR / ADQUIRENTE

CNPJ / CPF / NIF -	**Indicador Municipal (Inscrição)** -	**Telefone** -	
Nome / Nome Empresarial WINPROVIT - SOLUÇÕES INTELIGENTES. S.A.	**Município / Sigla UF** -	**Código IBGE / CEP** -	
Endereço -	**E-mail** -		

O DESTINATÁRIO É O PRÓPRIO TOMADOR/ADQUIRENTE DA OPERAÇÃO

INTERMEDIÁRIO DA OPERAÇÃO NÃO IDENTIFICADO NA NFS-e

SERVIÇO PRESTADO

Código de Tributação Nacional / Municipal 010601	**Código da NBS** 115011000	**Local da Prestação / Sigla UF / País** Portugal	

Assessoria e consultoria em informática.

Descrição do Serviço
Invoice Number: 048
Issue Date: 15 - set. - 2026

Consultoria em tecnologia da informação - Nota de Encomenda a Fornecedor No. 260194: Referente a horas de prestação de serviço de consultoria em tecnologia da informação durante o mês de Setembro de 2026. - Conforme Lei 12.741/2012, o percentual total de impostos incidentes neste serviço prestado é de aproximadamente 7.08%

TRIBUTAÇÃO MUNICIPAL (ISSQN)

Tipo de Tributação do ISSQN Não Incidência	**Município / Sigla UF / País da Incidência do ISSQN** -		
Regime Especial de Tributação do ISSQN Nenhum	**Tipo de Imunidade do ISSQN** -	**Suspensão da Exigibilidade do ISSQN** -	**Número Processo Suspensão** -
Benefício Municipal -	**Cálculo do BM** -	**Total Deduções/Reduções** -	**Desconto Incondicionado** -
BC ISSQN -	**Alíquota Aplicada** 0,00%	**Retenção do ISSQN** Não Retido	**ISSQN Apurado** -

TRIBUTAÇÃO FEDERAL (EXCETO CBS)

IRRF -	**Contribuição Previdenciária - Retida** -	**Contribuições Sociais - Retidas** -	
PIS - Débito Apuração Própria -	**COFINS - Débito Apuração Própria** -	**Descrição Contrib. Sociais - Retidas** PIS/COFINS/CSLL Não Retidos	

TRIBUTAÇÃO IBS / CBS

CST / cClassTrib 410 / 410004	**Indicador de Operação / Código IBGE Incidência / Município / Sigla UF** 100302		
Exclusões e Reduções da Base de Cálculo -	**Base de Cálculo Após Exclusões e Reduções** R$ 25.654,78	**Red. Alíquota IBS / Red. Alíquota CBS** -	**Alíquota - IBS UF / IBS Mun** -
Alíq. Efetiva Municipal - IBS -	**Valor Apurado Municipal - IBS** R$ 0,00	**Alíq. Efetiva Estadual - IBS** -	**Valor Apurado Estadual - IBS** R$ 0,00
Valor Total Apurado - IBS R$ 0,00	**Alíquota - CBS** -	**Alíquota Efetiva - CBS** -	**Valor Total Apurado - CBS** R$ 0,00

VALOR TOTAL DA NFS-E

Valor da Operação / Serviço R$ 25.654,78	**Desconto Incondicionado** -	**Desconto Condicionado** -	
Total das Retenções (ISSQN / Federais) -	**Valor Líquido da NFS-e** R$ 25.654,78	**Total do IBS/CBS** R$ 0,00	**Valor Líquido da NFS-e + IBS/CBS** R$ 25.654,78

INFORMAÇÕES COMPLEMENTARES

Totais Aproximados dos Tributos cfe. Lei nº 12.741/2012: Federais: R$ 0,00 ; Estaduais: R$ 0,00 ; Municipais: R$ 0,00

Data Cientificação -	**Identificação e Assinatura** -	**Nº NFS-e / Chave NFS-e** 41069022247751467000137000000000001126090920459630

RFE Exhibit D — Proposed Company Website and Marketing Materials

Dartagnan Telco Solutions

• Home • Services • About • Contact PT EN

PRECISION SOLUTIONS FOR CRITICAL TELECOMMUNICATIONS NETWORKS

We provide professional services for telecommunications networks: Automations, Observability, Migrations, Strategic Consulting, and Technological Evolution. Based in Dallas, delivering global excellence.

EXPERT CONSULTANCY





Our Services

Automation & AIOps

Developing Python frameworks for operational workflow automation and AI for predictive fault analysis.

Advanced Observability

End-to-end monitoring of complex infrastructures with OpenTelemetry, transforming data into network intelligence.

Infrastructure Migration

Planning and execution of legacy system migrations to modern environments with focus on business continuity.

Strategic Consultancy

We provide professional consulting services, including telecommunications network architecture, project management, software development and telecommunications operations.

Technological Evolution

Implementation of emerging technologies to ensure your infrastructure supports the transition to 5G and beyond.



Leadership & Expertise

Dartagnan Telco Solutions is led by Gustavo Dartagnan, a Telecommunications Engineer with **20 years** at the forefront of the industry.

Technical leadership in global projects for industry giants such as **GVT/Vivendi, Vivo/Telefônica and Altice USA/Optimum**.

Expertise in network architectures from leading vendors including **Nortel, Ribbon, Genband, Avaya, Alcatel-Lucent, Acme Packet, Oracle, Cisco, and Streamwide**. We ensure compliance with strict international standards.

Dartagnan Telco Solutions

Dallas, Texas
Global Operations

Contacts

contact@dartagnantelcosolutions.com
+1 469 368 0880

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DARTAGNAN

TELCO SOLUTIONS

PRECISION SOLUTIONS FOR CRITICAL TELECOMMUNICATIONS NETWORKS

www.dartagnantelcosolutions.com

Gustavo Dartagnan Xavier do Rego

Founder & Telecommunications Engineer

EMAIL contact@dartagnantelcosolutions.com

PHONE +1 469 368 0880

WEB www.dartagnantelcosolutions.com

DARTAGNAN TELCO SOLUTIONS

Telecommunications Professional Services

www.dartagnantelcosolutions.com

PRECISION SOLUTIONS FOR CRITICAL TELECOMMUNICATIONS NETWORKS

We provide professional services for telecommunications networks: Automations, Observability, Migrations, Strategic Consulting, and Technological Evolution. Based in Dallas, Texas, delivering global excellence.

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Automation & AIOps

Python frameworks for operational workflow automation and AI for predictive fault analysis.

Advanced Observability

End-to-end monitoring of complex infrastructures with OpenTelemetry, turning data into network intelligence.

Infrastructure Migration

Planning and execution of legacy system migrations to modern environments with business continuity focus.

Strategic Consultancy

Network architecture, project management, software development, and telecommunications operations.

Technological Evolution

Emerging technologies that prepare your infrastructure for 5G and beyond.

Global Delivery

Hands-on leadership for carrier-grade programs across Brazil and the United States.

Leadership & Expertise

Led by Gustavo Dartagnan, a Telecommunications Engineer with 20 years at the forefront of the industry. Technical leadership in global projects for GVT/Vivendi, Vivo/Telefonica, and Altice USA/Optimum. Expertise across Nortel, Ribbon, Genband, Avaya, Alcatel-Lucent, Acme Packet, Oracle, Cisco, and Streamwide architectures.

Contact

Gustavo Dartagnan Xavier do Rego

contact@dartagnantelcosolutions.com | +1 469 368 0880

Dallas, Texas | Global Operations

Why Dartagnan Telco Solutions

Carrier-grade experience

Two decades delivering critical voice, signaling, and IP multimedia programs for major operators in Brazil and the U.S.

Automation that reduces MTTK/MTTR

Custom Python frameworks and AIOps patterns that standardize operations, accelerate triage, and improve reliability.

Observability with OpenTelemetry

End-to-end telemetry strategies that convert fragmented metrics, logs, and traces into actionable network intelligence.

Migration with continuity

Structured planning and execution for legacy-to-modern transitions, protecting revenue-critical services during cutovers.

Vendor-fluent architecture

Deep hands-on expertise across leading softswitch, SBC, IMS, and VoIP platforms used by tier-1 and tier-2 operators.

Bilingual, global delivery

Based in Dallas, Texas, with seamless collaboration across Brazilian and North American stakeholders and time zones.

Let's discuss your next network initiative

Whether you need automation, observability, a complex migration, or strategic architecture support, we bring operator-proven methods and accountable execution.

Gustavo Dartagnan Xavier do Rego

Founder & Telecommunications Engineer

contact@dartagnantelcosolutions.com

+1 469 368 0880

www.dartagnantelcosolutions.com

Dallas, Texas | Global Operations

RFE Exhibit E — Contemporaneous Telecommunications Engineering and Project Records

From: Emerson Da Silva Santana <emerson.santana@telefonica.com>
Sent: Tuesday, September 15, 2015 6:25 PM
To: Pedro Javier Chia Luna; Eduardo Henrique Brasil Guimaraes; Julio Cesar Barboza; Hermes Assis
Cc: Rodolpho Gustavo Kraft; Gustavo Dartagnan Xavier do Rego; Celso Henrique Seabra Marques; Andre Luis Costa Da Silva; Jadir Alves De Oliveira; Sullivan Paruci de Paula; Fabio Marcelo Soares Costa; Marcia Alves Cardoso; Mauricio Jacobuce; Fanuel cabral Junior; Renato Lopes
Subject: PILOT CONNECTION VIVO1_VIVO2_v1.pptx
Attachments: PILOT CONNECTION VIVO1_VIVO2_v1.pptx

Priority: High

Gentlemen,

Today we successfully activated the first integrated SIP (Session Initiation Protocol) route between the two networks in area 11, where we have already successfully made calls to defined numbers.

This connection will allow our network, routing, and portability validations, whenever necessary, before we implement the entire new Vivo 1 x Vivo 2 topology.

Thanks to those responsible for this VIVO configuration:

Rodolfo
Gustavo
Henrique
Andre Luis

Thank you

Telefônica | vivo

Emerson da Silva Santana
Coordinator - Core Engineering Management - SP Fixed-Line | ORSC02
Ave. Dr. Chucri Zaidan, 860 - 4th A - Postal Code: 04583-110 - São Paulo, SP
emerson.santana@telefonica.com | www.telefonica.com.br
Phone (11)3279-2199|Cell (11)99658-7940|

[Confidentiality notice in Spanish]

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[Confidentiality notice in Portuguese]

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 20, 2026.

De: Emerson Da Silva Santana <emerson.santana@telefonica.com>
Enviado em: terça-feira, 15 de setembro de 2015 18:25
Para: Pedro Javier Chia Luna; Eduardo Henrique Brasil Guimaraes; Julio Cesar Barboza; Hermes Assis
Cc: Rodolpho Gustavo Kraft; Gustavo Dartagnan Xavier do Rego; Celso Henrique Seabra Marques; Andre Luis Costa Da Silva; Jadir Alves De Oliveira; Sullivan Paruci de Paula; Fabio Marcelo Soares Costa; Marcia Alves Cardoso; Mauricio Jacobuce; Fanuel cabral Junior; Renato Lopes Scinocca
Ass unto: PILOTO CONEXAO VIVO1_VIVO2_v1.pptx
Anexos: PILOTO CONEXAO VIVO1_VIVO2_v1.pptx

Prioridade: Alta

Senhores,

Hoje conseguimos ativar a primeira rota SIP integrada entre as duas redes na área 11, onde já realizamos chamadas para números definidos com sucesso.

Esta conexão permitirá nossas validações de rede, encaminhamento e portabilidade, sempre que necessário, antes que implantemos toda nova topologia Vivo 1 x Vivo 2.

Agradecimento aos responsáveis por esta configuração da VIVO:

Rodolfo
Gustavo
Henrique
Andre Luis

Grato

Emerson da Silva Santana
Coordenador - Gerência de Eng. de Core SP Fixo|ORSC02
Av. Dr.Chucri Zaidan, 860 -4°A-CEP:04583-110-São Paulo SP
emerson.santana@telefonica.com | www.telefonica.com.br
Tel (11)3279-2199|Cel (11)99658-7940|

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Outlook

RE: Metaswitch: Voice Adtran IAD firmware update Batch 09 - 29 IADs

Organizador	Jason Webber <Jason.Webber@optimum.com>
Hora do encontro	Este evento ocorreu Há 8 meses (Qui, 15/05/2025 01:45 – 07:45)
Local	Microsoft Teams Meeting
Minha resposta	Talvez
Participantes obrigatórios	Jason Webber, Gustavo Xavier do Rego (Ext), Shailesh Kumar Bhagwath, DL SDL - ETX Telephony Engineering
Participantes opcionais	tnoc, Joseph Phalan, Arthur Brown
Mensagem enviada	Qui, 15/05/2025 15:32

Thanks again Team.

From: Keith Fludd <keith.fludd@optimum.com>
Sent: Thursday, May 15, 2025 7:19 AM
To: Jason Webber <Jason.Webber@optimum.com>; Gustavo Xavier do Rego (Ext) <Gustavo.XavierdoRego@AlticeUSA.com>; Shailesh Kumar Bhagwath <shaileshkumar.bhagwath@optimum.com>; DL SDL - ETX Telephony Engineering <DLSDL-ETXTelephonyEngineering@alticeusa.com>; Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>; Andrew Englander <Andrew.Englander@optimum.com>
Cc: tnoc <tnoc@alticeusa.com>; Telecom Engineering Managers <telecomengmanagers@alticeusa.com>
Subject: RE: Metaswitch: Voice Adtran IAD firmware update Batch 09 - 29 IADs

Great job, Jason and team!

This was a long-standing effort to resolve the intermittent registration issues with the Adtran, and I'm glad to see it successfully addressed.

Thanks to **@Shailesh Kumar Bhagwath** and **@Gustavo Xavier do Rego (Ext)**for your continued support throughout the process.

A special thank you to **@Andrew Englander**, whose efforts were instrumental in diagnosing the root cause.

Thanks,

Keith Fludd
Office: +1-516-803-3023
Cell: +1-929-651-3177

From: Jason Webber <Jason.Webber@optimum.com>
Sent: Thursday, May 15, 2025 1:54 AM
To: Gustavo Xavier do Rego (Ext) <Gustavo.XavierdoRego@AlticeUSA.com>; Shailesh Kumar Bhagwath <shaileshkumar.bhagwath@optimum.com>; DL SDL - ETX Telephony Engineering <DLSDL-ETXTelephonyEngineering@alticeusa.com>; Keith Fludd <keith.fludd@optimum.com>; Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>
Cc: tnoc <tnoc@alticeusa.com>
Subject: RE: Metaswitch: Voice Adtran IAD firmware update Batch 09 - 29 IADs

+ Darrin
+ Keith

From: Jason Webber <Jason.Webber@optimum.com>
Sent: Thursday, May 15, 2025 12:50 AM
To: Gustavo Xavier do Rego (Ext) <Gustavo.XavierdoRego@AlticeUSA.com>; Shailesh Kumar Bhagwath <shaileshkumar.bhagwath@optimum.com>; DL SDL - ETX Telephony Engineering <DLSDL-ETXTelephonyEngineering@alticeusa.com>
Cc: tnoc <tnoc@alticeusa.com>
Subject: RE: Metaswitch: Voice Adtran IAD firmware update Batch 09 - 29 IADs

Team,

Gustavo, Shailesh and I successfully completed these upgrades.

This was the last batch for the Meta Adtran IADs.

Thank you, Gustavo, and Shailesh for all your hard work on this project.

Thanks,
Jason

IADs that are 908
A3 NACOTX908NACCO01 - (2nd Gen)
A5 VICTTXSPVICCO01 - (2nd Gen)
A6 VICTTXSPVICCO02
A7 VICTTXSPVICCO03
A9 21KRVS000003
B10 21KRVS000007 - (2nd Gen)
B12 BULLAZ908BHCSD01
B14 FLAGAZSPFLAGS01
B15 FLAGAZSPFSLLQ01
B17 PAYSAZ908GILAC01

B18 PAYSAZ908NPGCC01 - (2nd Gen)
B21 ARCACASPNORTH01
B23 21IPZX000010
B26 EURECASPNCOOP01
B27 EURECASPREDWO01
B28 PARKAZ904PKISD01
B29 TRCKCASPTADON01

-----Original Appointment-----
From: Jason Webber
Sent: Wednesday, May 7, 2025 8:24 AM
To: Jason Webber; Gustavo Xavier do Rego (Ext); Shailesh Kumar Bhagwath; DL SDL - ETX Telephony Engineering
Cc: tnoc; Joseph Phalan; Arthur Brown
Subject: Metaswitch: Voice Adtran IAD firmware update Batch 09 - 29 IADs
When: Wednesday, May 14, 2025 11:45 PM to Thursday, May 15, 2025 5:45 AM (UTC-06:00) Central Time (US & Canada).
Where: Microsoft Teams Meeting

The TNOC has been testing R13.12.1 for several months on a number of IADs and found that it resolves a registration issue that is in the R13.10.2 and some other releases.

UCR000000210850

Number	Circuit ID#	Cust Name	Market	Region	IAD IP
A1	muskok904musko01	muskogee county e911	Muskogee	Texoma	10.211.250.34
A2	nacotx904nacco02	nacogdoches sheriffs office	Nacogdoches	Texoma	10.217.251.6
A3	nacotx908nacco01	nacogdoches county	Nacogdoches	Texoma	10.217.251.2
A4	pflutx904copfl01	city of pflugerville	Pflugerville	Texoma	10.216.250.246
A5	VICTTXSPVICCO01	victoria county	Victoria	Texoma	10.216.250.182
A6	victtxspvicco02	victoria county	Victoria	Texoma	10.216.250.230
A7	victtxspvicco03	victoria county	Victoria	Texoma	10.217.249.10
A8	21IPZX000015	ambiente sedona hotel	Sedona	West	10.208.250.129
A9	21krvs000003	City of Sedona64	Sedona	West	10.208.250.1
B10	21krvs000007	krmc hospital	Kingman	West	10.208.250.97
B11	bullaz904mohve01	mohave accelerated	Bullhead City	West	10.208.250.158
B12	bullaz908bhcsd01	bullhead city school-district	Bullhead City	West	10.208.250.62
B13	flagaz904great01	great circle radio-kaff radio	Flagstaff	West	10.208.250.218
B14	flagazspflags01	flagstaff residence inn	Flagstaff	West	10.208.250.178
B15	flagazspfsllq01	flag stone lodging, dba la qunit	Flagstaff	West	10.208.250.90
B16	lkhvaz904holid01	holiday inn express	Lake Havasu City	West	10.208.250.78
B17	paysaz908gilac01	gila community college	Payson	West	10.208.250.202
B18	paysaz908npgcc01	payson call center-suddenlink	Payson	West	10.208.250.22
B19	kingaz904ctyof01	city of kingman	Kingman	West	10.208.250.234
B20	kingaz904polic01	city of kingman-police dept	Kingman	West	10.208.250.238
B21	arcacaspnorth01	north coast co-op	Auburn	Pacific	10.209.250.78
B22	21ipzx000005	element westin hotel	Sedona	West	10.208.250.95
B23	21IPZX000010	crit_triba	Parker	West	10.208.250.205
B24	eureca904pasea01	pacific seafood	Eureka	West	10.209.250.146
B25	eureca904redwo01	redwood capital bank	Eureka	West	10.209.250.70
B26	eurecaspncoop01	north coast co-op	Eureka	West	10.209.250.122
B27	eurecaspredwo01	redwood coast energy authority	Eureka	West	10.209.250.142
B28	parkaz904pkisd01	parker usd - parker high school	Parker	West	10.208.250.198
B29	trckcasptadon01	tahoe donner assoication	Truckee	West	10.209.250.138

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 210 905 752 844 1

Passcode: L4ap2EE3

Dial in by phone

+1 516-274-0930,,581774139# United States, Nassau

Find a local number

Phone conference ID: 581 774 139#

Join on a video conferencing device

Tenant key: alticeusa@m.webex.com

Video ID: 113 848 603 8

More info

For organizers: Meeting options | Reset dial-in PIN

Outlook

New IMS migration status

De Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>
Data Qua, 20/11/2024 12:40
Para Vitalie MOZAN <Vitalie.MOZAN@AlticeUSA.com>; Reginal Bulus Nieves <Reginal.BulusNieves@AlticeUSA.com>; ROSAURA Restituyo <Rosaura.Restituyo@AlticeUSA.com>; Rahill Siddiqui (Ext) <Rahill.Siddiqui@AlticeUSA.com>; Gustavo Xavier do Rego (Ext) <Gustavo.XavierdoRego@AlticeUSA.com>

Hello Team,

We need to provide an update to Management about the status of our new IMS, in terms of readiness, Over all this is my understanding:

Item	Status
Physical installation	Done
Power	Done
Connectivity	Done
Labeling	@Rahill Siddiqui (Ext) - ? I think you found some optimization points.
Hardware/cloud status	@Rahill Siddiqui (Ext)
Server Alarming to NOC	@ROSAURA Restituyo
Networking alarming to NOC	@ROSAURA Restituyo
Provisioning	@Reginal Bulus Nieves, TAS migration to middleversion pending
Signaling services	Tomia Message copy logic not ready yet
Voice services	@Reginal Bulus NievesControl_N activation pending- Overall services validated
Messaging services	Validated
DNS services	Validated
Cacti KPIs	@Gustavo Xavier do Rego (Ext)

Please feel free to review and add any point I may have missed.
If anyone has the latest version of the migration Plan sent by Nokia, please share it with me.

BR,
Darian R.

Outlook

FW: War Room Leads/Leaders- Daily Check in 3/11/25

De Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>
Data Qua, 12/03/2025 12:20
Para Gustavo Xavier do Rego (Ext) <Gustavo.XavierdoRego@AlticeUSA.com>
Cc Ian Beauchamp <Ian.Beauchamp@optimum.com>

5 anexos (645 KB)
NOC Acceptance 3-11-25 GL Final.docx; Sample Wall Dashboard 3-11-25.xlsx; war room report card 3-10-25.docx; Incident Prioritization and Response Guideline - DRAFT (3).docx; Kafka links 3-11-25GB.jfif;

Hello Gustavo,

Please have a look at this, and lets start supporting Ian on whatever we need to comply with kafka.

Best Regards,
DR

From: Ian Beauchamp <Ian.Beauchamp@optimum.com>
Sent: Tuesday, March 11, 2025 4:55 PM
To: Keith Fludd <keith.fludd@optimum.com>; Axel Rivas <Axel.Rivas@optimum.com>; Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>; Hamlet Candelario <Hamlet.Candelario@optimum.com>; Simon Felce <Simon.Felce@optimum.com>
Subject: FW: War Room Leads/Leaders- Daily Check in 3/11/25

FYI

Thanks,
Ian

From: Karen RUBINSTEIN (Ext) <Karen.Rubinstein@AlticeUSA.com>
Sent: Tuesday, March 11, 2025 4:30 PM
To: Joe Chiarelli <Joe.Chiarelli@optimum.com>; AJ Nath <Anjan.Nath@Optimum.com>; Ian Beauchamp <Ian.Beauchamp@optimum.com>; Chris Wanlass <Chris.Wanlass@optimum.com>; Waqas Chaudhry <Waqas.Chaudhry@optimum.com>; Chris Soler <Chris.Soler@AlticeUSA.com>; Shariful Islam <shariful.islam@optimum.com>; John Avallone <john.avallone@optimum.com>; Michael Wong <Michael.Wong@optimum.com>; Vishnu Samikeri <Vishnudeep.Samikeri@optimum.com>; Srinivasan Venkataraman <Srinivasan.Venkataraman@optimum.com>; Ted Rudman <Ted.Rudman@optimum.com>; CTIO-WarRoom-Team-Leads <CTIO-WarRoom-Team-Leads@optimum.com>
Cc: Peter Gallagher <peter.gallagher@optimum.com>; Michael Thornton (Ext) <michael.thornton@AlticeUSA.com>; Martin Rusafov <martin.rusafov@optimum.com>; Diego Rodriguez <diego.rodriguez@optimum.com>; Geraldine Bullo (Ext) <geraldine.bullo@AlticeUSA.com>; John Mieczkowski <John.Mieczkowski@optimum.com>; Jiten Patel <Jiten.Patel3@optimum.com>; Samuel Andoh <Samuel.Andoh@optimum.com>; Glenn Adycki <Glenn.Adycki@optimum.com>; Vito Gaudino <Vito.Gaudino@optimum.com>; John Solarino <John.Solarino@optimum.com>; Jeff Nagy <Jeffrey.Nagy@optimum.com>; Chris Alahverdian <Chris.Alahverdian@optimum.com>; Emill Buitrago <Emill.Buitrago@optimum.com>; Bulent Ozcan <Bulent.Ozcan@optimum.com>; Brad LaPasota <Brad.LaPasota@optimum.com>; Robert Cullen <Robert.Cullen@optimum.com>; Joe Foster <Joe.Foster@optimum.com>; Matt Haase <Matt.Haase@optimum.com>; Michael Scala <michael.scala@optimum.com>; Michael Cardona <Michael.Cardona1@optimum.com>; Sean Woods <Sean.Woods@optimum.com>; Anudeep Gudipelli (Ext) <Anudeep.Gudipelli@AlticeUSA.com>; Anthony Perrone <Anthony.Perrone@optimum.com>; Nick Pichai <Nick.Pichai@optimum.com>; Gino Lang <gino.lang@AlticeUSA.com>; Russell Catsoris <Russell.Catsoris@optimum.com>; Tony Caldevilla <Tony.Caldevilla@optimum.com>; Gustavo Marsico <gustavo.marsico@optimum.com>; Chris Townend <Chris.Townend@optimum.com>; Rafael Sanchez (Ext) <rafael.sanchez@AlticeUSA.com>; CTIO-WarRoom-Team-Leads <CTIO-WarRoom-Team-Leads@optimum.com>; Raymond Nasieb <Raymond.Nasieb@optimum.com>; Lawrence Binetti <Lawrence.Binetti@optimum.com>; Mohsin Khan Mohammed <MohsinKhan.Mohammed@optimum.com>; Rob Berdon <Rob.Berdon@optimum.com>
Subject: RE: War Room Leads/Leaders- Daily Check in 3/11/25

Thank you for joining today's meeting: War Room Leads/Leaders- Daily Check in
Date: 3/11/25

Today's attendees:

1. OSS/BSS Mobile: AJ Nath
2. Field Services: Vishnu Samikeri
3. Mobile/Voice: Ian Beauchamp
4. Network: Joe Foster/Chris Soler/Tony Caldevilla
5. IT & SP Infrastructure: Waqas Chaudry
6. DCCN: Shariful Islam/Larry Binetti
7. OneView: Sean Woods
8. My Optimum: Anthony Perrone (on behalf of Nick Pichai)
9. OSS/BSS: Mike Scala
10. Video Network & Applications: Chris Wanlass

Not Present:

11. Call Center: Mike Wong
12. Security: John Avallone
13. Broadband: Joe Chiarelli

Tech Ops:
Peter Gallagher
Gino Lang
Jeff Nagy

PMO:
Geraldine Bullo
Karen Rubinstein

Discussion:

- **Kafka-** Lab and production environments ready
  - Documents to request access- link attached below

Connecting to Kafka Bus (OneBUS) - Guillermo Schimmel (Ext) - Confluence

    - Links for Kafka- attached
    - Most team will need firewall rules..
        - Shariful advised a single list of group requests can be submitted and worked on after embargo- Responsible: Larry B
        - Teams to please send list of Ips/required information needed to be added to list – Responsible: Karen/Geraldine
- **HipLink Corporate Communication** approval – In Progress – with Navy R
- **Splunk Cloud project**- Karen escalated to Waqas that PM on that project raising concerns that project on hold- PM was advised to escalate as Splunk to Cloud migration was discussed week 1 on War Rooms- and if teams wanted to use Splunk- On Prem is at capacity and Cloud project should continue to move forward- Waqas is not concerned. Karen will feedback to PM.
- **My Optimum App Review**: went well. Team in a good spot/Some learning experiences
    - Availability
    - Utilization
    - Performance
    - *Challenge to understand what normal transaction health is
        - Learning: Infrastructure- single threaded load balancer- Need to get this on a list for redundancy
- **Exit Acceptance Criteria Document:**
    - Review of process of how the team will execute the review process
        - Key team of “review members”: Peter Gallagher/Gino Lang/Gustavo Marsico/War Room Lead/War Room SVP/John Solarino/NOC Liaison- who supports the platform
        - Document shared, and attached
        - Sample Wall Dashboard, shared in team chat and copy attached
    - **Schedule:**
        - M/W/F 3pm will be utilized going forward for WR Review sessions (to be scheduled in advance with Geraldine)
            - If team is not yet ready to present entire package- can utilize time to review what you have thus far to ensure on the right path
        - T/TH 3pm will remain WR lead meeting for open discussions
- **Device42**- Lunch and Learn introduction today. Very impressive.
    - **Please review the video in appt**

Attached is another document that was presented by Jiten on Yesterday’s call- Severity Matrix for your review

Please let me know if you have any questions
Thank you
Karen

Karen Saeli-Rubinstein
PMO Portfolio Manager- Tech Operations
Optimum

Desk: 516-803-2613
karen.rubinstein@alticeusa.com
1111 Stewart Ave.
Bethpage, NY 11714
optimum.com



-----Original Appointment-----
From: Karen RUBINSTEIN (Ext)
Sent: Tuesday, January 28, 2025 1:30 PM
To: Joe Chiarelli; Karen RUBINSTEIN (Ext); AJ Nath; Ian Beauchamp; Chris Wanlass; Waqas Chaudhry; Chris Soler; Shariful Islam; John Avallone; Michael Wong; Vishnu Samikeri; Srinivasan Venkataraman; Ted Rudman
Cc: Peter Gallagher; Michael Thornton (Ext); Martin Rusafov; Diego Rodriguez; Geraldine Bullo (Ext); John Mieczkowski; Jiten Patel; Samuel Andoh; Glenn Adycki; Vito Gaudino; John Solarino; Jeff Nagy; Chris Alahverdian; Emill Buitrago; Bulent Ozcan; Brad LaPasota; Robert Cullen; Joe Foster; Matt Haase; Michael Scala; Michael Cardona; Sean Woods; Anudeep Gudipelli (Ext); Anthony Perrone; Nick Pichai; Gino Lang; Russell Catsoris; Tony Caldevilla; Gustavo Marsico; Chris Townend; Rafael Sanchez (Ext); CTIO-WarRoom-Team-Leads; Raymond Nasieb; Lawrence Binetti; Mohsin Khan Mohammed; Rob Berdon
Subject: War Room Leads/Leaders- Daily Check in
When: Tuesday, March 11, 2025 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

**** 4 Dimensions of Success****
1. **Availability**
2. **Health**
3. **Performance**
4. **Utilization**

Mandatory Call for War Room Leads:

Daily call with the leads of each War Room team to discuss:
- Status
- KPI reporting
- Challenges
- Repositories
- What is working/what isnt working- how can we help?

Dashboard Updates

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 210 375 673 710

Passcode: 4oR9zY7U

Dial in by phone
+1 516-274-0930,,747490654# United States, Nassau
Find a local number
Phone conference ID: 747 490 654#

Join on a video conferencing device
Tenant key: alticeusa@m.webex.com
Video ID: 111 735 318 2
More info

For organizers: Meeting options | Reset dial-in PIN

De: Qiuzhenyu (Peter) <peter.qiuzhenyu@huawei.com>
Enviado em: sexta-feira, 10 de agosto de 2012 13:24
Para: Gustavo Dartagnan Xavier do Rego; Pedro Javier Chia Luna; Rodolfo Luiz Fiasco
Cc: Chenjianyong; Marcelo Xella; Cyro Maida; Fabio luiz petrelli; Fabiam Fagner Lourenco; Humberto Carmine Flauto; Luciano mussarelli; Tanguangsheng; Jiangchenfeng; Lanxiaoping; pengchangli 00215879; Aiweiqun; houguorong 00215918; Zhangdaqiang; Liming (Eric); Wangxiaolan; Xiaoqian; Changyong; Xiaoqiang
Assunto: Re: Dear Gustavo, have you confirmed the ACME SBC ICID capability//Re: CONFERENCE Notes - GVT IMS 08/08/2012

Congratulations! And Thank you so much for your excellent job!
Huawei doesn't need to develop the patch then, let's complete the IP PBX testing ASAP.

Best Regard,
Peter.

发件人： Gustavo Dartagnan Xavier do Rego [mailto:gustavo.xavier@gvt.com.br]
发送时间： 2012 年 8 月 10 日 12:23
收件人： Qiuzhenyu (Peter)
抄送： Fabio luiz petrelli; Jiangchenfeng; pengchangli 00215879; Aiweiqun
主题： RES: Dear Gustavo, have you confirmed the ACME SBC ICID capability//Re: CONFERENCE Notes - GVT IMS 08/08/2012

Peter,

I've finished the upgrade of the SBC right now. I believe it's working...

Best Regards,
Gustavo

De: Qiuzhenyu (Peter) [mailto:peter.qiuzhenyu@huawei.com]
Enviada em: sexta-feira, 10 de agosto de 2012 11:24
Para: Gustavo Dartagnan Xavier do Rego
Cc: Fabio luiz petrelli; Jiangchenfeng; pengchangli 00215879; Aiweiqun
Assunto: Re: Dear Gustavo, have you confirmed the ACME SBC ICID capability//Re: CONFERENCE Notes - GVT IMS 08/08/2012

Dear Gustavo,

When could you get the confirmation?

Best Regards,
Peter.

发件人： Qiuzhenyu (Peter)
发送时间： 2012 年 8 月 9 日 17:22
收件人： 'Gustavo Dartagnan Xavier do Rego'
抄送： Fabio luiz petrelli; Jiangchenfeng; pengchangli 00215879; Aiweiqun
主题： Dear Gustavo, have you confirmed the ACME SBC ICID capability//Re: CONFERENCE Notes - GVT IMS 08/08/2012

Dear Gustavo, have you confirmed the ACME SBC ICID capability?

It is very important to get the confirmation!

Thank you very much!

VOIP Products Tests Results [AR # 364]

NCOS9x is now closed. Need define a new resource for re-test: VONO; Callback; D4998 and D4999.

PROGRESS:

07/08/2012----->Peter has already offered a suggestion of solution for ICID issue and is waiting for Gustavo Dartagnan confirmation.

08/08/2012----->Gustavo will confirm if the ACME SBC can decrease ICID length by configuration.

OWNER: Huawei – **Assignee:** Peter – **Due date**: 13/08/2012 – **Status:** **PROGRESS**

发件人： Fabio luiz petrelli
发送时间： 2012 年 8 月 8 日 20:36
收件人： Pedro Javier Chia Luna
抄送： Werner Monteiro Weller; Jose patricio moreira; Xubin (William); Lanxiaoping; Jiangchenfeng; Lixudong (sunrise); Humberto Carmine Flauto; Rodolfo Luiz Fiasco; Changyong; Aoxiang; Leonardo sacramento oliveira; Gustavo Henrique Campos Nunes; Paulo Mendes; Zhangdaqiang; Liqingrong; Wguodong; Janir Nunes Pinheiro; Fabio. Lucchetti; Fangjie (Joey); houguorong 00215918; Qiuzhenyu (Peter); Yinfei; Aizhonghua; Aiweiqun; Tanguangsheng; Rogerio Correa; Marcelo finholdt valim gomes; Luiz Gustavo Naletto; Thiago Oro; Fabiam Fagner Lourenco; Luciano mussarelli
主题： CONFERENCE Notes - GVT IMS 08/08/2012

CONFERENCE NOTES

ATENDANCE

Name Company / Contacts

Pedro Javier Luna GVT – pedro.luna@gvt.com.br – (41) 8806-2068
Luciano Mussarelli Huawei - luciano.mussarelli@huawei.com – (11) 5105-5494
Fabio Petrelli Huawei – fabio.petrelli@huawei.com – (41)8864-5614
Qiuzhenyu (Peter) Huawei - peter.qiuzhenyu@huawei.com – (11)92744822

Conference hold on: 08/08/2012 at 07:30PM

Attached to this Conference Notes is the AR REPORT, update as of: 08/08/2012.

SUBJECTS / DECISIONS:

1) ***Maringá Street Cabinet***

18/07/2012----> GVT wants to know the number of V5.2 interfaces that they can still put in Maringá CC08.
23/07/2012---->Huawei confirms that can start alpha cut-over in Maringá for release.
23/07/2012---->Send the subscribers list until 25/07/2012. Rogério will be assigned to make the fake subscriber.
24/07/2012-----> Pedro need add GVT progress. The list was already sent to Ana and Werner on ter 24/07/2012 11:36
25/07/2012----->No feedback from GVT. According to Pedro, Ana will an e-mail to Huawei formalizing what she's expecting to receive.
GVT expects to receive a traffic analyzes in high traffic from 2pm to 4pm, the subscribers must all have NCOS 16. GVT wants at least 70 trunks in the list, in order to have a margin of 20 E1's for the interconnection. Ana will send a formal e-mail detailing the requirement.

26/07/2012----->The traffic analyzes is undergoing and it will be sent to GVT until 27/07/2012.
27/07/2012-----> Until the time this meeting finish, no document was sent to GVT with traffic analyzes.
30/07/2012----->Huawei is working on it. The file will be send until 31/07/2012. The status will be kept as delayed.
31/07/2012----->Traffic report sent to Pedro today at ter 31/07/2012 10:27
03/08/2012----->Fabiam will send the macro plan to GVT and HR allocation for all the cities.
03/08/2012----->First Maringá subscriber is supposed to migrate on 14/08/2012.
06/08/2012----->Huawei will start fake subscriber simulation tomorrow - 07/08/2012.
OWNER: GVT – **Assignee:** Rogério **Start date**: 18/07/2012 – **Due date:** 14/08/2012 – **Status:** **PROGRESS**

2) ***Curitiba Migration***

03/08/2012----->Huawei required GVT to start migration work and preparation for Curitiba IMS. Marcelo Gomes will be responsible for making "fake" subscriber simulation.
GVT needs to coordinate together with Borges / Marcelo, first subscriber migration in Curitiba.
08/08/2012----->Ana needs provide the CC08 E1 that will be used for the tests. Test PABX is already available in the lab.
OWNER: GVT – **Assignee:** Ana **Start date**: 03/08/2012 – **Due date:** 14/08/2012 – **Status:** **PROGRESS**

3) ***Retail Subscriber Migration (V5.2 to H.248)***

17/07/2012------>Huawei requires GVT to provide a date to do the cut-over simulation from V5.2 to H.248 including MSAN upgrade from TDM to IP, subscriber database cut-over and all the related activites.
Pedro required to open a new topic and assign it to Ana Pucker.
17/07/2012------->Pedro said that GVT can only make simulation of V5.2 subscriber on September 03rd.
19/07/2012------->Huawei requires GVT to make meeting with IT, to check now which kind of support they need in order to avoid stress in the final days for IT delivery.
23/07/2012------>Huawei requires to go ahead with V5ID 17011 cut-over to test Huawei cut-over tools.
24/07/2012-------> Pedro need add GVT progress. Huawei received no feessback when the simulation can be done.
24/07/2012-------> Ana will check with Santiago and give a feedback.
26/07/2012-----> Pedro said that this issue should be closed internally until 27/07/2012.
27/07/2012----->Until the beginning of this meeting nothing was sent to Huawei.
30/07/2012----->Anna sent the information on last Friday. Janir agree that the information is OK.
03/08/2012----->According to Ana, all the information was sent.
03/08/2012----->Janir said that V5ID 17011 is UE3000 (old hardware) and that cannot support H.248. Next step is to install a AN that can be upgrade, for full simulation. Janir already spoke to Santiago, whom confirmed new AN need to be installed.
03/08/2012----->Janir must **coordinate** the interface between: Marcelo / Santiago and Ana to make sure this simulation will be successful.
07/08/2012----->Marcelo started to interact with Santiago regarding this issue.
08/08/2012----->Santiago will configure the MSAN for the test tomorrow afternoon. Ana needs to provide E1, V.5 id and test number.
OWNER: Huawei – **Assignee:** Santiago and Ana **Start date**: 17/07/2012 – **Due date:**10/08/2012 – **Status:** **PROGRESS**

4) ***New cities (Phase II)***

Fortaleza; Belo Horizonte; Recife and Porto Alegre.
Next steps for delivery.
PO must be changed, for fulfilling the Huawei procedures.
Humberto will send the proposal to Pedro until 16/07/2012.
16/07/2012 -------> Pedro require help to make comparasion with old proposal, to check why the price is different.
16/07/2012 -------> Huawei formalized that MOS (Material on site) forecast is PO + 60 days, Pedro said that this forecast doesn't meet GVT requirement.
17/07/2012 -------> Humberto sent the clarification to Pedro that will analyze and feedback until 18/07/2012.

18/07/2012 ------->Humberto send the scope to Pedro, and the scope is OK, GVT is now expeting to receive the proposal. The proposal will be send to Pedro on 19/07/2012.
19/07/2012 ------->Humberto sent to Pedro the proposal, Pedro questioned why the proposal is now more expensive. Humberto needs to show why the price increases. Humberto will send the explanation to Werner on 20/07/2012 until mid-day.
23/07/2012 -------> Werner will analyze the proposal and give a formal feedback until 24/07/2012.
24/07/2012-------> Pedro need add GVT progress.
25/07/2012-------> Pedro said that GVT doesn't agree with the service part, and that this issue was transferred to GVT purchase department. GVT complains that Fabio Luchetti explanation for the service bidding is not acceptable.
26/07/2012-------> Pending for Marcelo Figlarz and Patricio negotiation. According to Pedro, GVT expects that activate the new cities in the beginning of September.
26/07/2012------->This issue will be escalated to Juan if no solution is found within this week.
27/07/2012-----> Humberto will request Patricio speed-up this process with GVT.
30/07/2012----->The quotation was sent to Werner and Marcelo Figlarz. Assignee changed today to Werner.
31/07/2012----->**Waiting for PO release to start counting the 60 days for MOS (Material on-site).**
03/08/2012----->Pedro said that he has no forecast for the issue of the PO. No status update.
03/08/2012----->**Huawei re-inforce that MOS (material on site) is PO + 60 days,** as already mentioned on the meeting of 16/07 (above).
03/08/2012----->Pedro request Huawei to in advance start working over Porto Alegre and Fortaleza routing plan. Pedro said that Rodolpho will send Porto Alegre and Fortaleza CX document to Ai Weiqun and Marcelo Gomes on next week.
06/08/2012----->Rodolpho sent the document to Ai today - 06/08/2012.
Pedro asked to confirm if John can start working on Porto Alegre database from tomorrow. Jack will confirm tomorrow morning.
07/08/2012----->Jack allocated Mr. Lee to finish the database construction of Porto Alegre within 15 days. Jack asked Pedro to inform the PO release forecast.
08/08/2012----->Huawei asked when GVT can issue the PO.
OWNER: GVT – **Assignee:** Jack **Start date**: 13/07/2012 – **Due date:** 22/08/2012 – **Status:** **PROGRESS**

5) ***Mediation Deployment***

GVT requires a confirmation for the roadmap of Mediation implementation.
Huawei informed that Curitiba mediation is already under construction and that the expected date for starting operation is 27/07/2012.
Huawei is wating for GVT to approve POWER-ON RDMs.
10/07/2012 --->According to Pedro the RDM are approved for next Friday, 13th
13/07/2012 --->Power-on OK Executed in Curitiba and Maringá.
23/07/2012---->Start the preparations for sending MOP. The cut-over should be transparent for GVT IT.
23/07/2012----> Formalized that Huawei will be ready on August, 03rd asking RDM for Edson.
30/07/2012----->Fabiam will check with Edson if everything is OK for this RDM.
03/08/2012----->Huawei Request to postpone for next weekend (12/08/2012) , and make test with IT, for Ivo Murbach / Edson - for IP and user test.
03/08/2012----->Pedro asked Huawei to make direct interface for tests with Ivo Murbach (ivo.murbach@gvt.com.br – 41-8845-5139) and Edson.
07/08/2012----->On going
OWNER: Huawei – **Assignee:** Ai Zhonghua – **Due date:** 12/08/2012 – **Status:** **PROGRESS**

6) ***VOIP Products Tests Results [AR # 364]***

NCOS9x is now closed. Need define a new resource for re-test: VONO; Callback; D4998 and D4999.
PROGRESS:

- All tests are closed. Now it's only pending by Huawei the Charge Indicator for collect call (AR # 325);
- Huawei is ready for testing VOXIP requesting GVT, to start-up the test process with ACME;
- According to Pedro, ACME's temporary solution will be done until 05/07/2012 – for making RDMs; configurations etc.
- Gustavo Dartganan report management problem at ACME SBC mentioning that he cannot prepare the tests.

- Management network recovered, waiting for tests.
- 12/03/2012 -----> Lee will go to GVT Toronto, to make tests together with Gustavo Dartagna

16/07/2012 -----> Lee finished the tests, now Gustavo Dartganan

17/07/2012 -----> Pedro mention that internal difficulties are not allowing GVT to conclude the tests. Due date changed to 20/07, keeping Dartagnan.

19/07/2012 ------>No progress from GVT.

23/07/2012------>No progress from GVT.

24/07/2012-------> Pedro need add GVT progress.

17/07/2012 -----> Tang sent answers to Gustavo Dartgnam on qua 25/07/2012 15:37, now waiting for a feedback. The e-mail with answers was forwarded to Pedro.

26/07/2012 ----->GVT complains from the progress of the tests. According to Pedro, Huawei is now requesting Policing Rules SBC that were not requested initially, making the SBC capacity not been able for handling the demand of commercial traffic. GVT requires to test a pilot number with Vox IP.

26/07/2012 -----> According to Pedro if Huawei Voip products is not ready within the end of the year, GVT will buy the equipments from GEBAND.

26/07/2012 -----> Pedro scheduled a meeting with Daqiang and Peter to discuss in details GVT commercial need on August, 02nd (Thursday – at 2pm) in GVT Office Toronto, Pedro will request Juan authorization for them for entering the GVT office.

27/07/2012 -----> Pedro said that Huawei should consider that current IP PABX equipnment that are now working on GEBAND should work normally over IMS, without any change, Pedro wants to know the strategy.

30/07/2012-----> Starting from tomorrow, Mr. Tang will joing Gustavo Dartagnan in Toronto building. Access to Toronto already approved by Juan.

31/07/2012-----> No progress today, because Dartagnan ask to postpone the tests for August, 01st

03/08/2012-----> Gustavo Datagnan said that Mr. Tan work is very satisfactory, and that now he see good progress with VoiP tests.

03/08/2012----->Now Peter needs to send a feedback to everyone about the discussion of the meeting hold yesterday at Toronto Office.

03/08/2012----->Huawei will keep Mr. Tan for making the tests together with Dartagnan.

07/08/2012----->Peter has already offered a suggestion of solution for ICID issue and is waiting for Gustavo Dartagnan confirmation.

08/08/2012----->Gustavo will confirm if the ACME SBC can decrease ICID length by configuration.

OWNER: Huawei – **Assignee:** Peter – **Due date**: 13/08/2012 – **Status:** **PROGRESS**

7) ***One Number Service [AR #343]***

GVT formally request the CDR rules for charging One Number Service.

DECISION: Need make a new document with GVT requirements including the CDR rules.

Documents provided and waiting for confirmation / formalization from GVT.

10/07/2012 ----> No progress from GVT.

12/07/2012 ----->Pedro informed that Rodolpho sent a document on 07/10/2012, HW is checking

12/07/2012 at 5:42 Mussarelli feedback the document to Pedro and Rodolpho, now waiting for GVT feedback. GVT need give the date when can finish the review.

13/07/2012 ----> Pedro requested to answer it until 18/07/2012. Pedro requested to know the development progress of One Number, asking **Humberto Flauto** to check it internally and feedback until Monday (16/07/2012).

16/07/2012 ----> GVT requested a more information formally in the document, the same document will edited and this information will be added, this must be finished until 18/07/2012

17/07/2012 ----->Daqiang formalized via e-mail to Pedro that the document will be feedback on 18/07/2012. GVT requires the date when One Number can be implemented.

19/07/2012 ----->Daqiang sent the document to Pedro including.

23/07/2012------>GVT requires until 25/07/2012 to analyze and give a feedback.

24/07/2012-------> Pedro need add GVT progress.

25/07/2012------->Pedro complains that the document still wrong, not in accordance with what was requested to Daqiang. Gustavo Dartgnan is explaining the situation to Hou, and GVT expects to close the item for once and for all.

26/07/2012------->According to Pedro today is the last day for receiving the complete document, and the document sent to GVT today, still missing CDR information.

27/07/2012------->Still pending by GVT. Daqiang request Pedro to formalize what's the detailed information that GVT wants. According to Pedro Dartagnan will feedback tonight 27/07/2012.

30/07/2012----->Huawei said that next step for One Number, should be to issue the PO. According to Pedro there are still tests to be stressed before GVT issue any PO.

30/07/2012----->Pedro said that GVT cannot issue PO, if don't see One Number working according to their requirement. And Pedro is also mentioning that the quotation is not in accordance with GVT interests, for example, GVT doesn't have interest in softclient, and GVT doesn't understand why Huawei should be charging for HD Voice over IP.

Accordning to Humberto, there might be a misunderstanding, because HD voice over IP is not part of One number service.

Humberto will forward the proposal that was previously sent to Juan to Pedro, and Pedro will analyze it.

30/07/2012----->GVT wants the patch to be applied in Curitiba, and to start the tests in Curitiba, for Curitiba there's no need for RDM, since there's no subscriber.

30/07/2012----->Pedro request Huawei to propose a test book for One Number service. Mr. Tang will propose a test book and send it Dartagnan.

31/07/2012----->Humberto sent the quotation proposal to Pedro, Pedro will analyze and reply. Pedro will analyze the proposal and feedback.

03/08/2012----->According to Dartagnan already feedback to Peter about the test book. Peter need to feedback.

06/08/2012----->Peter sent the feedback on Friday. Waiting reply from Gustavo Dartagnan.

08/08/2012----->Gustavo has agreed with Huawei's explanation . Huawei will update the test cases according to his requirements.

OWNER: GVT – **Assignee:** Gustavo Dartagnan – **Due date:** 15/08/2012 – **Status:** **PROGRESS**

8) ***IP Media with UMG (SIP-T) [AR # 344]***

According to ZhangDaqiang, this issue is escalated to HQ. GVT needs to know: how and when Huawei will solve it in the short time?

DECISION: Huawei will give an answer until next Monday (July, 02nd 2012) at 5pm – the formal answer from HQ will be until July, 15th and Huawei will try to give a faster solution.

Formal answer, documentation provided, now waiting for GVT to approve the solution. Pedro required more time for giving a feedback (10/07/2012).

A specific meeting conference will be hold with Huawei R&D and GVT on 05/07/2012 at 09am to be confirmed by Huawei HQ personnel.

[05/07/2012]: According to Pedro the result of the meeting is that GVT need further information in the document. This further information was collected by Ai, that will report it internally to Huawei.

Daqiang need send the items of the meeting for GVT. Waiting for GVT approval.

Pedro expects to receive the document with the consideration until 11/07/2012.

---->Karl sent the doc on 11/07/2012 05:26pm

----> GVT need give the date when can finish the review.

13/07/2012 ------> Pedro requested to give an answer on 17/07/2012. Humberto asked Pedro to speed-up in order not to impact the development schedule. Pedro complain that the document is detailed and he need time for approval, and that Pedro wishes that this might not impact the development schedule. Pedro understands that the solution is already known by Huawei, and Huawei just need wait for GVT formal answer in order to start the development.

13/07/2012------> Pedro is requesting a Technical Meeting on Tuesday (16/07/2012 at 4pm and 17/07/2012 at 5:00pm – Pedro will send the invitation – Pedro will request formal authorization to **Karl** to enter the building) in order to clarify all the pending for avoiding take more time to finish this issue. Make a meeting with Karl Monday and Tuesday.

16/07/2012 ------> The document was rejected by GVT. On 17/07/2012 Daqiang will provide a date, when the new document will be provided.

17/07/2012 ------> Daqiang formally feedback that the new document will be provided to GVT on 20/07/2012. GVT require the date when the solution will be implemented.

19/07/2012------> Pedro said that the implementation forecast presented by Daqiang doesn't meet GVT needs.

23/07/2012------->Werner required until 24/07/2012 to analyze and give a feedback.

24/07/2012-------> Pedro need add GVT progress.

25/07/2012------->According to Pedro the analyzes still not finished.

26/07/2012------->No progress from GVT. According to Pedro, GVT has now full priority to 9th digit, and he will be able to feedback Huawei only on next week.

30/07/2012------->Pedro agree to keep to it DELAYED, until GVT can finish the analyzes. According to Pedro the forecast is 31/07/2012.

31/07/2012------->Pedro said that continue to analyze this and will feedback on 01/08/2012, because the document is too big, has 60 pages. Pedro wants Huawei to continue the development, without GVT approval. Pedro wants to put GVT statements in the document, in order to speed-up the process.

03/08/2012------->Peter sent back the document on Thursday (02/08) at 23:57 – Pedro will analyze and feedback the answer until Monday (06/08/2012).

07/08/2012------->Peter complaint that this issue has pending to long he needs the final confirmation of TRD document before August 10th.

08/08/2012------->Gustavo approved the TRD document. Huawei agree to deliver the patch on original schedule.

OWNER: GVT – **Assignee:** Pedro Chia – **Due date:** ~~24/07/2012~~ – **Status:** **CLOSED**

9) ***CDR [Includes: 311; 325; 328 and 324]***

Sushaolong presented the solution to Rodolpho today, and he accepted. Tomorrow it will be shown to Rodolpho.

DECISION: Mr. Lee on 26/06/2012 at 02pm , Huawei needs define two resources for joining these tests (one Brazilian and one Chinese).

Lee will send the results (of the 30 tests) to Rodolfo tomorrow 27/06/2012 afternoon. After it's confirmed it works, it should be shown to Rodolfo the complete results until the due date bellow.

The Charge Indicator for uncessfull call will be delivered by the end of August, this date will be confirmed on next Monday (July, 02nd 2012).

Description	AR	Due Date	Owner	Assignee	Status
UGC uncomplete CDR (VoiP)	311	02/07/2012	Huawei	Lee	CLOSED
Charge Indicator for unsuccessfull CDR	325	30/08/2012	Huawei	Daqiang / R&D	PROGRESS
Called-Party-Number	329*	02/07/2012	Huawei	Daqiang	CLOSED
TG Number in term-IOI for TDM PBX	328	08/07/2012	Huawei	WangGuodong	CLOSED
Dialed Number and CIC	324	30/08/2012	Huawei	R&D	PROGRESS

Comments:

***** Depend on GVT answer.

10) Trouble Tickets SP

30/07/2012----->Pedro said that since the migration resume, 10 new TTs (Trouble Ticket) were opened.

30/07/2012----->According to Pedro most the problems were related to routing plan.

30/07/2012----->Huawei said, that is only knowing this information right now and would like to be involved in all the problems, to get to know them in order to be able to avoid future TTs of the same problem.

31/07/2012----->Pedro sent the TT e-mail to Huawei on ter 31/07/2012 15:27, Huawei will analyze and feedback.

03/08/2012----->Huawei formalized in the meeting that the 7 TT that werer send on 31/07 for Huawei analyzes already have been concluded. Where: 4 out of 7 problems belong to GVT and 3 out of 7 problems belong to Huawei. The tests and traces evidences were done and saved. The detailed analyzes must be sent to GVT (until 06/08/2012).

