



**City of Laredo Purchasing
RFP FY25-011
Next Generation 9-1-1 Cloud Native
Solution - City of Laredo**

Response Deadline: 11/7/2024 05:00 PM (CT)



Amanda K. Tienda

**City of Laredo - Purchasing
IST - 911 Regional
912 Matamoros Street
Laredo, TX 78040**

Re: RFP FY25-011 - Next Generation 9-1-1 Cloud Native Solution - City of Laredo

Dear Director Tienda,

Carbyne, Inc. (Carbyne) welcomes the opportunity to deploy APEX with the **City of Laredo - Purchasing ("Customer" or "the City")**. We thank you for allowing us this opportunity to partner with your agency to help you improve your service to your community.

Carbyne created APEX as the first cloud-native call management solution to enable emergency communications specialists to unify the flow of audio and data (video, chat, and map) into a single platform and, from the same platform, distribute essential information to first responders.

The APEX platform is designed to empower emergency communications centers with continuous service, no matter where your emergency communications specialists are physically located. As evidenced throughout the last few years, there is a growing need for public safety answering points to have the ability to manage 9-1-1 calls from anywhere. Our APEX platform, connected to the ESInet, provides NG9-1-1 capabilities to agencies for emergency communications centers' operations from almost anywhere.

Carbyne is a proven leader in 911 call handling technology, with a successful track record in Texas, including a live deployment in Rio Cog, Texas.. Our advanced emergency communication platform deploys seamlessly with existing infrastructure, enhancing response times and improving public safety. Carbyne is not just a provider; we are a partner committed to innovation and continuous support. We work closely with our clients to ensure they have access to the latest advancements and dedicated assistance, making us uniquely positioned to meet and exceed the emergency communication needs of STDC.

Use of Carbyne products and services is subject to the terms and conditions which are attached or otherwise provided to **the City** ("Terms and Conditions"). This proposal is valid for 120 days.

Carbyne extends its thanks to **the City** for allowing us to share how we can serve as your **provider of location information with video, pictures, and chat to enhance your current 9-1-1 and computer aided dispatch systems from 9-1-1 to Live-1-1**. If you have questions related to this proposal, please contact me at thomasm@carbyne.com.

Sincerely,

Thomas Marsh

Regional Sales Manager





Table of Contents

Bid Attributes	2
Executive Summary	18
Technical Proposal	28
Schedule of Work	40
Implementation & Testing Plan	42
Maintenance & Support of Hardware & Software	43
Site Specific Requirements	44
Training	45
References	48
Unit of Costs of Hardware & Software	49
Supplier Information Form	54
Legal Terms & Conditions	55
Attachments	56



Bid Attributes

1	<p>Addendum</p> <p>Addendum Requires Acknowledgement</p> <p>Addendum #1 - added the equipment list Addendum #2 - extended the closing date to November 7, 2024 @5:00 pm and opening date to November 8, 2024 @ 2:00 pm</p> <p><input checked="" type="checkbox"/> Acknowledge (Required: check if applicable)</p>
2	<p>Award by Best Value</p> <p>Proposal will be awarded based on evaluated criteria and to the bidder who provides the best value to the City of Laredo and who's proposed price and other factors have been considered in accordance to the provisions of Chapters 252 and 271 of the State of Texas - Local Government Code.</p> <p><input checked="" type="checkbox"/> I agree. (Required: check if applicable)</p>
3	<p>Terms and Conditions Request for Proposals</p> <p>TERMS AND CONDITIONS OF INVITATIONS FOR PROPOSALS These Terms and Conditions are considered standard language for all City of Laredo solicitation documents. If any specific proposal requirements differ from the general terms listed here, the specific proposal requirements shall prevail.</p> <p>A response to any Request for Proposal is an offer to contract with the City based upon the terms, conditions, and specifications contained in the City's Request for Proposal. Proposals do not become contracts unless and until they are executed by the City. A contract has its inception in the award, eliminating a formal signing of a separate contract, unless requested by the City. For that that reason, most if not all the terms and conditions of the contract are contained in the Request for Proposal, unless any of the terms and conditions are modified by a Request for Proposal amendment, a contract amendment, or by mutually agreed terms and conditions in the contract documents.</p> <p>GENERAL CONDITIONS Vendors are required to submit Proposals upon the following expressed conditions:</p> <ul style="list-style-type: none"> (a) Vendors shall thoroughly examine the specifications, schedule instructions and other contract documents. Once the award has been made, failure to read all specifications, instructions, and the contract documents, of the City shall not be cause to alter the original contract or for a vendor to request additional compensation. (b) Vendors shall make all investigations necessary to thoroughly inform themselves regarding facilities and locations for delivery of materials and equipment as required by the Proposal conditions. No pleas of ignorance by the vendor of conditions that exist or that may hereafter exist as a result of failure or omission on the part of the vendor to make the necessary examinations and investigations, or failure to fulfill in every detail



Carbyne Response for City of Laredo RFP FY25-011

the requirements of the contract documents, will be accepted as a basis for varying the requirements of the City or the compensation to the vendor.

- (c) Vendors are advised that City contracts are subject to all legal requirements provided for in the City Charter and/or applicable City Ordinances, State and Federal Statutes.

1.0 PREPARATION OF PROPOSALS Proposals will be prepared in accordance with the following:

- (a) All information required by the proposal form shall be furnished. For hand delivered submittals only, the vendor shall print or type the business name and manually sign the schedule. For electronic submittals, this information shall be submitted electronically on Cit-E-Bid system. If submitted electronically, this information shall be submitted electronically on Cit-E-Bid system by going to the following link: <https://cityoflaredo.ionwave.net/Login.aspx> If vendor submits both manual and electronic bids, the electronic bid will replace the manual bid and shall be considered the only valid bid.
- (b) Unit prices shall be shown and where there is an error in extension of price, the unit price shall govern.
- (c) Alternate Proposals will not be considered unless authorized by the invitation for proposals or any applicable addendum.
- (d) Proposed delivery time must be shown and shall include business days.
- (e) Vendors will not include Federal taxes or State of Texas limited sales tax in proposal prices since the City of Laredo is exempt from payment of such taxes. An exemption certificate will be furnished upon request.