06/08/2012----->Jack sent the analyses today. Adriano will check and feed back until 09/08.

OWNER: Huawei – **Assignee:** Adriano – **Due date:** 09/08/2012 – **Status:** **PROGRESS**

11) Service Quotations

30/07/2012----->Pedro wants to understand how does Huawei make Service Quotation, because right now according to Pedro the service proposals are confusing, and not clear. GVT needs to understand how the services are quoted in order to be able to plan the budget for 2013, that must be prepared until 10/08/2012.

31/07/2012----->**Luis Gustavo Naletto** (11)99267-0885 luiz.naletto@huawei.com is the new guy that will work together with Pedro to help him prepare the Budget for 2012.

Naletto introduce himself to Pedro and listed from Pedro, Pedro's expectation about the help with Service quotations.
03/08/2012----->Pedro complaint that so far, no concrete action was seen from Huawei. No question from Mr. Naletto and output. Pedro wishes to have a LPU for service before 10/08/2012 otherwise it will be impossible for GVT to prepare the budget for 2013 with Huawei IMS.
08/08/2012----->On going
OWNER: Huawei – **Assignee:** Luiz Gustavo Naletto – **Due date:** 10/08/2012 – **Status:** **PROGRESS**

12) Macro Plan for Migration

31/07/2012----->Huawei will propose to Pedro a macro plan for migration in: Curitiba; Maringá and Rio de Janeiro.
This macro plan will be sent to GVT until 02/08/2012, and Pedro must get Juan's approval for these macro plan, because right now Huawei has no visibility about the macro plan for migration.
03/08/2012----->Fabiam will send the Macro plan to Pedro and Ana today (03/08) and schedule a meeting between: Jack; Pedro: Petrelli and Ana) for debating and closing a Macro plan.
06/08/2012-----> Ana asked to Huawei review and update the macro plan.
08/08/2012----->On going
OWNER: Huawei – **Assignee:** Jiang Chenfeng – **Due date:** 10/08/2012 – **Status:** **PROGRESS**

13) AR Updated.

03/08/2012----->Pedro require that the AR table should be updated with the authorization for Close and other requirements previous sent to Fabio Petrelli.
06/08/2012----->AR report updated as requested.
OWNER: Huawei – **Assignee:** Fabio – **Due date:** 03/08/2012 – **Status:** **CLOSED**

14) AR with Priority Request

03/08/2012----->GVT requested priority for the AR: 265; 390 and 396.
Huawei feeback that: 265 will be closed on 03/08/2012 as well as 390. 396 will be feedback until Tuesday (07/08/2012).
06/08/2012-----> AR 265 and 396 are closed.
07/08/2012----->AR # 390 – Need confirmation from Huawei R&D.
08/08/2012----->AR # 390 – Qiu sent the answer today. Waiting for John's feedback.
OWNER: Huawei – **Assignee:** John – **Due date:** 10/08/2012 – **Status:** **PROGRESS**

NEXT CONFERENCE:

09/08/2012 at 05:30PM

From:	Jose Sudre <Jose.Sudre@genband.com>
Sent:	Monday, December 23, 2013 9:05 AM
To:	Bruno Henrique Koga; Fanuel cabral Junior; Lizandro Gabriel R Matkowski; Gustavo Dartagnan Xavier do Rego; Waldemar Ferreira Filho
Cc:	Werner Monteiro Weller; Sergio Almeida; Paulo Peres; Pedro Javier Chia Luna
Subject:	GVT RFPs 010-014 / 2014

Good morning, Koga, Fanuel, Lizandro, Gustavo, and Waldemar,

First of all, thank you for the opportunity you provided us within these RFP (Request for Proposal) processes, and congratulations on the way they were conducted.

The documents were very well written, and we had few questions, which were quickly clarified by you.

We at GENBAND aim to become even closer to you so that we can collaborate on all your projects.

We would like to have an opportunity to present the technical and commercial solutions we offer within these processes.

In any case, we will be available for any clarification.

Thank you and a hug,

GENBAND

José Sudré
GENBAND
Sr.Solutionsengineer
office: +55.11.3958.8643
mobile: +55.21.99266.5688
internal: 348.8643
jose.sudre@genband.com
www.genband.com

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 19, 2026.

De: Jose Sudre <Jose.Sudre@genband.com>
Enviado em: segunda-feira, 23 de dezembro de 2013 09:05
Para: Bruno Henrique Koga; Fanuel cabral Junior; Lizandro Gabriel R Matkowski; Gustavo Dartagnan Xavier do Rego; Waldemar Ferreira Filho
Cc: Werner Monteiro Weller; Sergio Almeida; Paulo Peres; Pedro Javier Chia Luna
Ass unto: GVT RFPs 010-014 / 2014

Bom dia Koga, Fanuel, Lizandro, Gustavo e Waldemar,

Antes de mais nada, obrigado pela oportunidade que vocês nos proporcionaram dentro desses processos de RFPs e parabéns pela forma como foram conduzidos.

Os documentos ficaram muito bem escritos e tivemos poucas dúvidas, as quais foram esclarecidas rapidamente por vocês.

Nós da GENBAND temos como objetivo nos aproximar ainda mais de vocês para que possamos colaborar em todos os seus projetos.

Gostaríamos de ter uma oportunidade de apresentarmos as soluções técnicas e comerciais que ofertamos dentro desses processos.

De qualquer forma, estaremos disponíveis em caso de qualquer esclarecimento.

Obrigado e um abraço,

GENBAND

José Sudré
GENBAND
Sr.Solutionsengineer
office: +55.11.3958.8643
mobile: +55.21.99266.5688
internal: 348.8643
jose.sudre@genband.com
www.genband.com

From: Pedro Javier Chia Luna
Sent: Monday, July 2, 2012 6:21 PM
To: Gustavo Dartagnan Xavier do Rego
Cc: Rodolpho Gustavo Kraft; Lizandro Gabriel Rengel Matkowski
Subject: FW: SIP (Session Initiation Protocol) Mobility
Attachments: IMS (IP Multimedia Subsystem) Mobility.mpp; IMS Mobility Schedule.pdf

Follow-up Flag: Follow up

Flag Status: Flagged

Gustavo,

I would like you to help me with this project, with Switching Engineering as the focal point. Rodolpho has some details, Lizandro has others, and I have the rest. The idea is to consolidate everything, start planning the upcoming activities and schedule, have you participate in testing, and make this our first planned short-term deliverable.

Regards,

Pedro

From: Danilo Pereira Araujo
Sent: Monday, July 2, 2012 6:18 PM
To: Pedro Javier Chia Luna; Albert Yassunari Kurata; Fernando Augusto Matos Sala; Eduardo de Cristo Goes
Cc: Luis Carlos Beu; Paulino Ubirajara Karam Filho; Celso Fernando Valério
Subject: RE: SIP Mobility

Everyone,

I prepared a very basic version of the implementation schedule for the mobility services at GVT, with the objective of keeping track of the most important and urgent activities that are part of the project's critical path.

I tried to find a time in your schedules for us to go over the schedule item by item, but coordinating everyone's schedules is practically impossible. I ask that you evaluate the activities and dependency relationships, propose the necessary changes and, most importantly, engage your teams so that we can ensure the project's progress.

Tasks in progress:
• Evaluation of call flows **(07/03 – SW Eng.)**
• Evaluation of interaction with existing services **(07/03 – SW Eng.)**
• Development of the routing plan project in the IMS **(08/10 – 18 clusters – SW Eng.)**
• Development of the SW Eng. project (prefix opening # equipment) **(08/10 – 18 clusters – SW Eng.)**
• PO issuance (SBC (Session Border Controller)) **(07/04 – SW Eng.)**
• Preliminary tests (softphone) **(07/06 – New Technologies)**
• Specification of functional requirements **(Product Statement) (07/06 – Marketing)**

It is worth remembering that the target date for completion of the service implementation by Eng&Op, as defined by Juan, is **08/31**.

Regards,

Danilo Pereira Araújo
New Technologies

Phone +55 41 3022 9497

Av. Marechal Floriano Peixoto, 672 - 7th Floor
Centro - Curitiba - PR - Brazil
Postal Code 80010 130
gvt.com.br

From: Danilo Pereira Araujo
Sent: Monday, June 18, 2012 3:32 PM
To: Luis Carlos Beu; Evandro Nunes Regolin; Santiago Pedro Timm Soares; Gustavo Dartagnan Xavier do Rego; Pedro Javier Chia Luna; Albert Yassunari Kurata; Fernando Augusto Matos Sala; Paulino Ubirajara Karam Filho
Subject: SIP Mobility

Gentlemen,

Attached is a diagram with my view of the macro stages we will need to go through to validate the SIP mobility solution, built based on the conversation we had last Friday. Please evaluate it and suggest additions/changes. This material will serve as the basis for developing a more detailed project schedule.

Regards,

Danilo Pereira Araújo
New Technologies

Phone +55 41 3022 9497

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From: Gustavo Dartagnan Xavier do Rego
Sent: Tuesday, July 24, 2012 11:37 AM
To: Fanuel cabral Junior
Subject: FW: WBS (Work Breakdown Structure) x PS (Product Statement) Validation
Attachments: Product Statement - Fixed Mobility Retail V 1 3.docx; IMS Mobility.mpp

---

From: Fernanda Cristina Andretta
Sent: Friday, July 13, 2012 6:55 PM
To: Santiago Pedro Timm Soares; Luis Carlos Beu; Gustavo Dartagnan Xavier do Rego; Rodolpho Gustavo Kraft; Adriana Soares da Conceição; Vilsonir Rita Junior; Evandro Nunes Regolin
Cc: Albert Yassunari Kurata; Pedro Javier Chia Luna; Danilo Pereira Araujo
Subject: WBS x PS Validation

Dear all,
Here are the meeting minutes.
Attached is the PDS with the considerations made during the meeting, as well as the schedule.

Meeting Minutes

Project:	Freedom
Objective:	Evaluation of Product Statement Items
Date/Time:	07/13/2012
Duration:	2 hours
Location:	Ed. Toronto – 7th Floor
Prepared by:	Fernanda Andretta – (41) 3025-2138

Attendees

Gustavo Dartagnan Xavier do Rego	Adriana Soares da Conceição
Luis Carlos Beu	Vilsonir Rita Junior
Santiago Pedro Timm Soares	Evandro Nunes Regolin
Fernanda Cristina Andretta	

Matters Discussed

The access area proposed making two deliveries in the mobility project, the first delivering mobility on mobile and the second on the PC (Personal Computer).

Encryption of provisioning over HTTPS should be used as a premise in the project.

Identified as risks in the project: softphone integration and service rules.

Identified as points of attention: the PD requires delivery of one child line (the project must be prepared to support more than one child line); CRM disable on the softphone; IT mediation of the CDR (Call Detail Record) for incoming and outgoing calls at the same time; verify legal interception where it is performed in IMS and PSTN (Public Switched Telephone Network).

Considerations and changes were added by the access area to the Product Statement.

Actual Delivery	Original Delivery Date	Responsible	Task
	07/17	Evandro/Santiago	Revalidate schedule activities and dates

	07/17	Gustavo/Rodolfo	Revalidate schedule activities and dates
	07/17	Gustavo/Rodolfo	Validate Product Statement items

Fernanda Andretta

Engineering and Operations - Product Development Coordination

Phone +55 41 3025 2138

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From: Pedro Javier Chia Luna
Sent: Tuesday, April 30, 2013 6:41 PM
To: Gustavo Dartagnan Xavier do Rego
Cc: Rodolpho Gustavo Kraft; Fabio Ferreira Russo Romano; Sergio Antonio Danielius; Lizandro Gabriel R Matkowski
Subject: Re: RE: Freedom_Operation.zip

Please send it to implementation and operations.

Regards,

Pedro

On 04/30/2013, at 6:36 PM, “Gustavo Dartagnan Xavier do Rego” <gustavo.xavier@gvt.com.br> wrote:

> Pedro,
>
>Attached is the compiled documentation from the Freedom team.
>
>
> Regards,
> Gustavo
>-----Original Message-----
>From: Pedro Javier Chia Luna
>Sent: Thursday, April 25, 2013 5:48 PM
>To: Gustavo Dartagnan Xavier do Rego
>Cc: Rodolpho Gustavo Kra; Fabio Ferreira Russo Romano; Sergio Antonio Danielius; Lizandro Gabriel R Matkowski
>Subject: Re: Freedom_Operation.zip
>
> Gustavo
>
>Make a list of the other documents and those responsible within the SW Eng. area and compile it; you are our focal point for the project.
>
>Please coordinate and flag any potential documentation gaps before sending out the complete information.
>
>Regards,
>
>Pedro
>
>
>
>On 04/25/2013, at 5:19 PM, “Gustavo Dartagnan Xavier do Rego” <gustavo.xavier@gvt.com.br> wrote:
>
>> Pedro,
>>
>>
>>
>>I don’t have all the documentation for Project Freedom.
>>

>>
>>
>> Attached is what I consider, from my end, important to support the operation.
>>
>>
>>
>>
>>
>> Regards,
>>
>> Gustavo
>>
>> <Freedom_Opera%C3%A7%C3%A3o.zip>
> <Freedom_Operation.zip>

From: Gustavo Dartagnan Xavier do Rego
Sent: Tuesday, June 25, 2013 2:47 PM
To: Felipe Silveira Greco
Cc: Adriana Soares da Conceição (adriana.conceicao@gvt.com.br)
Subject: FW: Freedom_IMS-CX Documentation Validation
Attachments: Freedom Project Technical Description - ENG CX.docx

Attached is a technical document about Freedom.

Regards,
Gustavo Dartagnan Xavier
Switching Engineering

Phone +55 41 2525-9025

GVT YOU IN THE FUTURE, TODAY
Av. Marechal Floriano Peixoto, 672 - 5th Floor
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gvt.com.br



From: Samuel Rodrigo Laureano Da Silva
Sent: Monday, September 15, 2014 12:43 PM
To: Gustavo Dartagnan Xavier do Rego; Juliano Parreira Dos Santos; Pedro Gois dos Reis
Cc: Fanuel cabral Junior; Lizandro Gabriel Rengel Matkowski
Subject: RE: Freedom Report of Interest on Traffic and mE (milliErlang) per User

Gustavo / Juliano / Gois,

As Pedro requested on Friday, we need to create a presentation about traffic on Freedom.

I collected one week's worth of data from Radcom during the HMM (Busy Hour).

Attached for analysis.

Please check what we have in CDR (Call Detail Record) View and the SBCs (Sessio Border Controllers) and also present that statistic showing how many are registered versus how many customers have the Freedom app.

This way we will be able to provide Pedro with more accurate information, although the traffic is still low for the necessary definitions.

➢ 09/09/14

Incoming Calls (Softphone → PSTN*)	2,851
Outgoing Calls (PSTN → Softphone)	10
Incoming Traffic / customer	5.16 mErl
Total Incoming Traffic	103.08 Erl
Outgoing Traffic / customer	0.017 mErl
Total Outgoing Traffic	0.350 Erl
Total Customers Registered with Freedom	19,975

➢ 09/10/14

Incoming Calls (Softphone → PSTN)	2,883
Outgoing Calls (PSTN → Softphone)	4
Incoming Traffic / customer	6.70 mErl
Total Incoming Traffic	133.93 Erl
Outgoing Traffic / customer	0.005 mErl
Total Outgoing Traffic	0.1073 Erl
Total Customers Registered with Freedom	19,975

➢ 09/11/14

Incoming Calls (Softphone → PSTN)	2,852
Outgoing Calls (PSTN → Softphone)	4
Incoming Traffic / customer	7.302 mErl
Total Incoming Traffic	145.87 Erl
Outgoing Traffic / customer	0.006 mErl

Total Outgoing Traffic	0.1215 Erl
Total Customers Registered with Freedom	19,975

➢ 09/12/14

Incoming Calls (Softphone → PSTN)	2,673
Outgoing Calls (PSTN → Softphone)	8
Incoming Traffic / customer	3.47 mErl
Total Incoming Traffic	69.34 Erl
Outgoing Traffic / customer	0.018 mErl
Total Outgoing Traffic	0.368 Erl
Total Customers Registered with Freedom	19,975

➢ 09/13/14

Incoming Calls (Softphone → PSTN)	2,439
Outgoing Calls (PSTN → Softphone)	3
Incoming Traffic / customer	4.88m Erl
Total Incoming Traffic	97.63 Erl
Outgoing Traffic / customer	0.006 mErl
Total Outgoing Traffic	0.1298 Erl
Total Customers Registered with Freedom	19,975

➢ 09/14/14

Incoming Calls (Softphone → PSTN)	2,342
Outgoing Calls (PSTN → Softphone)	3
Incoming Traffic / customer	6.87 mErl
Total Incoming Traffic	136.36 Erl
Outgoing Traffic / customer	0.0045 mErl
Total Outgoing Traffic	0.0917 erl
Total Customers Registered with Freedom	19,975

➢ 09/15/14

Incoming Calls (Softphone → PSTN)	2,271
Outgoing Calls (PSTN → Softphone)	2
Incoming Traffic / customer	4.43 mErl
Total Incoming Traffic	88.65 Erl
Outgoing Traffic / customer	0.0048 mErl
Total Outgoing Traffic	0.09627 Erl
Total Customers Registered with Freedom	19,975

Regards,

Samuel Rodrigo Laureano da Silva

Engineering - Switching

Phone +55 41 3085 6088

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Postal Code 80210 010
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From: Samuel Rodrigo Laureano Da Silva
Sent: Thursday, September 11, 2014 2:51 PM
To: Pedro Javier Chia Luna
Cc: Fanuel cabral Junior; Juliano Parreira Dos Santos; Gustavo Dartagnan Xavier do Rego; Lizandro Gabriel Rengel Matkowski; Rodolpho Gustavo Kraft; Pedro Gois dos Reis
Subject: RE: Freedom Report of Interest on Traffic and mE per User

Pedro,
After analyzing CDR (Call Detail Record) View, Radcom and the Freedom SBCs (Sessio Border Controllers) themselves, we reached the following conclusion:

- Incoming Calls (Softphone → PSTN): 2,851
- Outgoing Calls (PSTN → Softphone): 10
- Incoming Traffic per customer: 5.16 mErl
- Total Incoming Traffic: 103.08 Erl
- Outgoing Traffic per customer: 0.017 mErl
- Total Outgoing Traffic: 0.35 Erl

Total Customers Registered with Freedom: 19,975

Note: Traffic measured during today's HMM (Busy Hour) period.
Due to the small amount of traffic, the analysis is not very accurate.

Regards,
Samuel Rodrigo Laureano da Silva
Engineering - Switching

Phone +55 41 3085 6088

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Centro - Curitiba - PR - Brazil
Postal Code 80210 010
gvt.com.br

From: Pedro Javier Chia Luna
Sent: Thursday, September 11, 2014 8:38 AM
To: Samuel Rodrigo Laureano Da Silva; Juliano Parreira Dos Santos; Gustavo Dartagnan Xavier do Rego
Cc: Fanuel cabral Junior
Subject: Freedom Report of Interest on Traffic and mE per User

Dear all,

I need the report I requested earlier to see the number of calls flowing through Freedom and establish a usage pattern.

Incoming Calls
Outgoing Calls
Incoming Traffic

Outgoing Traffic

This is necessary to determine the product's capacity and quantify it for the budget.

I expect the report by tomorrow.
Regards,

Pedro J. Chia Luna
Network Core Manager
VP Engineering & Regionals

Phone +55 41 3022-9722

GVT YOU IN THE FUTURE, TODAY

Corporate Jardim Botânico
5th Floor
Avenida Dário Lopes dos Santos, 2197
Postal Code: 80210-010
Curitiba - Paraná

gvt.com.br YouTube



Translator’s Note - *PSTN - Public Swithced Telephone Network

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 20, 2026.

De: Pedro Javier Chia Luna
Enviado em: segunda-feira, 2 de julho de 2012 18:21
Para: Gustavo Dartagnan Xavier do Rego
Cc: Rodolpho Gustavo Kraft; Lizandro Gabriel Rengel Matkowski
Assunto: ENC: Mobilidade SIP
Anexos: Mobilidade IMS.mpp; Cronograma Mobilidade IMS.pdf

Sinalizador de acompanhamento: Acompanhar
Status do sinalizador: Sinalizada

Gustavo,

Gostaria que voce me ajudasse com esse projeto na Engenharia Cx como ponto focal, Rodolpho tem alguns detalhes, Lizandro outros e Eu outros a idéia e condensar tudo e já ir projetando as próximas atividades e cronograma, que voce participe dos testes e será nossa primeira entrega prevista de Curto prazo.

Sds,

Pedro

De: Danilo Pereira Araujo
Enviada em: segunda-feira, 2 de julho de 2012 18:18
Para: Pedro Javier Chia Luna; Albert Yassunari Kurata; Fernando Augusto Matos Sala; Eduardo de Cristo Goes
Cc: Luis Carlos Beu; Paulino Ubirajara Karam Filho; Celso Fernando Valério
Assunto: RES: Mobilidade SIP

Pessoal,

Montei uma versão bastante básica do cronograma de implementação do serviços de mobilidade na GVT, com o objetivo de não perdermos de vista as atividades mais importantes e urgentes, que fazem parte do caminho crítico do projeto.

Tentei encontrar um lugar na agenda de vocês para repassarmos o cronograma item a item, mas conciliar a agenda de todos é praticamente impossível. Peço a vocês que avaliem as atividades e relações de dependências, proponham as alterações necessárias e, principalmente, acionem suas equipes para garantirmos o progresso do projeto.

Tarefas em andamento:

- Avaliação dos fluxos de chamada **(03/07 – CX Eng)**
- Avaliação da interação com serviços existentes **(03/07 – CX Eng)**
- Elaboração dos projetos dos planos de encaminhamento no IMS **(10/08 – 18 clusters – CX – Eng)**
- Elaboração dos projetos CX (abertura de prefixo # equipamento) **(10/08 – 18 clusters – CX – Eng)**
- Emissão PO (SBC) **(04/07 CX – Eng)**
- Testes preliminares (softphone) **(06/07 – Novas Tecnologias)**
- Especificação dos requisitos funcionais (Product Statement) **(06/07 – Marketing)**

Vale lembrar que a meta de conclusão da implementação do serviço por parte da Eng&Op, definida pelo Juan, é o dia **31/08**.

Att

Danilo Pereira Araújo
Novas Tecnologias

Tel +55 41 3022 9497

Av. Marechal Floriano Peixoto, 672 - 7º andar
Centro - Curitiba - PR - Brasil
CEP 80010 130
gvt.com.br

De: Danilo Pereira Araujo
Enviada em: segunda-feira, 18 de junho de 2012 15:32
Para: Luis Carlos Beu; Evandro Nunes Regolin; Santiago Pedro Timm Soares; Gustavo Dartagnan Xavier do Rego; Pedro Javier Chia Luna; Albert Yassunari Kurata; Fernando Augusto Matos Sala; Paulino Ubirajara Karam Filho
Assunto: Mobilidade SIP

Senhores,

Segue anexo diagrama com a minha visão das macro etapas que deveremos percorrer para validar a solução de mobilidade SIP, construída com base na conversa que tivemos na última sexta-feira. Por favor avaliem e sugiram inserções/alterações. Este material servirá de base para a construção de um cronograma mais detalhado do projeto.

Att

Danilo Pereira Araújo
Novas Tecnologias

Tel +55 41 3022 9497

Av. Marechal Floriano Peixoto, 672 - 7º andar
Centro - Curitiba - PR - Brasil
CEP 80010 130
gvt.com.br

De: Gustavo Dartagnan Xavier do Rego
Enviado em: terça-feira, 24 de julho de 2012 11:37
Para: Fanuel cabral Junior
Assunto: ENC: Validação WBS x PS
Anexos: Product Statement - Mobilidade Fixo Retail V 1 3.docx; Mobilidade IMS.mpp

De: Fernanda Cristina Andretta
Enviada em: sexta-feira, 13 de julho de 2012 18:55
Para: Santiago Pedro Timm Soares; Luis Carlos Beu; Gustavo Dartagnan Xavier do Rego; Rodolpho Gustavo Kraft; Adriana Soares da Conceição; Vilsonir Rita Junior; Evandro Nunes Regolin
Cc: Albert Yassunari Kurata; Pedro Javier Chia Luna; Danilo Pereira Araujo
Assunto: Validação WBS x PS

Caros
Segue ata de reunião.
Anexo segue PDS com as considerações feitas na reunião, bem como cronograma.

Ata de Reunião

Projeto:	Freedom
Objetivo:	Avaliação Itens Product Statement
Data/Horário:	13/07/2012
Duração:	2 horas
Local:	Ed. Toronto – 7º andar
Elaborado por:	Fernanda Andretta – (41) 3025-2138

Presentes

Gustavo Dartagnan Xavier do Rego	Adriana Soares da Conceição
Luis Carlos Beu	Vilsonir Rita Junior
Santiago Pedro Timm Soares	Evandro Nunes Regolin
Fernanda Cristina Andretta	

Assuntos Tratados

A área de acesso propos fazer duas entregas no projeto mobilidade, a primeira entregando a mobilidade no mobile e a segunda no PC.

Deverá ser usado como premissa no projeto criptografar o aprovisionamento no https.

Identificado como riscos no projeto: integração do softfone e regras de atendimento.

Identificado como pontos de atenção: o PD exige entrega de uma linha filho (projeto deve se preparar para atender mais de uma linha filho), CRM desabailit
me no softfone, IT Mediação do CDR para chamada entrante e sainte ao mesmo tempo, Verificar interceptação legal aonde é feito IMS e PSTN.

Inserido considerações e alterações pela área de acesso no Product Statement.

Data entrega efetiva	Data entrega original	Responsável	Tarefa
	17/jul	Evandro/Santiago	Revalidar atividades e datas do cronograma

	17/jul	Gustavo/Rodolfo	Revalidar atividades e datas do cronograma
	17/jul	Gustavo/Rodolfo	Validar itens do Product Statement

Fernanda Andretta
Engª e Operações - Coordenação de Desenvolvimento de Produtos

Tel +55 41 3025 2138

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De: Pedro Javier Chia Luna
Enviado em: terça-feira, 30 de abril de 2013 18:41
Para: Gustavo Dartagnan Xavier do Rego
Cc: Rodolpho Gustavo Kraft; Fabio Ferreira Russo Romano; Sergio Antonio Danielius; Lizandro Gabriel R Matkowski
Assunto: Re: RES: Freedom_Operação.zip

Envia para implantacao e operacao por favor

Sds,

Pedro

Em 30/04/2013, às 18:36, "Gustavo Dartagnan Xavier do Rego" <gustavo.xavier@gvt.com.br> escreveu:

> Pedro,
>
> Segue a documentação do pessoal reunída do Freedom.
>
>
> Atenciosamente,
> Gustavo
> -----Mensagem original-----
> De: Pedro Javier Chia Luna
> Enviada em: quinta-feira, 25 de abril de 2013 17:48
> Para: Gustavo Dartagnan Xavier do Rego
> Cc: Rodolpho Gustavo Kraft; Fabio Ferreira Russo Romano; Sergio Antonio Danielius; Lizandro Gabriel R Matkowski
> Assunto: Re: Freedom_Operação.zip
>
> Gustavo
>
> Faca a lista dos outros documentos e os responsaveis dentro da area de Cx e compole, voce e nosso ponto focal do projeto.
>
> Favor coordenar e sinalizar possiveis falhas de documentacao. Para assim enviar a info completa
>
> Sds,
>
> Pedro
>
>
>
> Em 25/04/2013, às 17:19, "Gustavo Dartagnan Xavier do Rego" <gustavo.xavier@gvt.com.br> escreveu:
>
>> Pedro,
>>
>>
>>
>> A documentação do projeto Freedom não está toda comigo.
>>

>>
>>
>> Segue em anexo o que considero da minha parte, importante para ajudar a operação.
>>
>>
>>
>>
>>
>> Atenciosamente,
>>
>> Gustavo
>>
>> <Freedom_Opera%C3%A7%C3%A3o.zip>
> <Freedom_Operação.zip>

De: Gustavo Dartagnan Xavier do Rego
Enviado em: terça-feira, 25 de junho de 2013 14:47
Para: Felipe Silveira Greco
Cc: Adriana Soares da Conceição (adriana.conceicao@gvt.com.br)
Assunto: ENC: Validação Documentação Freedom_IMS-CX
Anexos: Descritivo Técnico Projeto Freedom - ENG CX.docx

Segue documento técnico sobre o Freedom

Atenciosamente,
Gustavo Dartagnan Xavier
Engenharia Comutação

Tel + 55 41 2525-9025

Av. Marechal Floriano Peixoto, 672, 5° andar,
Centro - Curitiba - PR - Brasil
CEP 80010 130



De: Samuel Rodrigo Laureano Da Silva
Enviado em: segunda-feira, 15 de setembro de 2014 12:43
Para: Gustavo Dartagnan Xavier do Rego; Juliano Parreira Dos Santos; Pedro Gois dos Reis
Cc: Fanuel cabral Junior; Lizandro Gabriel Rengel Matkowski
Assunto: RES: Relatorio Freedom de interesse de Trafego e mE por usuario

Gustavo / Juliano / Gois,

Conforme o Pedro tinha pedido na sexta temos que criar uma apresentação sobre o tráfego no Freedom

Peguei os dados de uma semana na Radcom no HMM.

Segue para análise.

Favor verificarem o que temos no CDR View e SBC's e também apresentarmos aquela estatística de quantos estão registrados X quantos clientes possuem o app do fredoom.

Assim poderemos passar uma informação mais assertiva para o Pedro apesar do tráfego ser pequeno ainda para as definições necessárias.

- **09/09/14**

Chamadas Entrantes (Softphone --> PSTN)	**2851**
Chamadas Saintes (PSTN --> Softphone)	**10**
Tráfego Entrante / cliente	**5,16 mErl**
Tráfego Total Entrante	**103,08 Erl**
Tráfego Sainte / cliente	**0,017 mErl**
Tráfego Total Sainte	**0,350 Erl**
Total de Clientes cadastrados com Freedom	**19975**

- **10/09/14**

Chamadas Entrantes (Softphone --> PSTN)	**2883**
Chamadas Saintes (PSTN --> Softphone)	**4**
Tráfego Entrante / cliente	**6,70 mErl**
Tráfego Total Entrante	**133,93 Erl**
Tráfego Sainte / cliente	**0,005 mErl**
Tráfego Total Sainte	**0,1073 Erl**
Total de Clientes cadastrados com Freedom	**19975**

- **11/09/14**

Chamadas Entrantes (Softphone --> PSTN)	**2852**
Chamadas Saintes (PSTN --> Softphone)	**4**
Tráfego Entrante / cliente	**7,302 mErl**
Tráfego Total Entrante	**145,87 Erl**
Tráfego Sainte / cliente	**0,006 mErl**

Tráfego Total Sainte	0,1215 Erl
Total de Clientes cadastrados com Freedom	19975

- **12/09/14**

Chamadas Entrantes (Softphone --> PSTN)	2673
Chamadas Saintes (PSTN --> Softphone)	8
Tráfego Entrante / cliente	3,47 mErl
Tráfego Total Entrante	69,34 Erl
Tráfego Sainte / cliente	0,018 mErl
Tráfego Total Sainte	0,368 Erl
Total de Clientes cadastrados com Freedom	19975

- **13/09/14**

Chamadas Entrantes (Softphone --> PSTN)	2439
Chamadas Saintes (PSTN --> Softphone)	3
Tráfego Entrante / cliente	4,88m Erl
Tráfego Total Entrante	97,63 Erl
Tráfego Sainte / cliente	0,006 mErl
Tráfego Total Sainte	0,1298 Erl
Total de Clientes cadastrados com Freedom	19975

- **14/09/14**

Chamadas Entrantes (Softphone --> PSTN)	2342
Chamadas Saintes (PSTN --> Softphone)	3
Tráfego Entrante / cliente	6,87 mErl
Tráfego Total Entrante	136,36 Erl
Tráfego Sainte / cliente	0,0045 mErl
Tráfego Total Sainte	0,0917 erl
Total de Clientes cadastrados com Freedom	19975

- **15/09/14**

Chamadas Entrantes (Softphone --> PSTN)	2271
Chamadas Saintes (PSTN --> Softphone)	2
Tráfego Entrante / cliente	4,43 mErl
Tráfego Total Entrante	88,65 Erl
Tráfego Sainte / cliente	0,0048 mErl
Tráfego Total Sainte	0,09627 Erl
Total de Clientes cadastrados com Freedom	19975

Sds,

Samuel Rodrigo Laureano da Silva

Engenharia - Comutação

Tel +55 41 3085 6088

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Centro - Curitiba - PR - Brasil
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gvt.com.br

De: Samuel Rodrigo Laureano Da Silva
Enviada em: quinta-feira, 11 de setembro de 2014 14:51
Para: Pedro Javier Chia Luna
Cc: Fanuel cabral Junior; Juliano Parreira Dos Santos; Gustavo Dartagnan Xavier do Rego; Lizandro Gabriel Rengel Matkowski; Rodolpho Gustavo Kraft; Pedro Gois dos Reis
Assunto: RES: Relatorio Freedom de interesse de Trafego e mE por usuario

Pedro,

Verificamos analisando CDR View, Radcom e os próprios SBC's Freedom e chegamos a seguinte conclusão:

- Chamadas Entrantes (Softphone→PSTN): 2851
- Chamadas Saintes (PSTN → Softphone): 10
- Trafego Entrante por cliente: 5,16 mErl
- Tráfego Total Entrante: 103,08 Erl
- Trafego Sainte por cliente: 0,017 mErl
- Tráfego Total Sainte: 0,35 Erl
- Total de Clientes cadastrados com Freedom: 19.975

Obs.: Tráfego medido no período de HMM de hoje.
Devido a pequena quantidade de tráfego a análise não é muito precisa.

Sds,

Samuel Rodrigo Laureano da Silva
Engenharia - Comutação

Tel +55 41 3085 6088

Avenida Dário Lopes dos Santos, 2197 - 5° andar
Centro - Curitiba - PR - Brasil
CEP 80210 010
gvt.com.br

De: Pedro Javier Chia Luna
Enviada em: quinta-feira, 11 de setembro de 2014 08:38
Para: Samuel Rodrigo Laureano Da Silva; Juliano Parreira Dos Santos; Gustavo Dartagnan Xavier do Rego
Cc: Fanuel cabral Junior
Assunto: Relatorio Freedom de interesse de Trafego e mE por usuario

Caros,

Preciso do relatório que já solicitei para conhecer o numero de chamadas que esta cursando o Freedom e estabelecer um padrão de uso

Chamadas Entrantes
Chamadas Saintes
Trafego Entrante

Trafego Sainte

Isso e necessário para definir o capacity do produto e quantificar para Budget,

Aguardo o relatório para amanha.

Sds,

Pedro J. Chia Luna
Network Core Manager
VP Engenharia & Regionais

Tel + 55 41 3022-9722

GVT VOCÊ NO FUTURO, HOJE

Corporate Jardim Botânico.
5º andar
Avenida Dário Lopes dos Santos, 2197.
CEP: 80210-010
Curitiba - Paraná

gvt.com.br YouTube



RFE Exhibit F — Financial Resources and Asset Documentation

FACEBANK

Reference number: REF79742CTA261009163932

TO WHOM IT MAY CONCERN

We hereby certify that GUSTAVO DARTAGNAN XAVIER DO REGO, holder of Identity card num:FV584800, who has been a client of our institution since 05/03/2026 and maintains the account identified as:

53140000145 - CHECKING ACCOUNTS

This certificate has been issued at the request of the interested party on the 09/10/2026.

Sincerely,

FACEBANK International Corp.

This bank reference has been issued electronically through FACEBANK's Online Banking service. To confirm the authenticity of this reference, please contact customer service and provide the confirmation number.

FACEBANK

MASTER - 9722

HOME | TRANSACTIONS | STATEMENTS | ACCOUNT SERVICES | ALERTS

Welcome, GUSTAVO !

Current Balance Go to transactions history **$15.81**

Pending Balance $0.00

Statement Balance Go To Statements $15.81

Available Credit $2,109.19

Current Credit Limit Amount $2,125.00

Last Payment as of Sep 10, 2026 $15.81

Total Minimum Due (Does not include past due balance) $0.00

Payment Due Date Oct 03, 2026

Last Login Jun 18, 2026, 6:04:44 PM



Recent Transactions | Account Details

Account Details

Account Number XXXX-XXXX-XXXX-9722

Current Balance $15.81

Cash Balance $0.00

Pending Balance $0.00

Available Credit $2,109.19

Available Cash $2,109.19

Current Credit Limit Amount $2,125.00

Cash Limit $2,125.00

Past Due Amount $0.00

Account Status Open

Statement Information

Last Statement Amount $15.81

Last Statement Date Sep 08, 2026

Total Minimum Due $0.00

Payment Due Date Oct 03, 2026

Last Payment Amount $15.81

Last Payment Date Sep 10, 2026

Cliente:
Client: GUSTAVO DARTAGNAN XAVIER DO REGO

Fecha:
Date: 09-10-2026 04:49

Producto/Product	Producto Bancario/Banking Product	Saldo/Balance
X-XXX-XXX014-5	CHECKING ACCOUNT	USD 403.77

Producto/Product	Producto Bancario/Banking Product	Saldo/Balance
XXX-XXXXXX00-27	FIXED DEPOSITS	USD 2,500.00

Nomad Investment Services Inc.
1111 Lincoln Road, Suite 660
Miami Beach, FL 33139
US
Phone: +55 (11) 4200-0204

Account Statement

GUSTAVO DARTAGNAN XAVIER DO REGO
RUA ESTADOS UNIDOS
CURITIBA, PR 82540-030
BR

GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

ACCOUNT SUMMARY

	Opening Balance	Closing Balance
Cash Balance	0.00	0.00
Short Balance	0.00	0.00
FDIC Insured Deposits	37.93	55.12
Securities Valuation	18,552.34	18,413.05
Total Net Worth	**18,590.27**	**18,468.17**

INCOME AND EXPENSE SUMMARY

	This Period	Year to Date
Dividends	17.19	124.94

Nomad Investment Services Inc.
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GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

FDIC INSURED DEPOSITS BANK BALANCES

Description	Location	Bank Balance	Accrued Interest
Town Bank	Madison, WI	55.12	0.00
Total FDIC Insured Bank Deposit		55.12	

FDIC Insured Deposits are not covered by SIPC and are held by respective banks, not Apex Clearing Corporation. Bank balances included on this statement are provided by the banks. Apex Clearing Corporation is not responsible for the accuracy of this information. Balances at each bank, including deposits at the bank that you may have made outside this account, are insured up to $250,000 per account ownership type ($250,000 for self-directed retirement accounts like IRAs) by the Federal Deposit Insurance Corporation ("FDIC"). You are responsible for monitoring the total of your deposits maintained at each bank in order to determine the extent of your FDIC coverage at each bank. Please refer to the Apex FDIC-Insured Sweep Program Terms and Conditions information statement for more details concerning insurance coverage. For questions concerning your bank balances, please contact your registered representative. The cash balance of your FDIC Insured Deposits is accurately set forth on page 1 of this statement.

NOTE: Occasionally, Apex FDIC-Insured Sweep Program's banks ("Program Banks") may be added or removed from the Participating Bank List, which is available on Apex's website. Apex will, to the extent possible, update the Participating Bank List, with any added Program Banks at least 30 calendar days before making deposits. If a Program Bank is removed from Apex FDIC-Insured Sweep Program (the "Program"), it will no longer be able to receive sweeps of your excess cash balance. If any of your excess cash balance is at a Program Bank that is removed from the Program, Apex will transfer those funds into another Program Bank still in the Program or into your Apex Account, at Apex's discretion. You may contact your broker to specify any Program Banks into which you do not wish your excess cash balance to be swept. Please note that if there are insufficient Program Banks available in the Program, taking into account any from which you have opted out, such that not all of your excess cash balance can be spread among Program Banks to ensure FDIC coverage, then some or all of your excess cash balance may remain dormant in your Apex Account or may be deposited at a Program Bank but not covered by FDIC insurance. You may obtain additional information on each Program Bank at www.fdic.gov.

You are solely responsible for monitoring the total amount of your assets on deposit with each Program Bank (including non-Program funds and accounts) in order to determine the extent of FDIC insurance coverage available to you on those deposits, including Program deposits. Apex shall not take into account any money you have on deposit at a Program Bank outside of the Program.

A current Apex FDIC-Insured Sweep Program Bank List and Apex FDIC-Insured Sweep Program Terms and Conditions may be found at https://apexfintechsolutions.com/legal/disclosures/banksweep-bank-list and https://apexfintechsolutions.com/legal/disclosures/banksweep-terms-and-conditions, respectively.

The interest period ends at the close of business on the 15th of the month. If the 15th of the month is not a business day, the period will end on the next preceding business day. The interest period covered by this month's statement began on the first business day immediately following the closest business day on or after the 15th of the month.

For customers with balances in a bank deposit account as part of the Apex FDIC-Insured Sweep Program or shares of a money market mutual fund in which you have a beneficial interest, those balances or shares may be liquidated on your order and the proceeds returned to your account or remitted to you in accordance with the applicable prospectus and/or Terms and Conditions of the program.

For customers participating in the Apex FDIC-Insured Sweep Program, the Apex FDIC-Insured Sweep Program allows your cash balance to be eligible for insurance protection through the FDIC up to the maximum applicable insurance limits. Customers may obtain information about FDIC, by contacting the FDIC at 1-877-275-3342, 1-800-925-4618 (TDD) or by visiting www.fdic.gov. Deposit Account balances in the Apex FDIC-Insured Sweep Program are not protected by SIPC or any other excess coverage by Apex Clearing Corporation. Deposit Account balances are protected as established by current applicable laws regulated by the FDIC

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GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

PORTFOLIO

Description	Symbol CUSIP	Quantity	Securities on Loan	Price($)	Market Value	Previous Period's Market Value	% Change	% of Total Portfolio
AMAZON COM INC COM	AMZN 023135106	8.57599	0	249.15	2,136.71	2,227.78	-4.09	11.57
BROADCOM INC COM	AVGO 11135F101	5.49394	0	351.19	1,929.42	2,034.63	-5.17	10.45
COSTCO WHOLESALE CORPORATION COM	COST 22160K105	1.18063	0	910.34	1,074.77	1,114.38	-3.55	5.82
ALPHABET INC CAP STK CL A	GOOGL 02079K305	5.90597	0	344.08	2,032.13	2,004.19	1.39	11.00
JPMORGAN CHASE & CO COM	JPM 46625H100	7.32059	0	330.83	2,421.87	2,606.28	-7.08	13.11
SUPER MICRO COMPUTER INC COM NEW	SMCI 86800U302	66.13526	0	41.07	2,716.18	2,465.52	10.17	14.71
ISHARES TR TRS FLT RT BD	TFLO 46434V860	120.42573	0	50.67	6,101.97	6,099.56	0.04	33.04
Total					18,413.05	18,552.34		

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GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

TRADING ACTIVITIES

Activity Type	Trade Date	Settle Date	Description	Symbol CUSIP	Quantity	Price($)	Net Amount($)	Commission($)	Transaction Fee($)	Additional Fees($)	Capacity
No Information to be displayed											

TRADING ACTIVITY PENDING SETTLEMENT

Activity Type	Trade Date	Settle Date	Description	Symbol CUSIP	Quantity	Price($)	Net Amount($)	Commission($)	Transaction Fee($)	Additional Fees($)	Capacity
No Information to be displayed											

NON-TRADING ACTIVITY

Date	Activity Type	Description	Symbol CUSIP	Quantity	Amount($)	Transaction Fee($)
2026-09-04	SWEEP	FDIC Insured Deposit Program Purchase Sweep		0.00	13.78	0.00
2026-09-04	SWEEP	FDIC Insured Deposit Program Purchase Sweep		0.00	-13.78	0.00
2026-09-04	CASH_DIVIDEND	ISHARES TR TRS FLT RT BD Cash Div of 0.163386 on 120.42573 shs. Rec 09/01/26 Pay 09/04/26. NON-QUALIFIED DIVIDEND With 30% NON Resident Alien Withholding Deductions	TFLO 46434V860	0.00	19.68	0.00
2026-09-14	CASH_DIVIDEND	ALPHABET INC CAP STK CL A Cash Div of 0.22 on 5.90597 shs. Rec 09/07/26 Pay 09/14/26 With 30% NON Resident Alien Withholding Deductions	GOOGL 02079K305	0.00	1.30	0.00
2026-09-14	SWEEP	FDIC Insured Deposit Program Purchase Sweep		0.00	-0.91	0.00
2026-09-14	SWEEP	FDIC Insured Deposit Program Purchase Sweep		0.00	0.91	0.00

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GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

NON-TRADING ACTIVITY (Cont'd)

Date	Activity Type	Description	Symbol CUSIP	Quantity	Amount($)	Transaction Fee($)
2026-09-30	CASH_DIVIDEND	BROADCOM INC COM Cash Div of 0.65 on 5.49394 shs. Rec 09/21/26 Pay 09/30/26 With 30% NON Resident Alien Withholding Deductions	AVGO 11135F101	0.00	3.57	0.00
2026-09-30	SWEEP	FDIC Insured Deposit Program Purchase Sweep		0.00	-2.50	0.00
2026-09-30	SWEEP	FDIC Insured Deposit Program Purchase Sweep		0.00	2.50	0.00

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GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

Investment objectives and Financial information

GUSTAVO DARTAGNAN XAVIER DO REGO
Account Number: TEW49MG

Our records currently reflect the following investment objectives and financial information for your account

Telephone (1): +5541988360365
Telephone (2):
Investment Objective: GROWTH_INCOME
Estimated Income:
Profession: BUSINESSMAN
Broker Employee:
Employment Status: EMPLOYED
Trusted Contact:
Estimated Liquid Net Worth: USD_RANGE_UNSPECIFIED
Risk Tolerance: HIGH
Time Horizons: TIME_HORIZON_UNSPECIFIED
Estimated Net Worth: FROM_25K_TO_50K
Liquidity Needs: NOT_IMPORTANT

If any of the information above is incorrect or missing, mark any necessary corrections and return this document directly to the registered representative and/or broker dealer listed on the first page of the account statement. For any future changes to information contained in this document, contact your registered representative and/or broker dealer. Please note that not all defined investment objectives listed below are available to each client; investment objectives are set up by each registered representative and/or broker dealer independently. To discuss which investment objectives are available to you, please contact the registered representative and/or broker dealer directly listed on the first page of your account statement.

You have the option to add a Trusted Contact Person to each of your accounts. By adding a trusted contact (name and contact information), you authorize us to contact the trusted contact person and disclose information about your account to that person in the following circumstances: to address possible financial exploitation, to confirm the specifics of your current contact information, health status, or the identity of any legal guardian, executor, trustee, or holder of a power of attorney, or as otherwise permitted by FINRA Rules 2165 (Financial Exploitation of Specified Adults) and 4512 (Customer Account Information).

Investment Objectives Defined As:
Balanced - Diversification of assets classes for equal blend of income and long-term growth.
Capital Appreciation - High Risk, capital growth invested primarily in stocks and options.
Capital Preservation - A conservative investment strategy characterized by a desire to avoid risk of loss
Growth - Investing in securities with strong earnings and/or revenue growth or potential.
Growth and Income - A balance between capital appreciation and current income with the willingness to forgo a portion of current income in order to provide for potential future growth.
Income - Strategy focused on current income rather than capital appreciation, wants to use proceeds of the account as a source of income.
Long Term Growth With Great Risk - Aggressive growth (trade volatile securities that have wide changes in price).
Long Term Growth With Safety - Long term capital appreciation with relative safety of principal.
Maximum Growth / Short Term Growth With Risk - Appreciation with acceptance of high risk.
Speculation/Speculative - Taking larger risks, usually by frequent trading, with hope of higher than average gains, want increase in value of investments - High Risk All strategies involve various types and levels of risk; the most common of which are: market, credit, inflation, business, and interest rate risk.

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US
Phone: +55 (11) 4200-0204

GUSTAVO DARTAGNAN XAVIER DO REGO

Account Number: TEW49MG
Statement Date: 2026-09-01 - 2026-09-30

Disclosures

You may have received a confirmation for a trade, which does not appear on this statement. If the settlement date of the trade as shown on the confirmation is later than the period ending date that appears at the top of this statement, the trade will appear on your next regular monthly statement.
If this is a margin account and we maintain a special miscellaneous account for you, this is a combined statement of your general account and special miscellaneous account maintained for you under Regulation T issued by the Board of Governors of the Federal Reserve System. The permanent record of the special miscellaneous account as required by Regulation T is available for your inspection at your request.
The per annum rate of interest charged on the debit balance in your account is shown on this statement. This rate may change from time to time in accordance with fluctuations in interest rates. Interests computed from the 16th day of the preceding month to the 15% day of the current month except in December and January. The charges include the last day of the year and, in January; the interest is calculated from the first day of the month. The interest is based on the average daily net debit balance in your account with us and for the actual number of days based on an interest year of 360 days. When calculating margin interest, free credit balances in all accounts will be offset against any debit in the margin account and the interest will be charged on the net debit balance.
It is strongly recommended before engaging in any Options activity that you read and understand the Characteristics and Risks of Standardized Options document which is available at https://apexfintechsolutions.com/legal/disclosures/.
We are required to report to the Internal Revenue Service all cash dividends and registered bond interest credited to your account on securities held for you in our name. We also report coupon bond interest. All dividends and interest credits should be included in your income tax return.

Information relative to commission and any other charges incurred in connection with listed option transactions occurring during the month has previously been furnished to you in confirmation of such transactions. A summary of this information will be made available to you promptly upon request. Exercise assignment notices for option contracts are allocated among customer short positions pursuant to a manual procedure which randomly selects from among all customer short option positions including those contracts which are subject to exercise. All short American style option positions are liable for assignment at any time whereas European style options are assigned at expiration. A more detailed description of our random allocation procedure is available upon request.

You are to promptly advise your brokerage firm or bank of any material changes concerning your investment objectives or financial situation.

Our financial statement is available for your personal inspection at our office, or a copy of it will be mailed upon your written request.

SIPC Protection. As a member of the Securities Investor Protection Corporation (SIPC), funds are available to most customer claims up to a ceiling of $500,000, including a maximum of $250,000 for cash claims. For additional information regarding SIPC coverage, including a brochure, please contact SIPC at (202) 371-8300 or visit www.sipc.org. Apex has purchased an additional insurance policy through a group of London Underwriters to supplement SIPC protection. This additional insurance policy becomes available to customers in the event that SIPC limits are exhausted and provides protection for securities and cash up to certain limits. Similar to SIPC protection this additional insurance does not protect against a loss in the market value of securities.

Any free credit balance represents funds payable upon demand which, although properly accounted for on our books of records, is not segregated, and may be used in the conduct of this firm's business as permissible under the SEC Rule 15c3-2.

Apex is a member of the New York Stock Exchange and various other exchanges. Apex acts as a clearing agent for your trades. As required under SEC rules, both the Firm's Order Routing Report as well as information regarding specific order routing information is available free of charge upon request. Your account, which was introduced to us by your broker or bank, is established under your name on a “fully disclosed” basis at Apex. As a clearing agent, we provide securities clearance and may provide order execution on your broker's or bank's instructions. You will remain a customer of your broker or bank. Apex will not be involved with or have any responsibility for decisions regarding securities transactions in your account. Your broker or bank will be responsible for opening, approving and monitoring all activities in connection with your account. The entry of orders, and any instructions regarding the deposit or withdrawal of securities or monies should be made through your broker or bank.

In addition to the above-mentioned services. Apex will provide cashiering services, safeguarding of funds and securities while in Apex’s possession, monitoring compliance with applicable credit Regulation T and Apex's internal policies, preparing, and mailing your account records (including transaction confirmations and periodic statements of your account).

Interest charges to your account will be based on the size and net debit balance during the interest period. These rates are subject to revision without notice in accordance with any changes in the broker call loan rate as published in the Wall Street Journal. For more information regarding interest charged to customers consult the Truth in Lending Notice which is made available through your broker or bank.

Apex is a member of the Financial Industry Regulatory Authority, Inc. ("FINRA") and we are required to inform you of the availability of the FINRA Investor Brochure, which contains information on FINRA BrokerCheck. You may contact FINRA at 800-289-9999 or at their website at www.finra.org. Apex carries your account and acts as your custodian for funds and securities deposited with us directly by you, through your brokerage firm or bank or as a result of transactions we process for your account. Any suspected inaccuracy or discrepancy in your account statement must be promptly reported to both your brokerage firm or bank (not to your individual broker or agent) and Apex. In order to protect your rights, including your right to SIPC coverage, please confirm any oral communication in writing and

include your brokerage account number. General inquiries or concerns regarding your account should be directed to your brokerage firm or bank. Account positions and balance inquiries or concerns should be directed to Apex by telephone at 214-765-1009.

ACCOUNT SUMMARY

Displays applicable account type balance, money fund balances, priced portfolio value, and total account equity as of the opening and closing of the statement period. Priced Portfolio Value and Total Portfolio Equity are rounded to the nearest dollar. Total Priced Portfolio and Expense does not include unpriced securities.

Your monthly account statement reflects positions, transactions, and valuations as of the market close on the last business day of the statement period. Due to timing differences in pricing and transaction processing, the beginning balance for a new period may differ from the prior period's ending balance. Certain assets with end-of-day prices disseminated after the cutoff, including but not limited to, mutual fund NAVs, dividend processing, certain fixed income evaluations, alternative investments, foreign exchange rates, and international security valuations, may have final prices posted on the next business day and will appear in your account activity as as-of adjustments. All updates including late-settling trades, corporate actions, interest accruals, advisory and account fees, and some check deposits processed near the cutoff, are recorded in your account ledger when received, typically within 1-2 business days following the statement period end, and will be included in the following statement period. Your monthly account statement remains the official record of your account for regulatory, tax reporting, and recordkeeping purposes. If you notice material discrepancies or have questions about specific transactions or valuations, please contact your introducing broker or investment advisor.

INCOME AND EXPENSE SUMMARY

Lists all income earned during the current statement period, as well as year to date. This section includes taxable and non-taxable dividends and interest, capital gains and MLP (Master Limited Partnership) distributions. This section also displays Margin Interest Expenses.

PORTFOLIO

Lists all securities held in your account.

Securities on Loan - Participation in Fully Paid Securities Lending Program

Customers with securities on loan have agreed to participate in the Fully-Paid Securities Lending program (“FPSL”) and should be aware that shares on loan are not covered by SIPC or FDIC. The provisions of the Securities Investor Protection Act of 1970 (“SIPA”) may not protect the customer with respect to the customer’s securities loan transaction, and the collateral delivered to the customer may constitute the only source of satisfaction of the member’s obligation in the event the borrower fails to return the securities. Other risks and characteristics of participation in the FPSL program include, but are not limited to: 1) the loss of voting rights; 2) the customer’s right to sell loaned securities at any time, which will terminate the loan; 3) Apex’s ability to use the loaned securities for additional loans and Apex’s ability to earn a spread and/or other profit; 4) lack of guarantee of receiving best rates; 5) risks associated with each type of collateral; 6) that the securities may be “hard-to-borrow” because of short-selling or may be used to satisfy delivery requirements resulting from short sales; 7) potential adverse tax consequences, including payments deemed cash-in-lieu of dividend paid on securities while on loan; 8) Apex’s right to liquidate the transaction because of a condition of the kind specified in FINRA Rule 4314(b); and 9) the factors that determine the amount of compensation received by Apex and paid to the customer in connection with the use of the securities borrowed from the customer, including whether any interest on cash collateral is included in the compensation, and that the Percentage Rate paid to the customer may be changed without prior notice, subject to the Minimum Percentage Rate in the Master Securities Lending Agreement. For specific details, please consult the FPSL Master Securities Lending Agreement and Important Disclosures Regarding Risks and Characteristics of Participating in FPSL documents available on Apex’s website at:
https://apexfintechsolutions.com/legal/disclosures/
Cash collateralizing shares is held at JP Morgan Chase & Co. Please consult the Fully Paid Lending Trust Agreement available on Apex's website at https://apexfintechsolutions.com/legal/disclosures/ for additional details.

MARKET VALUE

This amount represents the value of the security position in your portfolio based on appraisals obtained from the various quotation services. These appraisals are based on the closing prices, bond yields and/or the mean bid and ask on the last day of the statement period. Because of the nature of the data provided by the quotation services, we cannot guarantee the accuracy of such prices or the valuation dates particularly in the case of inactive or infrequently traded securities.
Some securities in your portfolio may be listed as “Unpriced” on your statement. We use an automated pricing service from an outside vendor and certain prices may not be available to them. You can obtain a current quotation, upon request, from your broker or bank.
Bond prices might differ from current market quotes. Similarly, bond ratings may differ from current actual ratings. Computerized pricing and rating services are often unable to supply us with up-to-the-minute information. Your broker or bank will be pleased to obtain a current quotation upon request.

BROKERED CDs

FDIC Insurance Coverage Brokered CDs receive FDIC protection up to $250,000 per depositor per bank, but all deposits at the same bank must be aggregated including direct and brokered holdings. Joint accounts get separate coverage per co-owner, trust accounts receive $250,000 per beneficiary (max five), and IRAs have separate coverage but aggregate with employer plans. Foreign bank US branches aggregate together. Premiums above par are not FDIC-insured.

CD Types and Structures Interest-bearing CDs pay periodic interest with fixed or variable rates that change on predetermined schedules or market indices. Zero-coupon CDs are issued at discount, pay no periodic interest, mature at par, and are more volatile if sold early due to duration characteristics.

Custody and Ownership No physical certificates exist; master certificates are held at DTC with brokers acting as custodians maintaining ownership records. Investors are beneficial owners while DTC holds legal title. Brokers provide records to FDIC for insurance claims if needed.

Secondary Market Trading CDs may be sold before maturity, but brokers aren't obligated to maintain markets. Prices fluctuate based on interest rates, time to maturity, bank credit quality, and demand. Prices are quoted as percentage of par (100.00) with brokers potentially retaining mark-ups/downs. No guaranteed liquidity exists.

Variable Rate Risks Step-rate CDs have predetermined rate changes while floating-rate CDs reset based on market indices. Rising rate environments may benefit investors, but falling rates provide lower returns. Callable versions risk early bank redemption when favorable to investors; non-callable versions may leave investors with below-market rates.

Primary Risks Credit risk from bank failure limits recovery to FDIC coverage. Interest rate risk affects market value with rising rates potentially causing losses. Call risk allows early bank redemption typically when rates decline. Limited liquidity may prevent desired sales, and early withdrawal penalties favor secondary market sales. Premiums above par face complete loss if banks fail.

Suitability Best suited for investors seeking predictable income with principal protection who can hold to maturity and understand risks. Requires diversification across banks and consideration of minimum investments and terms. Account statements show estimated market.

REGULATION S SECURITIES DISCLOSURE

The securities in your account may include securities issued under Regulation S of the U.S. Securities Act of 1933 ("Regulation S Securities"). These securities were originally offered and sold outside the United States to non-U.S. persons in offshore transactions without registration under U.S. securities laws.

IMPORTANT RESTRICTIONS: You represent and warrant that you are not a U.S. person as defined under Regulation S, and you acknowledge that Regulation S Securities in your account may not be offered, sold, pledged, or otherwise transferred to any U.S. person or for the account or benefit of any U.S. person. "U.S. person" includes any natural person resident in the United States, any partnership or corporation organized under U.S. law, any estate or trust subject to U.S. taxation, and any agency or branch of a foreign entity located in the United States.

You agree to notify us immediately if you become a U.S. person or if any beneficial owner of securities in your account becomes a U.S. person. Any violation of these restrictions may result in violations of U.S. securities laws and immediate closure of your account.

By maintaining an account with us, you confirm your understanding of and agreement to comply with these Regulation S restrictions.

ESTIMATED ANNUAL INCOME

The current annual dividend or bond interest rate for each security held, if available from quotation services. The rate is multiplied by the number of shares or par value of bonds to determine estimated annual income.

FDIC INSURED DEPOSIT BANK BALANCES

Purchases, reinvestments and liquidations of money market funds, plus redemptions of money market fund checks.

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GUSTAVO DARTAGNAN XAVIER DO REGO

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ORDER ROUTING

The SEC requires all broker-dealers that route orders in equity securities and options to make available quarterly reports that present a general overview of their routing practices. The reports must identify the significant venues to which customer orders were routed for execution during the applicable quarter and disclose the material aspects of the broker-dealer's relationship with such venues. In addition, the Rule (SEC 606) requires broker-dealers to disclose, on customer request, the venues to which the individual customer's orders were routed for the six months prior to the request, and the execution time for the orders that were executed. For further information, please contact your broker or financial advisor.

PLEASE RETAIN THIS STATEMENT AS IT WILL BE HELPFUL IN PREPARING YOUR INCOME TAX RETURNS AND MAY BE NEEDED ALONG WITH SUBSEQUENT STATEMENTS TO VERIFY INTEREST CHARGES IN YOUR ACCOUNT. THIS STATEMENT SHALL BE DEEMED CONCLUSIVE UNLESS DIRECTED TO IN WRITING WITHIN 10 BUSINESS DAYS OF THE STATEMENT CLOSING DATE.
MUTUAL FUNDS AND OTHER SECURITIES ARE NOT INSURED BY THE FDIC, ARE NOT DEPOSITS OR OBLIGATIONS OF, OR GUARANTEED BY APEX, AND INVOLVE INVESTMENT RISKS, INCLUDING THE POSSIBLE LOSS OF THE PRINCIPAL AMOUNT INVESTED.

NOTICE OF CHANGES APEX CONSUMER PRIVACY NOTICES

Apex has made some important changes to our Consumer Privacy Notices regarding how we handle, disclose or otherwise process personal information related to accounts held by individuals. These new Consumer Privacy Notices were published to our website on December 1, 2025, and can be found at: www.apexfintechsolutions.com/privacy.
If you are an individual account holder, the respective new Consumer Privacy Notices will apply to you and your account(s) **thirty (30) days after you were first notified**, which includes this message or any prior notification.

What has changed?
Our US Consumer Privacy Notice applies to you if you reside within the United States and its territories. If you reside outside of this geographic area, our Global Consumer Privacy Notice applies to you. You can find a summary of changes for each of these below and we have provided you with a copy of our new US Consumer Privacy Notice with this communication.
US Consumer Privacy Notice
• We have moved to using the model privacy notice form under federal financial privacy laws that many other financial institutions in the United State use. We believe this brings clarity and that the format is more familiar to our customers.
• We have updated and changed the reasons we can share your personal information, depending on the state you reside in. Please review these in the attached notice.
• We provide you with the ability to limit some types of our sharing of your information through the US Consumer Privacy Choices section of our website.
Global Consumer Privacy Notice
• We have added information regarding how we may use your personal information to market or advertise certain products or services directly to you where we have a lawful basis to do so.
• We have made minor updates to improve general clarity and accuracy of the notice along with other updates to comply with changes in applicable privacy laws.
• You can find this notice in full on our website along with Portuguese and Spanish translations.

Both our US Consumer Privacy Notice and Global Consumer Privacy Notices have also been updated to include the processing activities of Apex Fintech Brokerage Services LLC.

More Information
For more information, including how to submit a privacy rights request or inquiry, please visit our Privacy Center at www.apexfintechsolutions.com/privacy. For the Consumer Privacy Notices visit: www.apexfintechsolutions.com/privacy/consumer-privacy-notices.

FACTS	WHAT DOES APEX DO WITH YOUR PERSONAL INFORMATION?
Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include:

	• Social Security number and income • Account balances and transaction history • Investment experience and assets
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Apex chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	**Does Apex share?**	**Can you limit this sharing?**
For our everyday business purposes - such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes - to offer our products and services to you	Yes	No
For joint marketing with other financial companies	Yes	No
For our affiliates' everyday business purposes - information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes - information about your creditworthiness	Yes	Yes
For our affiliates to market to you	Yes	Yes
For nonaffiliates to market to you	Yes	Yes

To limit our sharing: visit us online: www.apexfintechsolutions.com/privacy.
Please note: If you are a new customer, we can begin sharing your information 30 days from the date we sent this notice. When you are no longer our customer, we continue to share your information as described in this notice. However, you can contact us at any time to limit our sharing.
Questions? Visit us online: www.apexfintechsolutions.com/privacy.

Who we are	
Who is providing this notice?	Apex Clearing Corporation and Apex Fintech Brokerage Services ("Apex").
What we do	

How does Apex protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings.
How does Apex collect my personal information?	We collect your personal information, for example, when you • open an account or provide account information • direct us to buy securities or direct us to sell your securities • make deposits or withdrawals from your account We also collect your personal information from others, such as credit bureaus, affiliates, or other companies.
Why can't I limit all sharing?	Federal law gives you the right to limit only • sharing for affiliates' everyday business purposes - information about your creditworthiness • affiliates from using your information to market to you • sharing for nonaffiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See below for more on your rights under state law.
What happens when I limit sharing for an account I hold jointly with someone else?	Your choices will apply to every one on your account.
Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. • Our affiliates include companies with an Apex name or that are in the wider PEAK6 group of companies that can be found on https://peak6.com/. This includes financial companies such as PEAK6 Capital Management and nonfinancial companies such as Poker Power, Zogo, Evil Geniuses, We Insure and Focus.
Nonaffiliates	Companies not related by common ownership or control. They can be financial and nonfinancial companies. • Nonaffiliated companies we share with include financial service providers and other consumer service businesses.
Joint marketing	A formal agreement between nonaffiliated financial companies that together market financial products or services to you. • Our joint marketing partners include financial service providers and other consumer service businesses.

Other important information
For California Residents. We will not share information we collect about you with nonaffiliated third parties, except as required or permitted by law, such as to process your transactions or to maintain your account. We will limit sharing within our corporate family to the extent required by California law. **For Vermont Residents.**

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We will not share information we collect about you with nonaffiliated third parties, except as permitted by Vermont law, such as to process your transactions or to maintain your account. We will not share information about your creditworthiness with our affiliates except with your authorization or as required or permitted by law. We may share information about our transactions or experiences with you within our corporate family without your consent.

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Alternative Investment Risk Disclosure For Accounts Carried at Apex Clearing Corp. (“Apex”)

Purpose and Apex’s Role

- This disclosure summarizes general risks of alternative investments (e.g., private funds, hedge funds, private equity/venture funds, private credit, real estate programs, interval/tender-offer funds, other unregistered offerings). It is not a complete list of risks.
- Apex acts as a clearing/custody and administrative service provider for your brokerage account. Apex does not recommend, solicit, structure, or perform due diligence on the merits of any alternative investment, unless expressly stated in a specific transaction document. Availability of an investment for custody/processing at Apex does not constitute an endorsement or recommendation.
- You must read the specific offering documents (e.g., private placement memorandum, limited partnership/operating agreement, subscription documents, and any supplements) before investing.

-

Key Risks

- Risk of total loss: You can lose your entire investment. Strategies may use leverage, derivatives, short sales, and concentrated positions that magnify losses and volatility.
- Severe illiquidity and transfer restrictions:
  - No public market is expected. Interests are generally non-transferable without manager consent and may be subject to significant restrictions or lock-ups (multi-year for private equity/credit).
  - Redemptions are limited or discretionary and may be subject to gates, suspensions, or side pockets. You may not be able to exit when desired, including during market stress.
- Capital call and default risk (committed capital funds):
  - You may be required to fund capital calls on short notice after your initial subscription.
  - Failure to fund can result in dilution, penalties, forced sale/forfeiture of interests, or legal action per fund documents.
- Valuation uncertainty:
  - Periodic valuations often rely on manager estimates, appraisals, or models and may be stale or subject to later adjustment. Statement values may not reflect realizable value.
- High and complex fees/expenses:
  - Management fees (commonly 1–3% per year), performance/incentive fees (commonly 10–25% subject to hurdles or high-water marks), organizational and operating expenses, portfolio company fees, and fund-of-funds layers reduce returns and can create conflicts. Fees may be charged on committed rather than invested capital.
- Manager/strategy risk:
  - Outcomes depend on manager skill, continuity, and operational infrastructure. Strategy drift, key-person departures, or concentration may materially affect results.
- Leverage and derivatives risk:
  - Borrowing and derivatives can increase volatility, counterparty exposure, and the risk of loss and margin calls at the fund level.
  - Operational, counterparty, and fraud risk:
  - Failures in governance, valuation controls, trade operations, administration, or safekeeping and, in rare cases, misappropriation may lead to losses unrelated to market performance.
- Conflicts of interest:
  - Managers may manage multiple funds/vehicles with overlapping mandates; allocate opportunities among clients; set or influence valuations used for fees; receive portfolio company fees; or use affiliates for services. Conflicts are addressed as disclosed in fund documents but may still adversely affect you.
- Regulatory status and disclosure limitations:
  - Many offerings are unregistered private placements with limited ongoing disclosure compared to registered products. You may receive less frequent, less standardized information and fewer investor protections than for registered funds.
- Tax complexity:
  - Expect delayed Schedule K-1s, the need to file extensions, potential “phantom income” (taxable income without cash distributions), multi-state filings, PFIC or CFC reporting, UBTI/ECI risks for tax-advantaged or non-U.S. investors, and withholding issues. Tax treatment may change and vary by jurisdiction.

Eligibility and Offering Structure

- Many alternative investments are sold via private placements and available only to investors who meet specific eligibility criteria (e.g., “accredited investor” under Regulation D and, for some funds, “qualified purchaser” under the Investment Company Act exemptions). You are responsible for ensuring you meet all eligibility requirements and for providing accurate supporting

information.

Custody, Statements, and SIPC/Safeguards

- Where Apex provides custody/recordkeeping for interests, periodic account statements may reflect valuations provided by the issuer/manager or its agents and may lag actual economic value.
- Securities Investor Protection Corporation (SIPC) protection applies only in the limited circumstances of a broker-dealer insolvency and only to "missing" cash and securities held in your brokerage account, subject to statutory limits. SIPC does not protect against market losses, issuer or manager failure, or the illiquidity of an alternative investment. Interests that are not fully paid and in the possession or control of the broker-dealer may have different outcomes in a liquidation.
- For advisory accounts, your investment adviser is responsible for compliance with applicable custody/safekeeping requirements. If Apex or another entity serves as "qualified custodian," you will receive periodic statements; however, the values shown may be manager-reported and subject to later adjustment.

Compensation and Conflicts Disclosures

- Your introducing broker, adviser, or their affiliates may receive placement, distribution, due diligence, administrative, servicing, or other compensation, which can create conflicts of interest. Apex may receive administrative/processing or custody fees. Ask your introducing firm and review offering documents for details on fees and conflicts.

Suitability and Recommendations

- If your introducing broker or adviser recommends an alternative investment, they must have a reasonable basis for the recommendation and determine that it is suitable and/or in your best interest based on your profile and applicable regulations. If you invest on a self-directed basis, you are solely responsible for your decision.

Tax, ERISA, and Other Considerations

- Consult your own tax, legal, and financial advisers before investing. Additional considerations may apply to retirement accounts (e.g., prohibited transaction rules, UBTI), trusts, and non-U.S. investors.

Investor Acknowledgments

By directing Apex to process a subscription or custody for an alternative investment, you represent and agree that:

1) You have received, read, and understood the offering documents (including the private placement memorandum/prospectus, partnership or operating agreement, subscription agreement, and any supplements) and understand that they, not this summary, control.
2) You meet all eligibility, suitability, and financial wherewithal requirements and can bear a total loss of the investment and an indefinite holding period without liquidity.
3) You are relying on your own analysis and/or your adviser's advice—not on Apex—and understand Apex is not recommending the investment and does not provide legal, tax, or accounting advice.
4) You understand that fees, expenses, valuation methods, liquidity limits, and conflicts described in the offering documents may materially affect your returns.
5) You understand that SIPC does not protect against market loss, liquidity constraints, or issuer/manager failure, and provides only limited protection in the event of broker-dealer insolvency as described above.
6) You consent to electronic delivery and the possibility of delayed or adjusted valuations and tax documents.

Important: This disclosure is for general informational purposes only and is not legal, tax, or investment advice. You should consult qualified counsel and advisers regarding your circumstances.

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ANNOUNCEMENTS

Statement of Financial Condition

A copy of Apex Clearing Corporation's Audited Statement of Financial Condition as of December 31, 2025 is available on the website at https://apexfintechsolutions.com/legal/disclosures/. A copy may also be obtained at no cost by calling Apex Clearing Corporation. As of December 31, 2025, Apex Clearing Corporation had a net capital of $524,047,939 and was $476,508,277 in excess of its required net capital of $47,539,662. As of January 31, 2026, Apex Clearing Corporation had a net capital of $518,169,874 and was $464,777,712 in excess of its required net capital of $53,392,162.

Important Information

Participating Bank Removal - Flagstar Bank, National Association was removed as a participating bank from the FDIC-Insured Deposit Sweep Program on December 17, 2025.

Coming Soon - Addition of State Street and Apple Bank:

We are in the process of adding State Street Bank and Trust Company and Apple Bank to the FDIC-Insured Deposit Sweep Program for all eligible accounts. These banks will be eligible to receive deposits on or after August 30th, 2026.

Apex's Policy for Dividends and Interest

Apex's policy is to pay all dividends and interest in US Dollars. Apex will allow the following countries to be paid in their foreign currency (Canadian Dollars, British Pounds, Euros, Argentine Peso, Chinese Renminbi, Korean Won, Philippine Peso and Brazilian Real).

APEX CLEARING CORPORATION DISCLOSURE STATEMENT

Apex Clearing Corporation ("Apex") recognizes the importance of providing information on an ongoing basis to the customers whose accounts are cleared through Apex. Your broker/dealer has designated Apex as its clearing firm. In accordance with industry rules and regulations, Apex is required to disclose on an annual basis certain important regulatory notices and disclosures. To comply with these requirements, Apex has published an Annual Disclosure Statement which is available on the Apex corporate web site, www.apexclearing.com. For customers who do not have access to the internet please call Apex at 214-765-1009 and request a complete copy of the Annual Disclosure Statement be mailed to your address of record.

Privacy Policy

IMPORTANT - Privacy and Data Protection

Apex is the introducing broker, back-end technology, clearing and other services provider that provides you with your brokerage account through our business partners or clients. In providing you with your brokerage account, we may process information that relates to you or individuals at your organization. If you are a consumer that uses your brokerage account primarily for personal, family, or household purposes, we have a continuing customer relationship with you under Regulation S-P. If you are an individual account holder, we are also a separate data controller in respect of our processing of personal information related to your account. At Apex, we understand that privacy is an important issue for our customers. It is our policy to respect the privacy of all accounts that we maintain as a clearing broker and to protect the security and confidentiality of non-public personal information relating to those accounts. For information on what personal information Apex collects about you, how we use it, who we share it with and what rights you have in relation to your personal information, please visit www.apexfintechsolutions.com/privacy. Please note that this policy generally applies to former customers of Apex as well as current customers.

Personal Information Collected

In order to service your account as a clearing broker, information is provided to Apex by your introducing firm who collects information from you in order to provide the financial services that you have requested. The information collected by your introducing firm and provided to Apex or otherwise obtained by Apex may come from the following sources and is not limited to:

- Information included in your applications or forms, such as your name, address, telephone number, social security number, occupation, and income.
- Information relating to your transactions, including account balances, positions, and activity.
- Information which may be received from consumer reporting agencies, such as credit bureau reports.
- Information relating to your creditworthiness.
- Information which may be received from other sources with your consent or with the consent of your introducing firm.

In addition to servicing your account, Apex may make use of your personal information for analysis purposes, for example, to draw conclusions, detect patterns or determine preferences.

Sharing of Nonpublic Personal Information

Apex does not disclose non-public personal information relating to current or former customers of introducing firms to any third parties, except as required or permitted by law, including but not limited to any obligations of Apex under the USA PATRIOT Act, and in order to facilitate the clearing of customer transactions in the ordinary course of business.

Apex has multiple affiliates and relationships with third party companies. Examples of these companies include financial and non-financial companies that perform services such as data processing and companies that perform securities executions on your behalf. We may share information among our affiliates and third parties, as permitted by law, in order to better service your financial needs and to pursue legitimate business interests, including to carry out, monitor and analyze our business, systems and operations.

Apex may use "cookies" in order to provide better service, to facilitate its customers' use of the website, to track usage of the website, and to address security hazards. A cookie is a small piece of information that a website stores on a personal computer, and which it can later retrieve.

Security

Apex strives to ensure that our systems are secure and that they meet industry standards. We seek to protect non- public personal information that is provided to Apex by your introducing firm or otherwise obtained by Apex by implementing physical and electronic safeguards. Where we believe appropriate, we employ firewalls, encryption technology, user authentication systems (i.e. passwords and personal identification numbers) and access control mechanisms to control access to systems and data. Apex endeavors to ensure that third party service providers who may have access to non-public personal information are following appropriate standards of security and confidentiality. Further, we instruct our employees to use strict standards of care in handling the personal financial information of customers. As a general policy, our staff will not discuss or disclose information regarding an account except; 1) with authorized personnel of your introducing firm, 2) as required by law or pursuant to regulatory request, or 3) as authorized by Apex to a third party or affiliate providing services to your account or pursuing Apex's legitimate business interests.

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You may access your account information through a variety of media offered by your introducing firm and Apex (i.e. statements or online services). Please contact your introducing firm if you require any additional information.

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For reference, this Privacy Policy is available on our website at www.apexclearing.com. For more information relating to Apex's Privacy Policy or to limit our sharing of your personal information, please contact:

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VISÃO PREV

BALANCE

VISÃO PREV SOCIEDADE DE PREVIDÊNCIA

CNPJ: 07.205.215/0001-98

Period

08/01/2026 TO 08/31/2026

Participant: GUSTAVO DARTAGNAN XAVIER DO REGO
CPF: 025.907.999-50
Plan: Visão Multi

Sponsor: TELEFONICA BRASIL
Taxation Regime: Regressive
Plan CNPJ: 48.307.430/0001-87

Enrollment Date: 06/01/2016
Issue Date: 10/09/2026 5:46 PM
CNPB: 20.090.008-38

1) TOTAL JULY/2026

Account	Profile	Number of Units	Unit Value	Amount (R$)
Previous Account Balance	Ultra-Conserv.	8,611.8152	21.92289327	188,795.91
Total:				**188,795.91**

2) PARTICIPANT TRANSACTIONS

Type	Transaction	Profile	Number of Units	Unit Value	Amount (R$)
Profitability	Monthly Contribution	Ultra-Conserv.			1,308.18
Others	Monthly Contribution	Ultra-Conserv.	-2.0678	22.16278507	-45.83
Total:					**1,262.35**

3) SPONSOR TRANSACTIONS

Type	Transaction	Profile	Number of Units	Unit Value	Amount (R$)
Profitability	Monthly Contribution	Ultra-Conserv.			757.72
Others	Monthly Contribution	Ultra-Conserv.	-1.1975	22.16278507	-26.54
Total:					**731.18**

Translator's Note: CNPB - National Registry of Benefit Plans (*Cadastro Nacional de Planos de Benefícios*).

VISÃO PREV

BALANCE

VISÃO PREV SOCIEDADE DE PREVIDÊNCIA

CNPJ: 07.205.215/0001-98

Period

08/01/2026 TO 08/31/2026

Participant: GUSTAVO DARTAGNAN XAVIER DO REGO
CPF: 025.907.999-50
Plan: Visão Multi

Sponsor: TELEFONICA BRASIL
Taxation Regime: Regressive
Plan CNPJ: 48.307.430/0001-87

Enrollment Date: 06/01/2016
Issue Date: 10/09/2026 5:46 PM
CNPB: 20.090.008-38

4) OTHER TRANSACTIONS

Type	Transaction	Profile	Number of Units	Unit Value	Amount (R$)
Total:					**0.00**

5) TOTAL AUGUST/2026

Account	Profile	Number of Units	Unit Value	Amount (R$)
Participant Account	Ultra-Conserv.	5,451.1853	22.16278507	120,813.44
Sponsoring Account	Ultra-Conserv.	3,157.3646	22.16278507	69,976.00
Total:				**190,789.44**

NOTES: The Participant will only be entitled to receive part or all of their balance once the eligibility conditions set forth in the Plan Regulations have been met.
Questions: (0xx11) 97270-0345

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura. **Date: October 19, 2026.**

VISÃO PREV

SALDO

VISÃO PREV SOCIEDADE DE PREVIDÊNCIA

CNPJ: 07.205.215/0001-98

Período

01/08/2026 A 31/08/2026

Participante: GUSTAVO DARTAGNAN XAVIER DO REGO
CPF: 025.907.999-50
Plano: Visão Multi

Patrocinadora: TELEFONICA BRASIL
Regime de Tributação: Regressivo
CNPJ Plano: 48.307.430/0001-87

Data Adesão: 01/06/2016
Data Emissão: 09/10/2026 17:46
CNPB: 20.090.008-38

1) TOTAL JULHO/2026

Conta	Perfil	Qtd. Cotas	Valor Cota	Valor (R$)
Conta Saldo Anterior	Super Conser	8.611,8152	21,92289327	188.795,91
Total:				**188.795,91**

2) MOVIMENTACÕES DO PARTICIPANTE

Tipo	Movimentação	Perfil	Qtd. Cotas	Valor Cota	Valor (R$)
Rentabilidade	Contrib. Mês	Super Conser			1.308,18
Outros	Contrib. Mês	Super Conser	-2,0678	22,16278507	-45,83
Total:					**1.262,35**

3) MOVIMENTACÕES DA PATROCINADORA

Tipo	Movimentação	Perfil	Qtd. Cotas	Valor Cota	Valor (R$)
Rentabilidade	Contrib. Mês	Super Conser			757,72
Outros	Contrib. Mês	Super Conser	-1,1975	22,16278507	-26,54
Total:					**731,18**

VISÃO PREV

SALDO

VISÃO PREV SOCIEDADE DE PREVIDÊNCIA

CNPJ: 07.205.215/0001-98

Período

01/08/2026 A 31/08/2026

Participante: GUSTAVO DARTAGNAN XAVIER DO REGO
CPF: 025.907.999-50
Plano: Visão Multi

Patrocinadora: TELEFONICA BRASIL
Regime de Tributação: Regressivo
CNPJ Plano: 48.307.430/0001-87

Data Adesão: 01/06/2016
Data Emissão: 09/10/2026 17:46
CNPB: 20.090.008-38

4) MOVIMENTACÕES DE OUTROS

Tipo	Movimentacão	Perfil	Qtd. Cotas	Valor Cota	Valor (R$)
Total:					**0,00**

5) TOTAL AGOSTO/2026

Conta	Perfil	Qtd. Cotas	Valor Cota	Valor (R$)
Conta Participante	Super Conser	5.451,1853	22,16278507	120.813,44
Conta Patrocinadora	Super Conser	3.157,3646	22,16278507	69.976,00
Total:				**190.789,44**

OBS: O Participante somente terá direito a receber seu saldo parcial ou total quando as condições de exigibilidade constantes do Regulamento do Plano forem atendidas.

Dúvidas: (0xx11) 97270-0345

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Federative Republic of Brazil
4th Real Estate Registry Office
Judicial District of Curitiba - Paraná

Registrar - Marcio de Vasconcelos Martins
Rua Marechal Deodoro, 869, 1st Floor, Suites 101 and 102, Centro, Center Tower Building
ZIP Code 80060-010 Phone 41 3387 - 1898

CERTIFICATE

CNM 080549.2.0078701-54

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4th REAL ESTATE REGISTRY OFFICE
Registrar: ENEIDE CUNICO SCHWAB
C.P.F. 322.539.829-20
Rua Visconde do Rio Branco, 1341 – 1st Floor
Judicial District of Curitiba - State of Paraná

GENERAL REGISTRY

RECORD SHEET: 1

PROPERTY REGISTRATION No. 78,701

SIGNATURE: -----// signature //-----

PROPERTY IDENTIFICATION: **House No. "02" (two)**, with a exclusive-use built area on the ground floor of 55.18 m², a exclusive-use built area on the second floor of 59.71 m², a total exclusive-use built area of 114.89 m², plus a common built area of 2.01 m², total exclusive-use built area of 116.90 m², land area occupied by the building measuring 56.13 m², uncovered exclusive-use land area designated for garden, backyard, and access measuring 100.61 m², undivided interest of 156.74 m², plus an unbuilt common area of 14.67 m², total land area and share measuring 171.41 m², undivided interest of 0.3718. Located at the rear of the lot and along the left side, as viewed from the street facing the condominium, with access along the left side. The property bears building number 98/2 on Rua Ata. Municipal Tax Identification No. 88.332.003.001-2. Part of **"RESIDENCIAL TULIPAS"**, located at Rua Ata No. 98, which was built on Lot No. 28, according to the Jardim Cristina Subdivision Plan, in Uberaba, as described in the previous registration. **OWNERS: ROSANA VANINI IBRAHIM**, Brazilian, entrepreneur, Identity Document/ID No. 3.035.828-7/PR and CPF/MF No. 405.144.399-04, and her husband **JAMIL IBRAHIM**, Brazilian, entrepreneur, Identity Document/ID No. 1.926.885/PR and CPF/MF No. 301.382.059-49, married under the partial community property regime on 09/03/1983, residing and domiciled at Rua Adolfo Werneck No. 309, House U, Uberaba, Curitiba-PR. **PREVIOUS REGISTRATION:** Property Registration No. 1,479 under RG2 of this Registry Office. I hereby certify that the foregoing is true. (Jb/jv). Curitiba, December 9, 2010.
REGISTRAR: -----// signature //-----

OBSERVATION: The information identifying the property covered by this registration was provided by the parties pursuant to the Code of Rules of the Judicial Administrative Department of this State.

R.1-78,701-**PURCHASE AND SALE:** Filed under Protocol No. 232,967, on 12/02/2010. Pursuant to the Private Instrument of Purchase and Sale of Paid-Off Residential Property, Loan and Fiduciary Transfer of Title as Security, Letter of Credit Using Resources from the Brazilian Savings and Loan System (SBPE) within the scope of the Housing Finance System – SFH, with the use of funds from the Buyers' and Debtors'/Grantors' linked FGTS accounts, dated 11/25/2010, one copy of which is kept on file, ROSANA VANINI IBRAHIM and her husband JAMIL IBRAHIM, previously identified herein, sold the property described in this registration to **ELAINE LOPES PEREIRA NUNES**, Brazilian, biologist, Identity Document/ID No. 7.266.125-7/PR and CPF/MF No. 009.396.159-67, and her husband **GUSTAVO DARTAGNAN XAVIER DO REGO**, Brazilian, electrical engineer, Identity Document/ID No. 6.129.994-7/PR and CPF/MF No. 025.907.999-50, married under the partial community property regime on 11/15/2008, residing and domiciled at Rua Rockefeller No. 858 - Apt. 204, Rebouças, Curitiba-PR. Purchase and sale price: R$235,000.00 (two hundred thirty-five thousand Brazilian reais), paid through the following contributions: Own funds: R$107,000.00; funds from the linked FGTS account: R$13,706.33; financing granted by CEF: R$114,293.67. ITBI No. 53736/2010 (paid on the amount of R$235,000.00). Exempt from payment of FUNREJUS, as provided for in Article 3, Section VII, item b-15, of State Law No. 12,604, of 07/02/1999, supporting document kept on file. DOI issued. Fees: 4312(vrc)-R$452.76. I hereby certify that the foregoing is true. (jb/vi). Curitiba, December 9, 2010.
REGISTRAR: -----// signature //-----

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PROPERTY REGISTRATION NO. 78,701

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Continued on page 02

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R.2-78,701 – **FIDUCIARY TRANSFER OF TITLE AS SECURITY**: Pursuant to the instrument that gave rise to Registration No. 1, the acquiring parties, acting as debtors and grantors of fiduciary security, as identified therein, transferred the property described in this registration under fiduciary title to **CAIXA ECONÔMICA FEDERAL - CEF**, a financial institution headquartered at Setor Bancário Sul, Block 4, Lots 3/4, Brasília, Federal District(DF), registered with the CNPJ/MF under No. 00.360.305/0001-04. Debt amount: R$114,293.67. Amortization term: 120 months. Annual interest rate: nominal 8.0930% and effective 8.4000%. Value of the fiduciary collateral: R$235,000.00. Other terms and conditions as set forth in the contract. Fees: 2,156 (vrc)-R$226.38. I hereby certify that the foregoing is true. (jb/vi). Curitiba, December 9, 2010. REGISTRAR: -----// signature //-----

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Av.3-78,701 – **DIVORCE**: Filed under Protocol No. 253,129, on 09/10/2012. Pursuant to the application and a copy of the marriage certificate bearing the divorce annotation, issued on 06/29/2012, from record No. 10765, page 146, Book 42, of the Bacacheri District Registry Office in this judicial district, both of which are kept on file herein, the marital status of GUSTAVO DARTAGNAN XAVIER DO REGO and ELAINE LOPES PEREIRA NUNES is hereby changed to **divorced**. Fees: 060 (vrc)-R$8.46. I hereby certify that the foregoing is true. (Jb/Lv). Curitiba, September 26, 2012. REGISTRAR: -----// signature //-----

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R.4-78,701 – **ASSIGNMENT OF RIGHTS**: Filed under Protocol No. 253,130, on 09/10/2012. Pursuant to the Private Agreement for the Assignment of Rights and Obligations, with Assumption of Real Estate Debt and Ratification of Clauses – SBPE Resources – SFH, dated 09/04/2012, one copy of which is kept on file herein, ELAINE LOPES PEREIRA NUNES, previously identified herein, assigned an undivided 50% share of the rights to the property held under fiduciary title in the property described in this registration to **GUSTAVO DARTAGNAN XAVIER DO REGO**, previously identified herein. The value of the assignment of rights is R$96,940.43, financed in full by CAIXA in the amount of R$96,940.43. ITBI No. 41105/2012 (paid on the amount of R$126,700.00). FUNREJUS paid in the amount of R$193.88, pursuant to payment slip No. 12064000500074272, kept on file herein. DOI issued. Fees: 4,312 (vrc)-R$607.99. I hereby certify that the foregoing is true. (Jb/Lv). Curitiba, September 26, 2012. REGISTRAR: -----// signature //-----

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Av.5-78,701 – **ASSUMPTION OF REAL ESTATE DEBT**: Pursuant to the instrument referred to in R-4 above, the real estate debt arising from the fiduciary transfer of title recorded under Registration No. 02, the assignee/debtor/grantor of fiduciary security, GUSTAVO DARTAGNAN XAVIER DO REGO, previously identified herein, in view of the assumption of debt already effected, assumes full responsibility for payment to **CAIXA ECONÔMICA FEDERAL - CEF**, previously identified herein, of the outstanding balance of the financing assumed under the agreement recorded in R-2. Other terms and conditions are set forth in the contract recorded under No. 2 of this property registration. Fees: 315 (vrc)-R$44.41. I hereby certify that the foregoing is true. (Jb/Lv). Curitiba, September 26, 2012. REGISTRAR: -----// signature //-----

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Av.6-78,701 – **INEFFECTIVENESS**: Filed under Protocol No. 289,070, on 10/26/2015. Pursuant to Official Letter No. 1033/2015vvs, dated 10/08/2015, issued by the Court of the Ninth Civil Court of this judicial district, extracted from the proceedings for enforcement of an extrajudicial instrument No. 383/1999, kept on file herein,

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Continued on page 03

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Federative Republic of Brazil
4th Real Estate Registry Office
Judicial District of Curitiba - Paraná

Registrar - Marcio de Vasconcelos Martins
Rua Marechal Deodoro, 869, 1st Floor, Suites 101 and 102, Centro, Center Tower Building
ZIP Code 80060-010 Phone 41 3387 - 1898

CERTIFICATE

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CONTINUED

in the proceedings brought by DISTRIBUIDORA DE MEDICAMENTOS SANTA CRUZ LTDA. against ELIZIA DE FATIMA BORA - ME, it is hereby annotated that the purchase and sale recorded under No. 07 of Property Registration No. 1,479 (previous registration) was declared ineffective. FUNREJUS paid pursuant to State Law No. 18,415, dated 12/29/2014. Fees: 315(vrc)-R$52.60. I hereby certify that the foregoing is true. (Ec/Jb/Lv). Curitiba, November 19, 2015. REGISTRAR: -----// signature //-----

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R-7-78,701 - **ATTACHMENT**: Filed under Protocol No. 289,070, on 10/26/2015. Pursuant to Official Letter No. 1033/2015vs, dated 10/08/2015, issued by the Court of the Ninth Civil Court of this judicial district, extracted from the proceedings for enforcement of an extrajudicial instrument No. 383/1999, kept on file herein, in which DISTRIBUIDORA DE MEDICAMENTOS SANTA CRUZ LTDA. brings an action against ELIZIA DE FATIMA BORA - ME, the attachment of the property described in this registration is hereby recorded, in view of the ineffectiveness of Registration No. 07 of Property Registration No. 1,479 (previous registration). Amount in Controversy: R$58,625.23 as of 10/02/2009 (including other properties). FUNREJUS paid in the amount of R$171.89 (based on the inflation-adjusted amount of R$85,942.56), pursuant to payment slip No. 2400000000140607-0, kept on file herein (including other properties). Fees: 1,294(vrc)-R$216.03. I hereby certify that the foregoing is true. (Ec/Jb/Lv). Curitiba, November 19, 2015. REGISTRAR: -----// signature //-----

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AV-08/78,701 - **CANCELLATION OF FIDUCIARY TRANSFER OF TITLE AS SECURITY**: Filed under Protocol No. 302,964, on 03/23/2017. This annotation is made pursuant to the Private Instrument of Authorization for Cancellation of Fiduciary Transfer of Title as Security - Real Estate Credit Financing, issued in Curitiba-PR, on 12/13/2016, bearing the duly notarized signature of the legal representative of the creditor, **CAIXA ECONÔMICA FEDERAL - CEF**, to record, for all legal purposes, in view of the corresponding discharge of the debt, the cancellation of the fiduciary transfer of title recorded under **R-02** and annotated under **AV-05** of this property registration. Exempt from payment of FUNREJUS, as provided for in Article 3, Section VII, item b-4, of State Law No. 12,216, of 07/15/1998, as amended by Article 1 of State Law No. 12,604, of 07/02/1999. Fees: 630(vrc)-R$114.66. Curitiba/PR, March 31, 2017. Real Estate Registrar -----// signature //----- (Marcio de Vasconcelos Martins).***.

AV-09/78,701 - **CHANGE IN MARITAL STATUS**: Filed under Protocol No. 374,473, on 03/23/2023. This annotation is made pursuant to an application signed by the interested party in Curitiba/PR, on 03/23/2023, accompanied by Marriage Certificate Registration No. 084681 01 55 2018 2 00077 042 0018309 14, issued on 03/22/2023, by the Civil Registry of Natural Persons of Araucária/PR, to record that **GUSTAVO DARTAGNAN XAVIER DO REGO**, previously identified herein, **married MILENA CRISTINA PERCIAK**, Brazilian, holder of ID No. 90477358/SESP/PR, CPF/MF No. 055.115.229-02, on 09/03/2018, under the partial community property regime. Funrejus paid pursuant to State Law No. 18,415, of 12/29/2014. Fees: R$14.76 - 060 (VRC); Funrejus 25%): R$3.69; Fundep: R$0.74; ISS: R$0.59; Seal: R$1.00. Funarpen Seal: SFR1.tekc7.dajfd-dQreG.F389q. Curitiba-PR, April 3, 2023. -----// signature //----- Rodrigo Varela da Silva Martins - Deputy Registrar. Real Estate Registrar: Marcio de Vasconcelos Martins.***.

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AV-10/78,701 – **CANCELLATION OF INEFFECTIVENESS**: Filed under Protocol No. 375,093, on 04/05/2023. This annotation is made pursuant to Official Letter No. 01665/2022, issued on 08/29/2022, by order of the Honorable Substitute Judge of the Ninth Civil Court of the Judicial District of Curitiba/PR, Dr. Pedro Roderjan Rezende, extracted from the records of Judgment Enforcement Proceeding No. 0036581-68.2015.8.16.0001, to record, for all legal purposes, the Cancellation of the Ineffectiveness recorded under **AV-06** of this property registration. Exempt from payment of Funrejus in connection with the cancellation, pursuant to Article 3, Section VII, item "b," No. 4, of State Law No. 12,216, of 05/15/1998, as amended by Article 1 of State Law No. 12,604, of 07/02/1999. Fees: R$77.49 – 315 (VRC); Fundep: R$3.87; ISS: R$3.10; Seal: R$8.00. Funarpen Seal: SFRI2.P5QQv.sK3Wu-f7UIj.F389q. Curitiba-PR, April 24, 2023. Real Estate Registrar: -----// signature //----- (Marcio de Vasconcelos Martins).***.

AV-11/78,701 – **CANCELLATION OF ATTACHMENT**: Filed under Protocol No. 375,093, on 04/05/2023. This annotation is made pursuant to Official Letter No. 01665/2022, issued on 08/29/2022, by order of the Honorable Substitute Judge of the Ninth Civil Court of the Judicial District of Curitiba/PR, Dr. Pedro Roderjan Rezende, extracted from the records of Judgment Enforcement Proceeding No. 0036581-68.2015.8.16.0001, to record, for all legal purposes, the Cancellation of the Attachment recorded under **R-07** of this property registration. Exempt from payment of Funrejus in connection with the cancellation, pursuant to Article 3, Section VII, item "b," No. 4, of State Law No. 12,216, of 05/15/1998, as amended by Article 1 of State Law No. 12,604, of 07/02/1999. Fees: R$59.11 – 647 (VRC); Fundep: R$7.96; ISS: R$6.37; Seal: R$8.00. Funarpen Seal: SFR12.P56Qv.sK3Wu-67GIj.F389q. Curitiba-PR, April 24, 2023.
Real Estate Registrar: -----// signature //----- (Marcio de Vasconcelos Martins).***.

DIGITAL CERTIFICATE

I HEREBY CERTIFY that this photocopy is a true and complete reproduction of Property Registration No. 78,701 in Book 2 of this Registry Office and has the legal validity of a certificate (Article 19, § 1, of Law No. 6,015/73). I hereby certify that the foregoing is true. Protocol No. 296,650. Fees: R$43.53. Funrejus: R$10.90. Seal: R$9.50. ISS: R$1.72. FUNDEP: R$2.17. TOTAL: R$67.82.

Curitiba - PR, October 13, 2026.

Funarpen – Law No. 13,228 of 07/18/2001 - Digital Seal No. SFRI2u5xavCG8KAqkldvF389p- Seal authenticity may be verified at https://selo.funarpen.com.br/Consulta

This certificate was issued in electronic document form through a digital certification process provided by ICP-Brasil, pursuant to Provisional Measure No. 2,200-2, dated August 24, 2001.

CONTINUED

I, Raphael Michels Fantinato de Moura, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.

Raphael Michels Fantinato de Moura.
_____ **Date: October 20, 2026.**

Translator's Notes - Legend:

VRC – Reference Unit for Court and Registry Fees (*Valor de Referência de Custas*);
FUNREJUS – Fund for the Re-equipment of the Judiciary of the State of Paraná (*Fundo de Reequipamento do Poder Judiciário do Estado do Paraná*);
FUNDEP – Judiciary Re-equipment Fund (*Fundo de Reequipamento do Poder Judiciário*);
ISS – Municipal Service Tax (*Imposto sobre Serviços de Qualquer Natureza*);
Funarpen – Support Fund for the Civil Registry of Natural Persons (*Fundo de Apoio ao Registro Civil das Pessoas Naturais*).

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4º Serviço de Registro de Imóveis
Comarca de Curitiba - Paraná

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CERTIDÃO

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4° REGISTRO DE IMÓVEIS
Reg.:ENEIDE CUNICO SCHWAB
C. P. F. 322.539.829-20
Rua Visconde do Rio Branco,1341 - 1° andar
Comarca de Curitiba - Estado do Paraná

REGISTRO GERAL

FICHA 1

MATRÍCULA Nº 78.701

RUBRICA

IDENTIFICAÇÃO DO IMÓVEL: **Casa nº "02" (dois)**, com a área construída privativa no pavimento térreo com 55,18m², área construída privativa no segundo pavimento com 59,71m², área construída privativa de 114,89m², mais área comum construída de 2,01m², área construída total de 116,90m², área de terreno ocupada pela construção com 56,13m², área de terreno privativo descoberto destinado a jardim, quintal e acesso com 100,61m², fração ideal de 156,74m², mais a área comum não construida de 14,67m², área total de terreno e quota com 171,41m², fração ideal de solo de 0,3718, localizada nos fundos do terreno e na lateral esquerda para quem da rua olha o condomínio, com acesso pela lateral esquerda, tem a numeração predial 98/2 da Rua Ata. Indicação Fiscal nº 88.332.003.001-2 do Cadastro Municipal. Integrante do **"RESIDENCIAL TULIPAS"**, situado na Rua Ata nº 98, o qual foi edificado sobre o Lote nº 28, da Planta Jardim Cristina, no Uberaba, conforme descrição do registro anterior. **PROPRIETÁRIOS**: **ROSANA VANINI IBRAHIM**, brasileira, empresária, CI/RG 3.035.828-7/PR e CPF/MF 405.144.399-04, e seu esposo **JAMIL IBRAHIM**, brasileiro, empresário, CI/RG 1.926.885/PR e CPF/MF 301.382.059-49, casados sob o regime de Comunhão Parcial de Bens, em 03/09/1983, residentes e domiciliados na Rua Adolfo Werneck nº 309, casa U, Uberaba, Curitiba-PR. **REGISTRO ANTERIOR**: Matrícula nº 1.479 do RG2 deste Ofício. O referido é verdade e dou fé. (Jb/vi). Curitiba, 09 de dezembro de 2010. REGISTRADORA:

OBSERVAÇÃO: Os elementos caracterizadores do imóvel desta matrícula foram fornecidos pelas partes nos termos do Código de Normas da Corregedoria Geral de Justiça deste Estado.

R.1-78.701-**COMPRA E VENDA**: Protocolado sob nº 232.967, em 02/12/2010. Nos termos do Contrato Por Instrumento Particular de Compra e Venda de Imóvel Residencial Quitado, Mútuo e Alienação Fiduciária em Garantia, Carta de Crédito com Recursos do SBPE no Âmbito do Sistema Financeiro da Habitação - SFH - com Utilização dos Recursos da Conta Vinculada do FGTS dos Compradores e Devedores/Fiduciantes, datado de 25/11/2010, do qual uma via fica arquivada, ROSANA VANINI IBRAHIM e seu esposo JAMIL IBRAHIM já qualificados, venderam o imóvel descrito nesta matrícula a **ELAINE LOPES PEREIRA NUNES**, brasileira, bióloga, CI/RG 7.266.125-7/PR e CPF/MF 009.396.159-67, e seu esposo **GUSTAVO DARTAGNAN XAVIER DO REGO**, brasileiro, engenheiro eletricista, CI/RG 6.129.994-7/PR e CPF/MF 025.907.999-50, casados sob o regime da Comunhão Parcial de Bens, em 15/11/2008, residentes e domiciliados na Rua Rockefeller nº 858 - apto 204, Rebouças, Curitiba-PR. Valor da compra e venda: R$235.000,00 (duzentos e trinta e cinco mil reais), sendo composto mediante a integralização das parcelas a seguir: Recursos próprios: R$107.000,00; Recursos da Conta Vinculada de FGTS: R$13.706,33; Financiamento concedido pela CEF: R$114.293,67. ITBI nº 53736/2010 (recolhido sobre a quantia de R$235.000,00). Isento do recolhimento do FUNREJUS, conforme previsto no art.3º, VII, b-15, da Lei Estadual nº 12.604 de 02/07/1999, comprovante aqui arquivado. Emitida a DOI. Custas: 4312(vrc)-R$452,76. O referido é verdade e dou fé. (jb/vi). Curitiba, 09 de dezembro de 2010. REGISTRADORA:

SEGUE NO VERSO

MATRÍCULA 78.701

Continua na página 02

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R.2-78.701-**ALIENAÇÃO FIDUCIÁRIA**:Nos termos do título que deu origem ao registro nº 1, os adquirentes devedores fiduciantes, lá mencionados, alienaram em caráter fiduciário o imóvel descrito nesta matrícula, em favor da **CAIXA ECONÔMICA FEDERAL - CEF**, instituição financeira, com sede no Setor Bancário Sul, Quadra 4, Lotes 3/4, em Brasília/DF, CNPJ/MF nº 00.360.305/0001-04. Valor da dívida: R$114.293,67. Prazo em meses de amortização: 120. Taxa anual de juros: Nominal de 8,0930% e Efetiva de 8,4000%. Valor da garantia fiduciária: R$235.000,00. Demais condições constantes do contrato. Custas: 2156(vrc)-R$226,38. O referido é verdade e dou fé. (jb/vi). Curitiba, 09 de dezembro de 2010. REG:

Av.3-78.701-**DIVÓRCIO**: Protocolado sob nº 253.129, em 10/09/2012. Nos termos do requerimento e da cópia da certidão de casamento com averbação de divórcio, extraída em 29/06/2012, do termo nº 10765, fls 146 do livro 42, do Serviço Distrital do Bacacheri, desta comarca, aqui arquivados, fica alterado o estado civil de GUSTAVO DARTAGNAN XAVIER DO REGO e ELAINE LOPES PEREIRA NUNES para **divorciados**. Custas: 060(vrc)-R$8,46. O referido é verdade e dou fé. (Jb/Lv). Curitiba, 26 de setembro de 2012. REG:

R.4-78.701-**CESSÃO DE DIREITOS**: Protocolado sob nº 253.130, em 10/09/2012. Nos termos do Contrato Particular de Cessão de Direitos e Obrigações, com Assunção de Dívida Imobiliária e Ratificação de Cláusulas - Recursos SBPE - SFH, datado de 04/09/2012, do qual uma via fica aqui arquivada, ELAINE LOPES PEREIRA NUNES, já qualificada, cedeu parte ideal de 50% sobre os direitos da propriedade em regime fiduciário do imóvel descrito nesta matrícula a **GUSTAVO DARTAGNAN XAVIER DO REGO**, já qualificado. O valor da cessão dos direitos é de R$96.940,43 sendo composto mediante financiamento concedido pela CAIXA de: R$96.940,43. ITBI nº 41105/2012 (recolhido sobre R$126.700,00). Recolhido o FUNREJUS no valor de R$193,88 conforme guia nº 12064000500074272, aqui arquivada. Emitida a DOI. Custas: 4312(vrc)-R$607,99. O referido é verdade e dou fé. (Jb/Lv). Curitiba, 26 de setembro de 2012. REGISTRADORA:

Av.5-78.701-**ASSUNÇÃO DE DÍVIDA IMOBILIÁRIA**: Nos termos do título mencionado no R-4 acima, a dívida imobiliária resultante da alienação fiduciária do registro nº02, o cessionário/devedor/fiduciante GUSTAVO DARTAGNAN XAVIER DO REGO, já qualificado, tendo em vista a assunção de divida, já efetivada, assume integralmente a responsabilidade pelo pagamento á **CAIXA ECONÔMICA FEDERAL- CEF**, já qualificada, do saldo devedor do financiamento assumido no contrato registrado no R-2. Demais condições constantes no contrato registrado sob nº2, desta matrícula. Custas: 315(vrc)-R$44,41. O referido é verdade e dou fé. (Jb/Lv). Curitiba, 26 de setembro de 2012. REGISTRADORA:

Av.6-78.701-**INEFICÁCIA**: Protocolado sob nº 289.070, em data de 26/10/2015. Nos termos do Ofício nº 1033/2015vs, datado de 08/10/2015, expedido pelo Juízo de Direito da Nona Vara Cível, desta Comarca, extraído dos Autos de Execução de Título Extrajudicial nº 383/1999,

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Continua na página 03

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CNM 080549.2.0078701-54

RUBRICA | FOLHA -02- Matr.-78.701-

CONTINUAÇÃO

aqui arquivado, em que DISTRIBUIDORA DE MEDICAMENTOS SANTA CRUZ LTDA, move contra ELIZIA DE FATIMA BORA - ME, averba-se que foi declarada ineficaz a compra e venda registrada sob nº 07 matrícula 1479 (registro anterior). Recolhido o FUNREJUS conforme Lei Estadual nº 18415 de 29/12/2014. Custas: 315(vrc)-R$52,60. O referido é verdade e dou fé. (Ec/Jb/Lv). Curitiba, 19 de novembro de 2015. REGISTRADORA:

R.7-78.701-**PENHORA**: Protocolado sob nº 289.070, em 26/10/2015. Nos termos do Ofício nº 1033/2015vs, datado de 08/10/2015, expedido pelo Juízo de Direito da Nona Vara Cível, desta Comarca, extraído dos Autos de Execução de Título Extrajudicial nº 383/1999, aqui arquivado, em que DISTRIBUIDORA DE MEDICAMENTOS SANTA CRUZ LTDA, move contra ELIZIA DE FATIMA BORA - ME, procedo ao registro da penhora do imóvel descrito nesta matrícula, face a ineficácia do registro nº 07 da matrícula 1.479 (registro anterior). Valor da Causa: R$58.625,23 em 02/10/2009 (incluindo outros imóveis). Recolhido o FUNREJUS no valor de R$171,89 (valor atualizado monetariamente de R$85.942,56), conforme guia nº 24000000001040607-0, aqui arquivada (incluindo outros imóveis). Custas: 1294(vrc)-R$216,03. O referido é verdade e dou fé. (Ec/Jb/Lv). Curitiba, 19 de novembro de 2015. REGISTRADORA:

AV-08/78.701 - CANCELAMENTO DE ALIENAÇÃO FIDUCIÁRIA: Protocolado sob nº 302.964 de 23/03/2017. Procede-se à esta averbação conforme Instrumento Particular de Autorização Para Cancelamento da Propriedade Fiduciária - Financiamento de Crédito Imobiliário, expedido em Curitiba-PR, aos 13/12/2016, com firma devidamente reconhecida da representante legal da Credora **CAIXA ECONOMICA FEDERAL - CEF**, para fazer constar, para todos os fins de direito, face a respectiva quitação, o cancelamento da Alienação Fiduciária registrada sob o **R-02** e averbada sob **AV-05** da presente matrícula. Isento do recolhimento do FUNREJUS, conforme previsto no art. 3º, VII, b-4, da Lei Estadual nº 12.216 de 15/07/1998, alterado pelo art. 1º da Lei Estadual nº 12.604 de 02/07/1999. Custas: 630(vrc)-R$114,66. Curitiba/PR, 31 de março de 2017. Oficial Registrador _____ (Marcio de Vasconcelos Martins).***.