2.0 DESCRIPTION OF SPECIFICATIONS & SUBSTITUTIONS It is the responsibility of the prospective proposer to review the entire invitation to proposal packet and to notify the City of Laredo if the specifications are formulated in a manner that would restrict competition. Any such protest regarding the specifications or proposal procedures must be received by City of Laredo no less than seventy-two hours prior to the time set for proposal opening. Vendors are required to state exactly what they intend to furnish. Otherwise, when applicable, vendors will be required to furnish the items as specified.

3.0 SUBMISSION OF PROPOSALS

- (a) Proposals and changes thereto shall be enclosed in sealed envelopes, properly addressed and to include the date and hour of the Proposal opening and the material or services. Proposal shall be typed or written on the face of the envelope. Unless otherwise noted on the Notice to Vendors cover sheet, all hand delivered Proposals must be submitted to the City of Laredo, City Secretary's Office, City Hall Third Floor, 1110 Houston Street.
- (b) Proposals forms can be downloaded printed through Cit-E-Bid. Proposals can be submitted electronically through Cit-E-Bid by going to the following link: <https://cityoflaredo.ionwave.net/Login.aspx>

Mailed Bids (i.e. USPS, FedEx, UPS), telegraphic, emails or facsimile bids will not be considered.

- (c) Samples, when required, must be submitted within the time specified, at no expense to the City of Laredo. If not destroyed or used up during testing, samples will be returned upon request at the Vendors expense.
- (d) Proposals must be valid for a period of one hundred and twenty (120) days. An extension to hold proposal pricing for actual quantity bids may be requested by the City.



Carbyne Response for City of Laredo RFP FY25-011

- (e) The City shall pay no costs or other amounts incurred by any entity in responding to this RFP, or as a result of issuance of this RFP.

4.0 REJECTION OF PROPOSALS The City may reject a proposal if:

- (a) Vendor misstates or conceals any material fact in the proposal.
- (b) Proposal does not strictly conform to the law or the requirements of the proposal.
- (c) Vendor is in arrears on existing contracts or taxes with the City of Laredo.
- (d) If proposals are conditional. Vendor may qualify their Proposal for acceptance by the City on an "ALL OR NONE" basis. An "ALL OR NONE" basis proposal must include all items in the specifications.
- (e) In the event that a vendor is delinquent in the payment of City of Laredo taxes on the day the proposals are opened, including state and local taxes, such fact may constitute grounds for rejection of the proposal or cancellation of the contract. A vendor is considered delinquent, regardless of any contract or agreed judgments to pay such delinquent taxes.
- (f) No proposal submitted herein shall be considered, unless the vendor warrants that, upon execution of a contract with the City of Laredo, vendor will not engage in employment practices such as discriminating against employees because of race, color, sex, creed, or national origin. Vendor will submit such reports as the City may therefore require assuring compliance with said practices.
- (g) The City may reject all proposals or any part of a proposal whenever it is deemed necessary.
- (h) The City may waive any minor informalities or irregularities in any proposal.

5.0 WITHDRAWAL OF PROPOSALS Proposals may not be withdrawn after they have been publicly opened, unless approved by the City Council.

6.0 LATE PROPOSALS OR MODIFICATIONS Proposals and modifications received after the time set for the submittal deadline will not be considered. Late proposals will be returned to the vendor unopened.

7.0 CLARIFICATION AND PROTEST PROCEDURE

(a) It is the responsibility of the prospective proposer to review the entire invitation to proposal packet and to notify the City of Laredo if the specifications are formulated in a manner that appears ambiguous. Any request for clarification or additional information must be submitted in writing through email or Questions & Responses section on Cit-E-Bid system no later than seven (7) days prior to the scheduled date for opening to: CITY OF LAREDO PURCHASING AGENT Jaime Zapata, 5512 Thomas Avenue, Laredo, Texas 78041; email: jezapata@ci.laredo.tx.us Any vendor submitting questions shall make reference to a specific RFP number, section, page and item of this solicitation. Questions untimely submitted may not elicit a response. It is the bidder's responsibility to follow up and make certain that the request was received. In case there are changes, additions, and/or edits to the original scope, an addendum will be issued by the Purchasing Agent to all vendors through Cit- E-Bid system under Questions and Responses section to clarify any inquiries. The City will not be responsible for any other interpretations of the proposal During the RFP process, bidder, or any persons acting on their behalf, shall not contact any City official or employee staff except those specifically designated in this or another subsequent solicitation document. Pursuant to §4.03 of the City Ethics, non-compliance with this provision may result in disqualification of the offer involved.

(b) For solicitations for goods and non-professional services valued at more than \$50,000, bidders will have ten (10) calendar days prior to the time that the City Council formally

Carbyne Response for City of Laredo RFP FY25-011

considers the contract to submit a written protest relating to advertising of bid notices, deadlines, bid opening, and all other related procedures under the Local Government Code, as well as any protests relating to alleged improprieties or ambiguities in the specifications. If the vendor does not file a written protest within this time, the vendor will have waived all rights to formally protest the intent to award. All protests regarding the bid solicitation process must be submitted in writing by certified mail to: CITY OF LAREDO PURCHASING AGENT Enrique Aldape III, 5512 Thomas Avenue, Laredo, Texas 78041 ealdape@ci.laredo.tx.us Within five (5) business days of receiving a timely protest, the Purchasing Agent shall provide written response to the protesting vendor of the decision following a review of the legitimacy and procedural correctness of the procurement documents. A protesting vendor may appeal to the Laredo City Manager if dissatisfied with the decision of the Purchasing Agent. Only after exhausting all administrative procedures through the City Manager is a protesting vendor then entitled to appeal the award of the contract to the Laredo City Council.