AV-09/78.701 - ALTERAÇÃO DE ESTADO CIVIL: Protocolado sob nº 374.473, em 23/03/2023. Procede-se a esta averbação, conforme requerimento firmado pela parte interessada em Curitiba/PR, aos 23/03/2023, instruído com Certidão de Casamento matriculada sob nº 084681 01 55 2018 2 00077 042 0018309 14, expedida em 22/03/2023, pelo Registro Civil das Pessoas Naturais de Araucária/PR, para fazer constar que **GUSTAVO DARTAGNAN XAVIER DO REGO**, já qualificado, **contraiu núpcias** em 03/09/2018, sob o regime da Comunhão Parcial de Bens, com **MILENA CRISTINA PERCIAK**, brasileira, portadora do RG nº 90477358/SESP/PR, inscrita no CPF/MF sob nº 055.115.229-02. Recolhido o Funrejus, conforme Lei Estadual nº 18.415 de 29/12/2014. Emolumentos: R$14,76 - 060 (VRC); Funrejus 25%: R$3,69; Fundep: R$0,74; ISS: R$0,59; Selo: R$1,00. Selo Funarpen: SFRI1.tEkc7.dajfd-dQreG.F389q. Curitiba-PR, 03 de abril de 2023. _____ Rodrigo Varela da Silva - Registrador Substituto. Oficial Registrador: Marcio de Vasconcelos Martins.***.

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AV-10/78.701 – **CANCELAMENTO DE INEFICÁCIA**: Protocolado sob nº 375.093, em 05/04/2023. Procede-se à presente averbação, conforme Ofício nº 01665/2022, expedido em 29/08/2022, por ordem do MM. Juiz de Direito Substituto da 9ª Vara Cível da Comarca de Curitiba/PR, Dr. Pedro Roderjan Rezende, extraído dos autos de Cumprimento de Sentença nº 0036581-68.2015.8.16.0001, para fazer constar, para todos os fins de direito, o Cancelamento de Ineficácia constante na **AV-06** da presente matrícula. Isento do recolhimento do Funrejus referente ao cancelamento, nos termos do art. 3°, inc. VII, alínea "b", nº 04, da Lei nº 12.216, de 15/05/1998, alterado pelo art. 1°, da Lei nº 12.604, de 02/07/1999. Emolumentos: R$77,49 - 315 (VRC); Fundep: R$3,87; ISS: R$3,10; Selo: R$8,00. Selo Funarpen: SFRI2.P5QQv.sK3Wu-F7UIj.F389q. Curitiba-PR, 24 de abril de 2023. Oficial Registrador _____ (Marcio de Vasconcelos Martins).***.

AV-11/78.701 – **CANCELAMENTO DE PENHORA**: Protocolado sob nº 375.093, em 05/04/2023. Procede-se à presente averbação, conforme Ofício nº 01665/2022, expedido em 29/08/2022, por ordem do MM. Juiz de Direito Substituto da 9ª Vara Cível da Comarca de Curitiba/PR, Dr. Pedro Roderjan Rezende, extraído dos autos de Cumprimento de Sentença nº 0036581-68.2015.8.16.0001, para fazer constar, para todos os fins de direito, o Cancelamento da Penhora registrada no **R-07** da presente matrícula. Isento do recolhimento do Funrejus referente ao cancelamento, nos termos do art. 3°, inc. VII, alínea "b", nº 04, da Lei nº 12.216, de 15/05/1998, alterado pelo art. 1°, da Lei nº 12.604, de 02/07/1999. Emolumentos: R$159,11 - 647 (VRC); Fundep: R$7,96; ISS: R$6,37; Selo: R$8,00. Selo Funarpen: SFRI2.P56Qv.sK3Wu-67GIj.F389q. Curitiba-PR, 24 de abril de 2023. Oficial Registrador _____ (Marcio de Vasconcelos Martins).***.

CERTIDÃO DIGITAL

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Curitiba - PR, 13 de outubro de 2026.

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SEGUE

RFE Exhibit G — UNICA Program and Network Virtualization Records

From: Helena Sanay Matsumoto
Sent: Tuesday, April 17, 2018 11:04 AM
To: Jordano Moreira Fried; Andre Moreira Giorgini; Emerson Da Silva Santana; Denison de Moraes Inacio Diniz; Felipe Luis Barbosa Martins; Angelo Prado Uchoa Binot Da Cunha; Luis Carlos Couto; Alexandre Lucchesi; Gustavo Dartagnan Xavier do Rego
Subject: Unica - project alignment - 04/17/2018 - meeting minutes (Planning, Engineering and O&M)

Link to Meeting Notes: Unica - project alignment - 04/17/2018

Unica - project alignment - 04/17/2018

Tuesday, April 17, 2018
9:56 AM

Meeting Date: 04/17/2018 10:00 AM
Location: Audio Bridge: 0800 600 2622 password 164608
Link to Outlook Item: click here
Invitation Message
Participants

- Helena Sanay Matsumoto (Meeting Organizer)
- Jordano Moreira Fried - OK
- Andre Moreira Giorgini (Accepted in Outlook) - OK
- Emerson Santana - OK
- Denison de Moraes Inacio Diniz (Accepted in Outlook) - OK
- Felipe Luis Barbosa Martins
- Angelo Prado Uchoa Binot Da Cunha
- Luis Carlos Couto
- Alexandre Lucchesi
- Gustavo Dartagnan Xavier do Rego (Accepted in Outlook) - OK

Notes

Emerson informed that Dartagnan will participate in the UNICA project for Engineering.

1) Planning – Jordano

1.1) Jaguaré Site
SBC (Session Border Controller) will no longer be installed at the Palmeiras site.
The fixed Jaguaré site would be left without VNF (Virtualised Network Function).
Couto suggests keeping the Jaguaré site for 2019 for IMS (IP Multimedia Subsystem); the benefit would be schedule-related.
Emerson suggests postponing Jaguaré to 06/30/2018; the forecast was 06/11/2018, with 50% already completed.

1.2) RFP (Request for Proposal) Process
Jordano explained how the RFP process is proceeding:

04/09 to 04/12: Technical clarification meetings were held last week
(Completed)
04/13: Jordano consolidated Ericsson's responses to the follow-up questions on the proposal (Completed)
04/16: Ericsson was expected to submit responses to the follow-up questions (Delayed)
04/17: Review of the follow-up responses by the technical team.
04/18: Meeting between the technical team and Ericsson to clarify questions.
04/19: Jordano will consolidate the RFP.
04/20: Submission of the RFP to TGS. (Telefónica Global Solutions)
04/23: Ericsson will submit its responses via TGS.
04/23: Jordano will distribute the technical evaluation report to the technical team.
04/24: Jordano will issue the technical evaluation report.

We are awaiting Ericsson's response for today, 04/17.
Jordano should call Ericsson to confirm the expected delivery date in order to reschedule the next dates mentioned above.

1.3) BBIP (Backbone IP)
Andre is awaiting the information from Huawei Spain
Calculation of DRA (Diameter Routing Agent) and PCRF (Policy and Charging Rules Function) traffic
Expected to receive the information today
Milanez BBIP critical and Marco Internet

1.4) Questions raised during the technical meeting with Ericsson
Luciano Lima from the performance area, together with Rodrigo Cardoso, are coordinating directly with Global
Carlos Eduardo R de Araujo from the NOC (Network Operations Center) forwarded the standardization matter to Alexandre Antonio Campos (Peroba) for the inventory of network elements.
Jordano forwarded the email regarding the standards to Global.

2) Engineering - Emerson
Out-of-band management
PED opened by Emerson
Planning Placido: checking whether the port is available; if it is not, when it will be available and how much it costs; the amount and timeframe will be provided by tomorrow.
Wagner Mendes requested to visit the Palmeiras site, and Emerson requested a resource from Ericsson for an inspection at the Palmeiras site on 04/23.
Denison is working on the Engineering process, and they are awaiting validation of the document with O&M; the document will be forwarded by Murilo to O&M - Felipe Martins.
Emerson requested cameras at the UNICA sites from Asset Management and is awaiting a response.
Emerson requested Bluetooth access from Infrastructure and is awaiting a response.

Created with Microsoft OneNote 2016.

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 20, 2026.

De:	Helena Sanay Matsumoto
Enviado em:	terça-feira, 17 de abril de 2018 11:04
Para:	Jordano Moreira Fried; Andre Moreira Giorgini; Emerson Da Silva Santana; Denison de Moraes Inacio Diniz; Felipe Luis Barbosa Martins; Angelo Prado Uchoa Binot Da Cunha; Luis Carlos Couto; Alexandre Lucchesi; Gustavo Dartagnan Xavier do Rego
Ass unto:	Unica - alinhamento do projeto - 17/04/2018 - ata de reunião (Planej, Eng e O&M)

Vincular às anotações da reunião: Unica - alinhamento do projeto - 17/04/2018

Unica - alinhamento do projeto - 17/04/2018

terça-feira, 17de abril de 2018
09:56

Data da Reunião:17/04/2018 10:00
Local: Pontedeaudio:0800600 2622senha 164608
Item para Item do Outlook:clicar aqui
Mensagemdo Convite
Parti cipantes

- HelenaSanay Matsumoto (Organizador da Reunião)
- JordanoMoreira Fried - OK
- AndreMoreira Giorgini (Aceito no Outlook) - OK
- EmersonSantana - OK
- DenisondeMoraes Inacio Diniz (Aceito no Outlook) - OK
- FelipeLuisBarbosa Martins
- AngeloPrado Uchoa Binot Da Cunha
- Luis CarlosCouto
- AlexandreLucchesi
- GustavoDartagnan Xavier do Rego (Aceito no Outlook) - OK

Anotações

Emerson informou que o Dartagnan irá participar do projeto Única pela Engenharia.
1)Planejamento – Jordano

1.1)Site Jaguaré
SBC não será mais instalado no site de Palmeiras
Site de Jaguaré fixa ficaria sem VNF
Couto sugere mantermos o site Jaguaré para 2019 para o IMS, benefício seria por conta do cronograma
Emerson sugere postergar Jaguaré para 30/06/18 a previsão era 11/06/18 com 50% já realizado.

1.2)Processo de RFP
Jordano explica como está sendo o processo da RFP:

09/04 a 12/04: Na semana passada tivemos as reuniões técnicas para esclarecimento de dúvidas (Concluído)
13/04: Jordano consolidou das réplicas as respostas daEricssonaproposta(Concluído)
16/04: Ericsson encaminhara as tréplicas (Atrasado)
17/04: análise das tréplicas pela equipe técnica
18/04: reunião com a equipe técnica x Ericsson sobre esclarecimentos de dúvidas
19/04: Jordano consolidará a RFP
20/04: envio da RFP para a TGS
23/04: Ericsson encaminhara as resposta via TGS
23/04: Jordano distribuirá o laudo técnico para a equipe técnica
24/04: Jordano emitirá o laudo técnico

Estamos aguardando a resposta da Ericsson para hoje 17/04.
Jordano deverá ligar para a Ericsson para confirmar qual a previsão de entrega para reagendar as próximas datas mencionadas acima.

1.3)BBIP
Andre aguarda a info da Huawei Espanha
Calculo do trafego do DRA e PCRF
Previsão de receber a info hoje
Milanez BBIP crítico e Marco Internet

1.4) Dúvidas levantadas durante a reunião técnica com a Ericsson
Luciano Lima da área de desempenho junto com o Rodrigo Cardoso estão alinhando diretamente com a Global
Carlos Eduardo R de Araujo do NOC encaminhou o tema da padronização para o Alexandre Antonio Campos (Peroba) para o inventário dos elementos de rede.
Jordano encaminhou o e-mail sobre os padrões para a Global.

2)Engenharia - Emerson
Gerencia out of band
PED aberta pelo Emerson
Planejamento Placido se tem a porta, se não tem quando e quanto custa, fornecerá valor e prazo até amanhã.
Wagner Mendes solicitou para visitar o site de Palmeiras e o Emerson solicitou um recurso na Ericsson para vistoria no site site de Palmeiras no dia 23/04.
Denison está trabalhando no processo da Engenharia e estão aguardando a validação do documento com O&M, o documento será encaminhado pelo Murilo à O&M-Felipe Martins.
Emerson solicitou câmeras nos sites do Única com o patrimônio, está aguardando retorno.
Emerson solicitou para infra acesso Bluetooth, está aguardando.

Criado com o Microsoft OneNote 2016.

From: Emerson Da Silva Santana
Sent: Monday, April 16, 2018 9:32 AM
To: Gilson Cereda
Cc: Helena Sanay Matsumoto; Gustavo Dartagnan Xavier do Rego; Denison de Moraes Inacio Diniz
Subject: UNICA Sites - Data

Priority: High

Gilson,

Good morning.

As requested, below is the location information for the 2018 and 2019 UNICA sites.

SITE	CITY	STATE	ADDRESS	FLOOR_ROOM
PALMEIRAS	SÃO PAULO	SP	RUA BRIGADEIRO GALVÃO, 291	1ST FLOOR
BARRA DA TIJUCA	RIO DE JANEIRO	RJ	AVENIDA AYRTON SENNA, 2200	GROUND FLOOR - ROOM CCC
PEDRO GUSSO	CURITIBA	PR	RUA PEDRO GUSSO, 711	GROUND FLOOR - ROOM CCC
INDEPENDÊNCIA	PORTO ALEGRE	RS	AVENIDA INDEPENDÊNCIA, 579	6TH FLOOR
JAGUARÉ	SÃO PAULO	SP	RUA JAGUARÉ, 390	4TH FLOOR
FUNCIONÁRIOS	BELO HORIZONTE	MG	RUA CLAUDIO MANOEL, 69	GROUND FLOOR
PEDREIRA	BELÉM	PA	AVENDIA MARQUES DE HERVAL, 2594	To be defined / SITE 2019
CÁBULA	SALVADOR	BA	RUA SILVEIRA MARTINS, 1036	To be defined / SITE 2019

Thank you

Emerson da Silva Santana
Coordinator |Voice Services Engineering |P#B#CFD
Core and Access Directorate | Telefônica Brasil
Av. Dr. Chucri Zaida, 860 – 5th Floor – Side A
04583-110 | São Paulo - SP
Phone + 55 11 3279 1474 | Cell + 55 11 99658-7940
emerson.santana@telefonica.com
www.telefonica.com.br | www.vivo.com.br

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 20, 2026.

De: Emerson Da Silva Santana
Enviado em: segunda-feira, 16 de abril de 2018 09:32
Para: Gilson Cereda
Cc: Helena Sanay Matsumoto; Gustavo Dartagnan Xavier do Rego; Denison de Moraes Inacio Diniz
Ass unto: Sites Unica - Dados
Prioridade: Alta

Gilson,

Bom dia

Conforme solicitado segue informações de localização dos sites Única 2018 e 2019.

SITE	CIDADE	UF	ENDEREÇO	ANDAR_SALA
PALMEIRAS	SÃO PAULO	SP	RUA BRIGADEIRO GALVÃO, 291	1º ANDAR
BARRA DA TIJUCA	RIO DE JANEIRO	RJ	AVENIDA AYRTON SENNA, 2200	TÉRREO - SALA CCC
PEDRO GUSSO	CURITIBA	PR	RUA PEDRO GUSSO, 711	TÉRREO - SALA CCC
INDEPENDÊNCIA	PORTO ALEGRE	RS	AVENIDA INDEPENDÊNCIA, 579	6º ANDAR
JAGUARÉ	SÃO PAULO	SP	RUA JAGUARÉ, 390	4º ANDAR
FUNCIONÁRIOS	BELO HORIZONTE	MG	RUA CLAUDIO MANOEL, 69	TÉRREO
PEDREIRA	BELÉM	PA	AVENDIA MARQUES DE HERVAL, 2594	EM DEF. / SITE 2019
CÁBULA	SALVADOR	BA	RUA SILVEIRA MARTINS, 1036	EM DEF. / SITE 2019

Grato

Emerson da Silva Santana
Coordenador | EngenhariadeServiços de Voz |P#B#CFD
Dir Core e Acesso | Telefônica Brasil
Av. Dr. Chucri Zaida,860 – 5º Andar –Lado A
04583-110 | São Paulo - SP
Tel + 55 11 3279 1474 I Cel + 55 11 99658-7940
emerson.santana@telefonica.com
www.telefonica.com.br | www.vivo.com.br

The voice network has been modernized with the use of new generation technology that improves redundancy, reliability and capacity. In addition, we have already started the implementation of VoLTE technology that will allow us to offer voice services over LTE access instead of CS (Circuit Switch) Fallback, or CSFB, which we currently use. As a result, we expect a faster call completion comparing with CSFB. We expect to improve the voice communication experience, offering voice service with HD quality that is native for VoLTE technology. We also have already started to implement Voice over FTTH technology that will allow us to offer voice services over FTTH access instead of voice over copper currently used. As a benefit, we expect to have cost savings for equipment, lines, manpower and maintenance. We also expect to offer new voice services, in order for that to be possible, a new Core infrastructure has already been installed in Vivo networks: the IMS Core, an ALL-IP framework that uses the IP protocol as the main protocol for the network.

We have equipped the network to support traffic bursts of enterprise inbound and outbound call center services, such as contact center and outbound dialing, by developing and implementing high-capacity and scalability core elements. In 2018, in addition to convergence and modernization, we will also invest in network virtualization.

As more services migrate to IP, our IP backbone has become a strategic asset to support customer demands and increase revenues. The migration of sensitive and demanding services such as voice and television to IP has also increased the demand for higher quality broadband networks and is further augmented by growing products like cloud services and video on demand. At the same time, the expansion of fiber to customer homes and the launch of our 4G+ services (Carrier Aggregation) strongly increases bandwidth demands over the networks. As a result, three main drivers have surfaced as critical to our business: availability, performance and cost effectiveness.

To reach these goals, which may appear to conflict with each other, it is essential to optimize network resources and find synergy multipliers. The first step is to integrate Vivo's and GVT's IP Backbones, simplifying our network and avoiding redundant infrastructure. As we have done in the mobile and fixed integration, we have designed a robust architecture, using two distinct backbones to provide public and private services using multi-protocol networks infrastructures, to guarantee service reliability to our clients and the deployment has already begun in 2018.

Nonetheless, as more and more bandwidth is offered to customers, the need to bridge the gap between revenues and investment to cope with greater traffic becomes increasingly clear. Therefore, network simplification must evolve to a deeper level, unifying specialized routers, reducing network layers, bringing services and content nearer to customers and, ultimately, transforming the backbone into one multiservice network. The new design acknowledges service evolution, as voice, messages and circuits becomes data packets and reduces the need of growing capacity in multiple hops.

Those actions not only optimize investment in an aggressive traffic increase context but also lay the grounds to deliver the next step in data services quality. Even though bandwidth has been the main technical advantage for several years, latency will take over as the main broadband selling point. To reduce network latency means delivering more responsive services and obtaining higher customer satisfaction.

In order to achieve this result, from the IP point of view, service has to be decentralized and nearer the edge of the network, closer to customers. In 2016 and 2017, by greatly expanding the use of caching solutions throughout the network, we have made content locally available to our customers, not only reducing transport costs but also strongly improving user experience without increasing access investments. We believe that in the coming years, layer simplification could allow us to bring content even further to the edge, improving costs and quality at the same time.

We further optimized costs by sharing access networks with other Brazilian operators, in which IP backbones played a key role in connecting and transporting traffic among different operator's networks, reducing the need for mobile sites expansion.

Finally, as the Internet address numbers in Brazil were exhausted in 2014 and our own resources are reaching critical levels, we have seen strong growth in the next version of the IP protocol, the IPv6. Vivo has completed IPv6 project in 2017 and received the Jim Bound Award from the IPv6 Forum for surpassing 10% of its Internet Traffic in IPv6. In fact, 40% of the traffic is already running in the new protocol version and we are part of the top 15 companies in the world in IPv6 traffic volume, according to the specialized measurement site World IPv6 Launch (http://www.worldipv6launch.org). Not only this is important to guarantee full connectivity to our clients but also to support sales and keep expanding our customer base.

In projects related to Local Area Network (LAN), we provide local connectivity to all platforms and servers that provide telecommunications service, fixed or mobile. The Local Area Network works as access for all services to the data network by connecting them to the IP Backbone.

Since 2014, we have adopted the strategy of evolving Ethernet Standard on all sites to a Fabric structure, using the concepts of Top Of Rack - TOR and End Of Row - EOR according to port density. It is a more robust technology, more resistant to failures and cheaper, since the network equipment is decentralized, generating in this way an economy in structured cabling and consequently reduction of cooling, energy consumption and physical space. In 2017, we implemented this concept in 23 sites.

In 2016, we implemented the Cache solution to reduce bandwidth consumption on the IP backbone by locally storing content from partners such as Google, Netflix, Akamai, and Facebook. With this, we can optimize network resources, improve service quality and user experience. In 2017, the Cache framework was expanded in six more sites.

Since 2014, we saw a variety of targets and natures of attacks with regards to cyber security, with special attention to the mobile terminal, where we already offer a comprehensive suite of applications for mobile security. On the network side, besides tightening our perimeter security, we have been focused on automation. Periodic tasks such as analyzing attacks notifications, auditing firewalls rules and evaluating security elements performance have been the main areas subject to automation, allowing security professionals to focus on problems that are more complex. In 2017, we increased the traffic capacity to be detected and mitigated by the protection tools against attacks coming from inside and outside our network.

We offer the IPTV service through the FTTH network using the Open Platform, created to revolutionize the way that Telefonica delivers the IPTV service. This platform consists of Pay TV with video broadcasting offered through the IP protocol. It consists of several global partners, developing modules in partnership with Telefonica and connecting into the exiting Global Video Platform. Our local team customized the middleware for Set-Top-Box, creating one standard version which brings better time-to-market for new developments and product releases, as well as future convergence between IPTV and DTH platforms. Several components were integrated to create a whole new ecosystem for IPTV, such as the inclusion of Instant Channel Change (ICC), Retransmission and Applications providing a better user experience. Additional services, such as pay-per-view and VoD, are also available.

For the year of 2018, we will continue to expand all the services to other cities within Brazil as the FTTH network expands. Also other companies from Telefonica based in Latin America will have the opportunity to receive the developments made in Brazil to deliver the same service and features to their clients. Besides the expansion to other cities, new features will be incremented on the client for a better experience, such as Time Shift, Catch Up, PiP, 4K content and new Apps.

We also offer digital television service via satellite (DTH) to the subscribers that receive broadcast/PPV content through a Ku band antenna and standard Set Top Box (with Smart Card), also available with a Personal Video Record (PVR) service with 4K technology. The customer has additional services through IP protocol when connecting the Set-top-box into broadband service, offering VoD and interactive applications. After four years, we expect to use one satellite and one Middleware solution consolidating in a single platform.

Our development plan contemplates the use of the most advanced technology available, focusing on integration with the internet and an increase in the number of multimedia transmission services, with an emphasis on DSL, FTTH (GPON), NGN, DWDM, ROADM and relays technologies of TV over IP protocol (IPTV), satellite (DTH), and the continuous evolution of TV services.

As filed with the Securities and Exchange Commission on February 20, 2020

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

(Mark One)

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number: 001-14475

TELEFÔNICA BRASIL S.A.

(Exact name of Registrant as specified in its charter)

TELEFÔNICA BRAZIL S.A.
(Translation of Registrant's name into English)

Federative Republic of Brazil
(Jurisdiction of incorporation or organization)

Avenida Engenheiro Luis Carlos Berrini, 1376, 32º andar
04571-936 São Paulo, SP, Brazil
(Address of principal executive offices)

David Melcon Sanchez-Friera
Telephone +55 11 3430 3687
Avenida Engenheiro Luis Carlos Berrini, 1376, CEP 04571-936, São Paulo, SP, Brazil
Email: ir.br@telefonica.com
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Preferred Shares, without par value	VIVT4	New York Stock Exchange*
American Depositary Shares (as evidenced by American Depositary Receipts), each representing one share of Preferred Stock	VIV	New York Stock Exchange

* Not for trading purposes, but only in connection with the registration on the New York Stock Exchange of American Depositary Shares representing those Preferred Shares.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

quality KPIs by reducing unwanted contacts and excessive calls. In addition, we have made advances in the implementation of new sales platforms in order to integrate the whole client life cycle, and to evolve through the use of artificial intelligence. Furthermore, Vivo was a pioneer in proposing self-regulation in the telecom sector in Brazil, with clear directions on active approach for potential customers, fulfilling 100% of our targets in all metrics, such as quantity, time and quality of active calls.

In 2019, Vivo has launched the Digital Sales Acceleration program, which already presents relevant results to e-commerce. In Digital Channels, sales have increased in mobile B2C (60%) and B2B (36%), fixed B2C (15%) and fiber (58%); not to mention the prepaid digital mobile share increase as well. The e-commerce's user experience shows continuous improvements and contributed to better digital experience for our customer and Vivo's digital presence in the market. Our new website, easier to use and more intuitive for our customers, has shown sales increases in all services and products, postpaid being a highlight. Finally, our connection with Mercado Pago platform for prepaid digital mobile resulted in higher revenues and lowered sales acquisition costs, generating savings on commissions.

Meu Vivo, our main self-service channel for customers, which reinforces our digital self-service strategy, also contributed to our positive performance in digital channels: unique users of the app increased by 21% in 2019, while prepaid digital mobile increased 86% in comparison to 2018.

Customer service

In 2019, digitalization and operational efficiency projects led to a reduction of more than 25% in contact center demand. Furthermore, there was an improvement in the customer experience demonstrated by the reduced average waiting time and increased autonomy of our call-center operators, delivering a better first call resolution ratio. Part of this is due to an effort to expand digital channels and develop more self-service options.

Among the main digitalization projects, new features were deployed in our My Vivo App, boosting its adoption rate and reaching 15 million users at the end of 2019. The app is connected to Aura, Vivo's artificial intelligence system, which has been essential for traditional call conversion to digital experience. In addition, the launch of WhatsApp as a service channel option has already provided assistance to a significant customer base over 2019.

Despite our efforts to migrate customers to digital channels, there continue to be customers who prefer traditional agent-assisted service. In order to ensure that each customer has access to their preferred channel, we expanded our Cognitive Call Center, with more than 20 million calls served by robots in 2019, with a friendly, fast, humanized experience, helping to improve retention in electronic channels. This technology requires a process of continuous improvement that is carried out through our Bot Training Center, formed and handled by high-performance agents. This center is responsible for analyzing existing interactions and improving comprehension and resolution.

In order to evaluate the perceived quality for all contact points, we launched the DNA Thermometer program, a methodology to capture customer's perception of our services, ensuring monitoring and fast acting on solutions. The purpose of all these actions is to continuously improve customer experience, aligning their journey with our corporate culture of being reliable, easy, delightful and efficient.

Technology

In order to offer a greater variety of integrated services, we have incorporated a series of new technologies in our voice and data networks.

In 2017, we started our program for network virtualization, called UNICA. In 2019, we accelerated the virtualization program to reach necessary requirements for 5G and IoT networks.

For voice services, we remain focused on the evolution and convergence of the mobile and fixed networks based on All-IP IMS technology, encouraging technological advancement, offering new services to our customers and increasing redundancy, reliability and capacity levels.

As part of the convergence and modernization of our voice network, we have been deploying new IMS clusters over UNICA infrastructure as well.

RFE Exhibit H — Technical Training and Knowledge-Transfer Records

From: Gustavo Dartagnan Xavier do Rego
Sent: Friday, November 16, 2007 6:42 PM
To: Evandro Fernandes Conceicao; Denilson Kistique; Alyson Antonio Carvalho Cruz; Thiago Machado Tavares
Cc: Alison Luis Lando; Josiane de Fatima Ramos; Adilson Antonio Radel
Subject: RE: IADs (Integrated Access Device) Training

Attached are the documents explaining the procedures that will be the focus of this training.

Regards,
Gustavo Dartagnan

From: Alison Luis Lando
Sent: Friday, November 16, 2007 4:38 PM
To: Josiane de Fatima Ramos; Gustavo Dartagnan Xavier do Rego; Adilson Antonio Radel
Subject: IADs Training

I was able to schedule the training with the technicians from São Paulo, Belo Horizonte and Rio de Janeiro, according to the table below.
I was unable to contact the person from Porto Alegre.
The technician from São Paulo returns from vacation on Monday.

Technician	Phone	CITY	IAD Available	Training Scheduled	NOTES
EVANDRO FERNANDES CONCEICAO	(11) 3525-1189	SP	11/19	returns from vacation Monday	Cell: 94209802
DENILSON KISTIQUE	(41) 3022-9261	Cur	Available	11/19/2007 2:00 PM	Cell:(41) 9922-8719
ALYSON ANTONIO CARVALHO CRUZ	(31) 3526-1197	BH	11/19	11/20/2007 9:00 AM	Cell: 9244 1163
	(21) 3525-2530/6	RJ	11/19	11/21/2007 10:00 AM	




ManualInstacao... ManualUpgrade...

THIAGO MACHADO TAVARES — PA 11/16

Alison Luis Lando

From: Marcos Antonio Marinho Borja
Sent: Monday, December 10, 2007 1:19 PM
To: Gustavo Dartagnan Xavier do Rego; Corporate Technical Support
Subject: RE: VoxNG Overview

Support,

Saved in the G:\Vox NG\Treinamento 05_12_2007 folder and in our procedures folder on W: is explanatory and troubleshooting material on Vox NG prepared by Gustavo. Save it in your personal files and adopt it in your routines.

Gustavo,

I only added an index to the .doc to make it easier to locate the cases; everything else is excellent.

Thank you,
Marcos Borja

From: Marcos Antonio Marinho Borja
Sent: Thursday, December 6, 2007 2:58 PM
To: Gustavo Dartagnan Xavier do Rego
Cc: Corporate Technical Support
Subject: RE: VoxNG Overview

Thank you, Gustavo.
I will review it tomorrow morning and get back to you right after.

Regards,
Marcos Borja

From: Gustavo Dartagnan Xavier do Rego
Sent: Thursday, December 6, 2007 2:24 PM
To: Marcos Antonio Marinho Borja
Cc: Corporate Technical Support
Subject: RE: VoxNG Overview

I put it in:
G:\VoxNG\Treinamento_05_12_2007

From: Marcos Antonio Marinho Borja
Sent: Thursday, December 6, 2007 12:05 PM
To: Gustavo Dartagnan Xavier do Rego
Cc: Corporate Technical Support
Subject: RE: VoxNG Overview

Gustavo, we do not have access to the T:\NMC Suporte Corporativo folder.
Please save it in an alternative folder.

Thank you,
Marcos Borja

From: Gustavo Dartagnan Xavier do Rego
Sent: Thursday, December 6, 2007 10:54 AM
To: Marcos Antonio Marinho Borja; Corporate Technical Support
Subject: FW: VoxNG Overview

Marcos,

Please verify whether the Troubleshooting procedure is correct.

Regards,
Gustavo Dartagnan

From: Danielli Swerei de Gois
Sent: Thursday, December 6, 2007 10:53 AM
To: Eng&Op Customer Service
Subject: RE: VoxNG Overview

Everyone,

All VOX NG training material is temporarily located at T:\NMC Suporte Corporativo\VoxNG\Treinamento_05_12_2007.
Logins were also created for access to the Vox NG Portal.

Access: www.portalvoxng.com.br

FULL NAME	INITIAL PASSWORD	LOGIN
Adriano Bento Stamato	G0006691	0000
Andre Luiz Barbosa Duarte	G0004208	0000
Andre Luiz Pereira Correa	G0003319	0000
Ariel Euclides de Paula Bastos	P9902160	0000
Camille da Silva Silveira Goularte	G0003151	0000
Carlos Eduardo Mari	G0004739	0000
Eder Vieira Bigliardi	G0004016	0000
Edson Antonio da Silva	P9902305	0000
Fabiana de Azevedo Guedes	G0004211	0000
Fernanda de Avila Correa	G0006684	0000
Gean Carlo de Souza	G0005296	0000
Giselle Cristina S Ferreira	G0201432	0000
Guilherme Felipe Lonardoni	P9902495	0000
Janio da Silva Santos	G0005724	0000
José Carlos Batista	P9902202	0000
Luciano Ribeiro Zuelow	G0002145	0000
Marcelo Goncalves Dos Santos	G0005299	0000
Marcio Barbosa	P9902279	0000
Marcio Machado Medeiros	P9902285	0000
Marcus Vinicius Bonvim	G0002512	0000
Ricardo Roberto da Silva	G0002406	0000

I am available for any questions.

Regards,
DANIELLI SWEREI DE GOIS
(41) 3022-9106
Eng&Op (Engineering & Operations) – Customer Service

danielli.gois@gvt.com.br

From: Gean Carlo De Souza
Sent: Tuesday, December 4, 2007 4:00 PM
To: Eng&Op Customer Service
Subject: VoxNG Overview

Everyone,

Tomorrow, **Wednesday, 11/05/2007**, we will have an overview of the VoxNG topology in the Operations Center room. So that everyone can participate, the group was divided into 3 classes. A **special schedule** was necessary **for the lunch period.**

1st Class - 7:00 AM - 10:00 AM

Adriano - Meal 11:00 AM - 12:00 PM
Carlos - Meal 1:00 PM - 2:00 PM
Eder
Marcelo
Márcio Barbosa - Meal 11:00 AM - 12:00 PM

2nd Class - 12:00 PM - 3:00 PM

Camille
Duarte - Meal 11:00 AM - 12:00 PM
Guilherme
Jânio - Meal 11:00 AM - 12:00 PM
José Carlos - Meal 11:00 AM - 12:00 PM
Márcio Medeiros - Meal 11:00 AM - 12:00 PM
Marcus

3rd Class - 3:00 PM - 6:00 PM

Ariel - Meal 12:00 PM - 1:00 PM
Corrêa - Meal 1:00 PM - 2:00 PM
Edson - Meal 12:00 PM - 1:00 PM
Fabiana - Meal 12:00 PM - 1:00 PM
Fernanda - Meal 12:00 PM - 1:00 PM
Giselle - Meal 1:00 PM - 2:00 PM
Ricardo - Meal 12:00 PM - 1:00 PM

I am counting on everyone's attendance.

Regards,

Gean Carlo de Souza
Operations - Customer Service

☎41 3022 9009
41 3022 9016

✉ gean.souza@gvt.com.br
http://www.gvt.com.br/

From: Rodolpho Gustavo Kraft
Sent: Tuesday, November 20, 2012 5:12 PM
To: Gustavo Dartagnan Xavier do Rego
Cc: Pedro Javier Chia Luna
Subject: FW: SIP (Session Initiation Protocol) Project Workshop

Priority: High

Gustavo,

I am forwarding this to you at Pedro's request.

Regards;

Rodolpho Gustavo Kraft
Switching Engineering

Phone +55 41 30229783

Rua Marechal Floriano Peixoto, 672 - 5th Floor
Centro - Curitiba - PR - Brazil
Postal Code 80010 160
gvt.com.br

From: Fabiolla Christina Goncalves da Silva
Sent: Tuesday, November 20, 2012 5:04 PM
To: Ricardo Kawski Porciuncula; Santiago Pedro Timm Soares; Rafael Herman; Marcio Guilherme B. dos Santos; Rodolpho Gustavo Kraft; Lizandro Gabriel Rengel Matkowski; Gregory Ferreira Santos
Cc: Robert Christian Moritz Cantarutti Junior; Joeci de Oliveira
Subject: SIP Project Workshop
Priority: High

Good afternoon, everyone,

We are organizing the SIP Project Workshop and your names were recommended to lead this workshop.

Below is the information regarding the event:

Date:
Class 1: 12/05 - 8:30 AM to 12:30 PM
Class 2: 12/05 - 2:00 PM to 6:00 PM

Location: VM Auditorium

Number of employees: +/- 40 participants per class

Content: If you have any questions, please coordinate with Robert, who is cc'd on this email.

Material: I am counting on your help to prepare the presentation materials.

Workshop objective: How SIP will work, which equipment will be used from the customer's premises to the core network, the troubleshooting scenarios identified so far, and the related documentation.

I am available for any questions.
Regards;

Fabíolla Christina Gonçalves da Silva
HR - Business Relations and Support (HQ – Headquarters)

Phone +55 41 3087 5742

Rua Lourenço Pinto, 299/2nd Floor
Centro - Curitiba - PR - Brazil
Postal Code 80010 160
gvt.com.br

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 20, 2026.

De: Gustavo Dartagnan Xavier do Rego
Enviado em: sexta-feira, 16 de novembro de 2007 18:42
Para: Evandro Fernandes Conceicao; Denilson Kistique; Alyson Antonio Carvalho Cruz; Thiago Machado Tavares
Cc: Alison Luis Lando; Josiane de Fatima Ramos; Adilson Antonio Radel
Assunto: RES: Treinamento IADs

Seguem em anexo os documentos explicando os procedimentos que serão foco deste treinamento.

Atenciosamente,
Gustavo Dartagnan

De: Alison Luis Lando
Enviada em: sexta-feira, 16 de novembro de 2007 16:38
Para: Josiane de Fatima Ramos; Gustavo Dartagnan Xavier do Rego; Adilson Antonio Radel
Assunto: Treinamento IADs

Consegui marcar o treinamento com os técnicos de São Paulo, Belo Horizonte de Rio de Janeiro, conforme a tabela abaixo.
Com o pessoa de Porto Alegre, não consegui entrar em contato.
De São Paulo, o técnico volta das férias segunda.

Técnico	Fone	CD	IAD Disponível	Treinamento Agendado	OBS
EVANDRO FERNANDES CONCEICAO	(11) 3525-1189	SP	19/nov	volta de férias segunda	Cel: 94209802
DENILSON KISTIQUE	(41) 3022-9261	Cur	Disponível	19/11/2007 14:00	Cel:(41) 9922-8719
ALYSON ANTONIO CARVALHO CRUZ	(31) 3526-1197	BH	19/nov	20/11/2007 09:00	Celular 9244 1163
	(21) 3525-2530/6	RJ	19/nov	21/11/2007 10:00	




ManualInstacao... ManualUpgrade...

THIAGO MACHADO TAVARES — PA 16/nov

Alison Luis Lando

De: Marcos Antonio Marinho Borja
Enviado em: segunda-feira, 10 de dezembro de 2007 13:19
Para: Gustavo Dartagnan Xavier do Rego; Suporte Tecnico Corporativo
Assunto: RES: Overview VoxNG

Suporte,

Está salvo na pasta G:\Vox NG\ Treinamento 05_12_2007 e em nossa pasta de procedimentos no W: um material explicativo e troubleshooting do Vox NG elaborado pelo Gustavo. Salvem em seus arquivos pessoais e adotem em suas rotinas.

Gustavo,
Apenas acrescentei um índice no .doc para facilitar a localização dos casos, o restante está excelente.

Obrigado,
Marcos Borja

De: Marcos Antonio Marinho Borja
Enviada em: quinta-feira, 6 de dezembro de 2007 14:58
Para: Gustavo Dartagnan Xavier do Rego
Cc: Suporte Tecnico Corporativo
Assunto: RES: Overview VoxNG

Obrigado Gustavo.
Analisarei amanhã pela manhã e te responderei em seguida.

Abs.,
Marcos Borja

De: Gustavo Dartagnan Xavier do Rego
Enviada em: quinta-feira, 6 de dezembro de 2007 14:24
Para: Marcos Antonio Marinho Borja
Cc: Suporte Tecnico Corporativo
Assunto: RES: Overview VoxNG

Coloquei no:
G:\VoxNG\Treinamento_05_12_2007

De: Marcos Antonio Marinho Borja
Enviada em: quinta-feira, 6 de dezembro de 2007 12:05
Para: Gustavo Dartagnan Xavier do Rego
Cc: Suporte Tecnico Corporativo
Assunto: RES: Overview VoxNG

Gustavo, não temos acesso a pasta T:\NMC Suporte Corporativo.
Por gentileza salvar em alguma pasta alternativa.

Obrigado,
Marcos Borja

De: Gustavo Dartagnan Xavier do Rego
Enviada em: quinta-feira, 6 de dezembro de 2007 10:54
Para: Marcos Antonio Marinho Borja; Suporte Tecnico Corporativo
Assunto: ENC: Overview VoxNG

Marcos,

Por favor, verifique se o procedimento de Troubleshooting está de acordo.

Atenciosamente,
Gustavo Dartagnan

De: Danielli Swerei de Gois
Enviada em: quinta-feira, 6 de dezembro de 2007 10:53
Para: Eng&Op Serviços a Cliente
Assunto: RES: Overview VoxNG

Pessoal,

Todo material do treinamento VOX NG estão temporariamente no T:\NMC Suporte Corporativo\VoxNG\Treinamento_05_12_2007 .
Também foram criados logins para acesso ao Portal do Vox NG.

Acesso: www.portalvoxng.com.br

NOME COMPLETO	LOGIN	SENHA INICIAL
Adriano Bento Stamato	G0006691	0000
Andre Luiz Barbosa Duarte	G0004208	0000
Andre Luiz Pereira Correa	G0003319	0000
Ariel Euclides de Paula Bastos	P9902160	0000
Camille da Silva Silveira Goularte	G0003151	0000
Carlos Eduardo Mari	G0004739	0000
Eder Vieira Bigliardi	G0004016	0000
Edson Antonio da Silva	P9902305	0000
Fabiana de Azevedo Guedes	G0004211	0000
Fernanda de Avila Correa	G0006684	0000
Gean Carlo de Souza	G0005296	0000
Giselle Cristina S Ferreira	G0201432	0000
Guilherme Felipe Lonardoni	P9902495	0000
Janio da Silva Santos	G0005724	0000
José Carlos Batista	P9902202	0000
Luciano Ribeiro Zuelow	G0002145	0000
Marcelo Goncalves Dos Santos	G0005299	0000
Marcio Barbosa	P9902279	0000
Marcio Machado Medeiros	P9902285	0000
Marcus Vinicius Bonvim	G0002512	0000
Ricardo Roberto da Silva	G0002406	0000

Quaisquer dúvidas estou a disposição.

Att,
DANIELLI SWEREI DE GOIS
(41) 3022-9106
Eng&Op. – Serviços a Cliente

danielli.gois@gvt.com.br

De: Gean Carlo De Souza
Enviada em: terça-feira, 4 de dezembro de 2007 16:00
Para: Eng&Op Serviços a Cliente
Assunto: Overview VoxNG

Pessoal,

Amanhã **quarta feira dia 05/11/2007** teremos um overview da topologia do VoxNG, na sala centro de operações. Para que todos possam participar, o grupo foi dividido em 3 turmas. Foi necessário uma **escala especial para o horário de almoço**.

1º Turma - 07:00h - 10:00h

Adriano - Refeição 11:00h - 12:00h
Carlos - Refeição 13:00h - 14:00h
Eder
Marcelo
Márcio Barbosa - Refeição 11:00h - 12:00h

2º Turma - 12:00h - 15:00h

Camille
Duarte - Refeição 11:00h - 12:00h
Guilherme
Jânio - Refeição 11:00h - 12:00h
José Carlos - Refeição 11:00h - 12:00h
Márcio Medeiros - Refeição 11:00h - 12:00h
Marcus

3º Turma - 15:00h - 18:00h

Ariel - Refeição 12:00h - 13:00h
Corrêa - Refeição 13:00h - 14:00h
Edson - Refeição 12:00h - 13:00h
Fabiana - Refeição 12:00h - 13:00h
Fernanda - Refeição 12:00h - 13:00h
Giselle - Refeição 13:00h - 14:00h
Ricardo - Refeição 12:00h - 13:00h

Conto com a presença de todos.

Atenciosamente,

Gean Carlo de Souza
Operações - Serviços a Cliente

☎41 3022 9009
🖷 41 3022 9016

✉ gean.souza@gvt.com.br
🖱 http://www.gvt.com.br/

De: Rodolpho Gustavo Kraft
Enviado em: terça-feira, 20 de novembro de 2012 17:12
Para: Gustavo Dartagnan Xavier do Rego
Cc: Pedro Javier Chia Luna
Assunto: ENC: Workshop projeto SIP

Prioridade: Alta

Gustavo

Estou lhe encaminhando a pedido do Pedro.

Atenciosamente;

Rodolpho Gustavo Kraft
Engenharia Comutação

Tel +55 41 30229783

Rua Marchal Floriano Peixoto, 672
5° andar
Centro - Curitiba - PR – Brasil
CEP 80010 160

gvt.com.br

De: Fabiolla Christina Goncalves da Silva
Enviada em: terça-feira, 20 de novembro de 2012 17:04
Para: Ricardo Kawski Porciuncula; Santiago Pedro Timm Soares; Rafael Herman; Marcio Guilherme B. dos Santos; Rodolpho Gustavo Kraft; Lizandro Gabriel Rengel Matkowski; Gregory Ferreira Santos
Cc: Robert Christian Moritz Cantarutti Junior; Joeci de Oliveira
Assunto: Workshop projeto SIP
Prioridade: Alta

Boa tarde a todos,

Estamos organizando Workshop do Projeto SIP e recebi os nomes de vocês como indicação para ministrar este workshop.

Segue informações a respeito do evento:

Data:
Turma 1: 05/12 - 8h30 às 12h30
Turma 2: 05/12 - 14h00 às 18h00

Local: Auditório VM

Quantidade colaboradores: +- 40 participantes por turma

Conteúdo: em caso de dúvidas, peço que alinhem com o Robert, em cópia.

Material: conto com a ajuda de vocês para que montem o material de apresentação.

Objetivo do workshop: Como e com quais equipamentos o SIP funcionará desde a casa do cliente até o core da rede + alguns troubleshootings já identificados até agora, documentação.

Dúvidas, estou á disposição.

Att;

Fabíolla Christina Gonçalves da Silva
RH - Relacionamento e Suporte ao Negócio (HQ)

Tel +55 41 3087 5742

Rua Lourenço Pinto, 299/2° andar
Centro - Curitiba - PR - Brasil

CEP 80010 160

gvt.com.br

From:	Reginaldo Alexandre Borges
Sent:	Friday, August 20, 2010 2:13 PM
To:	Gustavo Dartagnan Xavier do Rego
Subject:	Central NGN (Next Generation Network) Training
Attachments:	Training Evaluation.pdf; Central NGN Attendance List.xls

Good afternoon, Gustavo!

Attached are the Attendance List and the Training Evaluation, which are to be administered during the Central NGN course next week.

Only one Attendance List should be used, as it is divided according to the respective dates.

One Training Evaluation should be given to each participant at the end of the course for its internal evaluation.

I request that, if possible, a Test be administered during the course so that the knowledge acquired by each one can be effectively assessed.

I tried to speak with Miliorança regarding the training content, but was unsuccessful.

Is everything okay?

If you have any questions, I am available.

Regards,

GVT
Reginaldo Alexandre Borges | Technical Training
41 3085 6213 – reginaldo.borges@gvt.com.br
Follow our profile Visit our channel Visit our website

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 19, 2026.

De: Reginaldo Alexandre Borges
Enviado em: sexta-feira, 20 de agosto de 2010 14:13
Para: Gustavo Dartagnan Xavier do Rego
Ass unto: Treinamento Central NGN
Anexos: Avaliação de Reação.pdf; Lista de Presença Central NGN.xls

Boa Tarde Gustavo!

Segue em anexo a Lista de Presença e a Avaliação de Reação, que devem ser aplicados no curso de Central NGN, da próxima semana.

A Lista de Presença deve ser utilizada uma apenas, pois está dividida nas datas respectivas.

A Avaliação de Reação deve ser entregue uma a cada participante, ao final do curso, para avaliação interna do mesmo.

Solicito que, se possível, seja aplicado uma Prova no curso, para que os conhecimentos adquiridos por cada um seja efetivamente avaliado.

Tentei falar com o Miliorança, mas sem sucesso, referente ao conteúdo do treinamento.

Tudo bem?

Qualquer dúvida estou à disposição.

Att.

GVT | Reginaldo Alexandre Borges | Capacitação Técnica
41 3085 6213 – reginaldo.borges@gvt.com.br

Siga nosso perfil Visite nosso canal Acesse nosso site

Subject:	Central NGN (Next Generation Network) Course
Location:	GVT - Marechal - Training Room
Start:	Mon 08/23/2010 9:00 AM
End:	Mon 08/23/2010 1:00 PM
Show time as:	Tentative
Recurrence:	Weekly
Recurrence pattern:	every Monday, Tuesday, Wednesday, Thursday, and Friday from 9:00 AM to 1:00 PM
Meeting status:	Not responded yet
Organizer:	Training & Development
Required attendees:	Roberto Salviano Da Silva Junior; Daniel De Oliveira Gomes; Alvaro Henrique Andreotti; Lothario Alberto Klaumann; Erik Voitic; Jonas Alves Gomes; Marcos Giglio
Optional attendees:	Jose Roberto Milioranca; Tiago Carvalho Martins
Priority:	High

When: Occurs every Monday, Tuesday, Wednesday, Thursday, and Friday, effective from 08/23/2010 to 08/27/2010 from 9:00 AM to 1:00 PM (GMT-03:00) Brasilia.
Where: GVT - Marechal - Training Room

~~*~*~*~*~*~*~*~*



Good afternoon,

We confirm your attendance at the **Central NGN** course.

Date: 08/23 to 08/27/2010

Time: 9:00 AM to 1:00 PM

Location: GVT - Marechal - Training Room

Instructor: Gustavo

Responsible Analyst: Lilian Gizéli Schopping (3025-1964/3022-9778)

Important Information

· In the event of being unable to participate, the responsible analyst must be informed 48 hours in advance, so that there is no impact on the training logistics.

· Travel costs are the responsibility of each area and must be requested through the assistants.

· It is the participant's responsibility to inform their immediate manager about their participation in the course.

· Lunch and parking costs are not included.

We wish you an excellent course!

Training & Development

I, Thainá de Brito Oliveira, telephone number 415 425-2508, mailing address P.O. Box 90487, San Diego, CA 92169, certify that the professional translation of this document from Portuguese to English has been performed by myself, a qualified translator fluent in both languages, and that the following is an accurate and complete translation of the document.



_____ Date: October 19, 2026.

Ass unto:	Curso Central NGN
Local:	GVT - Marechal - Sala de Treinamento
Início:	seg 23/08/2010 09:00
Fim:	seg 23/08/2010 13:00
Mostrar horário como:	Provisório
Recorrência:	Semanal
Padrão de recorrência:	a cada segunda-feira, terça-feira, quarta-feira, quinta-feira e sexta-feira de 09:00 às 13:00
Status da reunião:	Ainda não respondida
Organizador:	Treinamento & Desenvolvimento
Participantes necessários:	Roberto Salviano Da Silva Junior; Daniel De Oliveira Gomes; Alvaro Henrique Andreotti; Lothario Alberto Klaumann; Erik Voitic; Jonas Alves Gomes; Marcos Giglio Jose Roberto Milioranca; Tiago Carvalho Martins
Participantes opcionais:	
Prioridade:	Alta

Quando: Ocorre a cada segunda-feira, terça-feira, quarta-feira, quinta-feira e sexta-feira em vigor de 23/8/2010 a 27/8/2010 de 09:00 às 13:00 (GMT-03:00) Brasilia.
Onde: GVT - Marechal - Sala de Treinamento

~~*~*~*~*~*~*~*~*

UNIVERSIDADE CORPORATIVA GVT — Livre acesso ao desenvolvimento.

Boa tarde,

Confirmamos sua presença no curso Central NGN.

Data: 23 a 27/08/2010

Horário: 09h00 às 13h00

Local: GVT - Marechal - Sala de Treinamento

Instrutor: Gustavo

Analista Responsável: Lilian Gizéli Schopping (3025-1964/3022-9778)

Informações Importantes

· Em caso da impossibilidade de participação, deve-se informar a analista responsável com 48h de antecedência, para que não haja impacto na logística do treinamento.

· Custos com viagem são de responsabilidade de cada área e devem ser solicitados às assistentes.

· É de responsabilidade do participante comunicar seu gestor imediato sobre sua participação no curso.

·Custos com almoço e estacionamento não estão inclusos.

Desejamos um excelente curso!

Treinamento & Desenvolvimento

RFE Exhibit I — SDFP Innovation Center Membership Documentation

SDFP Innovation Center

STATUS
Active

MEMBER'S NAME
Gustavo Dartagnan Xavier do Rego



MEMBERSHIP TYPE
Community Member

MEMBERSHIP ID
459

EXPIRATION
October 12, 2027

Open this link on your iOS or Android device to download your Digital Membership Card.

(/o/sdfpinc/)

Welcome, Gustavo Dartagnan
gustavodartagnan@gmail.com

✔ You're already a member of this organization

(/o/sdfpinc/members)

SDFP Innovation Center

(/o/sdfpinc/)

CONTACT US

MEMBERSHIP INFORMATION | PAYMENT DETAILS | UPCOMING EVENTS | DIRECTORY | POSTS

MEMBERSHIPS FOR GUSTAVODARTAGNAN@GMAIL.COM (LOG OUT)

Community Member

Active

View 7 Benefits of Membership

MEMBERSHIP INFORMATION

JOINED	EXPIRATION	MEMBERSHIP ID
October 12, 2026	October 12, 2027 - Renew Membership (/o/sdfpinc/renew/T5hvnXfBE67NYaXhT)	459



FIRST NAME	LAST NAME	EMAIL
Gustavo Dartagnan	Xavier do Rego	gustavodartagnan@gmail.com

PHONE
+5541988360365

STREET ADDRESS	COUNTRY
São Casemiro Ave, 1815	Brazil

CITY	ZIP
Araucária	83708-132

STATE
PR

Renew Membership (/o/sdfpinc/renew/T5hvnXfBE67NYaXhT)

View Membership Card (/o/sdfpinc/membership-card/T5hvnXfBE67NYaXhT)

Edit Membership Info (/o/sdfpinc/members-information/T5hvnXfBE67NYaXhT)

Cancel Membership (/o/sdfpinc/cancel/T5hvnXfBE67NYaXhT)

MAIN PAGE (/O/SDFPINC/)

English

(/o/sdfpinc/)

Welcome, Gustavo Dartagnan
gustavodartagnan@gmail.com

RFE Exhibit J — Federal Communications Commission Regulatory Materials

PUBLIC NOTICE

Federal Communications Commission
45 L Street NE
Washington, DC 20554

News Media Information 202 / 418-0500
Internet: https://www.fcc.gov

DA 24-73
Released: January 25, 2024

WIRELINE COMPETITION BUREAU ANNOUNCES ROBOCALL MITIGATION DATABASE FILING DEADLINES AND INSTRUCTIONS AND ADDITIONAL COMPLIANCE DATES

WC Docket No. 17-97

This Public Notice announces effective dates and compliance deadlines for revised Robocall Mitigation Database filing requirements and related rules adopted in the *Sixth Caller ID Authentication Report and Order*, including the additions of and revisions to 47 CFR §§ 64.6303(c), 64.6305(d), 64.6305(e), 64.6305(f) and 64.6305(g).[1]

Pursuant to these rules, all providers, regardless of whether they are required to implement STIR/SHAKEN—including all intermediate providers and providers that lack control over the network infrastructure necessary to implement STIR/SHAKEN—are now required to file certifications and robocall mitigation plans to the Robocall Mitigation Database.[2] They must also comply with expanded content requirements for these submissions.[3] Providers newly required to file in the Robocall Mitigation

[1] *See Call Authentication Trust Anchor*, WC Docket No. 17-97, Sixth Report and Order and Further Notice of Proposed Rulemaking, FCC 23-18, at 55, para. 125 (Mar. 17, 2023) (*Sixth Caller ID Authentication Report and Order*) (directing the Bureau "to announce effective dates for the additions of and revisions to 47 CFR §§ 64.6303(c), 64.6305(d), 64.6305(e), 64.6305(f) and 64.6305(g), as redesignated by this *Sixth Report and Order*, by subsequent Public Notice" following completion by the Office of Management and Budget (OMB) of any review required under the Paperwork Reduction Act). On November 7, 2023, OMB approved the information collection associated with these rules. OMB Control Number 3060-1285. Notice of OMB approval was published in the Federal Register on January 25, 2024. 89 Fed. Reg. 4833 (*Federal Register Notice*). These provisions will be effective February 26, 2024. Compliance with 47 CFR § 64.6305(g)(4) will be required no sooner than May 28, 2024.

[2] *Sixth Caller ID Authentication Report and Order* at 21, para. 37. Voice service providers, gateway providers, and those non-gateway intermediate providers that receive unauthenticated Session Initiation Protocol (SIP) calls directly from an originating provider are required to implement STIR/SHAKEN. *See* 47 CFR §§ 64.6301(a), 64.6302(c), (d). Non-gateway intermediate providers that do not receive unauthenticated SIP calls directly from originating providers and providers who lack control over the network infrastructure necessary to implement STIR/SHAKEN do not have an implementation obligation. *See Sixth Caller ID Authentication Report and Order* at 10-11, para. 17; *Call Authentication Trust Anchor*, WC Docket No. 17-97, Second Report and Order, 36 FCC Rcd 1859, 1868, para. 19 (2020) (citing *Call Authentication Trust Anchor, Implementation of TRACED Act Section 6(a) – Knowledge of Customers by Entities with Access to Numbering Resources*, WC Docket Nos. 17-97 and 20-67, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 3241, 3260, para. 40) (*Second Caller ID Authentication Report and Order*). Some providers with an implementation obligation have been granted an extension. *See* 47 CFR § 64.6304(a)(1)(iii), (b), (c). Providers claiming an implementation extension have always been required to submit certifications and robocall mitigation plans to the Robocall Mitigation Database. *See Sixth Caller ID Authentication Report and Order* at 5-6, 7, 20, paras. 7-8, 10, 36.

[3] *See Sixth Caller ID Authentication Report and Order* at 20-29, paras. 36-52.

Database must submit their initial filings containing all required information and certifications by **February 26, 2024**.[4] Existing filers must update their Robocall Mitigation Database submissions to provide all newly required information and certifications by the same date.[5]

Intermediate providers and voice service providers are already required to refuse traffic from any voice service provider or gateway provider that is not listed in the Robocall Mitigation Database.[6] Beginning on **May 28, 2024**, they will also be prohibited from accepting traffic from any non-gateway intermediate provider not listed in the Robocall Mitigation Database.[7] Stated differently, voice service providers and intermediate providers must refuse to carry traffic from *any* provider that is not listed in the Robocall Mitigation Database as of **May 28, 2024**.

The Robocall Mitigation Database submission portal is now open to accept new and updated filings. To assist filers with compliance, this Public Notice provides an overview of the expanded Robocall Mitigation Database filing requirements, along with filing instructions regarding the format of required submissions.[8]

I. EXPANDED ROBOCALL MITIGATION DATABASE FILING REQUIREMENTS AND ASSOCIATED DEADLINES

In the *Sixth Caller ID Authentication Report and Order*, the Commission adopted rules requiring all non-gateway intermediate providers, as well as voice service providers that have fully implemented STIR/SHAKEN and those that lack control over the network infrastructure necessary to implement STIR/SHAKEN, to meet the same "reasonable steps" general mitigation standard that previously applied to gateway providers and voice service providers that had not fully implemented STIR/SHAKEN under the Commission's rules.[9] Pursuant to this standard, a provider's program is "sufficient if it includes detailed practices that can reasonably be expected to significantly reduce" the carrying or processing (for intermediate providers) or origination (for voice service providers) of illegal robocalls.[10] Each provider

[4] *See* 47 CFR § 64.6305(d), (e), (f). The Commission required all providers newly subject to the Robocall Mitigation Database filing requirement, as well as existing filers subject to new or modified requirements, to submit a certification to the Robocall Mitigation Database, or amend their current certification, by the later of: (1) 30 days following publication in the Federal Register of notice of approval by the Office of Management and Budget (OMB) of any associated Paperwork Reduction Act (PRA) obligations; or (2) any deadline set by the Bureau through Public Notice. *Sixth Caller ID Authentication Report and Order* at 27, para. 49.

[5] *Sixth Caller ID Authentication Report and Order* at 27, para. 49. In addition, non-gateway intermediate providers must comply with the Commission's rules regarding caller ID authentication in non-IP networks by February 26, 2024, including the Commission's record keeping requirements. *See* 47 CFR § 64.6303(c); *Sixth Caller ID Authentication Report and Order* at 15, para. 26.

[6] *See* 47 CFR § 64.6305(g)(1), (3).

[7] *See id.* § 64.6305(g)(4); *Sixth Caller ID Authentication Report and Order* at 28, 29, paras. 50, 52.

[8] *Sixth Caller ID Authentication Report and Order* at 29, para. 52 (directing the Bureau to specify the form and format of any submissions, and to provide appropriate instructions and training materials as necessary).

[9] *Id.* at 17, para. 29. All providers newly covered by the general mitigation standard were required to meet that standard by August 21, 2023. *Id*. at 20, para. 35 (requiring providers newly covered by the general mitigation standard to meet that standard within 60 days following Federal Register publication of the Report and Order); *see* 88 Fed. Reg. 40096 (June 21, 2023) (announcing August 21, 2023 effective date for rules adopted in the Report and Order, except for certain amendments that were delayed).

[10] *Sixth Caller ID Authentication Report and Order* at 18, para. 31; *see Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1900, para. 78 (obligation for voice service providers); *Advanced Methods to Target and Eliminate Unlawful Robocalls, Call Authentication Trust Anchor*, CG Docket No. 17-59, WC Docket No. 17-97, Sixth Report and Order, Fifth Report and Order, Order on Reconsideration, Order, Seventh Further Notice of Proposed Rulemaking, Fifth Further Notice of Proposed Rulemaking, 37 FCC Rcd 6865, 6907-08, para. 103 (2022) (obligation for gateway providers) (*Gateway Provider Order*).

"must comply with the practices" that its program requires, and its program is insufficient if the provider "knowingly or through negligence" carries or processes calls (for intermediate providers) or originates (for voice service providers) unlawful robocall campaigns.[11] Providers' programs must also commit to respond fully, within 24 hours, to all traceback requests from the Commission, law enforcement, and the industry traceback consortium, and to cooperate with such entities in investigating and stopping illegal robocallers that use its service to originate, carry, or process illegal robocalls.[12]

Universal Robocall Mitigation Database Filing Obligation. Consistent with the expanded robocall mitigation obligations adopted in the *Sixth Caller ID Authentication Report and Order*, by **February 26, 2024**, all providers must submit or resubmit a filing to the Robocall Mitigation Database that includes the following: (1) a certification stating that all calls that they originate on their network are subject to a robocall mitigation program meeting the requirements above, that any prior certification has not been removed by Commission action and they have not been prohibited from filing in the Robocall Mitigation Database, and whether they have fully, partially, or not implemented STIR/SHAKEN on the IP portions of their networks;[13] (2) a robocall mitigation plan that describes the specific "reasonable steps" the provider has taken to avoid the origination, carrying, or processing of illegal robocall traffic as part of its robocall mitigation program, and includes other required contents described below;[14] (3) the provider's business name, address, and other identifying information;[15] and (4) certain additional information as described below.[16]

Additional Information to be Provided on the Submission Form. In the *Sixth Caller ID Authentication Report and Order*, the Commission adopted rules requiring all providers—including those newly obligated to file and those with an existing filing—to submit additional information with their certifications and mitigation plans.[17] Specifically, new and existing filers will be required to provide the following additional information on the submission form: (1) the role(s) they are playing in the call chain;[18] (2) detailed information supporting any claimed STIR/SHAKEN implementation extension or

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[11] *Sixth Caller ID Authentication Report and Order* at 18, para. 31; *see Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1900, para. 78; *Gateway Provider Order,* 37 FCC Rcd at 6908, para. 103.

[12] 47 CFR § 64.6305(a)(2), (b)(2), (c)(2); *see Sixth Caller ID Authentication Report and Order* at 18-19, para. 31; *Advanced Methods to Target and Eliminate Unlawful Robocalls, Call Authentication Trust Anchor*, CG Docket No. 17-59, WC Docket No. 17-97, Seventh Report and Order, Eighth Further Notice of Proposed Rulemaking, Third Notice of Inquiry, FCC 23-37, at 23, para. 52 (May 19, 2023).

[13] 47 CFR § 64.6305(d)(1), (e)(1), (f)(1); *see also Sixth Caller ID Authentication Report and Order* at 23, 25, paras. 42, 46.

[14] *See Sixth Caller ID Authentication Report and Order* at 20, 22-23, paras. 36, 40-41; 47 CFR § 64.6305(d)(2), (e)(2), (f)(2).

[15] Such information includes: (1) the business name(s) and primary address of the provider; (2) other business names in use by the provider; (3) all business names previously used by the provider; (4) whether the provider is also a foreign voice service provider; and (5) the name, title, department, business address, telephone number, and email address of one person within the company responsible for addressing robocall mitigation-related issues. *See Sixth Caller ID Authentication Report and Order* at 23-24, paras. 42-43; 47 CFR § 64.6305(d)(4), (e)(4), (f)(4).

[16] *See Sixth Caller ID Authentication Report and Order* at 24-27, paras. 43-48; 47 CFR § 64.6305(d)(1)-(2), (d)(4), (e)(1)-(2), (e)(4), (f)(1)-(2), (f)(4).

[17] *See Sixth Caller ID Authentication Report and Order* at 21-27, paras. 37-48.

[18] *Id.* at 24-25, para. 44. Specifically, providers must indicate whether they are: (1) a voice service provider with a STIR/SHAKEN implementation obligation serving end-users; (2) a voice service provider with a STIR/SHAKEN obligation acting as a wholesale provider originating calls; (3) a voice service provider without a STIR/SHAKEN obligation; (4) a non-gateway intermediate provider with a STIR/SHAKEN obligation; (5) a non-gateway intermediate provider without a STIR/SHAKEN obligation; (6) a gateway provider with a STIR/SHAKEN

(continued….)

exemption;[19] (3) information regarding their principals, affiliates, subsidiaries, and parent companies;[20] (4) a statement whether they are subject to a Commission, law enforcement, or regulatory agency action or investigation due to suspected unlawful robocalling or spoofing and provide information concerning any such actions or investigations;[21] and (5) the filer's Operating Company Number (OCN) if they have one.[22] The submission form will prompt this information from the filer via clearly-labeled checkboxes, dropdown menus, and text fields, as described in more detail in the filing instructions provided below. All required fields must be completed before a filing can be submitted.

Additional Information to be Provided with Robocall Mitigation Plans. Consistent with existing filers' prior obligations, all providers must upload a robocall mitigation plan to the Robocall Mitigation Database portal that describes the specific "reasonable steps" the provider has taken to avoid, as applicable, the origination, carrying, or processing of illegal robocall traffic as part of its robocall mitigation program.[23] Gateway providers must also provide a description of how they have complied with the know-your-upstream provider requirement in section 64.1200(n)(5) of the Commission's rules.[24] In addition, as part of their obligation to describe with particularity their specific mitigation practices:[25] (1) voice service providers must describe how they are meeting their existing obligation to take affirmative, effective measures to prevent new and renewing customers from originating illegal calls;[26] (2) non-gateway intermediate providers and voice service providers must, like gateway providers, describe any "know-your-upstream provider" procedures in place designed to mitigate illegal robocalls;[27] and (3) all providers must describe any call analytics systems they use to identify and block illegal traffic,

(Continued from previous page)
obligation; (7) a gateway provider without a STIR/SHAKEN obligation; and/or (8) a foreign provider. *Id.*; 47 CFR § 64.6305(d)(4)(vi), (e)(4)(vi), (f)(4)(vi).

[19] *Sixth Caller ID Authentication Report and Order* at 25, para. 45; 47 CFR § 64.6305(d)(2)(i), (e)(2)(i), (f)(2)(i). Specifically, a filer asserting it does not have an obligation to implement STIR/SHAKEN because of an ongoing extension, or because it lacks control over the network infrastructure necessary to implement STIR/SHAKEN, must both explicitly state the rule that exempts it from compliance and explain in detail why that exemption applies to the filer. *Sixth Caller ID Authentication Report and Order* at 25, para. 45.

[20] *Sixth Caller ID Authentication Report and Order* at 25-26, para. 46. Filers must provide sufficient detail regarding their ownership and management to facilitate the Commission's ability to determine whether the provider has been prohibited from filing in the Robocall Mitigation Database. *Id.* If the filer requires more space than is provided on the submission form, they may include this information as part of their robocall mitigation plan.

[21] *Id.* at 26-27, para. 47; 47 CFR § 64.6305(d)(2)(iv), (e)(2)(iv), (f)(2)(iv). This reporting requirement is limited to formal actions and investigations that have been commenced or issued pursuant to a written notice or other instrument containing findings by the law enforcement or regulatory agency that the filing entity has been or is suspected of the illegal activities itemized above, including, but not limited to, notices of apparent liability, forfeiture orders, state or federal civil lawsuits or criminal indictments, and cease-and-desist notices. *Sixth Caller ID Authentication Report and Order* at 26, para. 47.

[22] *Sixth Caller ID Authentication Report and Order* at 27, para. 48; 47 CFR § 64.6305(d)(4)(vii), (e)(4)(vii), (f)(4)(vii).

[23] 47 CFR § 64.6305(d)(2)(ii), (e)(2)(ii), (f)(2)(ii).

[24] *Id.* § 64.6305(e)(2)(ii); *see also id*. § 64.1200(n)(4) ("A voice service provider must . . . [i]f the provider acts as a gateway provider, take reasonable and effective steps to ensure that any foreign originating provider or foreign intermediate provider from which it directly receives traffic is not using the gateway provider to carry or process a high volume of illegal traffic onto the U.S. network.").

[25] *Sixth Caller ID Authentication Report and Order* at 22, para. 40.

[26] 47 CFR § 64.6305(d)(2)(ii); *see also id*. § 64.1200(n)(4).

[27] *Id.* § 64.6305(d)(2)(ii), (f)(2)(ii).

including whether they use a third-party vendor or vendors and the name of the vendor(s).[28] To comply with the new requirements to describe their "new and renewing customer" and "know-your-upstream provider" procedures, providers must describe any contractual provisions with end-users or upstream providers designed to mitigate illegal robocalls.[29] All mitigation plans must be submitted in PDF format.

We caution providers to carefully review their robocall mitigation plans to ensure they provide sufficient detail for the Commission to identify the specific steps a provider is taking to mitigate illegal robocalls and assess whether they are reasonable. The Commission has made clear that robocall mitigation plans that fail to provide sufficient information may be deemed facially deficient and subject to the expedited removal procedure adopted in the *Sixth Caller ID Authentication Report and Order*.[30] Indeed, the Commission's Enforcement Bureau has initiated actions to remove facially deficient filings from the Robocall Mitigation Database.[31] Accordingly, while a sufficient robocall mitigation plan is not necessarily a lengthy one, providers should ensure that their plans contain detailed information that responds to each requirement of the Commission's rules.

Providers That Play More Than One Role in the Call Chain. Some new and existing filers may play different roles in the call chain depending on the source of the call and their particular network and business model. For example, a voice service provider may originate some traffic and act as a non-gateway intermediate provider and/or gateway provider for other traffic originated elsewhere. Such providers must indicate on the submission form that they are certifying as more than one provider-type,[32] and will be presented with up to three sets of certification options—one set containing the required certifications for voice service providers,[33] one set containing the required certifications for gateway providers,[34] and one set containing the required certifications for non-gateway intermediate providers,[35]

[28] *Id.* § 64.6305(d)(2)(ii), (e)(2)(ii), (f)(2)(ii).

[29] *Sixth Caller ID Authentication Report and Order* at 22, para. 40. Providers are not required to submit contractual provisions, but to describe them in general terms, including whether such provisions are typically included in their contracts. *Id.* at 22, para. 40 n.154.

[30] *See id.* at 32-33, para. 61. The Commission provided the following non-exclusive examples of filings that may be deemed facially deficient: (1) a request for confidentiality with no underlying substantive filing; (2) only non-responsive data or documents (e.g., a screenshot from the Commission's website of a provider's FCC Registration Number data or other document that does not describe robocall mitigation efforts); (3) information that merely states how STIR/SHAKEN generally works, with no specific information about the provider's own robocall mitigation efforts; or (4) a certification that is not in English and lacks a certified English translation. *Id*. The Commission found that such filings fail to submit "even the most basic information required" to determine if the steps a provider is taking to mitigate illegal robocalls are reasonable. *Id*.

[31] *See Viettel Business Solutions Company*, EB-TCD-23-00034918, Order, DA 23-979 (EB Oct. 16, 2023); *Etihad Etisalat (Mobily)*, EB-TCD-23-00034920, Order, DA 23-967 (EB Oct. 16, 2023); *Claude ICT Poland Sp. z o. o. dba TeleCube.PL*, EB-TCD-23-00034944, Order, DA 23-961 (EB Oct. 16, 2023); *Nervill LTD*, EB-TCD-23-00034946, Order, DA 23-970 (EB Oct. 16, 2023); *Textodog Inc. dba Textodog and Textodog Software Inc.*, EB-TCD-23-00035605, Order, DA 23-976 (EB Oct. 16, 2023); *Phone GS*, EB-TCD-23-00035606, Order, DA 23-972 (EB Oct. 16, 2023); *Computer Integrated Solutions dba CIS IT & Engineering*, EB-TCD-23-00035613, Order, DA 23-962 (EB Oct. 16, 2023); *Datacom Specialists*, EB-TCD-23-00035614, Order, DA 23-963 (EB Oct. 16, 2023); *DomainerSuite, Inc.*, EB-TCD-23-00035615, Order, DA 23-964 (EB Oct. 16, 2023); *Evernex SMC PVT LTD*, EB-TCD-23-00035616, Order, DA 23-966 (EB Oct. 16, 2023); *Humbolt Voip*, EB-TCD-23-00035617, Order, DA 23-965 (EB Oct. 16, 2023); *My Taxi Ride Inc*, EB-TCD-23-00035618, Order, DA 23-968 (EB Oct. 16, 2023).

[32] Only a single Robocall Mitigation Database filing can be associated with a given FCC Registration Number (FRN), and therefore a provider that plays more than one role in the call chain will not be permitted to submit more than one filing to the Robocall Mitigation Database using the same FRN. See the Robocall Mitigation Database Filing Instructions for more information, available at https://www.fcc.gov/sites/default/files/rmd-instructions.pdf.

[33] *See* 47 CFR § 64.6305(d)(1).

[34] *See id.* § 64.6305(e)(1).

depending on which provider-type(s) they select on the form. A non-gateway intermediate provider that previously submitted a certification and, if applicable, a robocall mitigation plan to the Robocall Mitigation Database as a voice service provider, gateway provider, or combined gateway and voice service provider, must amend its current certification and any mitigation plan to comply with the requirements described in this Public Notice.[36] A provider that plays more than one role in the call chain need only submit a single mitigation plan, but should explain the mitigation steps it undertakes in each role, to the extent those mitigation steps are different.[37] Amended certifications and associated robocall mitigation plans must also be submitted by **February 26, 2024**.[38]

Filings Imported from the Intermediate Provider Registry. To the extent a non-gateway intermediate provider's filing was imported into the Robocall Mitigation Database via the Intermediate Provider Registry, that Robocall Mitigation Database entry is not sufficient to meet the non-gateway intermediate provider's affirmative obligation to submit a certification to the Robocall Mitigation Database.[39] Such providers must submit an affirmative filing and certification consistent with the filing requirements and instructions provided in this Public Notice.

In light of non-gateway intermediate providers' affirmative obligation to submit a certification and mitigation plan to the Robocall Mitigation Database, the Bureau has determined that it is no longer necessary to import filings from the Intermediate Provider Registry or to maintain current imported filings.[40] Accordingly, on **February 26, 2024**, the Bureau will cease importing filings from the Intermediate Provider Registry and will remove all current imported filings from the Robocall Mitigation Database.[41]

(Continued from previous page)
[35] *See id.* § 64.6305(f)(1).

[36] *See Sixth Caller ID Authentication Report and Order* at 27, para. 49 ("Existing filers subject to new or modified requirements adopted in this . . . *Order* must amend their filings with the newly required information by the . . . deadline."). The certification option(s) the provider previously selected when it certified as a voice service provider and/or gateway provider will not be pre-filled on the submission form. The filer will be required to select or re-select a certification option for each relevant provider-type before the filing can be submitted. See the Robocall Mitigation Database filing instructions for more information, available at https://www.fcc.gov/sites/default/files/rmd-instructions.pdf.

[37] *Sixth Caller ID Authentication Report and Order* at 22, para. 39.

[38] *See id.* at 27, para. 49; *Federal Register Notice*, 89 Fed. Reg. at 4833.

[39] *Sixth Caller ID Authentication Report and Order* at 28, para. 51.

[40] Previously, all intermediate providers were imported into the Robocall Mitigation Database from the rural call completion database's Intermediate Provider Registry so that all intermediate providers would be represented therein, giving downstream providers "confidence that any provider not listed in the Robocall Mitigation Database is out of compliance with [the Commission's] rules, rather than leaving the potential for uncertainty about whether a provider . . . was not required to be included in the database because it does not originate traffic." *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1904, para. 87 n.340; *see also* 47 CFR § 64.6305(g) (requiring intermediate providers and terminating voice service providers to accept calls from a domestic voice service provider, foreign provider, gateway provider, or non-gateway intermediate provider only if that provider is listed in the Robocall Mitigation Database). Now that all providers, regardless of whether they originate traffic, including gateway and non-gateway intermediate providers, are required to submit a certification to the Robocall Mitigation Database, it is no longer necessary to import filings from the Intermediate Provider Registry or maintain current imported filings to facilitate compliance with the requirements of section 64.6305(g).

[41] *See Sixth Caller ID Authentication Report and Order* at 29, para. 52 ("We . . . delegate to the . . . Bureau the authority to make the necessary changes to the Robocall Mitigation Database to indicate whether a non-gateway intermediate provider has made an affirmative filing (as opposed to being imported as an intermediate provider) . . . and to announce its determination as part of its guidance."); *Gateway Provider Order*, 37 FCC Rcd at 6885, para. 48 ("Consistent with our direction to the . . . Bureau to make the necessary changes to the portal to effectuate the rules we adopt today, we direct the Bureau to determine how to manage the imported data of gateway providers . . . .").

Obligations on Downstream Intermediate Providers and Voice Service Providers. In the *Sixth Caller ID Authentication Report and Order*, the Commission adopted a rule prohibiting "downstream providers . . . from accepting any traffic from a non-gateway intermediate provider not listed in the Robocall Mitigation Database, either because the provider did not file or their certification was removed . . . as part of an enforcement action."[42] The Commission stated that compliance with this rule would be required no sooner than "90 days following the deadline for non-gateway intermediate providers to submit a certification to the Robocall Mitigation Database."[43] With the filing deadline now established for **February 26, 2024**, this prohibition will go into effect on **May 28, 2024**. As of that date, intermediate providers and voice service providers will be prohibited from accepting calls directly from a non-gateway intermediate provider if that non-gateway intermediate provider's filing does not appear in the Robocall Mitigation Database.[44] The Bureau will remove from the Robocall Mitigation Database the filing and certification of any provider that is de-listed pursuant to an enforcement action.[45]

II. CERTIFICATION FILING INSTRUCTIONS

All providers must submit or resubmit their certification, mitigation plan, identification and other required information, and contact information via the Robocall Mitigation Database portal on the Commission's website at https://fccprod.servicenowservices.com/rmd?id=rmd_welcome.[46] All certifications and robocall mitigation program descriptions submitted to the Robocall Mitigation Database must be in English or with a certified English translation,[47] and must be signed by an officer in conformity with section 1.16.[48]

Updated instructions for submitting a certification and accompanying information can be found at https://www.fcc.gov/files/rmd-instructions. New and existing filers must submit any necessary updates regarding changes to their certification, mitigation plan, identification or other required information, or contact information to the Commission within 10 business days of the change.[49]

Public Database Location. The Robocall Mitigation Database is publicly available on the Commission's website at https://fccprod.servicenowservices.com/rmd?id=rmd_listings. A list of all providers with current filings in the database, published as a .csv file, may be downloaded at any time at https://fccprod.servicenowservices.com/rmd?id=rmd_welcome.[50]

Confidential Submissions. Providers may request that materials or information submitted to the Commission in their robocall mitigation plans be withheld from public inspection, consistent with the

[42] *Sixth Caller ID Authentication Report and Order* at 28, para. 50; *see also* 47 CFR § 64.6305(g)(4).

[43] *Sixth Caller ID Authentication Report and Order* at 28, para. 50.

[44] 47 CFR § 64.6305(g)(4); *see also Sixth Caller ID Authentication Report and Order* at 28, para. 51.

[45] *See Sixth Caller ID Authentication Report and Order* at 29, para. 52 ("We . . . delegate to the . . . Bureau the authority to make the necessary changes to the Robocall Mitigation Database to indicate . . . whether any provider's filing has been de-listed as part of an enforcement action, and to announce its determination as part of its guidance.").

[46] 47 CFR § 64.6305(d)(3)(i), (e)(3)(i), (f)(3)(i).

[47] *Sixth Caller ID Authentication Report and Order* at 24, para. 42; 47 CFR § 64.6305(d)(2), (e)(2), (f)(2).

[48] *Sixth Caller ID Authentication Report and Order* at 24, para. 42; 47 CFR § 64.6305(d)(3)(ii), (e)(3)(ii), (f)(3)(ii).

[49] *Id.* § 64.6305(d)(5), (e)(5), (f)(5); *see also Sixth Caller ID Authentication Report and Order* at 24, 27, paras. 42, 49.

[50] This list excludes providers with filings that have been removed pursuant to an enforcement action or were voluntarily deleted.

Commission's confidentiality rules.[51] To do so, providers must submit a request for confidential treatment of that information in WC Docket No. 17-97 through the Commission's Electronic Comment Filing System (ECFS).[52] Providers must then upload *both* the redacted (i.e., public) and unredacted (i.e., non-public) PDF copies of their robocall mitigation plans via the Robocall Mitigation Database portal. To do so, providers should check the box stating that they request that some of the filing's contents be kept confidential in the "Upload" section of the Robocall Mitigation Database submission form and follow the prompts to upload both the redacted and unredacted versions of their plans.[53] We remind providers that requests for confidential treatment and associated redactions that are overbroad or otherwise inconsistent with the Commission's rules will be rejected. Comprehensive instructions for submitting confidential filings via the portal are available at https://www.fcc.gov/files/rmd-instructions.

For further information, please contact Erik Beith, Wireline Competition Bureau, Competition Policy Division, at (202) 418-0756 or by email at Erik.Beith@fcc.gov.

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[51] *Sixth Caller ID Authentication Report and Order* at 28, para. 49; *see also Wireline Competition Bureau Adopts Protective Order for Robocall Mitigation Program Descriptions*, WC Docket No. 17-97, Public Notice, Attach., 36 FCC Rcd 14562, 14566, para. 2 (WCB 2021) (defining confidential information filed as part of a robocall mitigation plan as information filed consistent with the protective order or sections 0.459 or 0.461 of the Commission's rules) (*Protective Order*); 47 CFR § 0.459.

[52] 47 CFR § 0.459; *see also Protective Order*, 36 FCC Rcd at 14569, para. 5. Confidentiality requests should not be submitted through the Robocall Mitigation Database portal.

[53] *Protective Order*, 36 FCC Rcd at 14569, para. 5.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Methods to Target and Eliminate Unlawful Robocalls	)	CG Docket No. 17-59
	)	

EIGHTH REPORT AND ORDER

Adopted: February 27, 2025 **Released: February 28, 2025**

By the Commission: Chairman Carr and Commissioner Starks issuing separate statements.

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I. INTRODUCTION

1. In this Report and Order, we strengthen the Commission's call blocking and robocall mitigation rules in key areas. First, we expand our requirement to block calls based on a reasonable do-not-originate (DNO) list to include all U.S.-based providers[1] in the call path. We next establish Session Initiation Protocol (SIP) code 603+ as the exclusive code to notify callers when calls on Internet Protocol (IP) networks are blocked based on reasonable analytics to better correct erroneous blocking.

[1] In this Order, when referring to calls, we use "provider" to mean any provider in the call path, including originating, intermediate, and terminating providers; this is consistent with our use of "voice service provider" in our existing call blocking rules. *See* 47 CFR § 64.1200.

II. BACKGROUND

A. The Problem of Illegal Calls

2. Consumers continue to receive an unacceptably high number of illegal calls. These illegal calls are not just annoying and disruptive; they also cause consumers to lose significant amounts of money. The Federal Trade Commission (FTC) reports a median loss of $1,480 for fraud by phone call,[2] or $850 million total each year.[3]

3. Industry data also bears out the problem. One industry estimate indicates that the average U.S. consumer receives 13 spam or fraud calls per month and that, on average, those who are scammed by phone calls lose $865.[4] These numbers indicate that, despite industry, Commission, and law enforcement efforts, significant room remains for additional measures to combat illegal calls.

B. An Incremental Approach to Protect Consumers from Illegal Calls

4. The Commission has taken an incremental, multi-pronged approach to protecting consumers from illegal calls. This work has focused on a few key areas, including: blocking; traceback and authentication; and additional mitigation strategies such as the Robocall Mitigation Database (RMD) and know-your-customer-style rules, including requirements under 47 CFR § 64.1200(n)(4)-(5). A silver bullet to solve this problem does not exist, which is why our work in each area has been essential to combat these calls.[5]

C. DNO Blocking

5. Blocking illegal calls ensures they never reach consumers. The Commission has authorized, and in certain instances, mandated, blocking within certain restrictions to ensure that consumers are protected from illegal calls and have the option to avoid unwanted calls. The Commission first authorized DNO blocking in 2017.[6] In the *First Call Blocking Order*, the Commission clarified that voice service providers can block calls purporting to originate from certain categories of problematic numbers, including invalid, unused, and unallocated numbers, as well as numbers for which the subscriber to the number has requested blocking.[7] The Commission explained that, because there is no legitimate reason for a caller to use such a number, these calls are highly likely to be illegal and no reasonable consumer would wish to receive them.[8] In 2022, the Commission required gateway providers to block calls using a reasonable DNO list.[9] In 2023, the Commission sought comment on extending this requirement to all providers in the call path.[10]

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[2] This is based on complaint data from 2023. FTC, Consumer Sentinel Network Data Book 2023 at 12 (2024), https://www.ftc.gov/system/files/ftc_gov/pdf/CSN-Annual-Data-Book-2023.pdf.

[3] The FTC reports a total of $850 million lost to fraud by phone call. *Id.*

[4] Hiya, State of the Call 2024 at 21 (2024), https://www.hiya.com/state-of-the-call.

[5] When such calls do get through, consumers may have additional protections, including a private right of action, under the Telephone Consumer Protection Act (TCPA). 47 U.S.C. § 227(b)(3).

[6] *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 9706, 9710-21, paras. 10-40 (2017) (*First Call Blocking Order*); *see* 47 CFR § 64.1200(k)(1), (2)(i)-(iii).

[7] *First Call Blocking Order*, 32 FCC Rcd at 9719-21, paras. 10-40.

[8] *Id*. at 9713, 9715, paras. 10, 18, 23.

[9] Although the Commission clarified in 2022 that a "reasonable DNO list" may include numbers in any of the categories covered in the *2017 Call Blocking Order* authorization, it also stated that such a list need not include all numbers in those categories. *Advanced Methods to Target and Eliminate Unlawful Robocalls, Call Authentication Trust Anchor*, CG Docket No. 17-59, WC Docket No. 17-97, Sixth Report and Order in CG Docket No. 17-59, Fifth Report and Order in WC Docket No. 17-97, Order on Reconsideration in WC Docket No. 17-97, Seventh Further

(continued….)

D. Protections for Lawful Calls

6. Alongside its work to protect consumers from illegal calls, the Commission has provided for transparency and redress to callers that find their calls are blocked in error, and information for consumers to determine whether they are missing wanted calls. These protections include requiring a point of contact for blocking disputes, requiring a status update on said disputes within 24 hours,[11] protections for calls to 911[12] and other emergency calls,[13] and requiring providers to produce a list of calls blocked on an opt-in or opt-out basis to the subscriber on request.[14]

7. Notably, our rules also require providers that block calls based on reasonable analytics to provide immediate notification to callers using an appropriate SIP or ISDN User Part (ISUP) code.[15] The Commission adopted this requirement in 2020 and initially required the use of SIP codes 607 or 608 and ISUP code 21.[16] Following a Petition for Reconsideration,[17] the Commission revised this requirement to temporarily allow the use of SIP code 603 as well.[18] The Commission found that this modification struck a reasonable balance between the technical concerns of providers and the needs of callers.[19] In the intervening time, industry developed an alternative code for this purpose: SIP code 603+.[20] In the *May 2023 Call Blocking Order and Further Notice*, the Commission sought comment on the most appropriate SIP code to use for immediate notification of analytics-based blocking, specifically seeking comment on each of the potential codes.[21]

III. DISCUSSION

8. Combatting illegal calls has long been one of the Commission's top consumer protection priorities. Today, we enhance our existing rule requiring gateway providers to block based on a reasonable DNO list. We also ensure callers and providers can identify and correct erroneous blocking by adopting SIP code 603+ as the exclusive SIP code for immediate notification to callers when providers

(Continued from previous page)
Notice of Proposed Rulemaking in CG Docket No. 17-59, and Fifth Further Notice of Proposed Rulemaking in WC Docket No. 17-97, 37 FCC Rcd 6865, 6901-02, para. 87-91 (2022) (*Gateway Provider Order and Further Notice*); *see* 47 CFR § 64.1200(o).

[10] *Advanced Methods to Target and Eliminate Unlawful Robocalls, Call Authentication Trust Anchor*, CG Docket No. 17-59, WC Docket No. 17-97, Seventh Report and Order in CG Docket No. 17-59 and WC Docket No. 17-97, Eighth Further Notice of Proposed Rulemaking in CG Docket No. 17-59, and Third Notice of Inquiry in CG Docket No. 17-59, 38 FCC Rcd 5404, 5429-30, paras. 76-79 (2023) (*May 2023 Call Blocking Order and Further Notice*).

[11] 47 CFR § 64.1200(k)(8).

[12] 47 CFR § 64.1200(k)(5).

[13] 47 CFR § 64.1200(k)(6).

[14] 47 CFR § 64.1200(k)(10).

[15] 47 CFR § 64.1200(k)(9).

[16] *December 2020 Call Blocking Order*, 35 FCC Rcd at 15239-42, paras. 52-61.

[17] Petition for Reconsideration and Request for Clarification of USTelecom - The Broadband Association, CG Docket No. 17-59 (filed May 6, 2021) https://www.fcc.gov/ecfs/document/10506243707563/1.

[18] *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Order on Reconsideration, Sixth Further Notice of Proposed Rulemaking, and Waiver Order, 36 FCC Rcd 17962, 17967-73, paras. 13-22 (2021) (*Transparency and Redress Reconsideration Order*).

[19] *Id.* at 17967, para. 13.

[20] ATIS, SIP Forum, ATIS-1000099, ATIS Standard on Robocall Blocking Notification (Aug. 2022) https://access.atis.org/higherlogic/ws/public/download/67424 (603+ Specification).

[21] *May 2023 Call Blocking Order and Further Notice*, 38 FCC Rcd at 5433-35, paras. 90-94.

block a call based on analytics. Additionally, we address open questions regarding the display of caller name information, but do not require providers to display caller name at this time. Finally, we decline to address certain issues raised in the *May 2023 Call Blocking Order and Further Notice* at this time, including expansions to our rules requiring blocking following Commission notification, a reasonable analytics blocking mandate, or establishing a base forfeiture.

A. Requiring All Providers to Block Using a Reasonable Do-Not-Originate List

9. We adopt our proposal to require all providers in the call path to block calls that are highly likely to be illegal based on a reasonable DNO list.[22] Requiring all providers to block using a reasonable DNO list ensures that this type of blocking protects all voice customers.[23] Even if some providers use more limited lists that are nonetheless reasonable, either out of concern that lawful calls may be blocked or because of technical limitations, consumers will be better protected because other providers in the call path may use more extensive lists, or even slightly different lists.[24] We therefore agree with commenters that broadly support extension of the DNO blocking requirement to all voice service providers.[25] We make this requirement effective 90 days after publication of a notice of Office of Management and Budget (OMB) approval in the Federal Register.[26]

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[22] We clarify that this requirement is consistent with the requirement that TRS providers not refuse single or sequential calls. *See* 47 CFR § 64.604(a)(3)(i). In implementing that requirement, the Commission found that Congress, in adopting 47 U.S.C. § 225(d)(1)(E), intended TRS providers "to have the same service obligations as common carriers generally" and "that the common carrier obligation to provide service upon request set forth in Section 201(a) of the Act is not absolute and does not necessarily apply to service for an illegal purpose." *See Telecommunications Services for Individuals with Hearing and Speech Disabilities, the American with Disabilities Act of 1990*, CG Docket No. 90-571, 6 FCC Rcd 4657, 4660, para. 15 (1991). As such, TRS providers in the call path, like all other providers, must block calls that are highly likely to be illegal based on a reasonable DNO list.

[23] NCTA Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 5 (rec. Aug. 9, 2023) (NCTA Comments).

[24] *See* Somos Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 6 (rec. Aug. 9, 2023) (Somos Comments) at 6. There are many reasons why different providers may maintain different lists. For example, while some providers may block all unused numbers that are allocated to them, others may be unable to update a block list in real time to ensure that recently assigned numbers are not blocked. Similarly, while some providers may be able to obtain and use real-time information regarding unallocated numbers or those allocated to other providers, others may be unable to reliably do so. Because a call will transit multiple networks, the variations in these lists can potentially benefit customers of providers that implement more narrow lists.

[25] *See, e.g.*, ABA *et al.* Comments , CG Docket 17-59, WC Docket 17-97, at 6 (rec. Aug. 9, 2023) (ABA *et al.* Call Blocking Comments); Ad Hoc Telecom Users Committee Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 2-3 (rec. Aug. 9, 2023) (Ad Hoc Call Blocking Comments); Cloud Communications Alliance Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 2, 10-11 (rec. Aug. 9, 2023) (Cloud Communications Alliance Call Blocking Comments); Insights Association *et al.* Comments, CG Docket No. 17-59, at 7 (rec. Aug. 9, 2023) (Joint Caller Comments); NCTA Comments at 2, 5; Electronic Privacy Information Center *et al.* Reply Comments, CG Docket No. 17-50, WC Docket No. 17-97, at 6-7 (rec. Sept. 8, 2023) (Joint Consumer Reply Comments); Letter from Jonathan Thessin, Vice President/Senior Counsel, Consumer & Regulatory Compliance, Regulatory Compliance and Policy, American Bankers Association, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 1-2 (filed Feb. 12, 2025); *see also* Somos Comments at 6 (supporting a broad DNO list requirement but urging the Commission to expand the scope of the list).

[26] Competitive Carriers Association asked us to allow 90-120 days to implement this requirement. Letter from Angela Simpson, General Counsel & SVP, Legal and Regulatory Affairs, Competitive Carriers Association, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 17-59, 21-402, at 2 (filed Sep. 19, 2024) (CCA Sep. 19 *Ex Parte*). We agree that additional time is appropriate, particularly for smaller providers, and find that 90 days after OMB approval strikes the most appropriate balance between the desire for quick implementation and the needs of these providers.

10. While we agree with USTelecom that many providers already block based on such lists, we disagree with it that this makes a mandate unnecessary.[27] Requiring more providers to block based on a DNO list will ensure that more consumers are protected from illegal calls. Further, we are unpersuaded that any potential inefficiencies that stem from requiring all providers to block based on a reasonable DNO list outweigh the potential benefits.[28] A provider may implement this requirement in whatever method makes sense for its network, so long as the list is applied to all calls that transit the provider's network. We also decline to adopt a safe harbor for blocking based on a reasonable DNO list, as Cloud Communications Alliance suggests, because it is unclear what liability a provider would face for blocking based on a such a list and we are unaware of any provider facing such liability since the Commission first authorized this blocking in 2017.[29]

11. *Scope of the List*. Consistent with our rule for gateway providers and messaging providers, we do not mandate the use of a specific list, but allow providers to use any DNO list so long as the list is reasonable.[30] We similarly do not change the scope of numbers that may be included on a reasonable DNO list. This ensures that our rule for gateway providers is consistent with our rule for all other providers and ensures that the categories of numbers from which there is no valid reason for calls to originate can be included on the list. Such a list may[31] include only invalid, unallocated, and unused[32] numbers, as well as numbers for which the subscriber has requested blocking. We clarify that, to be considered reasonable, a list may include only the above-referenced categories of numbers and need not

[27] USTelecom Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 8 (rec. Aug. 9, 2023) (USTelecom Comments); *see also* Competitive Carriers Association Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 2 (rec. Sept. 8, 2023) (CCA Call Blocking Reply Comments) (opposing new blocking mandates as a general matter).

[28] USTelecom Comments at 8; *see also* Letter from Joshua M. Bercu, Vice President, Policy & Advocacy, USTelecom, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59 (filed Mar. 19, 2024) (USTelecom March 19 *ex parte*).

[29] Cloud Communications Alliance Call Blocking Comments at 10-11.

[30] 47 CFR § 64.1200(o); 47 CFR § 64.1200(p); *Gateway Provider Order and Further Notice*, 37 FCC Rcd at 6901-02, paras. 87-91; *Text Blocking Order and Further Notice*, 38 FCC Rcd at 2751-55, paras. 16-26.

[31] We disagree with Somos' request to change "may" to "must" and suggestion that this should be a "both the ceiling and the floor." Letter from Joel Bernstein, Vice President, Head of US Public Policy and Government Affairs, Somos, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 17-59, 21-402, at 2, Attach. 1 at 1 (filed Sep. 18, 2024) (Somos Sep. 18 *Ex Parte*). Somos' own evidence that "about 70% of 10-digit number combinations should not be originating any calls because numbers are not assigned to a carrier" ultimately underscores the problem. *Id*. at 2, Attach. 2. There is record evidence that there are providers that could not reasonably include such a high volume of numbers on a blocking list. *See, e.g.*, Neustar Comments, CG Docket No. 17-59, at 3 (rec. Aug. 9, 2023) (Neustar Comments); Letter from Joshua M. Bercu, Vice President, Policy & Advocacy, USTelecom, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos 17-59, 21-402 (filed Sep. 19. 2024) (USTelecom Sep. 19 *Ex Parte*). Of particular concern when considering a more aggressive approach across all providers, USTelecom points to the fact that troubleshooting is already needed to ensure that public safety calls complete in certain instances. USTelecom Sep. 19 *Ex Parte* at 2. It is unclear that all providers with similar limitations would be the "smaller local carriers" that Somos suggests could be allowed additional time. Somos Sep. 18 *Ex Parte* at 3. For these reasons we decline to accept the change.

[32] We disagree with Somos' suggestion that unused numbers should be defined as "the numbers contained in the 10,000 and 1,000 blocks of numbers that are in an area code (NPA) that is in service, but the block is not currently assigned to a carrier." Somos Sep. 18 *Ex Parte* at 2. This suggestion appears to completely overlap with the inclusion of "unallocated" numbers, and would be inconsistent with our existing use of the term. Therefore, we decline to change our definition at this time, and believe that allowing providers that can to include unused numbers, even if doing so is currently aspirational rather than practical, has value.

include all possible covered numbers.[33] This is particularly true for unused numbers, which may be difficult for some providers to identify in some cases. The Commission may, however, deem unreasonable a list so limited in scope that it leaves out obvious numbers that could be included with little effort. We find that the current categories of numbers appropriately balance the certainty that calls are highly likely to be illegal with the need to protect consumers from those calls. We therefore agree with commenters that ask us not to change the scope of numbers that may be included on a reasonable DNO list.[34]

12. Consistent with our rule, we do not adopt a single uniform list or establish a minimum list. Providers must constantly update DNO lists, especially if they include unused numbers that could go into use at any time, and there is not currently a standardized way to ensure that these updates would happen in real time for all providers. While this is true of either a centralized list or a provider-maintained list, a provider-maintained list may, for example, include only unused numbers assigned to that provider and automate number drop-off upon putting the number into use—or simply leave off these numbers if they cannot reasonably do so. Additionally, as Neustar notes, some voice service providers may have "limitations in the number of DNO numbers that they can use" due to "older or less capable networking equipment."[35] A provider-selected list better accounts for this issue than a uniform list, and technical limitations provide a valid reason for some numbers to be excluded. We also recognize that providers know their own networks and may be better positioned to determine what types of numbers should be prioritized. By contrast, a central list would need to include rules prioritizing particular numbers across the U.S. network, which may not be the best approach in all cases. We therefore agree with Neustar that granting flexibility to providers allows them "to adapt or customize their DNO list based on their customer base, traffic profile, and other reasonable considerations. This will help those voice service providers maximize protections for their customers."[36]

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[33] We find that this limitation addresses Cloud Communication Alliance's request for protection from liability in cases where a reasonable list does not include some particular number that could have been blocked. Cloud Communications Alliance Call Blocking Comments at 10-11. Because our rules expressly do not require all numbers to be included, incidental exclusion of a number would not generally support liability barring particular facts to the contrary. Blanket protection from liability for failure to include a number, however, would render this requirement toothless.

[34] *See, e.g.*, ABA *et al.* Call Blocking Comments at 6; Ad Hoc Call Blocking Comments at 2-3; Cloud Communications Alliance Call Blocking Comments at 2. We also decline to designate the Industry Traceback Group's list as presumptively reasonable, as some commenters ask us to do. *See, e.g.*, NCTA Comments at 2, 5-6; USTelecom Comments at 9; Verizon Call Blocking Comments, CG Docket No. 17-59, WC Docket 17-97, at 3-4 (rec. Aug. 9, 2023) (Verizon Call Blocking Comments); ACA Connects Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 4 (rec. Sept. 8, 2023) (ACA Connects Reply Comments); USTelecom Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 12 (rec. Sept. 8, 2023) (USTelecom Reply Comments). As we did in the *Gateway Provider Order*, we agree that the list as currently formulated would be reasonable. *Gateway Provider Order and Further Notice*, 37 FCC Rcd at 6902, n. 254. However, we decline to deem it "presumptively reasonable" on an ongoing basis, as the list is "not under Commission control and could be modified, or no longer updated, at any time without Commission input" and such changes could render the list not reasonable under our rules. *Id.* We therefore disagree with Somos' suggestion that we remove our statement that the Industry Traceback Group's list, as currently formulated, is reasonable. *See* Somos Sep. 18 *Ex Parte* at 2-3, Attach. 1 at 1. Somos' contentions that providers "simply defaulted to the ITG list" and that the Commission's statement that the Industry Traceback Group's list is currently reasonable "contradict[s]" the statement that we may deem a list unreasonable if it leaves out obvious numbers that could be included with little effort and therefore has "sown confusion in the market" are unsupported. Somos Sep. 18 *Ex Parte* at 3. Somos has not provided any evidence that the Industry Traceback Group's list does not currently meet the Commission's standards, or evidence that providers are confused by the Commission's previous statements.

[35] Neustar Comments at 3.

[36] *Id.* at 3.

13. We therefore disagree with commenters who argue that we should adopt a uniform list or establish a minimum list,[37] require a more comprehensive list,[38] or "set the criteria for inbound-only numbers to be the same as for government inbound-only numbers."[39] Because of the potential technological limitations discussed above, we decline to mandate a more extensive list at this time. We also maintain our previous approach, which allows providers to exercise discretion as to what numbers they include on their lists, so long as the list includes, at a minimum: 1) "any inbound-only government numbers where the government entity has requested the number be included;" and 2) "private inbound-only numbers that have been used in imposter scams, when a request is made by the private entity assigned such a number."[40] Providers may, of course, include inbound-only numbers that have not been used in imposter scams if they are capable of doing so.

14. Moreover, while Somos correctly notes that "the more comprehensive the DNO list . . . the more spoofed calls that will be blocked before reaching the intended victim,"[41] we find that the burden of requiring all providers, including smaller providers, to use an expansive DNO list is unnecessary at this time. This is particularly true when all other providers in the call path must block. Some providers will use or already use these more expansive lists, and a single call will often pass through several networks on its path to the recipient. As a result, many consumers will be protected by these more comprehensive lists even when one provider in the call path uses a more restricted list. We recommend that providers, when technically feasible, use a more comprehensive list to safeguard even more consumers.

B. SIP Code for Immediate Notification of Analytics-Based Blocking

15. We modify our requirement for terminating providers to provide immediate notification to callers when calls are blocked based on reasonable analytics.[42] We now require the exclusive use of SIP code 603+ for this purpose on IP networks.[43] We direct providers that block based on reasonable analytics to return SIP code 603+.[44] This will ensure that callers learn when and why their calls are blocked based on reasonable analytics, which in turn will allow these callers to access redress when blocking errors occur. We clarify that this requirement only applies when providers block calls based on analytics; we do not require providers to provide immediate notification when blocking based on a DNO list, pursuant to Commission notification if not based on analytics, or at the request of a customer without the use of analytics. As required by our rules, we direct all providers to perform necessary software upgrades to ensure the codes we require for such notification are appropriately mapped. Providers must ensure that calls that transit over Time Division Multiplexing (TDM) and IP networks return an

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[37] *See, e.g.*, Ad Hoc Call Blocking Comments at 4; YouMail Comments, CG Docket No. 17-59, at 15 (rec. Aug. 9, 2023) (YouMail Comments).

[38] Somos Comments at 2.

[39] Neustar Comments at 2-3.

[40] *Gateway Provider Order and Further Notice*, 37 FCC Rcd at 6901-02, para. 89. For either category, the provider "may impose reasonable requirements on including the numbers, such as requiring that the number is currently being spoofed at a substantial volume." *Id*. at 6902, para. 89.

[41] Somos Comments at 4-5.

[42] *See May 2023 Call Blocking Order and Further Notice*, 38 FCC Rcd at 5433-35, paras. 90-94.

[43] SIP Codes (used for calls carried over IP) and ISUP codes (used for calls carried over traditional TDM network technology) allow a terminating provider to send a response code when a call cannot be completed. These codes tell the caller or the originating provider why the call attempt failed. Internet Engineering Task Force, *Integrated Service Digital Network (ISDN) User Part (ISUP) to Session Initiation Protocol (SIP) Mapping* (Dec. 2002), https://tools.ietf.org/html/rfc3398 *(ISUP and SIP Code Mapping Specification*).

[44] SIP code 603+ is defined at ATIS-1000099, which was adopted by ATIS on August 16, 2022. We require all providers to return SIP code 603+ consistent with this version of the specification. 603+ Specification.

appropriate code when calls are blocked based on an analytics program,[45] and the correct ISUP code for this purpose remains 21.[46] We further direct voice service providers to cease using the standard version of SIP code 603, or SIP codes 607 or 608, for this purpose.

16. *Adopting 603+ for Immediate Notification on IP Networks*. The Commission previously indicated that the existing rule allowing providers to use one of several codes for immediate notification of blocking based on an analytics program—*i.e.*, SIP code 603, 607, or 608— was a temporary measure.[47] The TRACED Act requires the Commission to ensure that callers receive "transparency and effective redress" when their calls are blocked by analytics,[48] and a single uniform code is the best way to achieve this transparency. We therefore agree with commenters such as INCOMPAS and Cloud Communications Alliance that urge us to adopt a single, uniform code.[49] We similarly agree that providers should adopt and implement a code quickly.[50] The implementation of a single code has already been delayed[51] and should not be delayed for longer than is absolutely necessary for implementation.

17. The record demonstrates that SIP code 603+ will provide more information to providers more quickly than SIP code 608,[52] and likely at lower cost to providers.[53] While both SIP codes 603+ and 608 could ultimately provide the information callers need, commenters disagree as to whether SIP code 603+[54] or 608[55] is the best code for this purpose. Despite the contention by some commenters that some

[45] 47 CFR § 64.1200(k)(9).

[46] 47 CFR § 64.1200(k)(9)(ii).

[47] 47 CFR § 64.1200(k)(9(i); *Transparency and Redress Reconsideration Order*, 36 FCC Rcd at 17969-70, para. 17 ("We, therefore, find SIP Code 603 to be a natural and useful interim measure as industry moves to full implementation of SIP Codes 607 and 608."); *see also* TCN Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 3-4 (rec. Aug.9, 2023) (TCN Comments).

[48] TRACED Act § 10(b) (codified at 47 U.S.C. § 227(j)).

[49] *See, e.g.*, Ad Hoc Call Blocking Comments at 4-5; Cloud Communications Alliance Call Blocking Comments at 2; INCOMPAS Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 11-12 (rec. Aug. 9, 2023) (INCOMPAS Call Blocking Comments); Joint Callers Comments at 7; TCN Comments at 2; Cloud Communications Alliance Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 1, 6-8 (rec. Sept. 7, 2023) (Cloud Communications Alliance Call Blocking Reply Comments); INCOMPAS Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 5 (rec. Sept. 8, 2023) (INCOMPAS Call Blocking Reply Comments); National Opinion Research Center Reply Comments, CG Docket No. 17-59, WC Docket 17-97, at 6 (rec. Sept. 8, 2023) (NORC Call Blocking Reply Comments); Twilio Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 2, 8-9 (rec. Sept. 8, 2023) (Twilio Call Blocking Reply Comments). The cited commenters all ask us to adopt a single code; arguably, all comments that urge us to adopt either SIP code 603+ or 608 also urge us to do so.

[50] *See, e.g.*, INCOMPAS Call Blocking Reply Comments at 5; Joint Callers Comments at 7; NORC Call Blocking Reply Comments at 6; Twilio Call Blocking Reply Comments at 8-9.

[51] *See generally Transparency and Redress Reconsideration Order*, 36 FCC Rcd 17962.

[52] *See, e.g.*, ABA *et al.* Call Blocking Comments at 13-14; NCTA Comments at 2, 7-8; NTCA Comments at 1, 4, 6-7; Transaction Network Services Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 2-5 (rec. Aug. 9, 2023) (TNS Call Blocking Comments); TransNexus Comments at 1-2; USTelecom Comments at 15-16; Verizon Call Blocking Comments at 4; NCTA Reply Comments at 5-6; USTelecom Reply Comments at 3, 15-18; Verizon Call Blocking Reply Comments at 3.

[53] *See, e.g.*, NTCA Comments at 1, 4; USTelecom Call Blocking Comments at 16. TNS also argued that use of SIP code 607, rather than 608 or 603+ "could have the opposite of the Commission's intended effect, by increasing call queries and imposing more costs on terminating carriers and analytics engines." TNS Call Blocking Comments at 4.