8.0 VENDOR DISCOUNTS

(a) Percentage discounts within a certain period of time will be accepted but cannot be used in RFP evaluations. The period of the discount offered should be sufficient to permit payments within such period in the regular course of business by the City of Laredo.

(b) In connection with any discounts offered, time will be computed from the date of receipt of supplies or service or from the date a correct invoice is received, whichever is the later date. Payment is deemed to be made on the date the check is mailed.

9.0 INTENT OF CONTRACT

(a) ANNUAL SERVICE CONTRACT: The services are based on the best available information. The purpose of this contract is to establish prices for the commodities or services needed, should the City need to purchase these commodities or services. Since the quantities are estimates, the City may purchase more than the estimated quantities, less than the estimated quantities, or not purchase any quantities at all. The needs of the City shall govern the amount that is purchased and change orders shall not be applicable. The City's obligation for performance of an annual service contract beyond the current fiscal year is contingent upon the availability of appropriated funds from which payments for the contract purchases can be made. If no funds are appropriated and budgeted during the next fiscal year, this contract becomes null and void.

10.0 AWARD OF CONTRACT The contract will be awarded based on **(best value criteria)** as follow and in accordance with the provisions of Chapter 252 and 271 of the Texas Local Government Code.

Definition of best value criteria as per The Institute for Public Procurement is:

"Best Value: 1. A procurement method that emphasizes value over price. 2. An assessment of the return that can be achieved over the useful life of the item, e.g., the best combination of quality, service, time, price."

If the awarded responder is unable to meet the requirements of the City, services/products may be purchased from the next best available Vendor until a Vendor is found that can complete the requirements of the City. This RFP shall not to be construed by any party as an agreement of any kind between the City and such party. The award of a contract shall be subject to the approval of the City Council. Following an award, City in its sole option may elect to negotiate a formal agreement with Vendor that will include by reference the terms of the RFP and related responses. In the event an Agreement cannot be reached with the selected Vendor, the City reserves the right to select and negotiate with an alternate Vendor. The City reserves the right to accept any item or group of items in the proposal specifications,



Carbyne Response for City of Laredo RFP FY25-011

unless the Vendor qualifies its proposal by specific limitation. The Vendor shall bear the burden of proof of compliance with the City of Laredo specifications. When applicable, prices must be quoted F.O.B. Destination, Laredo, Texas, unless otherwise specified in the invitation to proposal. The place of delivery shall be set forth in the purchase order and/or formal contract agreement when applicable. A duly authorize purchase order number shall reference item/services description, item number, quantity and price. Invoices shall reference the assign purchase order number to avoid any duplication (2 CFR 200.318 (d)). The City shall give written notice to the Vendor if any of the following conditions exist:

(1) Vendor does not provide materials in compliance with specifications and/or within the time schedule specified in proposal; (2) Vendor neglects or refuses to remove materials or equipment which have been rejected by the City of Laredo if found not to comply with the specifications; or, (3) Vendor makes an unauthorized assignment. Upon receiving written notification from the City that one of the above conditions has occurred, the Vendor must remedy the problem within seven (7) business days, to the complete satisfaction of the City, or the contract will be immediately canceled. (4) Contract terms are the responsibility of the awarded vendor(s) and the respective City user department(s).

11.0 ENTIRE AGREEMENT

(a) All covenants, conditions and agreement contained in the solicitation, are hereby made part of the Agreement to the same extent and with the force as is fully set forth herein. If and to the extent of this Agreement and the terms of this solicitation and supplier response conflict Terms & Conditions of this solicitation shall control.

12.0 PAYMENT & INVOICING

(a) All invoices to the City of Laredo have a 30 day term from receipt of supplies or completion of services.

(b) Discount terms will be computed from the date of receipt and acceptance of supplies or services. Payment shall be deemed to be made from that date.

(c) All invoices must show the purchase order number and invoices shall be legible. Items billed on invoices should be specific as to applicable stock, manufacturer catalog or part number. All items must show unit prices. If prices are based on discounts from list, then list prices must appear on bid schedule. All invoices shall be mailed to the Accounts Payable Office, City Hall, P.O. Box 210, Laredo, Texas 78042. (d) Electronic Funds Transfer (EFT) payments are also available; if electronic payments are preferred, an Electronic Funds Transfer (EFT) Authorization form needs to be completed and returned via e-mail to: jjolly@ci.laredo.tx.us For more information please contact Mr. Jorge Jolly, Accounts Payable Manager at (956) 791-7425.

13.0 In accordance to State of Texas, the City of Laredo follows State practices when awarding any and all competitive solicitations:

TEXAS ENGINEERING AND LAND SURVEYING PRACTICE ACTS AND RULES
CONCERNING PRACTICE AND LICENSURE

OCCUPATIONS CODE TITLE 6. REGULATION OF ENGINEERING, ARCHITECTURE,
LAND SURVEYING, AND RELATED PRACTICES SUBTITLE A. REGULATION OF
ENGINEERING AND RELATED PRACTICES CHAPTER 1001. TEXAS BOARD OF
PROFESSIONAL ENGINEERS AND LAND SURVEYORS