[54] *See, e.g.*, ABA *et al.* Call Blocking Comments at 13-14; NCTA Comments at 2, 7-8; NTCA – The Rural Broadband Association Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 1, 4, 6-7 (rec. Aug. 9, 2023) (NTCA Comments); TNS Call Blocking Comments at 2-5; TransNexus Comments, CG Docket No. 17-59, at 1-2 (rec. Aug. 9, 2023) (TransNexus Comments); USTelecom Comments at 15; Verizon Call Blocking Comments at 4;

(continued….)

providers currently use SIP code 608,[56] it appears a limited number of providers use it for a limited number of calls and without the jCard.[57] In the SIP code 608 specification, the jCard is an optional feature but it is necessary to provide information such as the identity of the blocking provider and redress information.[58] As a result, current uses of SIP code 608 tell a caller that a call was blocked based on analytics but not which provider blocked the call or how to file a dispute.[59] Therefore, while SIP code 608 provides callers with the basic information that a call is blocked, it provides minimal actionable information. USTelecom notes that currently very few providers have implemented SIP code 608, which means that, when a caller receives a 608, there is a limited list of providers that may have blocked the call; it further notes that broader deployment will make identifying the blocking provider significantly more difficult, especially in cases where SIP Code 608 may be used by non-terminating providers.[60] Some commenters argue that implementing the jCard would take a significant amount of time—even years.[61] By contrast, SIP code 603+ is not currently in use, but can provide the same information without the complexity of the jCard; furthermore, since it builds on an existing code, it appears to be substantially less technically complex to implement.[62]

18. SIP code 603+ builds on SIP code 603, which is already in use in the network and is different from it in a few key ways.[63] First, instead of the status line reading "Decline" as in the standard SIP code 603, 603+ will read "Network Blocked."[64] This provides immediate, standardized information

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NCTA Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 5-6 (rec. Sept. 5, 2023) (NCTA Reply Comments); USTelecom Reply Comments at 3, 15-18; Verizon Reply Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 3 (rec. Sept. 8, 2023) (Verizon Call Blocking Reply Comments).

[55] *See, e.g.*, Cloud Communications Alliance Call Blocking Comments at 13-15; INCOMPAS Call Blocking Comments at 10-11; Joint Callers Comments at 7; TCN Comments at 1, 3-5; VON Call Blocking Comments at 2; Cloud Communications Alliance Call Blocking Reply Comments at 6-7; INCOMPAS Call Blocking Reply Comments at 4; NORC Call Blocking Reply Comments at 7.

[56] *See, e.g.*, VON Call Blocking Comments at 2; Cloud Communications Call Blocking Reply Comments at 7.

[57] *See, e.g.*, TNS Call Blocking Comments at 4-5 (noting that SIP code 608 without use of the jCard provides limited value and stating that implementation of the jCard "parameter presents multiple technical complexities and would require significant network upgrades"); USTelecom Reply Comments at 17-18 (noting that implementation of SIP code 608 with the jCard could impose significant costs both in time and money and that only a small number of providers currently use SIP code 608 at all).

[58] *See, e.g.*, TNS Call Blocking Comments at 4 ("Regarding SIP Code 608, without the accompanying jCard, information will be limited, making it [a] less[]-viable option than SIP Code 603+. Specifically, failing to include the jCard will mean callers only receive notice that the call was blocked based on analytics."); USTelecom Reply Comments at 15-16 (describing the limited information available without the jCard).

[59] USTelecom Reply Comments at 15-16.

[60] *Id.* at 15-18. One commenter does argue that, if SIP code 603+ can include redress information in an unencrypted manner, then SIP code 608 should be able to as well. Cloud Communications Alliance Call Blocking Reply Comments at 6-7. While this is true, there is no current standardized way to accomplish this and additional standards work would likely be necessary to ensure that all providers use the code in a uniform manner. Standardization is important to ensure that all providers can actually receive and transmit the included information.

[61] *See, e.g.*, TNS Call Blocking Comments at 5; USTelecom Comments at 16.

[62] *See, e.g.*, NTCA Comments at 1, 4; TNS Call Blocking Comments at 2-3; TransNexus Comments at 1-2; USTelecom Comments at 14-16; Verizon Call Blocking Comments at 4; USTelecom Reply Comments at 15; Verizon Call Blocking Reply Comments at 3; Letter from Elizabeth Gray Nunez, Government Affairs Counsel, Federal Regulatory & Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos.17-59, 21-402 (filed Sep. 19, 2024).

[63] 603+ Specification.

to originating providers and callers that the code is being used to indicate analytics-based blocking. Additionally, ATIS has standardized the reason header to define and require text fields that indicate blocking is based on analytics, as well as contact information for redress.[65] This contains significantly more information than that provided by SIP code 608 without the use of the optional jCard, and at least comparable to what that code would provide if fully implemented with the jCard.

19. Commenters are correct that SIP code 603 was not originally intended for use as a notification for blocking.[66] Indeed, when it was originally established, analytics-based blocking as we currently know it did not exist. And we agree with commenters that the Commission has characterized the use of SIP code 603 as a temporary measure to satisfy the TRACED Act requirement to provide transparency and effective redress for erroneous analytics-based blocking.[67] However, except where ISUP code 21 is translated into a standard SIP code 603 and therefore cannot be distinguished as a 603+,[68] SIP code 603+ is substantially different both in the status line and in mandatory text fields. These significant modifications, which make SIP code 603+ distinct from a standard SIP code 603, ensure that 603+ is appropriate for this use, even though the standard SIP code 603 would be inappropriate for long term use to indicate analytics-based blocking.

20. We disagree with commenters who argue that SIP code 608 is the more appropriate code because it is more readily accessible and easier for callers to analyze.[69] We understand that caller equipment may need to be modified to look for the text in the status line, rather than simply the number of the code, and that system changes may need to be done to read the text fields that include redress information. We are not convinced that this is a particularly challenging hurdle for callers to overcome, however. The status line that includes the numerical code, whether 603 or 608, also includes the reason phrase (in the case of 603+, "Network Blocked"). While software may not currently be configured to read this reason phrase, commenters do not make a clear case that this software cannot be reconfigured. Indeed, at least one group of caller commenters appears to believe that such reconfiguration is possible and specifically supports the use of SIP code 603+, citing the "Network Blocked" portion of the status line, among other factors, as evidence it will work for their needs.[70] Additionally, implementation of SIP code 603+ will make specific redress information available to callers, which should significantly reduce, if not eliminate, the current need for callers to invest significant time into investigation and outreach in order to initiate redress with the correct provider.[71] Moreover, if SIP code 608 were implemented with the jCard to provide this information, callers would presumably also need to make modifications to read the information provided by the jCard. Therefore, use of either code would appear to require some investment by callers. We therefore expect that most high-volume callers will choose to modify their

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[64] 603+ Specification at 1-2.

[65] *Id.* at 3-4.

[66] *See, e.g.*, Cloud Communications Alliance Call Blocking Comments at 13-14; TCN Comments at 3-5.

[67] TCN Comments at 3-4; *Transparency and Redress Reconsideration Order*, 36 FCC Rcd at 17970, para. 17 (referring to SIP Code 603 as an "interim measure").

[68] This issue would also exist if we were to adopt SIP code 608 as the appropriate code, due to potential issues in determining whether 603 or 608 is the correct SIP code when an ISUP code 21 is transmitted. We are aware that some commenters have asked us to take action to address IP interconnection agreements and non-IP authentication. *See, e.g.*, NTCA Comments at 5-6. However, these matters are outside of the scope of the current proceeding.

[69] *See, e.g.*, Cloud Communications Alliance Call Blocking Comments at 13-14; INCOMPAS Call Blocking Comments at 11; TCN Comments at 5; NORC Call Blocking Reply Comments at 7.

[70] ABA *et al.* Call Blocking Comments at 13-14.

[71] TCN Comments at 5 (stating that TCN, and companies like them, must "invest 10-20 hours of investigation and outreach to voice service providers to diagnose a single erroneous blocking issue and open a ticket with the relevant voice service provider.").

equipment to recognize SIP code 603+ and have sufficient incentive to do so.

21. As part of our requirement for voice service providers to return SIP code 603+, we clarify that all providers in the call path must transmit the appropriate code to the origination point of the call, including ensuring that SIP code 603+ maps appropriately to ISUP code 21.[72] Similarly, any IP provider that receives SIP code 603+ must ensure it transmits the full header, including all mandatory text fields established in the standard.[73]

22. *Implementation Deadline and Sunsetting SIP codes 603, 607, and 608*. We require providers to implement SIP code 603+ no later than 12 months from publication of this Order in the Federal Register. We find that a one-year implementation period appropriately balances the need for callers to receive greater transparency and the need for interoperability testing and other finalizing work by providers.[74] Providers should have long been aware that the Commission would want them to quickly implement such a change, as the TRACED Act requires transparency and effective redress and the Commission has described the current option to use the standard version of SIP code 603 as a temporary measure.[75]

23. We also direct providers to cease using SIP codes 603, 607, and 608 when calls are blocked using analytics once they have implemented 603+ and in no instance later than 12 months from publication of this Order in the Federal Register. We therefore disagree with Cloud Communications Alliance and INCOMPAS, which urge us to continue to allow the use of 608 and to require implementation of the requirements in six months.[76] First, continuing to allow SIP code 608 would cause further confusion and uncertainty by reducing incentives for both providers and callers to update their systems appropriately which undermines the Commission's goal of mandating a single code. Second, while AT&T may already have effectively implemented 603+ in much of its network,[77] AT&T is a single large provider and other providers, such as those with different network architecture, may to need additional time. Similarly, AT&T's ability to implement 608 without the jCard within 12 months[78] does not indicate that other providers will not reasonably require additional time. Additionally, SIP code 608 without the jCard offers much less information compared to SIP code 603+. However, when SIP code 608 includes the jCard, it provides benefits similar to 603+, though it takes more time to implement.[79] Therefore, it is more appropriate to use SIP code 608 with the jCard for comparison. While we agree that

[72] SIP code 603 should already map to ISUP code 21 under our existing rules and standard practice. If for any reason this is not currently the case, providers must ensure that ISUP code 21 maps to SIP code 603 or 603+. We encourage providers to use any methods reasonably available to indicate that a particular ISUP code 21 relates to analytics-based blocking, and thus should be mapped to SIP code 603+ rather than to SIP code 603, and we encourage industry to determine a standardized way to do so.

[73] 603+ Specification.

[74] NCTA asks that the Commission "ensure that providers have sufficient time—at least 12 months after Federal Register publication." NCTA Reply Comments at 5. Because providers have had significant notice that the Commission will adopt a standard, we find that 12 months is sufficient.

[75] *See generally Transparency and Redress Reconsideration Order*, 36 FCC Rcd 17962.

[76] Letter from Michael H. Pryor, Shareholder, Brownstein Hyatt Farber Schreck, LLP, and Christopher L. Shipley, Exc. Dir. Of Public Policy, INCOMPAS, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 17-59, 21-402, at 2-4 (filed Sep. 19, 2024) (Cloud Communications and INCOMPAS Sep. 19 *Ex Parte*). ABA *et al.* also advocate for shortening the implementation time to six months. Letter from Jonathan Thessin, Vice President/Senior Counsel, American Bankers Association, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 17-59, 21-402 (filed Sep. 19, 2024) (ABA *et al.* Sep. 19 *Ex Parte*).

[77] Cloud Communications and INCOMPAS Sep. 19 *Ex Parte* at 3-4.

[78] *Id.* at 4.

[79] *See supra* para. 17.

quicker implementation would be ideal and provide benefit to callers,[80] we are concerned that doing so will be technically infeasible for quite a few providers, and therefore continue the cycle of delays and uncertainty.

24. Providers may continue to use SIP code 603 where otherwise appropriate, but not for analytics-based blocking except when an intermediate or terminating providers receive ISUP code 21 and cannot reasonably determine whether SIP code 603 or 603+ is appropriate. SIP code 607 may be used for its intended purpose: to indicate that a call was blocked at the subscriber's direction without the use of analytics.[81] Because we require immediate notification only when providers block based on reasonable analytics, we decline to mandate the use of SIP code 607.[82] We therefore disagree with the commenter that urges us to require use of SIP code 607.[83] While this information may be valuable to some callers, comments in previous proceedings indicate that there may be privacy concerns with its use.[84] At this time, we find that these concerns outweigh the potential benefits and therefore decline to mandate the use of SIP code 607.

25. *Additional Protections for Lawful Callers*. Because we do not adopt any requirements for blocking based on reasonable analytics and the blocking notification rules we adopt today are expansions of our existing rules, rather than wholly new requirements, we decline to adopt any additional protections for lawful callers at this time. The record does not suggest that our current protections will be insufficient to protect lawful callers after these particular incremental expansions take effect. Moreover, and as discussed previously, we believe that the deployment of SIP code 603+ will provide significant benefit to callers that, when paired with our existing protections, are sufficient to protect the interests of callers.

C. Status of Rich Call Data or Other Caller Name Tools

26. We decline to require the display of caller name information when a provider chooses to display an indication that caller ID has been authenticated.[85] Although we do not adopt such a mandate, we urge providers to continue to develop next-generation tools, such as Rich Call Data (RCD) and branded calling solutions,[86] to ensure that consumers receive this information and welcome any updates industry has on its progress. We note that we may consider a mandate in the future, particularly if the timely deployment of such valuable tools does not occur without Commission intervention.[87] The record

[80] ABA *et al.* Sep. 19 *Ex Parte* at 2-3.

[81] Internet Engineering Task Force, *A SIP Code for Unwanted Calls* (July 2017), https://tools.ietf.org/html/rfc8197

[82] *Transparency and Redress Reconsideration Order*, 36 FCC Rcd at 17973-75, paras. 23-30.

[83] NORC Call Blocking Reply Comments at 7-8; *see also* Letter from Laura H. Phillips, Counsel to the National Opinion Research Center, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 2-3 (filed Sept. 8, 2023).

[84] Letter from Joshua M. Bercu, Vice President, Policy & Advocacy, USTelecom – The Broadband Association, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 3, 10-15 (filed Jun. 14, 2021).

[85] *May 2023 Call Blocking Order and Further Notice*, 38 FCC Rcd at 5435-36, paras. 95-100.

[86] Letter from Steven A Augustino, Counsel to Transaction Network Services, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 3 (filed Feb. 20, 2025) (TNS Feb. 20 *Ex Parte*).

[87] We decline to address Unified Office's arguments that caller name, rather than the phone number, "is the 'de facto' trusted standard of Caller ID," that the Commission should not permit a provider to alter CNAM information, and that this information should be displayed to consumers without charge. *See* Letter from Glenn S. Richards, Counsel to Unified Office, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 17-59. 21-402 (filed Sep. 19, 2024). These points are beyond the scope of the rules we sought comment on in the *May 2023 Call Blocking Order and Further Notice*, and do not address record concerns regarding current CNAM databases. We therefore decline to take further action at this time.

indicates both that CNAM databases are insufficient to provide a consumer with reliable information,[88] and that a mandate requiring the use of other, newer, technologies is premature.[89] Furthermore, we agree with consumer groups that the "use of rented [Direct Inward Dialing numbers] just for the purpose of allowing callers to pretend to be someone other than themselves for the express purpose of evading blocking and labeling efforts" is a concern that merits caution.[90] Solutions that can provide secure end-to-end authentication and verification information can help restore trust in the ecosystem and enhance consumer welfare.[91]

27. Though we decline to adopt a mandate at this time, we nonetheless believe that displaying caller name or other enhanced call information, once a reliable solution is available, will provide significant benefit to consumers, particularly when combined with an indication that caller ID has been authenticated.[92] We therefore strongly encourage industry to develop and standardize tools to ensure that this information is provided to consumers without additional charge to the call recipient. We are concerned that, absent this information, an indication that caller ID has been authenticated provides little actionable information to consumers and may provide consumers with a false sense of security.[93] We intend to continue monitoring developments in this area in order to take action as appropriate in the future.

D. Legal Authority

28. Our legal authority for the rules we adopt today stems from sections 201(b), 202(a), and 251(e) of the Communications Act of 1934, as amended (the Act), as well as from the Truth in Caller ID Act, and the TRACED Act. These sections have formed the basis for much of our work to combat illegal calls. In particular, sections 201(b) and 202(a) grant us broad authority to adopt rules governing just and reasonable practices of common carriers.[94]

29. Our authority under section 251(e)(1) provides independent jurisdiction to prevent abuse of U.S. North American Numbering Plan (NANP) resources.[95] This is particularly relevant to the rules we adopt today that require blocking based on a reasonable DNO list, where there is no legitimate reason for the caller to use the number. Similarly, the Truth in Caller ID Act grants us authority to prescribe

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[88] *See, e.g.*, CTIA Comments, CG Docket No. 17-59, WC Docket No. 17-97, at 7 (rec. Aug. 9, 2023) (CTIA Call Blocking Comments); Numeracle Call Blocking Comments at 28-30; TNS Call Blocking Comments at 6-7; USTelecom Comments at 10-12; VON Call Blocking Comments at 3-4; YouMail Comments at 26-27; Twilio Call Blocking Reply Comments at 7-8.

[89] *See, e.g.*, CTIA Call Blocking Comments at 4, 10-11; NCTA Comments at 2, 10-11; TNS Call Blocking Comments at i; USTelecom Comments at 12; Verizon Call Blocking Comments at 1, 8; VON Call Blocking Comments at 2-3; YouMail Comments at 28; CTIA Reply Comments CG Docket No. 17-59, WC Docket No. 17-97, at 8-10 (rec. Sept. 8, 2023) (CTIA Call Blocking Reply Comments), NCTA Reply Comments at 3-4; Twilio Call Blocking Reply Comments at 6-7; USTelecom Reply Comments at 2, 10-11; Verizon Call Blocking Reply Comments at 4-5.

[90] Joint Consumer Reply Comments at 8-9.

[91] TNS Feb. 20 *Ex Parte* at 3.

[92] Several commenters also expressed this opinion. *See, e.g.*, Ad Hoc Call Blocking Comments at 5-6; Clinic to End Tech Abuse (CETA) Comments, CG Docket 17-59, at 2 (CETA Comments); INCOMPAS Call Blocking Comments at 13; TNS Call Blocking Comments at 6; TransNexus Comments at 2; Numeracle Call Blocking Reply Comments; VON Call Blocking Reply Comment at 5.

[93] STIR/SHAKEN caller ID authentication information has proven valuable in many ways. For example, it is an essential input into analytics. Our concern is limited to its specific value as an isolated piece of data for consumers when determining whether to answer or trust a particular call.

[94] 47 U.S.C. §§ 201(b), 202(a).

[95] 47 U.S.C. § 251(e)(1).

rules to make unlawful the spoofing of caller ID information with the intent to defraud, cause harm, or wrongfully obtain something of value,[96] and provides us authority to require blocking based on a reasonable DNO list where the number has clearly been spoofed.

30. Section 10(b) of the TRACED Act directs us to ensure that providers are transparent about blocking and give both consumers and callers effective redress for erroneous blocking. It provides authority for our designation of SIP code 603+ as the appropriate code for immediate notification of callers when calls are blocked based on reasonable analytics.[97] We adopted our original immediate notification requirement based on the authority of that section.[98] We now simply modify that requirement to ensure that callers receive greater transparency.

E. Cost-Benefit Analysis

31. The record supports our conclusion that the actions we take now to strengthen our rules will yield benefits to consumers that exceed the costs of their implementation. We previously estimated that illegal and unwanted calls cost consumers $13.5 billion annually.[99] Even if the actions we take now to strengthen our rules eliminate only a small fraction of these unwanted and fraudulent calls, the benefits will be substantial and will outweigh the costs.

32. *Benefits*. Extending blocking to all voice service providers in the call path based on a reasonable DNO list will increase the proportion of unwanted and illegal calls that are successfully blocked. The collective effect of each provider in the call path using its own risk-based DNO list will be to better filter illegal and unwanted calls by blocking illegal calls that elude one provider's different DNO list. If the effect is to eliminate a small share of unwanted and illegal calls, consumers would save millions annually in avoided fraud, aggravation, inconvenience, and mistrust.

33. *Costs*. While the record lacks specific cost data and related analysis, we believe that the increase in providers' costs to avoid the risk of originating illegal calls will be modest.[100] First, the DNO list blocking requirement of this Report and Order merely extends the existing requirement of previous orders. In the *May 2023 Call Blocking Order and Further Notice*, we reaffirmed that "voice service providers are responsible for the calls they originate, carry, or transmit."[101] In this Report and Order, we require all voice service providers to block calls based upon a reasonable DNO list which is a modest extension of the responsibility for all calls on a network.

34. Additionally, requiring providers to use SIP code 603+ for immediate notification to callers of analytics-based blocking is less technically complex than other potential solutions, and thus likely minimizes the costs of implementation for providers. SIP code 603+ builds on an existing code and thus requires less development than adoption of a new release code.[102] In addition, voice service providers have 12 months after the publication of this Report and Order in the Federal Register to implement this change.[103] Further, implementation of SIP code 603+ will make specific redress information available to callers, which should significantly reduce, if not eliminate, the current need for

[96] 47 U.S.C. § 227(e)(1).

[97] TRACED Act § 10(b) (codified at 47 U.S.C. § 227(j)).

[98] *December 2020 Call Blocking Order*, 35 FCC Rcd at 15239-42, 15249, paras. 52-61, 82.

[99] *Second Text Blocking Order and Further Notice* at 24, para. 56.

[100] The record reveals that many service providers already have extensive systems in place to block unwanted calls and therefore the proposed extension of the Commission's rules will be unlikely to impose significant costs to implement. *See*, *e.g.*, CTIA Text Blocking Comments at 5, 13.

[101] *May 2023 Call Blocking Order and Further Notice*, 38 FCC Rcd at 5406, para. 3.

[102] *Supra* para. 17.

[103] *Supra* para. 22.

callers to invest significant time into investigation and outreach to initiate redress with the correct provider.[104]

35. Although the record is sparse, the new requirements in this Report and Order to reduce illegal calls can likely be implemented at a relatively modest cost. Given that unwanted and illegal calls reduce public welfare by billions of dollars annually, even a small percentage reduction in those will generate benefits that exceed the costs of the new rules.

IV. PROCEDURAL MATTERS

36. *Regulatory Flexibility Act*. The Regulatory Flexibility Act of 1980, as amended (RFA),[105] requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."[106] Accordingly, we have prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the impact of the rule and policy changes contained in the Report and Order on small entities. The FRFA is set forth in Appendix B.

37. *Paperwork Reduction Act Analysis*. The Report and Order contains new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA).[107] It will be submitted to the OMB for review under section 3507(d) of the PRA.[108] OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002,[109] we previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees.[110]

38. In this document, we have assessed the effects of requiring all voice service providers to block based on a reasonable DNO list. We ensure that small providers can comply with our rules without an undue burden by not requiring providers to include every possible number that could be blocked on a reasonable list. We find that small providers have sufficient time and flexibility to comply with this requirement.

39. *Congressional Review Act*. The Commission will submit this draft Report and Order to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, for concurrence as to whether this rule is "major" under the Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of this Report and Order to Congress and the Government Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

40. *People with Disabilities*. To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice).

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[104] *Supra* para. 20.

[105] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601, *et seq*., has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 847 (1996).

[106] 5 U.S.C. § 605(b).

[107] Pub. L. No. 104-13, 109 Stat 163 (1995) (codified at 44 U.S.C. §§ 3501-3520).

[108] 44 U.S.C. § 3507(d).

[109] Pub. L. No. 107-198, 116 Stat. 729 (2002); 44 U.S.C. § 3506(c)(4).

[110] *May 2023 Call Blocking Order and Further Notice*, 38 FCC Rcd at 5463-76, Appx. D.

41. *Additional Information*. For additional information on this proceeding, contact Jerusha Burnett, jerusha.burnett@fcc.gov, 202 418-0526, Attorney Advisor in the Consumer and Governmental Affairs Bureau, Consumer Policy Division.

V. ORDERING CLAUSES

42. **IT IS ORDERED** that, pursuant to sections 4(i), 4(j), 201, 202, 217, 227, 251(e), 301, 303, 307, 316, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201, 202, 217, 227, 251(e), 301, 303, 307, 316, and 403, this Report and **IS ADOPTED**.

43. **IT IS FURTHER ORDERED** that the revisions to section 64.1200(o) shall be effective 90 days after publication of a notice of Office of Management and Budget approval in the Federal Register of information collection requirements under the Paperwork Reduction Act, and the revisions to section 64.1200(k)(9) shall be effective 12 months after publication in the Federal Register.

44. **IS FURTHER ORDERED** that the Commission's Office of the Secretary SHALL SEND a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

45. **IT IS FURTHER ORDERED** that the Office of the Managing Director, Performance Program Management, SHALL SEND a copy of this Report and Order in a report to be sent to Congress and to the Government Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Final Rules

The Federal Communications Commission amends part 64 of Title 47 of the Code of Federal Regulations as follows:

PART 64—MISCELLANEOUS RULES RELATING TO COMMON CARRIERS

Subpart L—Restrictions on Telemarketing, Telephone Solicitation, and Facsimile Advertising

1. Effective [INSERT DATE 12 MONTHS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] amend section 64.1200 by revising paragraphs (k)(9)(i), (iii), and (iv) to read as follows:

(k)(9) * * *

(i) In the case of a call terminating on an IP network, the use of Session Initiation Protocol (SIP) code 603+, as defined in ATIS-1000099, adopted August 16, 2022;

(ii) * * *

(iii) In the case of a code transmitting from an IP network to a non-IP network, SIP code 603+ must map to ISUP code 21; and

(iv) In the case of a code transmitting from a non-IP network to an IP network, ISUP code 21 must map to SIP code 603 or 603+ where the cause location is "user."

* * * * *

2. Delayed indefinitely, amend section 64.1200 by revising paragraph (o) to read as follows:

(o) A voice service provider must block any calls purporting to originate from a number on a reasonable do-not-originate list. A list so limited in scope that it leaves out obvious numbers that could be included with little effort may be deemed unreasonable. The do-not-originate list may include only:

(1) Numbers for which the subscriber to the number has requested that calls purporting to originate from that number be blocked because the number is used for inbound calls only;

(2) North American Numbering Plan numbers that are not valid;

(3) Valid North American Numbering Plan Numbers that are not allocated to a provider by the North American Numbering Plan Administrator; and

(4) Valid North American Numbering Plan numbers that are allocated to a provider by the North American Numbering Plan Administrator, but are unused, so long as the provider blocking the calls is the allocatee of the number and confirms that the number is unused or has obtained verification from the allocatee that the number is unused at the time of blocking.

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980 (RFA),[1] as amended, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Advanced Methods to Target and Eliminate Unlawful Robocalls, Call Authentication Trust Anchor, Eighth Further Notice (Call Blocking FNPRM)* released in May 2023.[2] The Federal Communications Commission (Commission) sought written public comment on the proposals in the *Call Blocking FNPRM*, including comment on the IRFA. No comments were filed addressing the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

A. Need for, and Objectives of, the Report and Order

2. The *Report and Order* continues the Commission's ongoing efforts to stop the growing tide of illegal calls by building on its existing rules. The Commission has taken significant action to combat this problem, and this *Report and Order* adopts several rules to continue this work. First, the *Report and Order* expands the existing requirements to block calls based on a reasonable do-not-originate (DNO) list. Additionally, it increases transparency for callers by mandating a single Session Initiation Protocol (SIP) code be used when calls are blocked based on reasonable analytics.[4] The Commission's adoption of these requirements in the *Report and Order* strengthens its call blocking and robocall mitigation rules to provide enhanced protection for consumers.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

3. Although the Commission received no comments specifically addressing the IRFA in the *Call Blocking FNPRM,* the Commission did receive comments addressing the burdens on small providers. Commenters expressed concerns regarding burdens associated with additional blocking requirements.[5] With regard to our proposed requirement for all providers in the call path to block calls that are highly likely to be illegal based on a reasonable DNO list, commenters advocated for call blocking on a reasonable DNO list,[6] no change to the scope of numbers included on a reasonable DNO list,[7] a safe harbor from liability for providers based on the use of a reasonable DNO list.[8] Further, commenters opined on the appropriate SIP code for immediate notification requirements[9] and mandatory

[1] 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *Advanced Methods to Target and Eliminate Unlawful Robocalls, Call Authentication Trust Anchor*, CG Docket No. 17-59, WC Docket No. 17-97, Seventh Report and Order in CG Docket No. 17-59 and WC Docket No. 17-97, Eighth Further Notice of Proposed Rulemaking in CG Docket No. 17-59, and Third Notice of Inquiry in CG Docket No. 17-59, 38 FCC Rcd 5404, 5463, Appx. D (2023) (*Call Blocking FNPRM*).

[3] *See* 5 U.S.C. § 604.

[4] A SIP code is already required. However, the existing rule allowed the use of one of several codes, rather than a single, uniform code. 47 CFR § 64.1200(k)(9).

[5] *See, e.g.*, Cloud Communications Alliance Call Blocking Comments at 5; CCA Call Blocking Reply Comments at 4, 6-7.

[6] Cloud Communications Alliance Call Blocking Comments at 2.

[7] ACA Connects Reply Comments at 2.

[8] Cloud Communications Alliance Call Blocking Comments at 10-11.

[9] Cloud Communications Alliance Call Blocking Comments at 13-15*;* NTCA – The Rural Broadband Association Comments at 2-5.

call-blocking based on reasonable analytics.[10] Additionally, commenters raised concerns about short implementation times, and asked for additional time for smaller providers.[11] We carefully considered these concerns, and discuss steps taken to address them in section F of this FRFA. The Commission further considered the potential impact of the rules proposed in the IRFA on small entities, and took steps where appropriate and feasible, to reduce the compliance and economic burden for small entities.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

4. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.[12] The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

5. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the rules and policies adopted herein.[13] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[14] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[15] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[16]

6. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe, at the outset, three broad groups of small entities that could be directly affected herein.[17] First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the Small Business Administration's (SBA) Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.[18] These types of small businesses represent 99.9% of all businesses in the United States, which translates to 33.2 million

[10] ACA Connects Reply Comments at 2-3; Cloud Communications Alliance Call Blocking Comments at 2, 3-5.

[11] *See, e.g.*, NTCA Comments at 2, 6; ACA Connects Reply Comments at 2; CCA Call Blocking Reply Comments at 4-5.

[12] 5 U.S.C. § 604(a)(3).

[13] *Id.* § 604 (a)(4).

[14] 5 U.S.C. § 601(6).

[15] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[16] 15 U.S.C. § 632.

[17] 5 U.S.C. § 601(3)-(6).

[18] *See* SBA, Office of Advocacy, "What's New With Small Business?," https://advocacy.sba.gov/wp-content/uploads/2023/03/Whats-New-Infographic-March-2023-508c.pdf (Mar. 2023).

businesses.[19]

7. Next, the type of small entity described as a "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[20] The Internal Revenue Service (IRS) uses a revenue benchmark of $50,000 or less to delineate its annual electronic filing requirements for small exempt organizations.[21] Nationwide, for tax year 2022, there were approximately 530,109 small exempt organizations in the U.S. reporting revenues of $50,000 or less according to the registration and tax data for exempt organizations available from the IRS.[22]

8. Finally, the small entity described as a "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[23] U.S. Census Bureau data from the 2022 Census of Governments[24] indicate there were 90,837 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.[25] Of this number, there were 36,845 general purpose governments (county,[26] municipal, and town or township[27]) with populations of

[19] *Id*.

[20] 5 U.S.C. § 601(4).

[21] The IRS benchmark is similar to the population of less than 50,000 benchmark in 5 U.S.C § 601(5) that is used to define a small governmental jurisdiction. Therefore, the IRS benchmark has been used to estimate the number of small organizations in this small entity description. S*ee* Annual Electronic Filing Requirement for Small Exempt Organizations – Form 990-N (e-Postcard), "Who must file," https://www.irs.gov/charities-non-profits/annual-electronic-filing-requirement-for-small-exempt-organizations-form-990-n-e-postcard. We note that the IRS data does not provide information on whether a small exempt organization is independently owned and operated or dominant in its field.

[22] *See* Exempt Organizations Business Master File Extract (EO BMF), "CSV Files by Region," https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-eo-bmf. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for businesses for the tax year 2022 with revenue less than or equal to $50,000 for Region 1-Northeast Area (71,897), Region 2-Mid-Atlantic and Great Lakes Areas (197,296), and Region 3-Gulf Coast and Pacific Coast Areas (260,447) that includes the continental U.S., Alaska, and Hawaii. This data includes information for Puerto Rico (469).

[23] 5 U.S.C. § 601(5).

[24] 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with "2" and "7". *See also* Census of Governments, https://www.census.gov/programs-surveys/economic-census/year/2022/about.html.

[25] *See* U.S. Census Bureau, 2022 Census of Governments – Organization Table 2. Local Governments by Type and State: 2022 [CG2200ORG02], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). *See also* tbl.2. CG2200ORG02 Table Notes_Local Governments by Type and State_2022.

[26] *See id.* at tbl.5. County Governments by Population-Size Group and State: 2022 [CG2200ORG05], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. There were 2,097 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

[27] *See id.* at tbl.6. Subcounty General-Purpose Governments by Population-Size Group and State: 2022 [CG2200ORG06], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. There were 18,693 municipal and 16,055 town and township governments with populations less than 50,000.

less than 50,000 and 11,879 special purpose governments (independent school districts[28]) with enrollment populations of less than 50,000.[29] Accordingly, based on the 2022 U.S. Census of Governments data, we estimate that at least 48,724 entities fall into the category of "small governmental jurisdictions."[30]

1. Wireline Carriers

9. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired communications networks.[31] Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services, wired (cable) audio and video programming distribution, and wired broadband Internet services.[32] By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.[33] Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.[34]

10. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[35] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[36] Of this number, 2,964 firms operated with fewer than 250 employees.[37] Additionally, based on Commission data in the 2022 Universal Service

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[28] *See id.* at tbl.10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2022 [CG2200ORG10], https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html. There were 11,879 independent school districts with enrollment populations less than 50,000. *See also* tbl.4. Special-Purpose Local Governments by State Census Years 1942 to 2022 [CG2200ORG04], CG2200ORG04 Table Notes_Special Purpose Local Governments by State_Census Years 1942 to 2022.

[29] While the special purpose governments category also includes local special district governments, the 2022 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

[30] This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,845) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (11,879), from the 2022 Census of Governments - Organizations tbls. 5, 6 & 10.

[31] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[32] *Id.*

[33] *Id.*

[34] Fixed Local Service Providers include the following types of providers: Incumbent Local Exchange Carriers (ILECs), Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, and Other Local Service Providers. Local Resellers fall into another U.S. Census Bureau industry group and therefore data for these providers is not included in this industry.

[35] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[36] *See* U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517311, https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[37] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

Monitoring Report, as of December 31, 2021, there were 4,590 providers that reported they were engaged in the provision of fixed local services.[38] Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees.[39] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

11. *Local Exchange Carriers* (*LECs*). Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include both incumbent and competitive local exchange service providers. Wired Telecommunications Carriers[40] is the closest industry with an SBA small business size standard.[41] Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.[42] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[43] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[44] Of this number, 2,964 firms operated with fewer than 250 employees.[45] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 4,590 providers that reported they were fixed local exchange service providers.[46] Of these providers, the Commission estimates that 4,146 providers have 1,500 or fewer employees.[47] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

12. *Incumbent Local Exchange Carriers (Incumbent LECs)*. Neither the Commission nor the SBA have developed a small business size standard specifically for incumbent local exchange carriers. Wired Telecommunications Carriers[48] is the closest industry with an SBA small business size standard.[49] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having

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[38] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[39] *Id.*

[40] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[41] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[42] Fixed Local Exchange Service Providers include the following types of providers: Incumbent Local Exchange Carriers (ILECs), Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, Local Resellers, and Other Local Service Providers.

[43] *Id.*

[44] *See* U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517311, https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[45] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[46] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[47] *Id.*

[48] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[49] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

1,500 or fewer employees as small.[50] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[51] Of this number, 2,964 firms operated with fewer than 250 employees.[52] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 1,212 providers that reported they were incumbent local exchange service providers.[53] Of these providers, the Commission estimates that 916 providers have 1,500 or fewer employees.[54] Consequently, using the SBA's small business size standard, the Commission estimates that the majority of incumbent local exchange carriers can be considered small entities.

13. *Competitive Local Exchange Carriers (LECs).* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include several types of competitive local exchange service providers.[55] Wired Telecommunications Carriers[56] is the closest industry with a SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[57] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[58] Of this number, 2,964 firms operated with fewer than 250 employees.[59] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 3,378 providers that reported they were competitive local service providers.[60] Of these providers, the Commission estimates that 3,230 providers have 1,500 or fewer employees.[61] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

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[50] *Id.*

[51] *See* U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517311, https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[52] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[53] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[54] *Id.*

[55] Competitive Local Exchange Service Providers include the following types of providers: Competitive Access Providers (CAPs) and Competitive Local Exchange Carriers (CLECs), Cable/Coax CLECs, Interconnected VOIP Providers, Non-Interconnected VOIP Providers, Shared-Tenant Service Providers, Audio Bridge Service Providers, Local Resellers, and Other Local Service Providers.

[56] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[57] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[58] *See* U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517311, https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[59] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[60] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf.

[61] *Id.*

14. *Interexchange Carriers (IXCs).* Neither the Commission nor the SBA have developed a small business size standard specifically for Interexchange Carriers. Wired Telecommunications Carriers[62] is the closest industry with a SBA small business size standard.[63] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[64] U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year.[65] Of this number, 2,964 firms operated with fewer than 250 employees.[66] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 127 providers that reported they were engaged in the provision of interexchange services. Of these providers, the Commission estimates that 109 providers have 1,500 or fewer employees.[67] Consequently, using the SBA's small business size standard, the Commission estimates that the majority of providers in this industry can be considered small entities.

15. *Cable System Operators (Telecom Act Standard).* The Communications Act of 1934, as amended, contains a size standard for a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[68] For purposes of the Telecom Act Standard, the Commission determined that a cable system operator that serves fewer than 498,000 subscribers, either directly or through affiliates, will meet the definition of a small cable operator.[69] Based on industry data, only six cable system operators have more than 498,000 subscribers.[70] Accordingly, the Commission estimates that the majority of cable system operators are small under this size standard. We note however, that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed $250 million.[71] Therefore, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

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[62] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[63] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[64] *Id.*

[65] *See* U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517311, https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[66] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[67] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[68] 47 U.S.C. § 543(m)(2).

[69] *FCC Announces Updated Subscriber Threshold for the Definition of Small Cable Operator*, Public Notice, DA 23-906 (MB 2023) (*2023 Subscriber Threshold PN*). In this Public Notice, the Commission determined that there were approximately 49.8 million cable subscribers in the United States at that time using the most reliable source publicly available. *Id*. This threshold will remain in effect until the Commission issues a superseding Public Notice. *See* 47 CFR § 76.901(e)(1).

[70] S&P Global Market Intelligence, S&P Capital IQ Pro, *Top Cable MSOs 06/23Q (*last visited Sept. 27, 2023); S&P Global Market Intelligence, Multichannel Video Subscriptions, Top 10 (April 2022).

[71] The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to § 76.901(e) of the Commission's rules. *See* 47 CFR § 76.910(b).

16. *Other Toll Carriers*. Neither the Commission nor the SBA has developed a definition for small businesses specifically applicable to Other Toll Carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. Wired Telecommunications Carriers[72] is the closest industry with a SBA small business size standard.[73] The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small.[74] U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year.[75] Of this number, 2,964 firms operated with fewer than 250 employees.[76] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 90 providers that reported they were engaged in the provision of other toll services.[77] Of these providers, the Commission estimates that 87 providers have 1,500 or fewer employees.[78] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

2. Wireless Carriers

17. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves.[79] Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless Internet access, and wireless video services.[80] The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.[81] U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.[82] Of that number, 2,837 firms employed fewer than 250 employees.[83] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 594 providers that reported they were engaged in the provision of

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[72] *See* U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* https://www.census.gov/naics/?input=517311&year=2017&details=517311.

[73] *See* 13 CFR § 121.201, NAICS Code 517311 (as of 10/1/22, NAICS Code 517111).

[74] *Id.*

[75] *See* U.S. Census Bureau, *2017 Economic Census of the United States, Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517311, https://data.census.gov/cedsci/table?y=2017&n=517311&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[76] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[77] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[78] *Id.*

[79] *See* U.S. Census Bureau, *2017 NAICS Definition, "517312 Wireless Telecommunications Carriers (except Satellite),"* https://www.census.gov/naics/?input=517312&year=2017&details=517312.

[80] *Id.*

[81] *See* 13 CFR § 121.201, NAICS Code 517312 (as of 10/1/22, NAICS Code 517112).

[82] *See* U.S. Census Bureau, *2017 Economic Census of the United States*, *Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517312, https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[83] *Id*. The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

wireless services.[84] Of these providers, the Commission estimates that 511 providers have 1,500 or fewer employees.[85] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

18. *Satellite Telecommunications.* This industry comprises firms "primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications."[86] Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with $44 million or less in annual receipts as small.[87] U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year.[88] Of this number, 242 firms had revenue of less than $25 million.[89] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 65 providers that reported they were engaged in the provision of satellite telecommunications services.[90] Of these providers, the Commission estimates that approximately 42 providers have 1,500 or fewer employees.[91] Consequently, using the SBA's small business size standard, a little more than half of these providers can be considered small entities.

3. Resellers

19. *Local Resellers*. Neither the Commission nor the SBA have developed a small business size standard specifically for Local Resellers. Telecommunications Resellers is the closest industry with a SBA small business size standard.[92] The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.[93] Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[94] Mobile virtual network operators (MVNOs) are included in this industry.[95] The SBA small business size standard for Telecommunications Resellers

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[84] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[85] *Id.*

[86] *See* U.S. Census Bureau, *2017 NAICS Definition, "517410 Satellite Telecommunications,"* https://www.census.gov/naics/?input=517410&year=2017&details=517410.

[87] *See* 13 CFR § 121.201, NAICS Code 517410.

[88] *See* U.S. Census Bureau, *2017 Economic Census of the United States*, *Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEREVFIRM, NAICS Code 517410, https://data.census.gov/cedsci/table?y=2017&n=517410&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[89] *Id*. The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, *see* https://www.census.gov/glossary/#term_ReceiptsRevenueServices.

[90] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[91] *Id.*

[92] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[93] *Id.*

[94] *Id*.

[95] *Id*.

classifies a business as small if it has 1,500 or fewer employees.[96] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year.[97] Of that number, 1,375 firms operated with fewer than 250 employees.[98] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 207 providers that reported they were engaged in the provision of local resale services.[99] Of these providers, the Commission estimates that 202 providers have 1,500 or fewer employees.[100] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

20. *Toll Resellers*. Neither the Commission nor the SBA have developed a small business size standard specifically for Toll Resellers. Telecommunications Resellers[101] is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[102] Mobile virtual network operators (MVNOs) are included in this industry.[103] The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[104] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year.[105] Of that number, 1,375 firms operated with fewer than 250 employees.[106] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 457 providers that reported they were engaged in the provision of toll services.[107] Of these providers, the Commission estimates that 438 providers have 1,500 or fewer employees.[108] Consequently, using the SBA's small

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[96] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[97] *See* U.S. Census Bureau, *2017 Economic Census of the United States*, *Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[98] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[99] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[100] *Id.*

[101] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[102] *Id.*

[103] *Id*.

[104] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[105] *See* U.S. Census Bureau, *2017 Economic Census of the United States*, *Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[106] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[107] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[108] *Id.*

business size standard, most of these providers can be considered small entities.

21. *Prepaid Calling Card Providers*. Neither the Commission nor the SBA has developed a small business size standard specifically for prepaid calling card providers. Telecommunications Resellers[109] is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.[110] Mobile virtual network operators (MVNOs) are included in this industry.[111] The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.[112] U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year.[113] Of that number, 1,375 firms operated with fewer than 250 employees.[114] Additionally, based on Commission data in the 2022 Universal Service Monitoring Report, as of December 31, 2021, there were 62 providers that reported they were engaged in the provision of prepaid card services.[115] Of these providers, the Commission estimates that 61 providers have 1,500 or fewer employees.[116] Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

4. Other Entities

22. *All Other Telecommunications.* This industry is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation.[117] This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems.[118] Providers of Internet services (e.g. dial-up ISPs) or Voice over Internet Protocol (VoIP) services, via client-supplied telecommunications connections are also included in this industry.[119] The SBA small business size standard for this industry classifies firms with annual receipts of $40 million

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[109] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517911 Telecommunications Resellers,*" https://www.census.gov/naics/?input=517911&year=2017&details=517911.

[110] *Id.*

[111] *Id*.

[112] *See* 13 CFR § 121.201, NAICS Code 517911 (as of 10/1/22, NAICS Code 517121).

[113] *See* U.S. Census Bureau, *2017 Economic Census of the United States*, *Selected Sectors: Employment Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEEMPFIRM, NAICS Code 517911, https://data.census.gov/cedsci/table?y=2017&n=517911&tid=ECNSIZE2017.EC1700SIZEEMPFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[114] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

[115] Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2022), https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf. https://docs.fcc.gov/public/attachments/DOC-379181A1.pdf

[116] *Id.*

[117] *See* U.S. Census Bureau, *2017 NAICS Definition*, "*517919 All Other Telecommunications,*" https://www.census.gov/naics/?input=517919&year=2017&details=517919.

[118] *Id.*

[119] *Id*.

or less as small.[120] U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year.[121] Of those firms, 1,039 had revenue of less than $25 million.[122] Based on this data, the Commission estimates that the majority of "All Other Telecommunications" firms can be considered small.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

23. The *Report and Order* does not impose new or additional reporting or recordkeeping on small or other impacted entities. The *Report and Order* does require voice providers to meet certain obligations. These changes affect small and large companies, and apply to all the classes of regulated entities identified above in section D. The Commission allows providers 12 months after publication of the *Report and Order* in the Federal Register to comply with these requirements. First, all voice service providers, rather than only originating and gateway providers, must block calls purporting to originate from numbers on a reasonable DNO list. Voice service providers are granted flexibility to determine the appropriate list, based on the needs and capabilities of their networks. Additionally, voice service providers must use SIP code 603+ to provide immediate notification to callers when calls are blocked based on reasonable analytics.

24. The rules adopted in the *Report and Order* will result in compliance costs for small and other entities, and may require small entities to hire professionals to comply. While the record does not contain specific cost data estimates or analysis, the Commission believes that the burdens associated with the rules it adopts today will be modest. The requirement to block based on a reasonable DNO list is a modest extension of an existing rule. Similarly, implementation of SIP code 603+ is unlikely to impose significant new costs as it can be implemented as part of routine maintenance.

25. Although small and other entities will incur costs to implement the requirements of the *Report and Order*, based on the record the benefit of these requirements will exceed their costs. The Commission notes in the *Report and Order* that the industry estimates that consumers receive 13 spam or fraud calls a month, and on average those scammed by phone lose $865.[123] Moreover, based on complaint data from the Federal Trade Commission (FTC) the median loss for fraud by phone was $1480.[124] Further, the FTC reports a total of $850 million lost to fraud by phone call.[125]

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

26. The RFA requires an agency to provide, "a description of the steps the agency has taken to minimize the significant economic impact on small entities . . . including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the

[120] *See* 13 CFR § 121.201, NAICS Code 517919 (as of 10/1/22, NAICS Code 517810).

[121] *See* U.S. Census Bureau, *2017 Economic Census of the United States*, *Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2017,* Table ID: EC1700SIZEREVFIRM, NAICS Code 517919, https://data.census.gov/cedsci/table?y=2017&n=517919&tid=ECNSIZE2017.EC1700SIZEREVFIRM&hidePreview=false. At this time, the 2022 Economic Census data is not available.

[122] *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard. We also note that according to the U.S. Census Bureau glossary, the terms receipts and revenues are used interchangeably, *see* https://www.census.gov/glossary/#term_ReceiptsRevenueServices.

[123] Hiya, State of the Call 2024 at 21 (2024), https://www.hiya.com/state-of-the-call.

[124] This is based on complaint data from 2023. FTC, Consumer Sentinel Network Data Book 2023 at 12 (2024), https://www.ftc.gov/system/files/ftc_gov/pdf/CSN-Annual-Data-Book-2023.pdf.

[125] *Id.*

other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected."[126]

27. In the *Report and Order*, the Commission considered various alternatives and took the steps we discuss below to minimize the economic impact for small entities, and address concerns small entities raised in comments. We declined to adopt additional protections for lawful callers. The Commission extended the existing rule requiring blocking of calls based on a reasonable DNO list to all voice providers, rather than only originating and gateway providers, consistent with small and other providers that broadly support this proposed extension.[127] We declined to expand the scope of the list, or to mandate the use of a single uniform list, in part to ensure that providers with more limited resources and older equipment, which would include many smaller providers, are able to adopt lists that are appropriate for their networks and should address the concerns raised by some small entity commenters.[128] We also considered but declined to adopted a safe harbor from liability for providers based on use of a reasonable DNO list requested by small entity advocates[129] since the Commission is not aware of what liability a provider would face for blocking based on a such a list, or of any provider encountering any such liability since the Commission authorized this type of blocking in 2017. The Commission likewise declined to adopt a reasonable analytics-based blocking mandate, reducing the burden on smaller providers which was a concern raised in comments.[130]

28. In addition to the blocking requirements, the *Report and Order* adopted a single SIP code for notification to callers when calls are blocked based on reasonable analytics, SIP code 603+. This modifies the Commission's existing rule allowing for use of one of a list of several codes,[131] which has always been intended as a temporary measure.[132] Support both for,[133] and against[134] the use of SIP code 603+ were in comments filed by small entities. Based on the record, SIP code 603+ which builds on the existing SIP code 603 will provide more information to providers more quickly than SIP code 608 , builds on the existing SIP code 603, and appears to be substantially less technically complex to implement making it the more appropriate choice for the Commission. As we discuss in the *Report and Order*, whether the Commission chose SIP code 603+ or 608, small and other callers would be required to make modifications to comply. To ensure that small and other providers have adequate time to implement the *Report and Order* requirements, we modified and expanded the implementation deadline we proposed in the *Call Blocking NPRM*. All providers have 12 months from publication of the *Report and Order* in the Federal Register to make the transition, which addresses small provider concerns about the implementation timeframe and requests for additional time.[135] The *Report and Order* also allows for use of an ISDN User Part (ISUP) code where the network is non-IP.

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[126] 5 U.S.C. § 604(a)(6).

[127] Cloud Communications Alliance Call Blocking Comments at 2, 10-11.

[128] Cloud Communications Alliance Call Blocking Comments at 2; ACA Connects Reply Comments at 2.

[129] Cloud Communications Alliance Call Blocking Comments at 10-11.

[130] ACA Connects Reply Comments at 2-3; Cloud Communications Alliance Call Blocking Comments at 2, 3-5.

[131] 47 CFR § 64.1200(k)(9).

[132] *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Order on Reconsideration, Sixth Further Notice of Proposed Rulemaking, and Waiver Order, 36 FCC Rcd 17962, 17970, para. 18 (2021) ("We, therefore, find SIP Code 603 to be a natural and useful interim measure as industry moves to full implementation of SIP Codes 607 and 608.").

[133] NTCA Comments at 2.

[134] Cloud Communications Alliance Call Blocking Comments at 13-15.

[135] ACA Connects Comments at 2; Cloud Communications Alliance Call Blocking Comments at 14-15; NTCA at 6; RWA at 3-4.

G. Report to Congress

29. The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.[136] In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. The *Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.[137]

[136] 5 U.S.C. § 801(a)(1)(A).

[137] *Id.* § 604(b).

STATEMENT OF
CHAIRMAN BRENDAN CARR

Re: *Strengthening Call Blocking Rules Eighth Report And Order*, Report and Order, CG Docket No. 17-59 (Feb. 2025).

Illegal robocalls are a nuisance that annoy far too many Americans far too often. And the Commission is going to continue its work to accelerate our crackdown on the scourge of illegal robocalls. After all, Americans are just fed up. They're tired of unknown numbers calling at all hours or spoofed numbers that appear to come from a trusted source. And a lot of people are just giving up and never answering their phones.

While there is no silver bullet, the FCC needs to keep pushing forward on multiple fronts. We do so today by taking two important steps. Both of these actions are designed to stop illegal calls before they ever reach consumers.

First, the Order will ensure that reasonable Do-Not-Originate lists are being used by all U.S. providers in the call path. Before today, the Commission only required gateway voice providers to block calls using a Do-Not-Originate list. After this item, all providers in the call path will be required to block using a reasonable list. Second, the item designates an exclusive code to notify callers when their calls are blocked, so they are empowered to address erroneous call blocking. These actions expand the reach of Do-Not-Originate lists and strengthen our call blocking rules.

I'd like to thank Eduard Bartholme, Jerusha Burnett, Zac Champ, Aaron Garza, Wes Platt, and Mark Stone for their work on this item as well as staff from the Enforcement Bureau, Wireline Competition Bureau, Office of Economics and Analytics, and the Office of General Counsel.

STATEMENT OF
COMMISSIONER GEOFFREY STARKS

Re: *Strengthening Call Blocking Rules Eighth Report And Order*, Report and Order, CG Docket No. 17-59 (Feb. 2025).

Every day, millions of Americans are subject to unwanted or illegal calls and texts. Many of these are not just bothersome, they're fraudulent. Based on consumer reports, the FTC found that in 2023, individuals were scammed out of a median of $1,480 per call from a fraudster, and $1,000 per text.[1] All told, Americans lose over a billion dollars a year to these deceptive communications.

This is why the FCC needs to do everything in its power to close the vectors for fraud in our networks. On that account, I would have hoped that this item would address robotexts, and go further to block robocalls. In fact, I approved an earlier version of this item set forth by Chairwoman Rosenworcel that would have done both of these critical things. Then-Commissioner Carr and Commissioner Simington opposed the item late last year, and it was ultimately scrapped – until today.

Because I supported a more robust version, I approve this order as well. But I believe the Commission has additional power it does not use today to stem the tide of robocalls and robotexts. I am hopeful that we will resume using all of the tools in our legal toolbox to combat this scourge.

[1] FTC, Consumer Sentinel Network Data Book 2023 at 12 (2024), https://www.ftc.gov/system/files/ftc_gov/pdf/CSN-Annual-Data-Book-2023.pdf.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Facilitating Implementation of Next Generation 911 Services (NG911)	)	PS Docket No. 21-479
	)	
	)	
Location-Based Routing for Wireless 911 Calls	)	PS Docket No. 18-64
	)	

REPORT AND ORDER

Adopted: July 18, 2024 **Released: July 19, 2024**

By the Commission: Chairwoman Rosenworcel and Commissioner Starks issuing separate statements.

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I. INTRODUCTION

1. In this *Report and Order* (*Order*), we take steps that will advance the nationwide transition to Next Generation 911 (NG911). Like communications networks generally, dedicated 911 networks are evolving from Time Division Multiplexing (TDM)-based circuit-switched architectures to Internet Protocol (IP)-based architectures. With the transition to NG911, legacy 911 networks will be replaced by IP-based technologies and applications, which provide new capabilities and improved interoperability and system resilience. Most states have begun to invest significantly in NG911, but some have experienced delays in communications providers connecting to these IP-based networks. As a result of these delays, state and local 911 authorities incur prolonged costs because of the need to maintain both legacy and IP networks during the transition. Managing 911 traffic on both legacy and IP networks at the same time may also result in increased vulnerability and risk of 911 outages.