CHAPTER 137: COMPLIANCE AND PROFESSIONALISM SUBCHAPTER C:
PROFESSIONAL CONDUCT AND ETHICS

§137.53 ENGINEER STANDARDS OF COMPLIANCE WITH PROFESSIONAL SERVICES
PROCUREMENT ACT



Carbyne Response for City of Laredo RFP FY25-011

	<p>(a) A licensed engineer shall not submit or request, orally or in writing, a competitive bid to perform professional engineering services for a governmental entity unless specifically authorized by state law and shall report to the board any requests from governmental entities and/or their representatives that request a bid or cost and/or pricing information or any other information from which pricing or cost can be derived prior to selection based on demonstrated competence and qualifications to perform the services. (b) For the purposes of this section, competitive bidding to perform engineering services includes, but is not limited to, the submission of any monetary cost information in the initial step of selecting qualified engineers.</p> <p>Cost information or other information from which cost can be derived must not be submitted until the second step of negotiating a contract at a fair and reasonable cost. (c) This section does not prohibit competitive bidding in the private sector. Source Note: The provisions of this §137.53 adopted to be effective May 20, 2004, 29 TexReg 4878; amended to be effective June 4, 2007, 32 TexReg 2996.</p> <p><input checked="" type="checkbox"/> I Agree to the Terms and Conditions (Required: check if applicable)</p>
4	<p>Insurance Terms and Conditions</p> <p>INSURANCE REQUIREMENTS If and when applicable or required by the contract, the successful bidder(s) shall furnish the City with original copies of valid insurance policies herein required upon execution of the contract and shall maintain said policies in full force and effect at all times throughout the term of this contract.</p> <p>(a) Commercial General Liability insurance at minimum combined single limits of \$1,000,000 per-occurrence and \$2,000,000 general aggregate for bodily injury and property damage, which coverage shall include products/completed operations (\$1,000,000 products/completed operations aggregate) and XCU (Explosion, Collapse, Underground) hazards. Coverage must be written on an occurrence form. Contractual Liability must be maintained covering the Contractors obligations contained in the contract. The general aggregate limit must be at least two (2) times the each occurrence limit.</p> <p>(b) Workers Compensation insurance at statutory limits, including Employers Liability coverage a minimum limits of \$1,000,000 each-occurrence each accident/\$1,000,000 by disease each-occurrence/\$1,000,000 by disease aggregate.</p> <p>(c) Commercial Automobile Liability insurance at minimum combined single limits of \$1,000,000 per-occurrence for bodily injury and property damage, including owned, non-owned, and hired car coverage.</p> <p>(d) Professional Liability, Errors & Omissions coverage, with minimum limits of \$1,000,000 per claim/ \$2,000,000 annual aggregate. This coverage must be maintained for at least two years after the project is completed. If coverage is written on a claims-made basis, a policy retroactive date equivalent to the inception date of the contract (or earlier) must be maintained during the full term of the contract.</p> <p>(e) Any Subcontractor(s) hired by the Contractor shall maintain insurance coverage equal to that required of the Contractor. It is the responsibility of the Contractor to assure compliance with this provision. The City of Laredo accepts no responsibility arising from the conduct, or lack of conduct, of the Subcontractor.</p> <p>(f) A Comprehensive General Liability insurance form may be used in lieu of a Commercial General Liability insurance form. In this event, coverage must be written on an occurrence basis, at limits of \$1,000,000 each- occurrence, combined single limit, and coverage must</p>

Carbyne Response for City of Laredo RFP FY25-011



	<p>include a broad form Comprehensive General Liability Endorsement, products/completed operations, XCU hazards, and contractual liability.</p> <p>(g) With reference to the foregoing insurance requirement, Contractor shall specifically endorse applicable insurance policies as follows:</p> <ol style="list-style-type: none"> 1. The City of Laredo shall be named as an additional insured with respect to General Liability and Automobile Liability. 2. All liability policies shall contain no cross liability exclusions or insured versus insured restrictions. 3. A waiver of subrogation in favor of the City of Laredo shall be contained in the Workers compensation, and all liability policies. 4. All insurance policies shall be endorsed to require the insurer to immediately notify The City of Laredo of any material change in the insurance coverage. 5. All insurance policies shall be endorsed to the effect that The City of Laredo will receive at least sixty- (60) days' notice prior to cancellation or non-renewal of the insurance. 6. All insurance policies, which name The City of Laredo as an additional insured, must be endorsed to read as primary coverage regardless of the application of other insurance. 7. Required limits may be satisfied by any combination of primary and umbrella liability insurances. 8. Contractor may maintain reasonable and customary deductibles, subject to approval by The City of Laredo. 9. Insurance must be purchased from insurers that are financially acceptable to the City of Laredo. Insurer must be rated A- or greater by AM Best Rating with an admitted carrier licensed by the Texas Department of Insurance. <p>(h) All insurance must be written on forms filed with and approved by the Texas Department of Insurance. Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent and shall contain provisions representing and warranting the following:</p> <ol style="list-style-type: none"> 1. Sets forth all endorsements and insurance coverage's according to requirements and instructions contained herein. 2. Shall specifically set forth the notice-of-cancellation or termination provisions to The City of Laredo. <p>(i) Upon request, Contractor shall furnish The City of Laredo with certified copies of all insurance policies.</p> <p>(j) Certificates of insurance are always subject to review and approval from the City of Laredo Risk Management.</p> <p>(k) Specialty certificates and licenses must be inspected and verified for accuracy and validity before award of contract.</p> <p>(l) Awarded vendor is required to maintain current and active all: certifications, licenses, permits and/or insurance coverages, required to perform work, throughout the duration of this project/contract.</p> <p><input checked="" type="checkbox"/> I agree my insurance meets minimum requirements as marked <i>(Required: check if applicable)</i></p>
5	<p>Disqualification & Debarment Certification</p> <p>DISQUALIFICATION & DEBARMENT CERTIFICATION By submitting this request for bids, proposal or statement of qualifications, the firm certifies that it is not currently debarred or eligible for debarment from the City of Laredo pursuant to Ordinance No. 2017-O-098, and</p>

Carbyne Response for City of Laredo RFP FY25-011



	<p>that it is not an agent of a person or entity that is currently debarred from receiving contracts from any political subdivision or agency of the State of Texas. The City will further verify debarment status through use of the federal website SAM.gov. The contract parties are further prohibited from making any award at any tier to any party that is debarred or suspended or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549, "Debarment and Suspension."</p> <p>By executing this agreement, the Engineer certifies that it is not currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549. The parties to this contract shall require any party to a subcontract or purchase order awarded under this contract to certify its eligibility to receive Federal funds and, when requested by the City, to furnish a copy of the certification.</p> <p>Additionally, in accordance with Chapter 2270, Texas Government Code, a governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.</p> <p>The signatory executing this contract on behalf of company verifies that the company does not boycott Israel and will not boycott Israel during the term of this contract. S.B. 252 (V. Taylor/S. Davis) is a bill relating to government contracts with terrorists. The bill provides that: (1) a governmental entity, including a city, may not enter into a governmental contract with a company that is identified on a list prepared and maintained by the comptroller and that does business with Iran, Sudan, or a foreign terrorist organization; and (2) a company that the United States government affirmatively declares to be excluded from its federal sanctions regime relating to Sudan, its federal sanctions regime relating to Iran, or any federal sanctions regime relating to a foreign terrorist organization is not subject to the contract prohibition under the bill.</p> <p><input checked="" type="checkbox"/> I certify to the terms and conditions (Required: check if applicable)</p>
6	<p>Contract Requirements</p> <p>1.CODE OF ETHICS ORDINANCE Vendors doing business with the City of Laredo shall comply with all provisions of the City of Laredo's Code of Ethics (Ordinance, as amended). Vendors may be required to participate in Code of Ethics trainings.</p> <p>1.2 PROHIBITED CONTACTS DURING CONTRACT SOLICITATION PERIOD <u>A person or entity who seeks or applies for a city contract or any other person acting on behalf of such person or entity, is prohibited from contacting city officials and employees regarding such a contract after a Formal Bid, Request for Proposal (RFP), Request for Qualification (RFQ) or other solicitation has been released. This no-contact provision shall conclude when the contract is awarded.</u> The City of Laredo reserves the right to contact respondents and may require such contact as part of the evaluation process (for presentation, clarification) of bids and/or negotiation of RFP submittal(s) prior to the award of contract. If contact is required, such contact will be done in accordance with provisions of Chapter 252 and 271 of the Texas Local Government Code and procedures incorporated into the solicitation document. Violation of this provision by respondents or their agents may lead to disqualification of their offer from consideration.</p> <p>1.3 NON-COLLUSIVE AFFIDAVIT (Form can be downloaded and submitted through</p>



Carbyne Response for City of Laredo RFP FY25-011

Cit-E-Bid system) The City may require that vendors submit a Non-Collusive Affidavit. The vendor will be required to state that the party submitting a proposal or bid, that such proposal or bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any Bidder or Person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price or affiant or of any other Bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other Bidder, or to secure any advantage against the City of Laredo or any person interested in the proposed contract; and that all statements in said proposal or bid are true.

1.4 CONTRACT DISCLOSURE FORMS (This is submitted through Cit-E-Bid system) The City of Laredo requires the following forms to be completed as a part of this bid for consideration; 1. Company Information Questionnaire, 2. Signed Price Schedule, 3. Conflict of Interest Questionnaire, 4. Non-Collusive Affidavit 5. Discretionary Contracts Disclosure 6. Certificate of Interested Parties (Form 1295) ****Upon Award of RFP Only****

1.5 CONFLICT OF INTEREST FORMS (This is submitted through Cit-E-Bid system)

Conflict of Interest Disclosure: A form disclosing potential conflicts of interest involving counties, cities, and other local government entities may be required to be filed after January 1, 2006, by vendors or potential vendors to local government entities. The new requirements are set forth in Chapter 176 of the Texas Local Government Code added by H.B. No. 914 of the last Texas Legislature.

1.6 TEXAS ETHICS COMMISSION (Form 1295, Form can be downloaded and submitted through Cit-E-Bid system) Certificate of Interested Parties (Form 1295) Implementation of House Bill 1295: In an effort to comply with state law the certificate of interested parties must be filled out once a vendor has been granted a contract. All of this information can be found on the state of Texas website, please use this link provided, <https://www.ethics.state.tx.us/tec/1295-Info.htm> In 2015, the Texas Legislature adopted House Bill 1295, which added section 2252.908 of the Government Code. The law states that a governmental entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity or state agency at the time the business entity submits the signed contract to the governmental entity or state agency. The law applies only to a contract of a governmental entity or state agency that either (1) requires an action or vote by the governing body of the entity or agency before the contract may be signed or (2) has a value of at least \$1 million. The disclosure requirement applies to a contract entered into on or after January 1, 2016. In order to comply with state law the Certificate of Interested Parties (Form 1295) must be submitted to the Texas Ethics Commission within 10 days upon receiving notice of award of contract. This form must be submitted within the allotted time otherwise this may result in the cancellation of the contract.

Changes to Form 1295:

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an "unsworn declaration."