2. To facilitate the NG911 transition, we adopt rules that will require wireline providers, Commercial Mobile Radio Service (CMRS) providers, covered text providers, providers of interconnected Voice over Internet Protocol (VoIP) services, and providers of Internet-based Telecommunications Relay Service (Internet-based TRS) (collectively "originating service providers" or "OSPs")[1] to take actions to start or continue the transition to NG911 in coordination with 911 Authorities.[2] The rules we adopt today create a consistent NG911 transition framework at the national

[1] *See infra* Appendix A at § 9.27(b). For purposes of this *Order* and the rules we adopt today, "wireline provider" means "[a] local exchange carrier (as defined in 47 U.S.C. [§] 153(32)) that provides service using wire communication (as defined in 47 U.S.C. [§] 153(59))," and "covered text provider" has the meaning given such term under 47 CFR § 9.10(q)(1). *See infra* Appendix A at § 9.28. The terms "CMRS," "interconnected VoIP service," and "Internet-based TRS" have the meanings identified in 47 CFR § 9.3.

[2] "911 Authority" means "[a] state, territorial, regional, Tribal, or local governmental entity that operates or has administrative authority over all or any aspect of a communications network for the receipt of 911 traffic at NG911 Delivery Points and for the transmission of such traffic from that point to PSAPs." *See infra* Appendix A at § 9.28.

level, while also affording flexibility to 911 Authorities to modify the transition framework at the state, regional, local, territorial, or Tribal level.

3. We implement a two-phased approach to guide the transition to NG911. Each phase is initiated by a 911 Authority submitting a valid request to OSPs within the jurisdiction where the 911 Authority is located for the OSPs to comply with NG911 requirements, including:

- **Phase 1**: Upon receiving a valid Phase 1 request from a 911 Authority, an OSP must commence delivery of 911 traffic in IP-based Session Initiation Protocol (SIP) format to one or more in-state NG911 Delivery Points designated by the 911 Authority.[3] Phase 1 will enable 911 Authorities to deploy Emergency Services IP Networks (ESInets) in a cost-effective manner by selecting convenient delivery points to receive 911 traffic; will improve 911 reliability by using an IP-based format, rather than legacy format, to deliver 911 traffic; and will establish the transmission platforms necessary for upgrading to Phase 2.
- **Phase 2**: Upon receiving a valid Phase 2 request from a 911 Authority, an OSP must commence delivery of 911 traffic to the designated in-state NG911 Delivery Point(s) in an IP-based SIP format that complies with NG911 commonly accepted standards identified by the 911 Authority, including having location information embedded in the call signaling using Presence Information Data Format—Location Object (PIDF-LO)[4] or the functional equivalent.[5] In Phase 2, the OSP must install and put into operation all equipment, software applications, and other infrastructure, or acquire all services, necessary to use a Location Information Server (LIS) or its functional equivalent for the verification of its customer location information and records.[6] Phase 2 will facilitate use of the functional elements of Next Generation 911 Core Services (NGCS), which can deliver dynamic information to Public Safety Answering Points (PSAPs), enabling them to use policy routing functions to dynamically reroute 911 traffic to avoid network disruptions, thus reducing the impact of outages on 911 continuity.

4. For both Phase 1 and Phase 2, 911 Authorities must meet specific readiness criteria in order to make a valid request for OSP delivery of NG911 traffic. For Phase 1, the 911 Authority must certify that it has all the necessary infrastructure installed and operational to receive 911 traffic in SIP format and to transmit such traffic to the PSAPs connected to it. The 911 Authority must also identify the NG911 Delivery Points that it has designated and notify the OSP(s) of these delivery points via a registry or direct written notification. For Phase 2, the 911 Authority must certify: (1) that it has all of the necessary infrastructure installed and operational to receive 911 traffic in SIP format that complies with NG911 commonly accepted standards and to transmit such traffic to the PSAPs connected to it; and (2) that its ESInet is connected to a fully functioning NGCS network that can provide access to a Location Validation Function (LVF) and interface with the LIS or functional equivalent provided by the OSP.[7]

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[3] Additional Phase 1 requirements are discussed in section III.C.1.b; *see also* Appendix A at § 9.29(a).

[4] *See* Internet Engineering Task Force (IETF), Dynamic Extensions to the Presence Information Data Format Location Object (PIDF-LO) (Sept. 2010), https://datatracker.ietf.org/doc/html/rfc5962 (RFC 5962), and A Presence-based GEOPRIV Location Object Format (Dec. 2005), https://datatracker.ietf.org/doc/html/rfc4119 (RFC 4119).

[5] Additional Phase 2 requirements are discussed in section III.C.1.c; *see also* Appendix A at § 9.29(b).

[6] "Location Information Server (LIS)" means "[a] Functional Element that provides locations of endpoints. A LIS can provide Location-by-Reference or Location-by-Value, and, if the latter, in geodetic or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint." *See infra* Appendix A at § 9.28.

[7] In the NG911 environment, a LVF works with the LIS to validate the location of a civic address prior to a call being placed to 911. *See, e.g.*, NENA: The 9-1-1 Association (NENA), The Next Generation 9-1-1 Guide for 9-1-1 Authorities at 38 (Apr. 21, 2020) https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-ref-005.1-2020_ng911_gu.pdf (*NENA NG911 Guide for 911 Authorities*). The functionality of the LVF within NG911

(continued….)

5. Nationwide CMRS providers,[8] covered text providers,[9] interconnected VoIP providers, and wireline providers other than rural incumbent local exchange carriers (RLECs) will have six months following a 911 Authority's valid Phase 1 request to comply with Phase 1 requirements, and six months following a valid Phase 2 request to comply with Phase 2 requirements. RLECs,[10] non-nationwide CMRS providers,[11] and Internet-based TRS providers will have one year following a 911 Authority's valid Phase 1 request to comply with Phase 1 requirements, and one year following a valid Phase 2 request to comply with Phase 2 requirements. Completion of Phase 1 is a prerequisite to commencement of Phase 2; however, if Phase 1 has already been achieved or an OSP completes Phase 1 in less than the allotted six-month or one-year period, the Phase 2 implementation period can commence immediately, provided the 911 Authority has met the Phase 2 readiness criteria. To facilitate collaboration between 911 Authorities and OSPs, we also permit 911 Authorities and OSPs to enter into mutual agreements that modify the Phase 1/Phase 2 terms and timelines, and our rules presumptively do not alter or invalidate such agreements that already exist.

6. The rules we adopt today presumptively address cost allocation between OSPs and 911 Authorities for implementation of NG911. In the absence of an alternative cost arrangement implemented by a 911 Authority at the state or local level, OSPs will be financially responsible for the costs of transmitting 911 traffic to the NG911 Delivery Points designated by 911 Authorities starting at Phase 1. Thus, by default, our rules establish NG911 Delivery Points as the demarcation points where the OSP's responsibility for the cost of transmitting 911 traffic ends and the 911 Authority's responsibility begins. In addition, in both Phase 1 and Phase 2, OSPs will be presumptively responsible for the costs associated with translating 911 traffic into the required IP-based format, including associated routing and location information.

7. The rules we adopt today are intended to expedite the NG911 transition and help ensure that the nation's 911 system functions effectively and reliably, with advanced capabilities. In addition, the rules respond to the petition filed in 2021 by the National Association of State 911 Administrators (NASNA),[12] which urged the Commission to take actions to resolve uncertainty and disputes between OSPs and state 911 Authorities regarding the NG911 transition. Today's rules create a consistent framework for ensuring that OSPs take the necessary steps to implement the transition to NG911 capabilities in coordination with 911 Authorities. At the same time, we recognize and do not preempt the long-standing authority of state and local government over the provision of 911 service. Thus, 911 Authorities at the state, local, and Tribal level remain free to establish alternative provisions within their jurisdictions for the implementation of NG911, definition of demarcation points, and allocation and

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replaces the E911 master street address guide (MSAG) validation in legacy 911 environments. *Id.* In this *Order,* we define "Location Validation Function" (LVF) as "[a] Functional Element in an NG911 Core Services (NGCS) consisting of a server where civic location information is validated against the authoritative Geographic Information System (GIS) database information. A civic address is considered valid if it can be located within the database uniquely, is suitable to provide an accurate route for an emergency call, and is adequate and specific enough to direct responders to the right location." *See infra* section III.C.1.c(ii); Appendix A at § 9.28.

[8] The term "nationwide CMRS provider" has the meaning given such term under 47 CFR § 9.10(i)(1)(iv). *See infra* Appendix A at § 9.28.

[9] The term "covered text provider" has the meaning given such term under 47 CFR § 9.10(q)(1). *See infra* Appendix A at § 9.28.

[10] "Rural incumbent local exchange carrier (RLEC)" has the meaning given such term under 47 CFR § 54.5. *See infra* Appendix A at § 9.28.

[11] A "non-nationwide CMRS provider" has the meaning given such term under 47 CFR § 9.10(i)(1)(v). *See infra* Appendix A at § 9.28.

[12] Petition for Rulemaking; Alternatively, Petition for Notice of Inquiry, CC Docket No. 94-102, PS Docket Nos. 18-64, 18-261, 11-153, and 10-255 (filed Oct. 19, 2021), https://www.fcc.gov/ecfs/document/1019188969473/1 (NASNA Petition).

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Resilient Networks	)	PS Docket No. 21-346
	)	
Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications	)	PS Docket No. 15-80
	)	
New Part 4 of the Commission's Rules Concerning Disruptions to Communications	)	ET Docket No. 04-35

SECOND REPORT AND ORDER AND SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: January 25, 2024 **Released: January 26, 2024**

Comment Date: (30 days after date of publication in the Federal Register)
Reply Comment Date: (60 days after date of publication in the Federal Register)

By the Commission: Chairwoman Rosenworcel and Commissioner Starks issuing separate statements.

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I. INTRODUCTION

1. The nation's communications networks play a vital role in economic growth and national security and serve as critical links for consumers and public safety response personnel during emergencies

and disaster response. The reliability and availability of these networks has become even more relevant as the impacts of climate change have increased the severity and frequency of natural disasters, global instability has increased the value of communications networks as targets, and the exponential growth of smart technology has the potential for every device to be a "connected device," with the associated increase in vulnerability and potential vectors by which an attack may be perpetrated. When disasters strike communities, whether natural or man-made, it is the obligation of the Federal Communications Commission (Commission) to ensure timely and reliable public safety and emergency alerting, promote service connectivity where needed, and monitor and provide information on the operational status of communications services and infrastructure in support of Federal, state, and local restoration efforts.[1] To improve network reliability and resiliency and operational transparency both during and in the aftermath of disasters and outages, in this *Second Report and Order* we require enumerated service providers (referred to herein as "subject providers") to report on their infrastructure status during emergencies and crises in the Disaster Information Reporting System (DIRS) when activated and to submit a final report to the Commission within 24 hours of DIRS deactivation.[2] These rule changes will improve network reliability and resiliency and operational transparency, both during and in the aftermath of disasters and outages.

2. Last summer's wildfires in Maui, Hawai'i make us particularly mindful of the Commission's responsibility to support restoration of communications services and to ensure a prompt response to emergencies by providing direct operational support, tracking restoration progress through daily public communications status reports, and working closely with Federal, state, local, Tribal and territorial partners to help families and residents to respond, recover, and rebuild. While progress has already been made by both the Commission and the communications sector as a whole in that particular context, further response and restoration efforts are necessary to ensure that networks support critical lifelines during future emergencies. The Commission initially adopted the DIRS system as a disaster response information tool in 2007, but we have not revisited the voluntary nature of the system in almost two decades even as the disaster and emergency landscape continues to change and technology continues to advance. By way of example, since DIRS was adopted on a voluntary basis, the Commission has adopted rules pursuant to the Warning, Alert and Response Network (WARN) Act to implement Wireless Emergency Alerts (WEAs),[3] creating a valuable tool used by emergency response officials to

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[1] *See* 47 U.S.C. § 151 (specifying "promoting safety of life and property through the use of wire and radio communications" as a purpose of the creation of the Federal Communications Commission); *Mozilla Corp. v. FCC*, 940 F.3d 1, 59-60 (D.C. Cir. 2019) ("The Commission is required to consider public safety ... by its enabling act." (cleaned up)); *id.* at 63 (holding a Commission decision arbitrary and capricious in part for the Commission's failure to analyze its impact on public safety).

[2] As detailed further below in the *Second Report and Order*, the FCC encourages reporting in the Disaster Information Reporting System (DIRS) generally, but for the sake of this mandate, we will specifically require daily reports and a final report within 24 hours of deactivation at a minimum. Providers can report more frequently if they so choose.

[3] FCC, *Wireless Emergency Alerts (WEA)*, https://www.fcc.gov/consumers/guides/wireless-emergency-alerts-wea (Sept. 25, 2023) ("The Wireless Emergency Alerts system is an essential part of America's emergency preparedness. Since its launch in 2012, the WEA system has been used more than 84,000 times to warn the public about dangerous weather, missing children, and other critical situations – all through alerts on compatible cell phones and other mobile devices. WEA is a public safety system that allows customers who own compatible mobile devices to receive geographically targeted, text-like messages alerting them of imminent threats to safety in their area. WEA enables government officials to target emergency alerts to specific geographic areas."). *See also* FCC, *Wireless Emergency Alerts Consumer Guide,* https://www.fcc.gov/sites/default/files/Wireless_Emergency_Alerts_wea.pdf (Sept. 25, 2023); FCC, *Multilingual Alerting for the Emergency Alert System and Wireless Emergency Alerts,* https://www.fcc.gov/MultilingualAlerting_EAS-WEA (May 30, 2023); FCC, *Wireless Emergency Alert Enhancements FAQs for Authorized Alert Originators*, https://www.fcc.gov/wireless-emergency-alert-enhancements-faqs-authorized-alert-originators (last visited Dec. 19, 2023); FCC, *Emergency Alerting Roundtable,* https://www.fcc.gov/news-events/events/2018/05/emergency-alerting-roundtable (May 15, 2018); FCC, *Public Safety and Homeland Security Bureau Announces Limited Ex Parte Exemption for Multilingual WEA,*

(continued….)

leverage mobile communications networks to provide timely alerts to consumers in disaster situations. Since becoming operational in 2012, WEA has been used more than 84,000 times to warn the public about dangerous weather, missing children, and other critical situations – all through alerts on compatible cell phones and other mobile devices. The Commission also implemented a program to share this information directly with eligible Federal, state, Tribal and territorial emergency response agencies providing a direct route for officials to obtain data relevant to them in an emergency or other outage situation.[4] As such, the use and value of the data reported in these systems has evolved, and accordingly, we must consider the means to maximize its utility in the public interest.

3. As such, while a voluntary system like DIRS is beneficial, we believe in the current regulatory, technological and interconnected network environment it cannot work to its fullest potential unless we expand the aperture of who reports in the system, and enhance the fidelity of the data to allow for more effective decision making in response to disaster environments by requiring filings be made in emergency contexts. As the Commission evaluates the best approaches to support better outcomes for consumers in these challenging situations in the accompanying *Second Further Notice of Proposed Rulemaking* (*Second Further Notice*), input from industry, public safety, public interest groups, as well as individuals who deal directly with these issues, will play a crucial role in determining how to effectively streamline disaster reporting while addressing individual entities' specific operational challenges.

4. Based on the record developed in response to the *2021 Resilient Networks Notice*,[5] we adopt this *Second Report and Order* (*Order*) and *Second Further Notice of Proposed Rulemaking* (*Second Further Notice*) to advance the lines of inquiry particularly concerning the Network Outage Reporting System (NORS) and DIRS.[6] As detailed below, the *Order* adopts rules to:

- require cable communications, wireline, wireless, and interconnected Voice over Internet Protocol (VoIP) providers (i.e., "subject providers") to report their infrastructure status information in DIRS daily when the Commission activates DIRS in geographic areas in

https://www.fcc.gov/document/pshsb-announces-limited-ex-parte-exemption-multilingual-wea (Nov. 9, 2023); FCC, *FEMA and FCC Plan Nationwide Emergency Alert Test for Oct. 4*, https://www.fcc.gov/document/fema-and-fcc-plan-nationwide-emergency-alert-test-oct-4 (Oct. 3, 2023); *and see generally* 47 CFR part 10 (explaining the basis, purpose, definitions, and specifics associated with WEA).

[4] FCC, *Wireless Emergency Alert Enhancements FAQs for Authorized Alert Originators,* https://www.fcc.gov/wireless-emergency-alert-enhancements-faqs-authorized-alert-originators (last visited Dec. 18, 2023).

[5] *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Notice of Proposed Rulemaking, FCC 21-99, 36 FCC Rcd 14802 (2021) (*2021 Resilient Networks Notice*).

[6] The *2021 Resilient Networks Notice* sought comment on three distinct topics: (i) enhancements to NORS and DIRS to improve situational awareness around disasters and outage events (which is the subject of this *Report and Order* and *Second Further Notice*); (ii) improving implementation of the industry-developed Wireless Resiliency Cooperative Framework (which was addressed in the *2022 Report and Order* and *Further Notice of Proposed Rulemaking* with the Mandatory Disaster Response Initiative (MDRI)); and (iii) developing communications resilience strategies for power outages (i.e., backup power). *See Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Report and Order and Notice of Proposed Rulemaking, FCC 22-50, 37 FCC Rcd 8059 (2022) (*2022 Resilient Networks Order*). The Commission has received forty-two comments and eighteen reply comments in response to the *2021 Resilient Networks Notice* reflecting a wide range of feedback from wireless service providers, utility and equipment providers, broadcasters, public safety entities, public interest groups, consumer groups, trade associations, emergency responders and individuals in the communications industry.

which they provide service, even when their reportable infrastructure status has not changed compared to the prior day;[7]

- codify, in Part 4 of the Commission's outage reporting rules, the current practice that a subject provider's NORS reporting obligations are waived while they report in DIRS;[8] and
- require that subject providers who report in DIRS provide a single, final DIRS report to the Commission, within 24 hours of the Commission's deactivation of DIRS, that provides the status of their infrastructure identified to the Commission during the DIRS reporting period that has not yet been fully restored at the time of the deactivation.

5. In addition, the *Second Further Notice* seeks to more fully develop the record and seeks comment to support future Commission action on select NORS- and DIRS-specific follow-up matters. More precisely, the Commission seeks input concerning:

- whether to require TV and radio broadcasters to report in NORS and DIRS subject to simplified reporting processes that reflect the limited resources available to these entities and seeks comment on the scope of any such simplified reporting processes;
- whether to require satellite providers to report in DIRS, whether modifications to existing DIRS satellite forms are warranted in a mandated state, and whether the NORS reporting thresholds for satellite providers should be modified to reflect changes in that technology;
- the extent to which FirstNet should be subject to NORS and/or DIRS reporting requirements;
- the extent to which broadband Internet access service (BIAS) providers should be required to report in NORS and/or DIRS and the appropriate thresholds for such reporting;
- whether subject providers should be required to supply the Commission with "after action" reports detailing how their networks fared during the emergency or disaster event leading to the Commission's DIRS activation and the timing, duration and effectiveness of their pre-disaster response plans within 60 days of when the Commission's Public Safety and Homeland Security Bureau (PSHSB or Bureau), under delegated authority, issues a Public Notice announcing such reports must be filed; and
- whether subject providers should be required to provide the location of mobile recovery assets during a disaster response, as well other specifications of those assets.

We discuss each of these topics in more detail below.

II. BACKGROUND

6. Resilient communications networks are crucial to the American economy, keeping the nation secure, and ensuring access to help during disaster and emergency events in a timely manner. With the advancement of technology comes the evolution and adaptation of threats and threat actors, and due to those changes, the Commission is compelled to take action by updating and expanding rules to ensure the nation's communications providers are maintaining the resiliency of networks, advancing their ability to enhance network reliability, and supporting the tools necessary to mitigate and eliminate threats

[7] The Commission has chosen to focus on cable communications, wireless, wireline, and VoIP providers (i.e., "subject providers") in this *Second Report and Order*. Broadcasters, broadband, satellite, and broadband Internet access service (BIAS) providers expressed varying concerns and unique comments compared to those of the subject providers addressed herein which we believe are better addressed in a separate proceeding which seeks more narrow comments pertaining to those providers specifically as is previewed in the *Second Further Notice* below.

[8] This exemption is codified as a revision to the Commission's Part 4 rules stating that NORS reporting requirements do not apply when the Commission requires DIRS reporting. *See* 47 CFR § 4.1 *et seq*.; Appx. A, *infra.*

to their systems. Our authority to require reporting of outage information across a wide range of communications platforms is well established. In this respect, the Commission has adopted rules for cable communications, wireline, wireless, satellite, interconnected VoIP, and Signaling System 7 (SS7) providers (currently reporting entities)[9] requiring them to submit reports in NORS for service outages that exceeded specified durations and magnitude thresholds.[10] This effort was advanced further in 2007 in response to Hurricane Katrina when the Commission established DIRS, a voluntary reporting system for currently reporting entities to provide their communications infrastructure status, restoration information, and situational awareness information during Commission-identified times of crisis (whether or not NORS reporting requirements would otherwise be triggered).[11] Since DIRS was created initially in 2007, the United States has experienced an increasing amount of flooding, hurricanes, winter storms, tornadoes, and wildfires necessitating the more regular activation of DIRS and demonstrably impacting the nation's communications infrastructure.[12] Global instability has also increased the potential for malicious threats to vital communications systems and services.[13] As such, the Commission also recognizes that DIRS

[9] *See, e.g. Notification by Common Carriers of Service Disruptions*, CC Docket No. 91-273, *Report and Order*, 7 FCC Rcd 2010 (1992); *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 8 FCC Rcd 8517 (1993); *Second Report and Order*, 9 FCC Rcd 3911 (1994); *Order on Reconsideration of Second Report and Order*, 10 FCC Rcd 11764 (1995) (establishing outage reporting for wireline providers); *see also, New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 16830 (2004) (2004 Part 4 Order and FNPRM) (extending outage reporting requirements to wireless, cable communications and satellite communications); *Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers,* PS Docket No. 11-82, *Report and Order*, 27 FCC Rcd 2650, 2656 (2012) (extending outage reporting obligations to interconnected VoIP providers). Throughout this *Second Report and Order* and *Second Further Notice*, we refer to two separate groups of providers. "Currently reporting entities" consist of the cable communications, wireline, wireless, satellite, interconnected Voice over Internet Protocol (VoIP), and Signaling System 7 (SS7) providers of which report in NORS under the current rules. "Subject providers" consist of the cable communications, wireline, wireless, and interconnected VoIP providers who are subject to today's *Order* regarding DIRS reporting, and who also may be currently reporting entities in NORS. A number of other incumbent providers are addressed in the *Second Further Notice* portion of this item.

[10] 47 CFR § 4.9.

[11] *See Public Safety and Homeland Security Bureau Launches Disaster Information Reporting System (DIRS)*, Public Notice, 22 FCC Rcd 16757 (PSHSB 2007); *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, EB Docket No. 06-119 et al., Order, 22 FCC Rcd 10541,10547-49, paras. 19-21 (2007) (directing the Public Safety and Homeland Security Bureau to continue its work to activate a system and process for communications companies serving areas affected by disasters to voluntarily submit information regarding among other things, the status of their operations, restoration efforts, power availability, and fuel). The Commission recently required a subset of service providers that receive Stage 2 funding from the Uniendo a Puerto Rico Fund or the Connect USVI Fund to report in DIRS when it is activated in their respective territories. *See The Uniendo a Puerto Rico Fund and the Connect USVI Fund, et al.*, WC Docket No. 18-143, et al., Report and Order and Order on Reconsideration, 34 FCC Rcd 9109, 9174, 9176-77, paras. 133, 138-40 (2019) (*Puerto Rico & USVI USF Fund Report and Order*).

[12] *See* FCC, *Incident Management and Investigations*, https://www.fcc.gov/incident-management-and-investigations (last visited Dec. 19, 2023).

[13] *See* Cybersecurity and Infrastructure Security Agency (CISA), *CISA Urges Increased Vigilance One Year After Russia's Invasion of Ukraine*, (Feb. 23, 2023), https://www.cisa.gov/news-events/alerts/2023/02/23/cisa-urges-increased-vigilance-one-year-after-russias-invasion-ukraine ("CISA assesses that the United States and European nations may experience disruptive and defacement attacks against websites in an attempt to sow chaos and societal discord . . . in response to the heightened geopolitical tensions resulting from Russia's full-scale invasion of Ukraine, CISA maintains [these] public cybersecurity resources . . . to increase organizational vigilance and keep the public informed about current cybersecurity threats."). *See also* Chris Riotta, NextGov, *US cyber agencies in 'very close contact' with Israel after unprecedented Hamas attacks,* (Oct. 12, 2023), https://www.nextgov.com/cybersecurity/2023/10/us-cyber-agencies-very-close-contact-israel-after-unprecedented-hamas-attacks/391156/ ("The Cybersecurity and Infrastructure Security Agency is in 'very close contact' with the

(continued….)

could be used in response to man-made disasters including cyber and kinetic attacks against communications network infrastructure.

7. The Commission utilizes NORS filings to assess the magnitude and impact of major network outages for specific providers and to identify network reliability trends over time. This regular and detailed examination, coupled with direct engagement with providers, aids Commission staff in determining whether the outages likely could have been prevented or mitigated had the service providers involved followed certain network reliability best practices, and whether such practices are employed broadly in the industry.[14] The Commission uses DIRS filings for specific disasters in designated geographies to assess critical situational awareness across providers in the area to inform restoration efforts by Federal, state, Tribal, and territorial partners and the Commission's own assessments of communications reliability during specific disasters and emergencies.[15] Whereas NORS provides Commission staff with a notice, initial report, and final report at specified intervals related to a specific network event for a specific provider, DIRS provides a regular daily reporting cadence for all providers in a specified area, providing a more detailed and prompt look at impacts of a specific disaster on communications infrastructure across all affected providers. Providers participating in DIRS have the option to report in narrative form or provide statistics for their current infrastructure status, or to merely select that there are no updates if their current status remains the same as their previous reporting information.[16]

8. In the *2021 Resilient Networks Notice*, the Commission sought comment on potential enhancements to both NORS and DIRS that could further promote public safety and boost harm prevention by improving the Commission's situational awareness around disasters, emergencies, and other outage events.[17] The Commission received numerous comments, replies and *ex parte* communication from a variety of parties including individuals, trade associations, wireless companies,

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Israeli National Cyber Directorate after Hamas launched an unprecedented attack on Israel . . . CISA has expanded its partnership and operational collaboration with Ukrainian cyber agencies throughout the Russian invasion, from conducting cybersecurity training and joint services to critical infrastructure security technical exchanges and enhanced information sharing initiatives.").

[14] *See, e.g.*, FCC, Public Safety and Homeland Security Bureau (PSHSB), *December 27, 2018 CenturyLink Network Outage Report* (Dec. 27, 2018), https://docs.fcc.gov/public/attachments/DOC-359134A1.pdf; FCC, PSHSB, *March 8th, 2017 AT&T VoLTE 911 Outage Report and Recommendations*, PS Docket No. 17-68 (Mar. 8, 2017), https://docs.fcc.gov/public/attachments/DOC-344941A1.pdf; FCC, PSHSB, *April 2014 Multistate 911 Outage: Cause and Impact, Report and Recommendations*, PS Docket No. 14-72 (Apr. 2014), https://docs.fcc.gov/public/attachments/DOC-330012A1.pdf; FCC, PSHSB, *Impact of the June 2012 Derecho on Communications Networks and Services, Report and Recommendations* (2013), https://docs.fcc.gov/public/attachments/DOC-318331A1.pdf; FCC, *Network Outage Reporting System (NORS)*, https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0 (last visited Dec. 19, 2023).

[15] *See, e.g.*, FCC, PSHSB, *October 2018 Hurricane Michael's Impact on Communications: Preparation, Effect, and Recovery*, PS Docket No. 18-339, Report and Recommendations at 6 (May 2019), https://docs.fcc.gov/public/attachments/DOC-357387A1.pdf (noting the Commission's use of DIRS data to monitor communication outages) (*Hurricane Michael Report*); Press Release, FEMA, States Impacted by Ida Receive Full Backing of Federal Force in Relief and Recovery Efforts (Sept. 3, 2021), https://www.fema.gov/press-release/20210903/states-impacted-ida-receive-full-backing-federal-force-relief-and-recovery (noting Commission coordination with several partners in support of restoration efforts and daily reporting on operational status); FCC, *Disaster Information Reporting System*, (Dec. 4, 2023), https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0.

[16] While DIRS is a system of its own, the Commission also has information pages and a user guide available to the public through the Commission's government website. *See* FCC, *Disaster Information Reporting System (DIRS)*, (Dec. 4, 2023), https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0. *See also Disaster Information Reporting System (DIRS) User Guide Version 2.1,* (Dec. 2023), https://www.fcc.gov/sites/default/files/DIRS-UserGuide-122023.docx.

[17] *2021 Resilient Networks Notice* at paras. 27-33.

wireline companies, telecommunications associations, state and local 911 services and other emergency associations.[18]

9. When DIRS is activated by the Commission, currently reporting entities ("service providers") submit outage information in DIRS on a voluntary basis, and the Commission typically grants these providers an accompanying waiver of their NORS reporting requirements while they report in DIRS.[19] In 2005, a voluntary reporting approach worked, but over the ensuing two decades, the Commission has observed that while the nation's large providers typically elect to voluntarily report in DIRS, smaller providers often do not. This not only reduces the total number of DIRS filings available to inform the Commission's analysis of network reliability, but also reduces the Commission's situational awareness, including awareness of the availability of 911, emergency alerting and other emergency services in locations served by smaller providers, which are often located in rural or other hard to access areas and may also serve otherwise vulnerable or underserved constituencies. Additionally, the Commission typically releases a Public Notice requesting that providers report in DIRS daily, but only on days in which the provider has experienced a reportable change to its infrastructure status. This current voluntary reporting regime results in ambiguity as to whether a filing provider's lack of DIRS filings on a given day (or days) means: 1) its network infrastructure actually remains undamaged or unchanged from its last report, 2) it is choosing voluntarily not to participate in DIRS, or 3) it is unable to file (e.g., due to operational damage).

III. SECOND REPORT AND ORDER

10. In this *Second Report and Order*, we adopt rules to: (i) require cable communications, wireline, wireless, and interconnected VoIP providers (subject providers) to report their infrastructure status information in DIRS daily when the Commission activates DIRS in geographic areas in which they provide service, even when their reportable infrastructure status has not changed compared to the prior day, unless they are unable to file (e.g., due to operational damage);[20] (ii) formally codify, in the Commission's outage reporting rules, the Commission's current practice that a subject provider's NORS reporting obligations are waived while they are required to report in DIRS; and (iii) require that subject providers who report in DIRS supply a single, final DIRS report to the Commission, within 24 hours of the Commission's deactivation[21] of DIRS, that provides the status of their affected infrastructure identified to the Commission during the DIRS reporting period that has not yet been fully restored at the time of the deactivation. We find that these actions will advance the ability of the Commission and its Federal, state, local, Tribal, and territorial partners, as well as the public more generally, to effectively manage and mitigate the short-term and long-term impacts of disasters on communications networks, ultimately increasing network resiliency and availability during and after disasters to enable viable access

[18] *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, FCC 21-34 (Mar. 18, 2021) (Appx. E).

[19] This waiver applies in the geographic area where the Commission has activated DIRS and applies for as long as the Commission keeps DIRS activated. Certain providers operating in the U.S. Virgin Island and Puerto Rico are already required to report in DIRS when DIRS is activated in their service areas pursuant to Commission rules. *See* FCC, *The Uniendo a Puerto Rico Fund and the Connect USVI Fund; Connect America Fund*, Report and Order and Order on Review, Docket No. 18-143, 10-90, FCC 23-32 (2023) at paras. 133, 138-40 (*Connect USVI Fund Order*). Nothing in this *Report and Order* is intended to disturb those established rules. Rather, the rules and proposals in this *Report and Order* and *Second Further Notice* would apply to these providers to the extent that the providers are not already required to take the described actions.

[20] As reiterated below, where it may be impracticable or impossible to file due to operational damage the Commission will allow for flexibility in reporting methods.

[21] The "deactivation" of DIRS specifically refers to when the Commission has decided that the emergency or disaster event has surpassed the period necessary for consistent, daily updates regarding the event. This does not mean that subject providers will no longer be able to access the system. The "activation" of DIRS begins the expected reporting period, and the "deactivation" of DIRS ends the expected reporting period. However, once DIRS has been deactivated for the particular event, providers will still have access to the reporting system and should utilize such for mandated actions like "after-action" reporting.

to emergency communications. We also believe that relief from NORS reporting requirements when DIRS is activated meaningfully reduces the potential overall burden associated with mandated DIRS reporting. Recognizing that DIRS reporting will be new for some entities, the Commission is providing a corresponding reduction in NORS reporting, and is providing focused reporting in DIRS that is relevant for near term disaster scenarios and response.

A. Mandating DIRS Reporting for Cable Communications, Wireless, Wireline, and Interconnected VoIP Providers

11. In the *2021 Resilient Networks Notice*, the Commission proposed requiring cable, wireless, wireline, Direct Broadcast Satellite (DBS), Satellite Digital Audio Radio Service (SDARS), interconnected VoIP providers, and TV and radio broadcasters to report their infrastructure status information in DIRS when the Commission activates DIRS in geographic areas in which they provide service.[22] In this respect, the Commission proposed to shift the reporting obligation from voluntary to mandatory for these providers and expand the categories of providers subject to DIRS reporting. In support of this proposal, the Commission noted that smaller providers often did not elect to voluntarily participate in DIRS reporting, reducing the Commission's situational awareness.[23] The size of the provider a consumer uses should not affect a consumer's right to public safety and potentially life-saving information, nor should small rural communities be less entitled to functioning networks that provide alerts and 911 capability than communities served by large providers. The Commission also sought comment on ways to resolve ambiguity about whether a subject provider's lack of DIRS filings means that its network infrastructure remains fully operational or it is unable to file, and whether it cannot access DIRS due to disruption of its Internet access or other exigencies.[24] Based on the record, in this *Second Report and Order*, the Commission requires DIRS reporting only as to cable communications,[25] wireline, wireless and interconnected VoIP providers, and provides that such reports must be filed on a daily basis until the Commission deactivates DIRS.[26] On days when a subject provider has no otherwise reportable changes in its infrastructure status, the report would take the form of a simplified "check in" report. In the accompanying *Second Further Notice,* we seek further comment to build a more robust record regarding the inclusion of satellite, broadband, and broadcast providers in a mandatory DIRS environment.

12. DIRS provides pertinent daily information that the Commission provides to a variety of public safety entities through information sharing, collaborative disaster response efforts, and to the public. The information in DIRS reports also enables the Bureau's Operations and Emergency Management Division (OEM) to manage its disaster response activities, such as visiting sites and validating communications restoration status, supporting vital search and rescue operations, and

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[22] *2021 Resilient Networks Notice* at para. 29.

[23] *Id.* at para. 27.

[24] *Id.* at paras. 27, 29.

[25] *See ,* Letter from Steven F. Morris, Vice President and Deputy General Counsel, NCTA-The Internet and Television Association, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 21-346, 15-18 and ET Docket No. 04-35, at 1-2 (filed Jan. 18, 2024) (NCTA *ex parte*) (requesting that rule applicability conform to the definition of "cable communications providers" consistent with Part 4 of the Commission's rules, 47 CFR § 4.3).

[26] We note that in some instances, and where warranted based on circumstances during extended activations, the Bureau has required reporting less frequently than daily. *See, e.g., The Public Safety and Homeland Security Bureau Announces Amended Schedule for Filing Hurricane Maria Reports in the Disaster Information Reporting System,* DA 12-1122 (Nov. 27, 2021). While we find daily reporting the best cadence norm, we delegate authority to PSHSB to amend the reporting schedule to a less frequent cadence where warranted. For instance, the Bureau may waive, *sua sponte*, the daily reporting time. In this regard, we also decline to provide more specificity as to the time daily reporting should occur as requested by NCTA, in that DIRS reporting may inform other time-sensitive disaster coordination activities across the Federal government and that Commission staff must respond to those coordination activities by specifying reporting times in each DIRS activation PN on a case-by-case basis. *See* NCTA *ex parte* at 1-2.

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Title 47 —Telecommunication
Chapter I —Federal Communications Commission
Subchapter A —General
Part 4 —Disruptions to Communications
Reporting Requirements for Disruptions to Communications

Authority: 47 U.S.C. 34-39, 151, 154, 155, 157, 201, 214, 218, 251, 301, 303, 307, 309, 316, 332, 403, 615, 615a-1, 615b, 1302(a), 1302(b), 1421, 1426, and 1433; 5 U.S.C. 301; and E.O. 10530, 19 FR 2709, 3 CFR, 1954-1958 Comp., p. 189.
Source: 69 FR 70338, Dec. 3, 2004, unless otherwise noted.

§ 4.9 Outage reporting requirements—threshold criteria.

(a) ***Cable.*** All cable communications providers shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration that:

(1) Potentially affects at least 900,000 user minutes of telephony service;

(2) Affects at least 667 OC3 minutes;

(3) Potentially affects any special offices and facilities (in accordance with paragraphs (a) through (d) of § 4.5); or

(4) Potentially affects a 911 special facility (as defined in § 4.5(e)) or potentially affects a 988 special facility (as defined in § 4.5(f)), in which case they also shall notify the affected facility in the manner described in paragraph (h) or (i) of this section, respectively. Not later than 72 hours after discovering the outage, the provider shall submit electronically an Initial Communications Outage Report to the Commission. Not later than 30 days after discovering the outage, the provider shall submit electronically a Final Communications Outage Report to the Commission. The notification and the initial and final reports shall comply with all of the requirements of § 4.11.

(b) ***IXC or LEC tandem facilities.*** In the case of IXC or LEC tandem facilities, providers must, if technically possible, use real-time blocked calls to determine whether criteria for reporting an outage have been reached. Providers must report IXC and LEC tandem outages of at least 30 minutes duration in which at least 90,000 calls are blocked or at least 667 OC3-minutes are lost. For interoffice facilities which handle traffic in both directions and for which blocked call information is available in one direction only, the total number of blocked calls shall be estimated as twice the number of blocked calls determined for the available direction. Providers may use historic carried call load data for the same day(s) of the week and the same time(s) of day as the outage, and for a time interval not older than 90 days preceding the onset of the outage, to estimate blocked calls whenever it is not possible to obtain real-time blocked call counts. When using historic data, providers must report incidents where at least 30,000 calls would have been carried during a time interval with the same duration of the outage. (OC3 minutes are defined in paragraph (d) of § 4.7.) In situations where, for whatever reason, real-time and historic carried call load data are unavailable to the provider, even after a detailed investigation, the provider must determine the carried call load based on data obtained in the time interval between the onset of the outage and the due date for the final report; this data must cover the same day of the week, the same time of day, and the same duration as the outage. Justification that such data accurately estimates the traffic that would have

been carried at the time of the outage had the outage not occurred must be available on request. If carried call load data cannot be obtained through any of the methods described, for whatever reason, then the provider shall report the outage.

(c) ***Satellite.***

(1) All satellite operators shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, of an outage of at least 30 minutes duration that manifests itself as a failure of any of the following key system elements: One or more satellite transponders, satellite beams, inter-satellite links, or entire satellites. In addition, all Mobile-Satellite Service ("MSS") satellite operators shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, of an outage of at least 30 minutes duration that manifests itself as a failure of any gateway earth station, except in the case where other earth stations at the gateway location are used to continue gateway operations within 30 minutes of the onset of the failure.

(2) All satellite communications providers shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration that manifests itself as:

(i) A loss of complete accessibility to at least one satellite or transponder;

(ii) A loss of a satellite communications link that potentially affects at least 900,000 user-minutes (as defined in § 4.7(d)) of either telephony service or paging service; or

(iii) [Reserved]

(iv) Potentially affecting a 911 special facility (as defined in § 4.5(e)) or potentially affecting a 988 special facility (as defined in § 4.5(f)), in which case the affected facility shall be notified in the manner described in paragraph (h) or (i) of this section, respectively.

(3) Not later than 72 hours after discovering the outage, the operator and/or provider shall submit electronically an Initial Communications Outage Report to the Commission. Not later than thirty days after discovering the outage, the operator and/or provider shall submit electronically a Final Communications Outage Report to the Commission.

(4) The Notification and the Initial and Final reports shall comply with all of the requirements of § 4.11.

(5) Excluded from these outage-reporting requirements are those satellites, satellite beams, inter-satellite links, MSS gateway earth stations, satellite networks, and transponders that are used exclusively for intra-corporate or intra-organizational private telecommunications networks, for the one-way distribution of video or audio programming, or for other non-covered services (that is, when they are never used to carry common carrier voice or paging communications).

(d) ***Signaling system 7.*** Signaling System 7 (SS7) providers shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize an outage of at least 30 minutes duration that is manifested as the generation of at least 90,000 blocked calls based on real-time traffic data or at least 30,000 lost calls based on historic carried loads. In cases where a third-party SS7 provider cannot directly estimate the number of blocked calls, the third-party SS7 provider shall use 500,000 real-time lost MTP messages as a surrogate for 90,000 real-time blocked calls, or 167,000 lost MTP messages on a historical basis as a surrogate for 30,000 lost calls based on historic carried loads. Historic carried load data or the number of

lost MTP messages on a historical basis shall be for the same day(s) of the week and the same time(s) of day as the outage, and for a time interval not older than 90 days preceding the onset of the outage. In situations where, for whatever reason, real-time and historic data are unavailable to the provider, even after a detailed investigation, the provider must determine the carried load based on data obtained in the time interval between the onset of the outage and the due date for the final report; this data must cover the same day of the week and the same time of day as the outage. If this cannot be done, for whatever reason, the outage must be reported. Justification that such data accurately estimates the traffic that would have been carried at the time of the outage had the outage not occurred must be available on request. Finally, whenever a pair of STPs serving any communications provider becomes isolated from a pair of interconnected STPs that serve any other communications provider, for at least 30 minutes duration, each of these communications providers shall submit electronically a Notification to the Commission within 120 minutes of discovering such outage. Not later than 72 hours after discovering the outage, the provider(s) shall submit electronically an Initial Communications Outage Report to the Commission. Not later than thirty days after discovering the outage, the provider(s) shall submit electronically a Final Communications Outage Report to the Commission. The Notification and the Initial and Final reports shall comply with all of the requirements of § 4.11.

(e) ***Wireless.***

(1) All wireless service providers shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration:

(i) Of a Mobile Switching Center (MSC);

(ii) That potentially affects at least 900,000 user minutes of either telephony and associated data (2nd generation or lower) service or paging service;

(iii) That affects at least 667 OC3 minutes (as defined in § 4.7); or

(iv) [Reserved]

(v) That potentially affects a 911 special facility (as defined in § 4.5(e)) or potentially affects a 988 special facility (as defined in § 4.5(f)), in which case they also shall notify the affected facility in the manner described in paragraph (h) or (i) of this section, respectively.

(2) In determining the number of users potentially affected by a failure of a switch, a wireless provider must multiply the number of macro cell sites disabled in the outage by the average number of users served per site, which is calculated as the total number of users for the provider divided by the total number of the provider's macro cell sites.

(3) For providers of paging service only, a notification must be submitted if the failure of a switch for at least 30 minutes duration potentially affects at least 900,000 user-minutes.

(4) Not later than 72 hours after discovering the outage, the provider shall submit electronically an Initial Communications Outage Report to the Commission. Not later than 30 days after discovering the outage, the provider shall submit electronically a Final Communications Outage Report to the Commission.

(5) The Notification and Initial and Final reports shall comply with the requirements of § 4.11.

(f) ***Wireline.*** All wireline communications providers shall submit electronically a Notification to the Commission within 120 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration that:

(1) Potentially affects at least 900,000 user minutes of either telephony or paging;

(2) Affects at least 667 OC3 minutes;

(3) Potentially affects any special offices and facilities (in accordance with paragraphs (a) through (d) of § 4.5); or

(4) Potentially affects a 911 special facility (as defined in § 4.5(e)) or potentially affects a 988 special facility (as defined in § 4.5(f)), in which case they also shall notify the affected facility in the manner described in paragraph (h) or (i) of this section, respectively. Not later than 72 hours after discovering the outage, the provider shall submit electronically an Initial Communications Outage Report to the Commission. Not later than 30 days after discovering the outage, the provider shall submit electronically a Final Communications Outage Report to the Commission. The Notification and the Initial and Final reports shall comply with all of the requirements of § 4.11.

(g) ***Interconnected VoIP Service Providers.***

(1) All interconnected VoIP service providers shall submit electronically a Notification to the Commission:

(i) Within 240 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration that potentially affects a 911 special facility (as defined in § 4.5(e)) or potentially affects a 988 special facility (as defined in § 4.5(f)), in which case they also shall notify the affected facility in the manner described in paragraph (h) or (i) of this section, respectively; or

(ii) Within 24 hours of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage of at least 30 minutes duration:

(A) That potentially affects at least 900,000 user minutes of interconnected VoIP service and results in complete loss of service; or

(B) That potentially affects any special offices and facilities (in accordance with paragraphs § 4.5(a) through (d)).

(2) Not later than thirty days after discovering the outage, the provider shall submit electronically a Final Communications Outage Report to the Commission. The Notification and Final reports shall comply with all of the requirements of § 4.11.

(h) ***911 special facility outage notification.*** All cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers (as defined in § 9.19(a)(4) of this chapter) shall notify any official at a 911 special facility who has been designated by the affected 911 special facility as the provider's contact person(s) for communications outages at the facility of any outage that potentially affects that 911 special facility (as defined in § 4.5(e)) in the following manner:

(1) ***Appropriate contact information.*** To ensure prompt delivery of outage notifications to 911 special facilities, cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers shall exercise special diligence to identify, maintain, and, on an annual basis, confirm current contact information appropriate for 911 outage notification for each 911 special facility that serves areas that the service provider serves.

(2) ***Content of notification.*** Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers' 911 outage notifications must convey all available material information about the outage. For the purpose of this paragraph (h), "material information" includes the following, where available:

(i) An identifier unique to each outage;

(ii) The name, telephone number, and email address at which the notifying cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider can be reached for follow up;

(iii) The name of the cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider(s) experiencing the outage;

(iv) The date and time when the incident began (including a notation of the relevant time zone);

(v) The types of communications service(s) affected;

(vi) The geographic area affected by the outage;

(vii) A statement of the notifying cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider's expectations for how the outage potentially affects the 911 special facility (*e.g.,* dropped calls or missing metadata);

(viii) Expected date and time of restoration, including a notation of the relevant time zone;

(ix) The best-known cause of the outage; and

(x) A statement of whether the message is the notifying cable, satellite, wireless, wireline, interconnected VoIP, or covered 911 service provider's initial notification to the 911 special facility, an update to an initial notification, or a message intended to be the service provider's final assessment of the outage.

(3) ***Means of notification.*** Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers' 911 outage notifications must be transmitted by telephone and in writing via electronic means in the absence of another method mutually agreed upon in writing in advance by the 911 special facility and the covered 911 service provider.

(4) ***Timing of initial notification.*** Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers shall provide a 911 outage notification to a potentially affected 911 special facility as soon as possible, but no later than within 30 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage that potentially affects a 911 special facility, as defined in § 4.5(e).

(5) ***Follow-up notification.*** Cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers shall communicate additional material information to potentially affected 911 special facilities in notifications subsequent to the initial notification as soon as possible after that information becomes available, but cable, satellite, wireless, wireline and interconnected VoIP providers shall send the first follow-up notification to potentially affected 911 special facilities no later than two hours after the initial contact. After that, cable, satellite, wireless, wireline, interconnected VoIP, and covered 911 service providers are required to continue to provide material information to 911 special facilities as soon as possible after discovery of the new material information until the outage is completely repaired and service is fully restored.

(i) ***988 Special facility outage notification.*** All cable, satellite, wireless, wireline, interconnected VoIP, and covered 988 service providers shall notify any official at a 988 special facility who has been designated by the affected 988 special facility as the provider's contact person(s) for communications outages at the facility of any outage that potentially affects that 988 special facility (as defined in § 4.5(f)) in the following manner:

(1) ***Appropriate contact information.*** To ensure prompt delivery of outage notifications to 988 special facilities, covered 988 service providers shall exercise special diligence to identify, maintain, and, on an annual basis, confirm current contact information appropriate for outage notification for each 988 special facility that serves areas that the service provider serves.

(2) ***Content of notification.*** Covered 988 service providers' outage notifications must convey all available material information about the outage. For the purpose of this paragraph (i), "material information" includes the following, where available:

(i) An identifier unique to each outage;

(ii) The name, telephone number, and email address at which the notifying 988 service provider can be reached for follow up;

(iii) The name of the covered 988 service provider experiencing the outage;

(iv) The date and time when the incident began (including a notation of the relevant time zone);

(v) The types of communications service(s) affected;

(vi) The geographic area affected by the outage;

(vii) A statement of the notifying covered 988 service provider's expectations for how the outage potentially affects the special facility (*e.g.,* dropped calls or missing metadata);

(viii) Expected date and time of restoration, including a notation of the relevant time zone;

(ix) The best-known cause of the outage; and

(x) A statement of whether the message is the notifying covered 988 service provider's initial notification to the special facility, an update to an initial notification, or a message intended to be the service provider's final assessment of the outage.

(3) ***Means of notification.*** Covered 988 service providers' outage notifications must be transmitted by telephone and in writing via electronic means in the absence of another method mutually agreed upon in writing in advance by the special facility and the service provider.

(4) ***Timing of initial notification.*** Covered 988 service providers shall provide an outage notification to a potentially affected 988 special facility as soon as possible, but no later than within 30 minutes of discovering that they have experienced on any facilities that they own, operate, lease, or otherwise utilize, an outage that potentially affects a 988 special facility (as defined in § 4.5(f)).

(5) ***Follow-up notification.*** Covered 988 service providers shall communicate additional material information to potentially affected 988 special facilities in notifications subsequent to the initial notification as soon as possible after that information becomes available, but providers shall send the first follow-up notification to potentially affected 988 special facilities no later than two hours after the initial contact. After that, covered 988 service providers are required to continue to provide material information to the special facilities as soon as possible after discovery of the new material information until the outage is completely repaired and service is fully restored.

[69 FR 70338, Dec. 3, 2004, as amended at 77 FR 25097, Apr. 27, 2012; 79 FR 3130, Jan. 17, 2014; 79 FR 7589, Feb. 10, 2014; 81 FR 45068, July 12, 2016; 88 FR 9764, Feb. 15, 2023; 89 FR 2513, Jan. 16, 2024]

February 22, 2024 AT&T Mobility Network Outage
REPORT AND FINDINGS

A Report of the Public Safety and Homeland Security Bureau
Federal Communications Commission

July 22, 2024

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I. INTRODUCTION

1. On Thursday, February 22, 2024, at 2:45 AM Central Standard Time,[1] AT&T Mobility LLC (AT&T Mobility) experienced a nationwide wireless service outage that lasted at least twelve hours.[2] The outage affected users in all 50 states as well as Washington, D.C., Puerto Rico, and the U.S. Virgin Islands. Based on information provided by AT&T Mobility, all voice and 5G data services for all users of AT&T Mobility were unavailable as a result of the outage, affecting more than 125 million registered devices, blocking more than 92 million voice calls, and preventing more than 25,000 calls to Public Safety Answering Points (PSAPs or 911 call centers). The outage also cut off service to the devices operated by public safety users of the First Responder Network Authority (FirstNet). Voice and 5G data services were also unavailable to users from mobile virtual network operators (MVNOs) and other wireless customers who were roaming on AT&T Mobility's network.

2. AT&T Mobility implemented a network change with an equipment configuration error on Thursday, February 22, 2024 at 2:42 AM. Just three minutes later, the nationwide outage began. Once implemented, this configuration error caused the AT&T Mobility network to enter "protect mode" to prevent impact to other services, disconnecting all devices from the network, and prompting a loss of voice and 5G data service for all wireless users. It took close to two hours to roll back the network change. Full service restoration, however, took at least 12 hours because AT&T Mobility's device registration systems were overwhelmed with the high volume of requests for re-registration onto the network.

3. The Federal Communications Commission's (FCC's or Commission's) Public Safety and Homeland Security Bureau (Bureau) investigated this outage, its effects, and AT&T Mobility's response. Bureau staff reviewed and analyzed network outage reports and written responses submitted by AT&T Mobility, and interviewed AT&T Mobility personnel. This public report represents the Bureau's findings and recommendations. As explained in detail below, the Bureau finds that the extensive scope and duration of this outage was the result of several factors, including a configuration error, a lack of adherence to AT&T Mobility's internal procedures, a lack of peer review, a failure to adequately test after installation, inadequate laboratory testing, insufficient safeguards and controls to ensure approval of changes affecting the core network, a lack of controls to mitigate the effects of the outage once it began, and a variety of system issues that prolonged the outage once the configuration error had been remedied. This outage provides stakeholders with the opportunity to learn valuable lessons about adherence to industry-developed best practices and the challenges of network restoration following a large-scale outage. This "sunny day"[3] outage highlights the need for network operators to adhere to their internal procedures and industry best practices when implementing network changes, to implement sufficient network controls to mitigate configuration errors so they do not escalate and disrupt network operations, and to have appropriate systems and procedures in place with adequate capacity to facilitate prompt recovery from large-scale outages.

II. BACKGROUND

4. As designated by Congress, the Commission plays a vital role in ensuring and maintaining

[1] Unless otherwise noted, all times in this report are Central Standard Time.

[2] Press Release, New York State Attorney General Letitia James, Attorney General James Announces Investigation of Recent AT&T Outage (Feb. 29, 2024), https://ag.ny.gov/press-release/2024/attorney-general-james-announces-investigation-recent-att-outage.

[3] For this report's purposes, the term "sunny day outage" refers to an outage that results from circumstances other than severe weather or other natural disasters. Sunny day outages can result from a multitude of different events, such as equipment configuration errors, equipment failures, and software bugs.

the reliability and resiliency of the nation's communications networks so that the public can communicate when needed. One of the Commission's priorities is to ensure that communications are reliable and readily available, consistent with its statutory mission to protect the "safety of life and property."[4] Accordingly, it is critical for the millions of customers dependent on the AT&T Mobility network to be able to reach 911 and for FirstNet users to maintain connectivity during an outage, given FirstNet's role as public safety's dedicated communications network.

5. The Commission stays abreast of disruptions to the Nation's communications infrastructure through outage reports filed by communications providers in the agency's Network Outage Reporting System (NORS) in the wake of major disruptions to their networks.[5] As part of this reporting framework, Commission rules require wireless service providers, such as AT&T Mobility, to report to the Commission "significant degradation[s] in the ability of an end user to establish and maintain a channel of communications as a result of failure or degradation in the performance of a communications provider's network."[6] An outage that occurs on facilities that a wireless service provider owns, operates, leases, or otherwise uses is reportable when it is at least 30 minutes in duration and, *inter alia*, potentially affects at least 900,000 user minutes of telephony or potentially affects a 911 special facility (e.g., a PSAP).[7] Wireless providers must submit a notification in NORS within 120 minutes of discovering that a reportable outage has occurred.[8] Wireless providers must also file an Initial Outage Report no later than 72 hours after discovering the outage, and a Final Outage Report not later than 30 days after discovering the outage.[9] The Commission requires wireless providers to notify 911 special facilities as soon as possible when they discover outages that could affect them.[10] Wireless providers must convey all available and potentially useful information to the 911 special facility to help mitigate

[4] 47 U.S.C. § 151.