☒ I have read and understand this section

(Required: check if applicable)



Carbyne Response for City of Laredo RFP FY25-011

7	<p>Byrd Anti-Lobbying Amendment (31 U.S.C. 1352) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)</p> <p>Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non- Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.</p> <p><input checked="" type="checkbox"/> I have read and understand this section <i>(Required: check if applicable)</i></p>
8	<p>Questionnaire Description</p> <p>"The undersigned affirms that they are duly authorized to execute this contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this request. By submitting this bid the vendor agrees to the City of Laredo specifications and all terms and conditions stipulated in the proposed document. That I, individually and on behalf of the business named in this Business Questionnaire, do by my signature below, certify that the information provided in the questionnaire is true and correct ".</p>
9	<p>Name of Offeror (Business) and Name & Phone Number of Authorized person to sign bid</p> <p>Business: Carbyne, Inc.</p>
	<p>Name & Phone Number of Authorized Person: John Rucker, Chief Financial Officer</p>
	<p><i>(Required: Maximum of 1000 characters allowed)</i></p>
10	<p>State how long under has the business been in its present business name.</p> <p>Carbyne was established in July 2014 and incorporated in the state of Delaware in August 2016.</p>
	<p><i>(Required: Maximum of 1000 characters allowed)</i></p>
11	<p>If applicable, list all other names under which the Business identified above operated in the last five years</p>
	<p><i>(Required: Maximum of 1000 characters allowed)</i></p>



Carbyne Response for City of Laredo RFP FY25-011

12	<p>State if the Company is a certified minority business enterprise</p> <p>The below information is requested for statistical and tracking purposes only and will not influence the amount of expenditure the City will make with any given company.</p>
13	<p>Questions Part 1</p> <p>1) Is any litigation pending against the Business? 2) Has the Business ever been declared "not responsive" for the purpose of any governmental agency contract award? 3) Has the Business been debarred, suspended, proposed for debarment, suspended, proposed for debarment, declared ineligible, voluntarily excluded, or other wise disqualified from bidding, proposing or contracting? 4) Are there any proceedings, pending relating to the Business responsibility, debarment, suspension, voluntary exclusion, or qualification to receive a public contract? 5) Has the government or other public entity requested or required enforcement of any of its rights under a surety agreement on the basis of default or in lieu of declaring the Business at default?</p> <p>There is no pending litigation against the Business. The Business has never been debarred, suspended, declared ineligible, voluntarily excluded or otherwise disqualified from bidding, proposing or contracting. There are no pending proceedings related to the Business' public contracting and no surety agreements requested or required by the government</p> <p><i>(Required: Maximum of 4000 characters allowed)</i></p>
14	<p>Questions Part 2</p> <p>1) Is the Business in arrears in any contract or debt? 2) Has the Business been a defaulter, as a principal, surety, or otherwise? 3) Have liquidated damages or penalty provisions been assessed against the Business for failure to complete work on time or any other reason?</p> <p>None</p> <p><i>(Required: Maximum of 4000 characters allowed)</i></p>
15	<p>State if the Company is a certified minority business enterprise</p> <p> <input type="checkbox"/> Historically Underutilized Business (HUB) <input type="checkbox"/> Small Disadvantaged Business Enterprise (SCBC) <input type="checkbox"/> Disadvantaged Business Enterprise (DBE) <input type="checkbox"/> Other <input checked="" type="checkbox"/> This company is not a certified minority business </p> <p><i>(Required: Check only one)</i></p>
16	<p>Conflict of Interest Disclosure</p> <p>A form disclosing potential conflicts of interest involving counties, cities, and other local government entities may be required to be filed after January 1, 2006, by vendors or potential vendors to local government entities. The new requirements are set forth in Chapter 176 of the Texas Local Government Code added by H.B. No. 914 of the last Texas Legislature. Companies and individuals who contract, or seek to contract, with the City of Laredo and its agents may be required to file with the City Secretary's Office, 1110 Houston Street, Laredo, Texas 78040, a Conflict of Interest Questionnaire that describes affiliations or business relationships with the City of Laredo officers, or certain family members or business</p>



Carbyne Response for City of Laredo RFP FY25-011

	<p>relationships of the City of Laredo officer, with which such persons do business, or any gifts in an amount of \$250.00 or more to the listed City of Laredo officer (s) or certain family members. The new requirements are in addition to any other disclosures required by law. The dates for filing disclosure statements begin on January 1, 2006. A violation of the filing requirements is a Class C misdemeanor. The Conflict of Interest Questionnaire (Form CIQ) may be downloaded from http://www.ethics.state.tx.us/whatsnew/conflict forms.htm. The City of Laredo officials who come within Chapter 176 of the Local Government Code relating to filing of Conflicts of Interest Questionnaire (Form CIQ) include: 1. Mayor 2. Council Members 3. City Manager 4. Members of the Fire Fighters and Police Officers Civil Service Commission. 5. Members of the Planning and Zoning Commission. 6. Members of the Board of Adjustments 7. Members of the Building Standards Board 8. Parks & Leisure Advisory Committee Member, 9. Historic District Land Board Member, 10. Ethics Commission Board Member, 11. The Board of Commissioners of the Laredo Housing Authority 12. The Executive Director of the Laredo Housing Authority 13. Any other City of Laredo decision making board member If additional information is needed please contact Enrique Aldape III, Interim Purchasing Agent at 956-794-1733</p>
17	<p>Conflict of Interest Questionnaire Form CIQ</p> <p>For vendor or other person doing business with local governmental entity. This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session. This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a). By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code. A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.</p>
18	<p>Conflict of Interest Questionnaire</p> <p>Vendor is required to submit Conflict of Interest Form for bid to be considered complete. Have you submitted your completed Conflict of Interest Form with your response?</p> <p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p> <p><i>(Required: Check only one)</i></p>
19	<p>Disclosure Form</p> <p>For details on use of this form, see Section 4.01 of the City's Ethics Code.</p>
20	<p>This is a</p> <p><input checked="" type="checkbox"/> New Submission</p> <p><input type="checkbox"/> Correction</p> <p><input type="checkbox"/> Update to previous submission</p> <p><i>(Required: Check only one)</i></p>
21	<p>Question 1. Name of person submitting this disclosure form</p> <p>Please indicate First Name, Middle Initial, Last Name and Suffix (if applicable)</p>