[5] NORS is the Commission's web-based filing system through which communications providers covered by the part 4 outage reporting rules must submit reports to the Commission. These reports are presumed confidential to protect sensitive and proprietary information about communications networks. *See* 47 CFR § 4.2.

[6] *See* 47 CFR § 4.5(a); *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 16830, 16895-902, paras. 127-143 (2004) (*2004 Part 4 Report and Order*).

[7] *See* 47 CFR § 4.9(e)(1)(ii), (v); *see also* 47 CFR § 4.9(e)(1)(i), (iii), (iv) (requiring a wireless service outage be reported when it affects a Mobile Switching Center, when it affects at least 667 OC3 minutes, or when it potentially affects any special offices and facilities). While we note that the Commission adopted 988 outage reporting rules in July 2023, these rules are not yet in effect and thus are not applicable to this incident. *See Ensuring the Reliability and Resiliency of the 988 Suicide & Crisis Lifeline*; *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*; *Implementation of the National Suicide Hotline Improvement Act of 2018*; PS Docket Nos. 23-5 and 15-80; WC Docket No. 18-336, Report and Order, FCC 23-57 (July 21, 2023).

[8] *See* 47 CFR § 4.9(e)(1); 47 CFR § 4.11 (specifying additional information that these reports must contain).

[9] *See* 47 CFR § 4.9(e)(4).

[10] *See 2004 Part 4 Report and Order*; 47 CFR § 4.9. Further, the Commission adopted PSAP notification requirements in November 2022, but they are not in effect, which means that they are not applicable to this outage. *See Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*; *Improving 911 Reliability*; *New Part 4 of Commission's Rules Concerning Disruptions to Communications*; PS Docket Nos. 15-80 and 13-75; ET Docket No. 04-35, Second Report and Order, 37 FCC Rcd 13847 (2022); *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; Improving 911 Reliability; New Part 4 of the Commission's Rules Concerning Disruptions to Communications,* PS Docket Nos. 15-80 and 13-75; ET Docket No. 04-35, Order on Reconsideration, FCC 24-73 (July 11, 2024).

the effects of the outage on callers to that facility.[11] The Commission does not currently require FirstNet to file outage reports in NORS, although it has an open rulemaking proceeding considering this issue.[12]

III. INCIDENT AND RESPONSE

A. Event Summary

6. ***Misconfigured Network Element.*** On Thursday, February 22, 2024, at 2:42 AM, an AT&T Mobility employee placed a new network element into its production network during a routine night maintenance window in order to expand network functionality and capacity. The network element was misconfigured. The configuration of the network element did not conform to AT&T's established network element design and installment procedures, which require peer review. As a result, the misconfiguration of the network element was not detected before the network element was introduced into AT&T Mobility's network. As a result of the error in configuration, downstream network elements propagated the error further into the network. This triggered an automated response that shut down all network connections to prevent the traffic from propagating further into the network. The shutdown isolated all voice and 5G data processing elements from the wireless towers and switching elements, preventing these services from being available. This resulted in the AT&T Mobility network disconnecting all devices from voice services and 5G data, including FirstNet devices, registered to AT&T Mobility's network, beginning a nationwide wireless outage. This occurred at 2:45 AM, just three minutes after the misconfigured network element was placed into production.

7. ***Registration Congestion.*** AT&T Mobility technical and leadership personnel were engaged to identify the issue. AT&T's Network Operations performed a rollback that removed the misconfigured network element and began the restoration of the network to normal operations. While most of AT&T Mobility's subscribers were re-connected to the network by early morning, traffic congestion from mass mobile device registrations prevented some subscriber devices from connecting to the network. Most of these congestion issues were resolved by mid-day.

8. ***Mitigation and Restoration Efforts.*** After rolling back the maintenance action, AT&T Mobility prioritized the restoration of FirstNet devices and infrastructure over commercial and residential users which AT&T Mobility asserts is part of its commitment as public safety's partner.[13] By 5:00 AM on February 22, 2024, FirstNet infrastructure was restored.[14] FirstNet device registrations were approaching normal levels shortly thereafter. Restoring service to commercial and residential users took several more hours as AT&T Mobility continued to observe congestion as high volumes of AT&T Mobility user devices attempted to register on the AT&T Mobility network. This forced some devices to revert back to SOS mode.[15] For the next several hours, AT&T Mobility engineers engaged in additional

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[11] *See 2004 Part 4 Report and Order*; 47 CFR § 4.9(e).

[12] *See Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346 and 15-80, and ET Docket No. 04-35; *Second Report and Order and Second Further Notice of Proposed Rulemaking*, FCC 24-5, at paras. 60-63 (Jan. 26, 2024).

[13] *See* Donny Jackson, *AT&T suffers extended nationwide outage, prioritizes FirstNet restoration,* Feb. 22, 2024), https://urgentcomm.com/2024/02/22/att-suffers-extended-nationwide-outage-prioritizes-firstnet-restoration/.

[14] *See* Joe Wassel, *Update on February 22 Network Outage,* (Feb. 29, 2024), https://www.firstnet.gov/newsroom/blog/update-february-22-network-outage#:~:text=AT%26T%20says%20the%20outage%20was,restoration%20of%20public%20safety%20services .

[15] SOS mode is a limited service mode where a device is not connected to a network, but is still able to make emergency calls. *See, e.g.*, Apple, If you see SOS, No Service, or Searching on your iPhone or iPad,

(continued….)

actions, such as turning off access to congested systems and performing reboots to mitigate registration delays. At 12:30 PM – nearly ten hours after the outage began – AT&T Mobility determined that registrations had finally normalized.[16] However, call failures were still occurring after this time. It took several more hours before performance indicators returned to normal levels. At that point, the outage was resolved and full voice and data services were restored to all customers, over 12 hours after the incident began.

B. Actions to Notify and Alert Customers

9. ***FirstNet Customers.*** AT&T Mobility notified FirstNet customers of the outage starting at 5:53 AM on February 22, 2024. That notification, however, was distributed more than three hours after the outage began and approximately 53 minutes after FirstNet's infrastructure was restored. A final notification was sent at 4:40 PM.

10. In addition, AT&T Mobility and FirstNet issued FirstNet-specific public statements in the morning communicating that service was affected for some subscribers across the country[17] and advising that service is currently running normally across the FirstNet network. At 11:30 AM, a message was issued by FirstNet via social media stating that "[s]ome FirstNet subscribers may have experienced a service disruption this morning" and confirming that FirstNet service was operating normally.[18]

11. ***AT&T Mobility Customers.*** On February 22, 2024 at 7:05 AM, AT&T Mobility issued a public statement about the outage stating that "[s]ome of our customers are experiencing wireless service interruptions this morning" and encouraging the use of Wi-Fi calling until service was restored. However, some users reportedly experienced a 502 Bad Gateway error when attempting to turn on Wi-Fi calling.[19] AT&T Mobility provided additional updates periodically throughout the morning. At 2:10 PM, AT&T Mobility released a statement to media outlets indicating that wireless service had been restored to all of its affected customers.[20] At 6:46 PM, AT&T Mobility issued a statement providing initial findings about the outage's cause, asserting its belief based on initial review that the "outage was caused by the application and execution of an incorrect process used as [it was] expanding [its] network, not a cyberattack."[21]

12. ***PSAP Notification.*** AT&T Mobility indicated it notified all of the affected PSAPs nationwide about the outage and the status of the restoration.

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https://support.apple.com/en-us/HT201415 (last visited June 20, 2024). In this incident, if any device in SOS mode connected to a non-AT&T network, it could make 911 calls; however, if it connected to an AT&T network, it could not.

[16] Normalized in this context refers to the number of active registrations being within normal parameters for the network.

[17] Congressional Research Service, AT&T Network Outage: Impact on Public Safety Services at 1 (2024) https://sgp.fas.org/crs/misc/IF12613.pdf (Congressional Research Service Report).

[18] *See* FirstNet, Built with AT&T (@FirstNet), X (Feb. 22, 2024, 2:06 PM), https://x.com/FirstNet/status/1760727848992547256. We note that X (formerly Twitter) is a closed social network, and as such, a person not logged in (or not an "X" subscriber) would not be able to routinely subscribe to updates, or (as a non-subscriber) even seen this message.

[19] *See, e.g.*, Brandon Jirod, *Getting a 502 Bad Gateway error on AT&T? Here's what it means,* (Feb. 22, 2024), https://www.pnj.com/story/news/2024/02/22/att-outage-502-bad-gateway-error-wifi-calling/72698740007/.

[2020] Congressional Research Service Report at 1.

[21] *Id.*

C. Effects of the Outage

1. Overall Impact

13. All users of AT&T Mobility's network, including AT&T Mobility subscribers, Cricket subscribers, FirstNet customers, and customers of MVNOs with access to AT&T Mobility's network were impacted by the outage, affecting more than 125 million registered devices and blocking more than 92 million voice calls. The impacted users reside in all 50 states as well as Washington, D.C., Puerto Rico, and the U.S. Virgin Islands. The outage resulted in lost connectivity impacting all Voice over Long Term Evolution (VoLTE) and all 5G voice and data services provided by AT&T Mobility, including originating calls to 911, for all of the users listed above. FirstNet users also lost connectivity during the outage. Users from other wireless carriers who were roaming on AT&T Mobility's network were also affected.

2. Impact on 911

14. No 911 calls from AT&T Mobility-served wireless devices could be routed to the destination PSAP while the voice services were disconnected. All such attempted 911 calls therefore failed preventing more than 25,000 calls to PSAPs or 911 call centers. This includes devices that were in SOS mode while attached to AT&T towers. When a device is in SOS mode, it cannot register to the network, but in most instances the device can still reach 911. However, all voice services on the AT&T Mobility network were unavailable during the outage, including calls to 911 made by phones in SOS mode that were attempted over the AT&T Mobility network. AT&T customers whose devices in SOS mode attached to other carriers could complete 911 calls through those networks.[22]

15. As service was restored, 911 calls were delivered to PSAPs with Automatic Location Identification (ALI) and Automatic Number Identification (ANI).[23]

3. Impact on FirstNet

16. All 4G voice and 5G voice and data infrastructure were impacted between 2:45 AM and 5:00 AM, causing loss of service for FirstNet subscribers. AT&T Mobility prioritized the restoration of FirstNet before other services. FirstNet device registrations approached normal shortly after the restoration of the FirstNet dedicated network elements that are connected to AT&T Mobility's network.

4. Impact on Wireless Priority Service (WPS)

17. WPS would not have been available during the outage to devices not registered on the network.[24] The volume of Wireless Priority Service calls on the AT&T Mobility network during the outage event was less than two thirds of the typical volume for that same time period, suggesting some WPS calls also failed.

5. Impact on Wireless Emergency Alert (WEA) Messages

18. AT&T Mobility wireless users' ability to receive WEAs was not materially impacted by the outage. Despite losing connectivity to AT&T Mobility's 5G network elements due to the outage, AT&T

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[22] *See, e.g.*, Marlene Lenthang and Kathleen Itoh, *AT&T service restored after customers hit by widespread cellular outages in the U.S.* (Feb. 22, 2024), https://www.nbcnews.com/news/us-news/t-verizon-t-mobile-customers-hit-widespread-cellular-outages-us-rcna139938.

[23] Under part 9 of the Commission's rules, 911 calls generally must include ANI and ALI information. *See generally* 47 CFR pt. 9, "911 Requirements."

[24] WPS is a Federal program that authorizes cellular communications service providers to prioritize calls over wireless networks. This program is available to certain organizations that use telecommunication services necessary for the public health, safety, and maintenance of law and order. *See generally* 47 CFR pt. 64, Appx B.

Mobility's 4G/LTE commercial network elements were available to broadcast WEAs throughout the duration of the outage. For example, AT&T Mobility received six WEA messages from Federal Emergency Management Agency (FEMA)'s Integrated Public Alert & Warning System (IPAWS) gateway during the outage, the first at 2:56 AM, and broadcast the WEA message over AT&T Mobility's 4G/LTE commercial network in accordance with the geographic parameters assigned by the alert originator. According to AT&T Mobility, its devices operating in SOS mode (which AT&T Mobility users would have been in for some duration of time) likely could receive WEA messages.

D. Bureau Findings and Analysis Regarding Causes and Contributing Factors

19. The Bureau finds that the extensive scope and duration of this outage was the result of several factors, all attributable to AT&T Mobility, including a configuration error, a lack of adherence to AT&T Mobility's internal procedures, a lack of peer review, a failure to adequately test after installation, inadequate laboratory testing, insufficient safeguards and controls to ensure approval of changes affecting the core network, a lack of controls to mitigate the effects of the outage once it began, and a variety of system issues that prolonged the outage once the configuration error had been remedied. We discuss each of these factors below.

20. ***Lack of Peer Review.*** The direct cause of the outage was an error by an employee who misconfigured a single network element, ultimately causing the AT&T Mobility network to respond by entering Protection Mode and disconnecting all wireless devices. Adequate peer review should have prevented the network change from being approved, and, in turn, from being loaded onto the network. This peer review did not take place.

21. ***Failure to Adequately Test Post Installation.*** In addition to AT&T Mobility's assertion that the outage was caused by the execution of an incorrect process, another procedural error also may have contributed to the outage. Specifically, post-installation testing is a well-established best practice to ensure network changes are implemented properly without adverse effect.[25] To the extent that testing was performed when the misconfigured network element was placed into the production network on February 22, 2024, they were inadequate and failed to identify the incorrect behavior of the network element which began just three minutes after the network change was implemented. An effective post installation test may have helped detect the misconfigured network element more quickly, thereby allowing AT&T Mobility to initiate corrective action more expeditiously. AT&T Mobility either lacked sufficient oversight and controls in place to ensure these test processes were followed, or if they were, then the processes themselves were insufficient.

22. ***Failure to Conduct Adequate Lab Testing.*** Lab testing by AT&T did not discover the improper configuration of the network element that caused the outage and did not identify the potential impact to the network of that or similar misconfigurations. To the extent such testing was intended to include operation in a production-representative environment it either failed to effectively emulate the live environment or failed to test the impact of this misconfiguration on the wider network. Any such testing should have identified the issue prior to the occurrence of the outage.

23. ***Insufficient Safeguards and Controls to Ensure Approval of Changes Affecting Network.*** Responsible network management principles and organizational best practices dictate that network changes must be thoroughly tested, reviewed, and approved before they are implemented within the

[25] Network Operators, Service Providers, and Public Safety should verify complex configuration changes before committing them and test after the change to ensure the appropriate and expected results. FCC Open Data, *CSRIC Best Practices*, https://opendata.fcc.gov/Public-Safety/CSRIC-Best-Practices/qb45-rw2t/data (last visited June 26, 2024) (quoting CSRIC Best Practice 13-10-0615).

network.[26] These safeguards help protect the network against potential risks by helping to ensure that those risks are identified and remediated before they cause service interruptions. Here, the misconfiguration of the network element was not detected before the network element was introduced into AT&T Mobility's network due to a failure to conform to AT&T's established network element design and installment procedures, which require peer review.

24. Two steps led to the network element configuration error reaching the AT&T Mobility network. The first step was the incorrect configuration by an AT&T Mobility employee. The second step was the loading of the network change encompassing the configuration error into the AT&T Mobility network by another AT&T Mobility employee. The fact that the network change was loaded onto the AT&T Mobility network indicates that AT&T Mobility had insufficient oversight and controls in place to ensure that approval had occurred prior to loading.

25. ***Insufficient Controls to Mitigate the Effects of the Configuration Error.*** The downstream network element lacked controls specific to mitigating this error and therefore was unable to mitigate the effects created by the misconfigured network element. Because the network element was lacking these controls, it passed traffic further into the network. This triggered Protection Mode to prevent significant failures from cascading into other systems. The Protection Mode condition caused all AT&T Mobility customers to be disconnected from the network. If the downstream network element was configured to have proper controls prior to the installation of the misconfigured network element, the outage would have been prevented.

26. ***System Limitations Created Registration Congestion, Prolonging the Outage.*** As discussed above, once the network entered Protection Mode, all devices were dropped from the network. Once Protection Mode is lifted, user devices must re-register in the network to be recognized and be provided service. Here, once the misconfigured network element was backed out, all user devices automatically tried to simultaneously re-register to reconnect to the network. The influx of device registration attempts far exceeded what AT&T Mobility's network management systems could handle, resulting in widespread congestion. This congestion caused devices to be delayed in registering to the network, thereby prolonging the outage. For the next several hours, AT&T Mobility employees engaged in additional actions to mitigate registration delays and better manage the large number of devices making simultaneous registration attempts. At 12:30 PM, AT&T Mobility determined that registrations had normalized. While most of AT&T Mobility's network returned to normal operations by mid-day, certain 911 calls failed throughout the afternoon due to congestion caused by mass mobile device registrations onto the network.

27. Despite configuring its network to enter Protection Mode to prevent propagating errors to other parts of the network, AT&T failed to prepare for the registration congestion associated with the network recovering from Protection Mode, or to sufficiently mitigate that congestion after the fact. As noted above, AT&T Mobility experienced many challenges and delays registering the high volume of devices to the AT&T Mobility network on February 22, 2024. It took AT&T Mobility more than 10 hours once the network was restored to fully remediate the network congestion and other issues stemming from registration. More robust registration systems with greater capacity would have enabled AT&T Mobility to more quickly and efficiently recover after the network entered into Protection Mode. Had such systems been in place here, they would have reduced the duration and impact of the outage.

[26] *See, e.g.,* CSRIC Best Practice 13-10-0615 (Network Operators, Service Providers, and Public Safety should verify complex configuration changes before committing them and test after the change to ensure the appropriate and expected results).

IV. CORRECTIVE ACTIONS BY AT&T MOBILITY

28. Since the outage, AT&T has taken numerous steps to prevent a reoccurrence. Within 48 hours of the outage, AT&T implemented additional technical controls in its network. This included scanning the network for any network elements lacking the controls that would have prevented the outage, and promptly putting those controls in place. AT&T has engaged in ongoing forensic work and implemented additional enhancements to promote network robustness and resilience. In addition, post-outage, AT&T has implemented additional steps for peer review and adopted procedures to ensure that maintenance work cannot take place without confirmation that required peer reviews have been completed.[27]

V. RECOMMENDATIONS FOR NEXT STEPS

29. Over the course of the approximately 12 hour duration of the outage, millions of people were without wireless service at various stages and various times.[28] As a result of this outage, not only were members of the public without a reliable connection to 911 services, but they were unable to reach family members, employers, health care professionals, schools, and other forms of assistance. Indeed, AT&T Mobility's outage caused serious disruptions to members of the public. This outage illustrates the need for mobile wireless carriers to adhere to best practices, implement adequate controls in their networks to mitigate risks, and be capable of responding quickly to restore service when an outage occurs. Sound network management practices of critical infrastructure and AT&T Mobility's own processes demand that only approved network changes that are developed pursuant to internal procedures and industry best practices, should be loaded onto the production network. It should not be possible to load changes that fail to meet those criteria. The Bureau plans to release a Public Notice, based on its analysis of this and other recent outages, reminding service providers of the importance of implementing relevant industry-accepted best practices, including those recommended by the Communications Security, Reliability, and Interoperability Council.[29] The Bureau has referred this matter to the Enforcement Bureau based on PSHSB's investigation into the February 22, 2024 outage for potential violations of parts 4 and 9 of the Commission's rules.

---

[27] *See* Letter from Suzanne M. Tetreault et al., Wilkinson Barker Knauer, LLP, Counsel for AT&T Services, Inc. et al., to Debra Jordan, Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission at Exh.t A (July 17, 2024) (on file with Bureau staff).

[28] *See,* e.g., Fiona Leishman, *AT&T speaks out after nationwide outage leaves millions without mobile service,* (Feb. 22, 2024), https://www.themirror.com/news/us-news/att-speaks-out-after-nationwide-352945.

[29] FCC Open Data, *CSRIC Best Practices*, https://opendata.fcc.gov/Public-Safety/CSRIC-Best-Practices/qb45-rw2t/data (last visited July 19, 2024) (referencing CSRIC Best Practice 13-9-0574).

RFE Exhibit K — AWS Activate Technology Resource Documentation

Your AWS Activate Credits are approved – get started now!

From: No reply - AWS Startups <no-reply@startups.aws>
To: contact@dartagnantelcosolutions.com
Date: 2026-10-19 20:02



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Can't wait to see what you build!
The AWS for Startups Team

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Your AWS Activate Credits application is in — here's what to do next

From: No reply - AWS Startups <no-reply@startups.aws>
To: contact@dartagnantelcosolutions.com
Date: 2026-10-16 23:52



Hi Gustavo Dartagnan,

Thanks for applying for AWS Activate Credits! Your application will be processed within 3–5 business days, and you'll receive a status update at the email address used in your application.Check your application status anytime.

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Your AI-powered build assistant is ready now. Get architecture, cost, and security guidance personalized to your stack and stage. Install the Claude Code plugin, or the IDE extension for VS Code, Cursor, or Kiro to track your AWS credits and spend all in one place.
Start building with AWS Startup Advisor

Migration Planning
Already building elsewhere? Get a personalized migration plan from GCP, OpenAI, or Gemini to AWS in minutes — including service mapping, cost estimates, and execution options.
Get your migration plan

Startup Exclusive Offers
Access discounts and extended trials on tools to help your startup grow, including payments, analytics, communications, and more.
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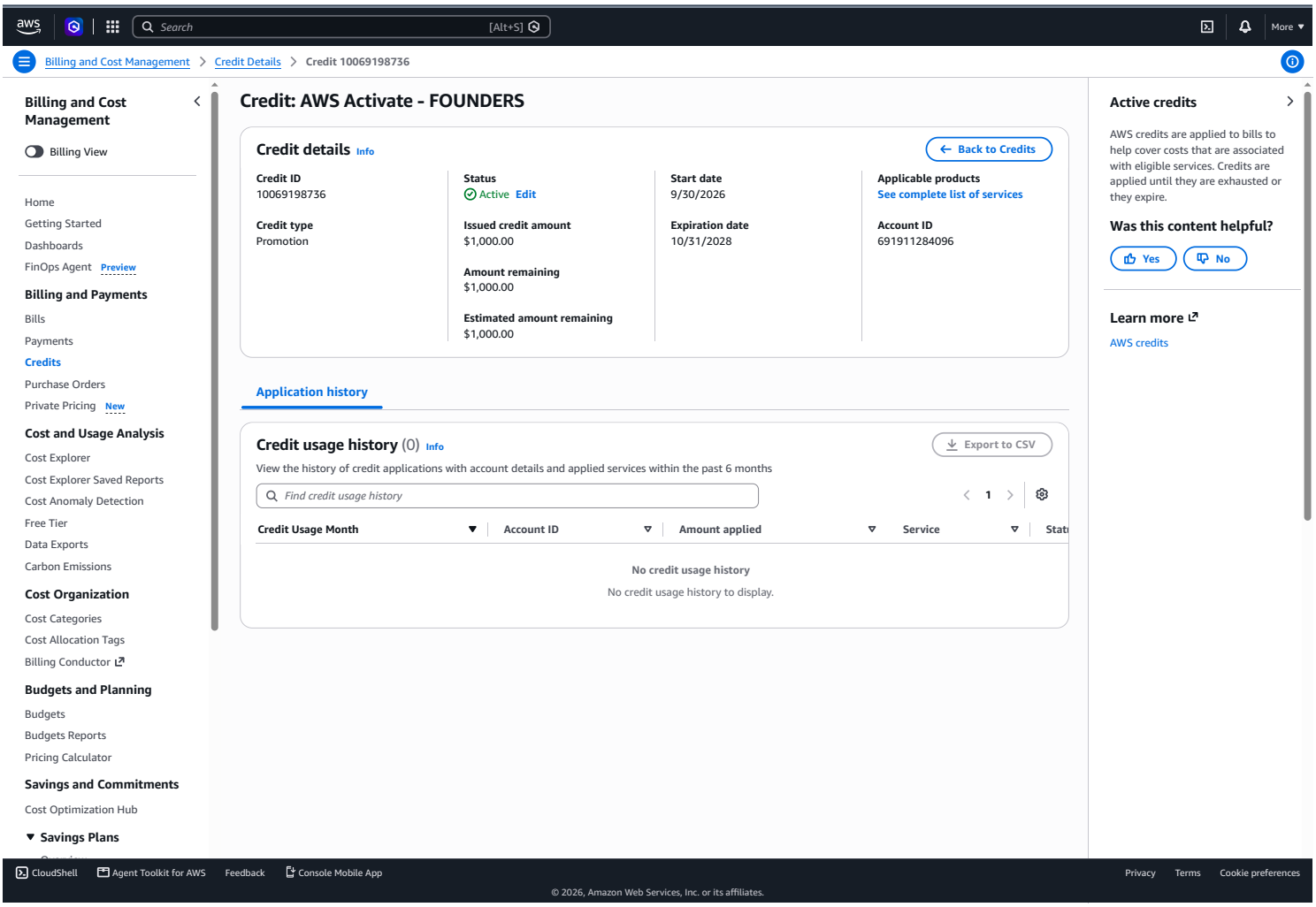
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Can't wait to see what you build!
The AWS for Startups Team

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Expiration date
10/31/2028
Account ID
691911284096
Amount remaining
$1,000.00
Estimated amount remaining
$1,000.00
Application history
Credit usage history (0) Info
Export to CSV
View the history of credit applications with account details and applied services within the past 6 months
Find credit usage history
1
Credit Usage Month
Account ID
Amount applied
Service
No credit usage history
No credit usage history to display.
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AWS credits are applied to bills to help cover costs that are associated with eligible services. Credits are applied until they are exhausted or they expire.
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RFE Exhibit L — TD SYNNEX Commercial Credit Application

TD SYNNEX Online Credit Application 2026-10-17 07:07:28

From: credit@synnex.com
To: CONTACT@DARTAGNANTELCOSOLUTIONS.COM
Date: 2026-10-17 23:07



Welcome to TD SYNNEX

Hello DARTAGNAN TELCO SOLUTIONS,
Your application is in process. We will contact you once our onboarding process is completed.
We look forward to starting this partnership with you.

Reference Number:	823164
Credit Terms REQUESTED:	MV
Credit Limit REQUESTED:	0.0

We've packed our website with features you'll love.

*the illustrations on the banner are partly offered by Storyset.

RFE Exhibit M — Optimum Technology Leadership Communications

Optimum Communications

Optimum Communications in Fortune Rankings

462 Fortune 500

Track all markets on TradingView

ABOUT EARNINGS REPORTS

Founded in 2015, Altice USA is a telecommunications and media company offering broadband, video, mobile, and voice services under the Optimum brand. The company serves residential and business customers across the U.S., Canada, Puerto Rico, and the Virgin Islands. Altice provides a wide range of services, including high-speed internet, digital TV, mobile plans, and enterprise connectivity solutions. It also delivers local news and advertising services through its News 12 Networks and i24NEWS channels.

COMPANY INFORMATION KEY FINANCIALS (LAST FISCAL YEAR) PROFIT RATIOS EARNINGS PER SHARE (LAST FISCAL YEA

Updated:	6/3/26	**Ticker:**	OPTU
Country:	U.S.	**Company type:**	Public
Headquarters:	Long Island City, N.Y.	**Revenues ($M):**	$8,591
Industry:	Telecommunications	**Profits ($M):**	$-1,869
CEO:	Dennis Mathew	**Market value ($M):**	$612
Website:	https://www.optimum.com/	**Number of employees:**	9,500

Changed name from Altice USA, Nov. 7, 2025. Market value as of March 31, 2026.

Outlook

FW: Message from Luciano Ramos

De Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>
Data Ter, 19/05/2026 11:39
Para Gustavo Xavier do Rego (Ext) <gustavo.xavierdorego@optimum.com>

FYI

Best Regards,
DR

From: Message from Luciano Ramos <fdodlramos@Optimum.com>
Sent: Friday, May 8, 2026 3:03 PM
To: Message from Luciano Ramos <fdodlramos@Optimum.com>
Subject: Message from Luciano Ramos



Hello Team,

As we wrap up another week across CPTO, I want to highlight the strong engagement we're already seeing across the Cursor enterprise trial. What's been particularly encouraging is that adoption is coming from all parts of the organization, not just software developers. Engineers, analysts, project managers, architects, operations teams, and product teams are all finding ways to use AI assisted tools to simplify work, accelerate documentation, improve troubleshooting, and reduce manual effort. This is an important shift for us as a technology organization as we continue looking for ways to improve how we work, collaborate, and execute.

This week also showcased the power of collaboration and swarming through the successful execution of the Minutes Matter: A Radar Accelerator event focused on improving Mean Time to Know across our production applications and services. The event brought together 14 teams and 63 participants, resulting in 44 new components being added into Radar. Congratulations to our winners, CPE Convoy, Rapid Responders, and System Engineering, and thank you to Gustavo Marsico and Dennis Comma for supporting the event as judges.





Across CPTO, we continue to see strong examples of teams living the PACT behaviors through ownership, accountability, and urgency. Teams are identifying issues early, working across organizational boundaries, and rallying together to stabilize services and improve customer impact faster. Those moments reinforce that stability and execution are shared responsibilities across the entire organization.

As we continue moving through Q2, I'd encourage everyone to stay curious and continue challenging traditional ways of working. Technology is evolving quickly, and one of our biggest opportunities is learning how to combine strong engineering, operational discipline, and AI assisted capabilities to work smarter and move faster as one CPTO organization. Thank you again for everything you continue to do each day for our customers, our teams, and one another. Have a great weekend everyone.

Things you should know:

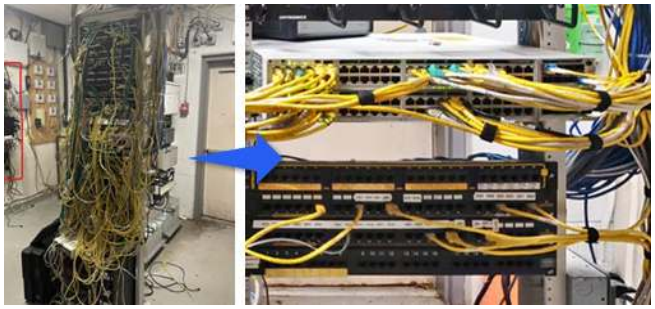
- Don't miss it! Our CEO and Chairman, Dennis Mathew, will host our quarterly **"Let's Connect" Company All Hands on Thursday, May 14 at 1:00 p.m. ET.** He will recap first-quarter results, review progress against key priorities, share updates from across the business, and recognize outstanding contributions. The session will conclude with a live Q&A with the Executive Leadership Team, questions can be submitted in advance here.
- Reminder: Please complete the **CPTO Employee Pulse survey** to help us understand what's working and where we can improve. You can access it directly in Microsoft Teams. **We're currently at 41% participation and are aiming for 100%. Every response matters.**

  joyous
- ICYMI! Rewatch the **Optimum Q1 2026 Earnings Update** from our Chairman & CEO. The results and momentum across the business reflect the work happening every day across our teams as we continue simplifying operations, sharpening execution, and focusing on our customers. While we're making strong progress, there is still more work ahead. Growing broadband remains our top priority and will require continued focus, accountability, and teamwork across the company.

CPTO Weekly Highlights

Below are our CPTO Weekly Highlights, a quick recap of key updates, priorities, and wins from across our teams. These highlights ensure transparency, celebrate progress, and help us stay focused on what matters most. Feel free to email Navy Raycraft if you have great news to share. Below are the highlights for the week.

Nexus Industrial Road Modernization Completed	The modernization and network redesign for the 11 and 12 Industrial Rd sites have been successfully completed, delivering major improvements in reliability, resiliency, and overall performance. The migration replaced legacy circuit and cable modem connectivity with a new architecture aligned to the Nexus network strategy, including redesigned traffic flow through the IT core and redundant

	10Gb direct links to maximize uptime and operational stability.  A big thank you to the teams and Smart Hands partners whose coordination and execution ensured a smooth migration and successful rack cleanup with minimal disruption.
Zero Touch Response Expands Automated Network Event Management	The team successfully automated 54 critical network event triggers as part of the Zero Touch Response (ZTR) initiative, advancing faster detection and resolution capabilities across Mobile, Voice, and Wireless Services. Leveraging Kafka-driven event streaming and ZTR frameworks, this enhancement is designed to significantly reduce both Mean Time to Know (MTTK) and Mean Time to Repair (MTTR) for high-impact network events, while strengthening operational resiliency and accelerating response times through automation.
Product Development Sets Record at SCTE Expo 2026	Five abstracts from Product Development were selected for SCTE Expo 2026 this fall, representing the highest number of accepted papers from Optimum to date! Congratulations to Jaison Antony, Jim Gulsen, Megh Raval, Thomas Walter, Gavin Mitchell, Luke Wyszynski, and Ahsan Chowdhury on this outstanding achievement and industry recognition. • Technician Quality Assurance Modeling (T-QAM) - Thomas Walter / Megh Raval / Luke Wyszynski • Design Systems , The AI Infrastructure Hiding in Plain Sight - Jim Gulsen • Virtual Engineer: Consistent and Reliable Autonomous Service Diagnostics - Gavin Mitchell • From Reactive to Predictive: AI-Driven DOCSIS Telemetry Analytics for Proactive Cable Modem Health Monitoring - Jaison Antony • From Coder To Orchestrator - Enterprise Grade AI-Assisted Software Development - Gavin Mitchell / Ahsan Chowdhury
Fiber ONU Soft Launch Advances Wi-Fi 7 Readiness	The soft launch of the new fiber network hardware successfully went live on May 4 across Long Island East and Long Island West, marking an important milestone in preparation for the upcoming next generation Wi-Fi launch and continued modernization of the customer experience.

Offline Ordering for Fixed is now live in production	Offline ordering for fixed services is now live in production, enabling OneAgent to capture customer orders even during upstream system outages. This enhancement helps reduce missed sales opportunities, protect revenue, and improve overall order reliability. Additional improvements to error handling and duplicate promotion removal also help streamline the order submission experience, reduce friction, and strengthen conversion performance across the customer journey.

As we head into the weekend, wishing a Happy Mother’s Day to all those celebrating. Thank you to the mothers, caregivers, mentors, and supportive figures who make a meaningful difference every day!

Luciano

**This message was sent to the CPTO organization.*



Outlook

FW: Message from Luciano Ramos

De Darian Rodriguez Del Carmen <Darian.Rodriguez@optimum.com>
Data Qui, 21/08/2025 12:49
Para Gustavo Xavier do Rego (Ext) <gustavo.xavierdorego@optimum.com>

Best Regards,
DR

From: Message from Luciano Ramos <fdodlramos@Optimum.com>
Sent: Friday, August 8, 2025 4:02 PM
To: Message from Luciano Ramos <fdodlramos@Optimum.com>
Subject: Message from Luciano Ramos



Hello Team,

It's truly remarkable to reflect on how far we've come. With the recent reporting of our Q2 2025 earnings, I want to pause and acknowledge the collective effort that has brought us here. The milestones we've reached are a direct result of your hard work, passion, and unwavering commitment to our shared vision.

Take a look at the LinkedIn post from Dennis Mathew, our Chairman and CEO, regarding the Altice USA Q2 2025 Earnings Update below:



Each of you has played an integral role in driving our transformation. The progress we've made wouldn't have been possible without your focus on delivering results and constantly striving to exceed expectations.

Looking ahead, it's crucial that we maintain our momentum. We've proven time and again that we can adapt and thrive, even when faced with challenges. Our ability to stay focused, especially during tough times, is one of the strongest assets we have as a team.

At the core of everything we do are our customers. As we reflect on our Q2 results, it's clear that we must continue to deepen these relationships. By being proactive, anticipating their needs, and actively seeking feedback, we'll continue to enhance their experience and build lasting loyalty.

While there's much to be proud of, we know there's still more work ahead. Let's harness this momentum and finish Q3 strong, setting ourselves up for a successful close to 2025. Together, we will not only meet but exceed the expectations of our customers and stakeholders, driving Optimum's continued transformation into the industry leader we aspire to be.

Thank you for your unwavering dedication and for being the driving force behind this incredible journey. Together, we'll keep pushing forward and continue to make Optimum a leader in the industry.

Things you should know:

- Don’t miss the next **“Let’s Connect” Quarterly All Hands Meeting** coming up on **Wednesday, August 13 at 10 a.m. ET**, with our Chairman and CEO Dennis Mathew leading the session. This is a valuable opportunity for us to unite as #ONEOptimum, reflecting on our achievements, sharing key business updates, celebrating recent successes, and discussing our future direction. Our executive leadership team will also be joining to highlight the progress we’ve made and the exciting opportunities on the horizon. Please take a moment to **submit your questions in advance**.

- Need to catch up on the latest across the business? Click here to check out the **July edition of bootup in review**, our monthly series that recaps the top highlights from bootup every month!



CPTO Weekly Highlights

Below are our CPTO Weekly Highlights, a quick recap of key updates, priorities, and wins from across our teams. These highlights ensure transparency, celebrate progress, and help us stay focused on what matters most. Feel free to email Navy Raycraft if you have great news to share. Below are the highlights for the week.

Self Set-Up Performance	In July, we achieved an 11-month high in volumes, reaching 23.5K units, with a 63% sell-in rate. This impressive performance not only reflects our team's dedication and efficiency but also translates to significant cost savings of approximately $1.4M for the month.
OneAgent Adoption and Performance	A total of 2,223 care agents and 928 retention agents have been trained on OneAgent and now have access to the tool. In July, 385 agents successfully placed 827 mobile orders, a significant increase from 120 agents placing 264 orders in June. The OneAgent Daily Active Users (DAU) is currently at approximately 250.
Cellular Coverage Upgrades	We’ve successfully upgraded cellular coverage in four additional Optimum Stores this week: Sparta, NJ; Kingwood, TX; Lindale, TX; and New Caney, TX. These upgrades enhance our network reliability and customer experience across these locations.
IMS Core Team Middleware Development	The IMS Core team has developed, deployed, and tested a middleware solution that translates network telemetry data into a Kafka-supported format. This allows for real-time streaming of network performance metrics and logs across systems, reducing reliance on third-party services. By leveraging Kafka, we can handle large-scale data more efficiently and improve our infrastructure’s scalability and data processing capabilities.

Have a great weekend everyone!

Luciano

**This message was sent to the CPTO organization.*

RFE Exhibit N — Corporate Formation and Administrative Preparation Letter

BRAZUS
TAX SERVICES

Plano - TX, October 21 th, 2026.

RE: Informational Statement Regarding the Proposed Business Formation Plan and Timeline in Texas

To Whom It May Concern:

This letter is provided for informational purposes only and concerns the business formation plans presented by **Mr. Gustavo Dartagnan Xavier do Rego**, who currently resides in Brazil and has indicated that he is pursuing an EB-2 National Interest Waiver (NIW) immigration process, with the intention of establishing a business in the State of Texas, United States.

Based on the information provided by the client, his current business plan anticipates the formation of a Texas For-Profit Corporation during 2027, with its proposed location in the Dallas, Texas area. As of the date of this letter, the corporation has not yet been formally established, and according to the client's stated plans, no business operations are anticipated in the United States during the remainder of 2026. A definitive timeline for the incorporation process has not yet been established.

As part of the preliminary administrative arrangements, Brazus Texas Inc. submitted an application for the reservation of the proposed corporate name Dartagnan Telco Solutions Inc. with the Texas Secretary of State, under filing reference number 15037006930001, with an indicated expiration date of January 22, 2027, as reflected in the relevant administrative documentation.
The client has expressed an interest in potentially engaging additional services related to the incorporation of the business, initial accounting setup, payroll processing, if applicable, ongoing business compliance support, and preparation of tax returns, depending on the future entity's needs.

As of the date of this letter, these additional services have not been contracted. Any future engagement will be subject to further evaluation, mutual acceptance, and the execution of a separate service agreement between the parties. Accordingly, this statement does not constitute a commitment by Brazus Texas Inc to provide any future services.

Additionally, according to information provided by the client, the SDFP Innovation Center, located in Dallas, Texas, has been identified as the initially proposed location for the company's operations. This information does not constitute confirmation of the availability of physical office

space or the existence of any agreement for future business premises at this stage of the company's formation process.

To date, the involvement of Brazus Texas Inc. has been limited to the administrative services actually contracted and performed, specifically those related to the corporate name reservation application and preliminary discussions concerning the potential future formation of the business.

This statement is intended solely to document information provided by the client and administrative actions undertaken within the scope of the contracted services. It does not constitute independent verification or certification of third-party information, legal or immigration advice, confirmation of compliance with legal or immigration requirements, or any representation or guarantee regarding the future incorporation of the business, commencement of its operations, or the outcome of any proceedings before United States immigration authorities.

Sincerely,



10/21/2026

CAMILA SCHUH
BRAZUS Texas Inc.
101 E Park Blvd. 6th floor
Plano – TX - 75074
+1 469 991 9957
camila@brazustax.com

RFE Exhibit O — Supplemental Expert and Supervisory Letter from Optimum Communications

13/10/2026

To USCIS,

My name is Darian José Rodríguez Del Carmen, and I am the Director of Engineering for MVNO Mobile at Optimum Communications, formerly Altice USA, a Fortune 500 company that provides internet and phone services to homes and businesses across the United States. My team is responsible for the central systems that keep our mobile and voice services running. I hold an MBA from Barna Management School and have over 15 years of experience in telecommunications engineering. My curriculum vitae is attached.

I wrote in support of Mr. Gustavo Dartagnan Xavier do Rego on May 2, 2026. I am writing again to describe his work in more detail and in simpler terms, since much of what we do can be hard to follow for someone outside our field.

Gustavo has worked under my direct supervision since October 3, 2022, as a Senior Telecom Engineer, hired as an outside specialist through Infosys and Winprovit. In practice, he works as part of my team: I assign his tasks, review what he delivers, and each assignment is recorded in our internal tracking system under his name. Everything I describe below is work I followed personally.

One of the first projects I gave him was our Robocall Mitigation Project. Robocalls are automated calls that display a fake number to trick people into answering. To fight them, the FCC requires every phone company to use STIR/SHAKEN, a technology that works like a digital signature confirming that the caller's number is real, and to report its anti-robocall measures in a national database (FCC Public Notice DA 24-73).

In this project, Gustavo was responsible for the technical supervision of the implementation. This work protects people far beyond our customers. A phone call usually passes through several companies' networks before it reaches its destination, so if one company fails to sign or check the number, people on every other network are exposed to fraud, which the FCC estimates costs American consumers billions of dollars a year.

Later, we had to move our business customers from an outdated central phone system, what we call a "switch," to a modern one. This required updating and configuring, one by one, the small device in each customer's office that connects their phones to our network. The work was done largely by hand, and many attempts were failing due to its complexity.

When I asked Gustavo to look into it, he wrote computer programs that carried out these updates and configuration changes automatically. The success rate went from about 60% to 100%, and a project we expected to take three years was finished in about one. The completion of the last of these update batches in May 2025 was formally recognized by our telephone engineering leadership.

More than 600 business customers in about 100 localities across 14 states went through this transition, most of them in Texas, West Virginia, North Carolina, Arkansas, and Arizona. (These figures are more precise than the approximate numbers I gave in my earlier letter.) Among these customers are hospitals and medical centers, government and public safety offices, schools and universities, banks, and energy companies. A hospital must be able to call doctors, ambulances, and patients who use other phone companies, and a public safety office must be reachable by everyone in its town. If this migration had failed, entire communities would have been affected, not only our customers.

Gustavo also solved a gap we had in the backups of the more than 100 pieces of equipment that run our mobile phone system. He built an automated process that regularly saves their settings, along with a web page that shows the status of each backup. This allows us to restore service quickly after equipment failures, cyberattacks, or human error.

Darian.Rodriguez@optimum.com
+1 516 242 9176



13/10/2026

D.R

His most significant contribution has been in how we monitor the network. Our systems constantly produce measurements, such as how many calls go through or fail, which engineers use to spot problems before customers notice them. Our previous monitoring tools could use only a limited part of the information produced by the network. I therefore asked Gustavo to connect our mobile phone system to a new monitoring platform, which allows our engineers to create a graph for any of these measurements.

The main challenge was that the network produces its measurements in many different formats, while the new platform only understands one standard format. Gustavo took charge of the entire project, from setting up the servers to building the software, which we call the middleware, that receives all these measurements and converts them automatically. The system now processes more than 8,000 types of measurements, about 75 million records a day, and contributed to a 45% reduction in the time our network was affected by critical failures.

Building on this platform, Gustavo created alerts that watch these measurements. When they show a failure or a drop in service quality, the alert is sent automatically to our Zero Touch Response (ZTR) system, which opens a repair ticket and calls the on-call engineers, without waiting for someone to notice the problem. In serious cases, it also notifies company executives. Our technology leadership described these results in company-wide communications in 2025 and 2026 as achievements of the IMS Core team, without naming the individual engineers. As the director responsible for this area and Gustavo's direct supervisor, I confirm that he personally developed the middleware described above and connected these alerts to ZTR. On this same platform, Gustavo also built the graphs that allow us to monitor the routes that carry emergency 911 calls.

Gustavo documented each of these solutions in step-by-step manuals that the rest of the team adopted. The challenges he solved are not unique to Optimum: phone companies across the United States are replacing outdated equipment, trying to detect failures earlier, and complying with the federal anti-robocall rules. Many of them, especially smaller companies, do not have specialists with his skills on staff.

In my experience, it is rare to find an engineer who understands professional phone networks as deeply as Gustavo does and who can also write the software to automate the work. Most engineers are strong in one of these areas, but not both.

I understand that Gustavo plans to open his own company in the United States, Dartagnan Telco Solutions, to offer this kind of engineering work to phone companies and businesses. He has already been doing this work for a U.S. phone company as an outside specialist for four years, and based on everything I have seen, I am confident that he can deliver the same results for other organizations whose phone networks people depend on every day.

Please feel free to contact me if you need any further information.

Sincerely,

Darian José Rodríguez Del Carmen
Director of Engineering, MVNO Mobile
Optimum Communications
Bethpage, NY, USA

Darian.Rodriguez@optimum.com
+1 516 242 9176

Contact

www.linkedin.com/in/darianrodriguez1987 (LinkedIn)
www.darianrodriguez.es (Personal)

Top Skills

E-911
Elaboración de presupuestos
Virtual Machines

Languages

Ingles (Native or Bilingual)
Español (Native or Bilingual)
Francés (Elementary)

Publications

Estudio y planificación de implementación de red WIFI que ofrece conectividad a extensión de la Universidad de Panamá y misión agustino recoleta en la selva Kankintú.

Darian Rodriguez

Mobile, Wireless and Voice Core Director | MBA, MEng
New York City Metropolitan Area

Summary

With over 14 years of experience in the telecommunications industry, I am a Director of Engineering at Altice USA, overseeing mobile, WiFi, and fixed voice core engineering and operations. I lead a team of subject matter experts in WiFi core Voice core and mobile core technologies, to support our organization goals and customer needs. I also support, evaluate, and consult with all levels of leadership regarding technical operations, strategic planning, network transformation, and new product development and deployment.

My expertise includes the architecture design and implementation of a full MNVO EPC and IMS network, service implementation for data, voice, SMS, MMS, Xcap, RTT over LTE and WiFi network, national and international roaming implementation over 2G/3G and LTE networks, IR21 administration, IREG and TADIG tests for roaming implementations, and technical assessment for RFPs. I also work with OEMs to ensure ongoing support and development of device management capabilities and adapt to the needs of our business units.

I am a leader who is not afraid to take risks and challenge the status quo, a team player and a consensus builder, and a passionate engineer who strives to deliver innovative and high-quality solutions.

Experience

Optimum
Mobile, Wireless & Voice Core Director
April 2022 - Present (3 years 10 months)
Bethpage, Nueva York, Estados Unidos

Altice USA
4 years 2 months

Mobile and Wireless Core Manager
March 2021 - July 2022 (1 year 5 months)
Nueva York, Estados Unidos

As Mobile and Wireless Core Manager I have performed the following tasks:

Lead a team of subject matter experts in WiFi Core and 3GPP Mobile Core technologies, to support our organization goals and customer needs.

Support, evaluate and consult with all levels of leadership regarding technical operations, strategic planning of rebuilds, network operations, and new product development and deployment for Altice's Mobile and WiFi Networks.

Evaluate and determine appropriate growth points and present design options to support growth needs.

Analyze root cause determination of issues including recommendations for improvements.

Interface with cross-functional engineering and marketing teams for new feature and functionality requests. Train and mentor a team of engineers in the implementation and configuration of mobile core products and services.

Plan and execute budget aligned with the organization goals.

Act as technical point of contact between with the main vendors.

Mobile Core Lead Engineer
June 2018 - March 2021 (2 years 10 months)
Nueva York y alrededores, Estados Unidos

As Mobile Core Lead Engineer I been leading the following tasks:

Architecture Design and implementation of full MNVO EPC and IMS network.
Service implementation for: Data, Voice, SMS, MMS, Xcap, RTT all over LTE & WiFi Network.
National and international roaming implementation over 2G/3G and LTE networks, IR21 administration.
IREG and TADIG tests for roaming implementations.
Work with OEM to ensure ongoing support and development of device management capabilities but also adapt to the needs of our business units.
Technical assessment for RFPs.
Implementation of business logic in network elements.

All this in multi vendor/multi cultural environment, coordinating and following up with internal and external parties, to make things happen.

Main Nodes:
PGW
PCRF
OCS
DRA
DNS
UT Proxy
P-CSCF
S-CSCF
i-CSCF
STP
SMSC
MMSC
HSS

Support, evaluate and consult with all levels of leadership regarding technical operations, strategic planning of rebuilds, network operations, dispatch, and new product development and deployment. Evaluate and determine appropriate growth points and present design options to support growth needs. Analyze root cause determination of issues including recommendations for improvements. Interface with cross-functional engineering and marketing teams for new feature and functionality requests. Train and mentor a team of engineers in the implementation and configuration of mobile core products and services.

Altice Group
2 years 4 months

Core Network Specialist
September 2017 - June 2018 (10 months)
República Dominicana

My main role in this position is packet Core design, Implementation, dimensioning, Optimization and administration of the nodes.

My main daily tasks are:
-Project planing and/or followup
-Capacity planning of license, Memory and CPU utilization with forecasting.
-Rehoming Plannification.
-SW upgrades plannification according to vendor roadmaps and company needs..
-Licences upgrades/implementations.
-Nodes configurations. (new interfaces, new associations, traffic migrations)
-Forensic troubleshooting during/after incidents.
-Parameter optimization
-Inbound and outbound roaming, design and service assurance.

Main administered nodes Network Nodes:
-Serving GPRS Support Node (SGSN)
-GPRS Support Node (GGSN)
-Mobility Management Entity (MME)
-Serving Gateway (SGW)
-PDN Gateway (PGW)
-Policy Charging rules Function (PCRF)
-Policy & Charging Enforcement Function (PCEF)
-Domain Name Server (DNS)
-Authentication Authorization Accounting server (AAA)
-Diameter Routing Agent (DRA)

1st level troubleshooting & Operations and maintenance of:

-Mobile Switching Core (MSC)
-Media Gateway (MGW)
-Home Location register (HLR)
-Home Subscriber Server (HSS)
ver menos

Core Network Senior Engineer
March 2016 - June 2018 (2 years 4 months)
Dominican Republic

My main role in this position is packet Core design, Implementation, dimensioning, Optimization and administration of the nodes.

My main daily tasks are:
-Project planing and/or followup
-Capacity planning of license, Memory and CPU utilization with forecasting.
-Rehoming Plannification.
-SW upgrades plannification according to vendor roadmaps and company needs..
-Licences upgrades/implementations.
-Nodes configurations. (new interfaces, new associations, traffic migrations)
-Forensic troubleshooting during/after incidents.
-Parameter optimization

Main administered nodes Network Nodes:
-Serving GPRS Support Node (SGSN)
-GPRS Support Node (GGSN)
-Mobility Management Entity (MME)
-Serving Gateway (SGW)
-PDN Gateway (PGW)
-Policy Charging rules Function (PCRF)
-Policy & Charging Enforcement Function (PCEF)
-Domain Name Server (DNS)
-Authentication Authorization Accounting server (AAA)
-Diameter Routing Agent (DRA)

1st level troubleshooting & Operations and maintenance of:

-Mobile Switching Core (MSC)
-Media Gateway (MGW)
-Home Location register (HLR)
-Home Subscriber Server (HSS)

Orange Dominicana
Core Network Engineer
August 2012 - September 2017 (5 years 2 months)
Santo Domingo, Republica Dominicana

My main role in this position is packet Core design, Implementation, dimensioning, Optimization and administration of the nodes.

Been in charge of new EPC platform integration and implementation:
-Design and architecture approval.

-Traversal telco & multi platform teams coordination.
-Planning, scheduling & hands on implementation and put in production of new nodes without traffic disturbance or incidents.
-Configuration of important Counters and KPI's for statistical followup.

My main daily tasks are:

-Babysitting PS nodes.
-Capacity planning of license, Memory and CPU utilization with forecasting.
-Perform rehomings.
-SW upgrades.
-Licences upgrades/implementations.
-Nodes configurations. (new interfaces, new associations, traffic migrations)
-Forensic trouble shooting during/after incidents.
-Parameter optimization

Main administered nodes Network Nodes:
-Serving GPRS Support Node (SGSN)
-GPRS Support Node (GGSN)
-Mobility Management Entity (MME)
-Serving Gateway (SGW)
-PDN Gateway (PGW)
-Policy Charging rules Function (PCRF)
-Policy & Charging Enforcement Function (PCEF)
-Domain Name Server (DNS)
-Authentication Authorization Accounting server (AAA)

1st level troubleshooting & Operations and maintenance of:

-Mobile Switching Core (MSC)
-Media Gateway (MGW)
-Home Location register (HLR)
-Home Subscriber Server (HSS)

Orange Dominicana
Optimization technician
June 2010 - September 2011 (1 year 4 months)
Orange Dominicana

Drivetest coordination with the outsourcings teams.
Desing of methodology for end user experience tests in real conditions.
Team leader of nationals benchmarking for the main gsm companies in the country.
Dashboads and automatic reports configuration and verification for 3G Huawei network (M2000) and 2G Ericsson network(Bussiness objects).
Follow up acceptance process of MSS's, BSC's, sites, expansions changes and integrations through statistics and automatic reports.
Evaluation and analysis of TEMS logs 2G/3G.
Drivetests analysis for troubleshooting and to advise new coverage areas.
Gsm sites parameters assignment.
3G sites dimensioning and expansion analysis and recommendations.
Lac dimensioning analysis, GSM and UMTS.

Education

Barna Management School

Master of Business Administration (M.B.A.), Habilidades sociales y para los negocios · (2016 - 2018)

Instituto Tecnológico de Santo Domingo

Project management diplomate, Project management · (2015 - 2015)

Universidad Rey Juan Carlos

Master en Redes de Telecomunicacion Para Paises en Desarrollo, Redes de Telecomunicacion · (2011 - 2012)

Instituto Tecnológico de Santo Domingo

Ingeniero en Electronica y de Comunicaciones · (November 2005 - October 2009)

Instituto Tecnológico de Santo Domingo

Electronical and telecommunications engineer, Telecommunications Engineering · (2005 - 2009)