Carbyne Response for City of Laredo RFP FY25-011

	Cara L Vermillion, Sales Operations Team Manager
	(Required: Maximum of 1000 characters allowed)
22	Question 2. Contrat Information Please include the following: A)Contract or Project Name b)Originating Department Next Generation 9-1-1 Cloud Native Solution (Required: Maximum of 4000 characters allowed)
23	Question 3. Name of individual(s) or entity(ies) seeking a contract with the city (i.e. parties to the contract) Carbyne, Inc. (Required: Maximum of 4000 characters allowed)
24	Question 4. List any business entity(ies) that is a partner, parent, subsidiary business entity(ies) of the individual or entity listed in Question 3. <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> It applies to my business (Required: Check only one)
25	Question 4. List any business entity(ies) that is a partner, parent, subsidiary business entity(ies) of the individual or entity listed in Question 3 If you selected Not Applicable on Question 4, skip this section. If it applies to you, please list the name of the partner, parent, or subsidiary entity(ies) in this section. Not applicable. (Optional: Maximum 4000 characters allowed)
26	Question 5. List an individuals or entities that will be subcontractors on this contract <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> It applies to my business (Required: Check only one)
27	Question 5. List an individuals or entities that will be subcontractors on this contract If you selected Not Applicable on Question 5, skip this section. If it applies to you, please list the name of the partner, parent, or subsidiary entity(ies) in this section. Western States Communications (Optional: Maximum 4000 characters allowed)
28	Question 6. List any attorneys, lobbyists, or consultants that have been retained to assist in seeking this contract <input checked="" type="checkbox"/> Not Applicable



Carbyne Response for City of Laredo RFP FY25-011

	<input type="checkbox"/> It applies to my business <i>(Required: Check only one)</i>
29	<p>Question 6. List any attorneys, lobbyists, or consultants that have been retained to assist in seeking this contract</p> <p>If you selected Not Applicable on Question 6, skip this section. If it applies to you, please list attorneys, lobbyists, or consultants that have been retained to assist in seeking this contract.</p> <p>Not applicable.</p> <p><i>(Optional: Maximum 4000 characters allowed)</i></p>
30	<p>Question 7. Disclosure of political contributions</p> <p>List any campaign or officeholder contributions made by the following individuals in the past 24 months totaling more than \$100 to any current member of City Council, former member of City Council, any candidate for City Council, or to any political action committee that contributes to City Council elections. a) Any individual seeking contract with the city (Question 3) b) Any owner or officer of entity seeking contract with the city (Question 3) c) Any individual or owner or officer of any entity listed above as partner, parent, or subsidiary business (Question 4) d) Any subcontractor or owner/office of subcontracting entity for the contract (Question 5) e) The spouse of any individual listed in response to (a) through (d) above f) Any attorney, lobbyist, or consultant retained to assist in seeking contract (Question 6)</p> <p><input checked="" type="checkbox"/> Not Applicable</p> <p><input type="checkbox"/> It applies to my business <i>(Required: Check only one)</i></p>
31	<p>Question 7. Disclosure of political contributions</p> <p>If you selected Not Applicable on Question 7, skip this section. If it applies to you, please list all contributors in this section.</p> <p>Not applicable.</p> <p><i>(Optional: Maximum 4000 characters allowed)</i></p>
32	<p>Updates on contributions required</p> <p>Information regarding contributions must be updated by submission of a revised form from the date of the submission of this form, up through the time City Council takes action on the contracts identified in response to Question 2 and continuing for 30 calendar days after the contract has been awarded.</p>
33	<p>Question 8. Disclosure of Conflict of Interest</p> <p>Are you aware of any fact(s) with regard to this contract that would raise a “conflict of interest” issue under Section 2.01 of the Ethics Code for any City Council member or board/commission member that has not or will not be raised by these city officials?</p> <p><input type="checkbox"/> I am aware of conflict of interest</p> <p><input checked="" type="checkbox"/> I am not aware of conflict of interest <i>(Required: Check only one)</i></p>
34	<p>8. Disclosure of Conflict of Interest</p>



Carbyne Response for City of Laredo RFP FY25-011

	<p>If you selected I am aware of conflict of interest is question 8, please list them in this section.</p> <p>Not applicable.</p> <p><i>(Optional: Maximum 4000 characters allowed)</i></p>
35	<p>Question 9. Updates Required</p> <p>I understand that this form must be updated by submission of a revised form if there is any change in the information before the discretionary contract is the subject of action by the City Council, and no later than five (5) business days after any changes has occurred, whichever comes first. This include information about political contributions made after the initial submission and up until thirty (30) calendar days after the contract has been awarded.</p> <p><input checked="" type="checkbox"/> I have read and understand this section <i>(Required: Check if applicable)</i></p>
36	<p>Question 10. No Contact with City Officials</p> <p>I understand that a person or entity who seeks or applies for city contract or any other person acting on behalf of that person or entity is prohibited from contacting city officials and employees regarding the contract after a Request for Proposal (RFP), Request for Qualifications (RFQ), or other solicitation has been released. This no- contact provision shall conclude when the contract is posted as a City of Laredo Council agenda item. If contact is required with city officials or employees, the contact shall take place in accordance with procedures incorporated into the solicitation documents. Violation of this prohibited contacts provision set out in Section 2.09 of the Ethics Code by respondents or their agents may lead to disqualification of their offer from consideration.</p> <p><input checked="" type="checkbox"/> I have read and understand this section <i>(Required: Check if applicable)</i></p>
37	<p>Question 10. Conflict of Interest Questionnaire (CIQ)</p> <p>Chapter 176 of the Local Government Code requires contract and vendors to submit a Conflict of Interest Form (CIQ) to the Office the of City Secretary</p> <p><input checked="" type="checkbox"/> I have acknowledge that I have been advised <i>(Required: Check if applicable)</i></p>
38	<p>Question 11. Oath</p> <p>Please complete in this section the required information for your company. 1) Name 2) Title 3) Company or DBA 4) Date</p> <p>Name: John Rucker</p> <p>Title: Chief Financial Officer</p> <p>Company or DBA: Carbyne, Inc.</p> <p>Date: November 7, 2024</p>
39	<p>Question 12. Oath</p> <p>I swear or affirm that the statements contained in this Discretionary Contracts Disclosure Form, including any attachments, to the best of my knowledge and belief are true, correct,</p>

Carbyne Response for City of Laredo RFP FY25-011



	<p>and complete.</p> <p><input checked="" type="checkbox"/> I swear or affirm information is correct <i>(Required: check if applicable)</i></p>
--	---



Executive Summary

Company Overview

Who is Carbyne?

Carbyne is the #1 provider of cloud-native emergency call handling solutions, featuring patented live caller video, on-demand pinpoint caller location, silent instant messaging, and much more - all delivered via a state-of-the-art cloud-native architecture. Carbyne innovations such as transcription, translation, call triage, responder connect, video board, wallboards, analytics, and more help customers save time, save money, improve safety, and surpass their KPIs.



Our History

Carbyne was founded by Amir Elichai in 2015, following a personal traumatic experience where he was robbed on a beach. Unfortunately 9-1-1 had challenges finding him and gathering key details. This prompted him to disrupt the existing emergency collaboration technology ecosystem. Eight years later, Carbyne employs over 160 people worldwide.

Foundation of our Vision

Emergency communication has historically struggled to keep up with modern technology. We can order a car with our phones, video chat with our families and text with anyone around the world. Yet we are not able to do any of those things when personal safety is on the line.

So, Carbyne did something about it. We decided to not just fix the gaps in modern technology in public safety, but to constantly improve it with ongoing updates so urgent communications never become stagnant again. We call it relentless innovation.



Carbyne Response for City of Laredo RFP FY25-011

Our technology is built in the cloud for quick solutions, fast integrations, and critical redundancy using an interface that keeps call management top of mind. Through the power of one platform, Carbyne enables call centers to collect and quickly distribute information.

Carbyne's Qualifications

Carbyne is proven at scale, covering 150 million people, processing 160 million geolocations annually, delivering 87% faster caller location, and driving 300% higher video usage year over year. Since deploying Carbyne APEX, Carbyne customers have been able to exceed national standards (>90%) for calls answered within 15 seconds despite over 30% increase in call volume year over year.

A large PSAP customer recently published that since deploying Carbyne APEX they have been able to exceed national standards (90.68%) for calls answered within 15 seconds or less even with a 32% increase in call volume year over year. Visit [Carbyne's YouTube Channel](#) for customer testimonials and more.

Carbyne has been at the forefront of revolutionizing emergency services, and our previous successes in large PSAP deployments underscore our ability to navigate complex systems and deliver robust, cutting-edge solutions. In partnership with WSC 911 we look to exceed agreed-upon timelines, ensuring a seamless and efficient transition to our emergency call handling platform. Our experience in similar projects such as RioCog and New Orleans attests to our understanding of the unique challenges and requirements that Panhandle 911 call handling demands. Our commitment to quality is unwavering, with a focus on utilizing our Carbyne Cloud Native Technologies to enhance emergency response capabilities.

Carbyne Portfolio

Carbyne offers a comprehensive product portfolio built on a multi-layered Software-as-a-Service (SaaS) platform that meets stringent cloud-computing standards and is i3 compliant. Carbyne created APEX as America's first cloud-native call management solution to enable emergency communications specialists to unify the flow of audio and data (video, chat, and map) into a single platform and, from the same platform, distribute essential information to first responders. The Carbyne portfolio is backed by a robust patent portfolio, leverages Artificial Intelligence (AI) and Natural Language Processing (NLP) technologies, and can be deployed in a fraction of the time taken by traditional call handling equipment deployments.



Carbyne Response for City of Laredo RFP FY25-011

Our Commitment

Our commitment to emergency communication centers include:

- Keeping you up and running as embodied by our 99.999% availability. Our architecture is supported by AWS GovCloud with two GovCloud regions and a total of six Availability Zones with 12 data centers to provide maximum redundancy.
- Our commitment to our customers is represented by our Net Promoter Score of 94 compared to the industry average of 40.
- Improve efficiency of emergency response as exemplified by our ability to deliver up to 87% faster call location for our clients.
- Carbyne's commitment to innovation for our customers as symbolized by our recent launches of Live Audio Translation, On-Screen Transcription, Call-Triage, and more.

Our Presence

Locations

Carbyne is a global company headquartered in New York City with additional offices in Mexico and Israel. In the US, Carbyne staff reside across the country.

Website

Prospects and customers can visit our website at www.carbyne.com. We have complete product and application descriptions along with information for the industries we support. Additional company information can be found as well as a list of our partners. Resources on our website include:

- Published blogs and guides
- Webinar recordings
- Upcoming events
- Testimonial videos
- Press releases
- Customer portal



Carbyne Response for City of Laredo RFP FY25-011

APEX Solution Overview

Carbyne APEX is the leading cloud-native emergency call handling platform offering patented live caller video, on-demand pinpoint caller location, silent instant messaging, and more - all delivered via a hyper-secure cloud-native architecture.

Some key highlights about Carbyne include:

- 150,000,000+ population covered globally
- 1,500,000+ monthly calls
- 87% improvement in caller location time
- 94 Net Promoter Score (NPS) - compared with the industry average of 40
- 150%+ annual growth in video usage
- \$250,000+ annual customer cost savings potential

Carbyne technology is trusted by customers across the United States and globally. Below is a non-exhaustive list of customers:

- Atlanta Police Department (Georgia)
- Charleston County Consolidated Communications (South Carolina)
- Clearwater Police Department (Florida)
- Georgia Department of Transportation
- Guernsey County Sheriff's Office (Ohio)
- Fayette County (Georgia)
- Jeffcom 911 (Colorado)
- Lafayette Parish Communications District (Louisiana)
- Logan County 911 (West Virginia)
- McLean County 911 (Illinois)
- North Miami Beach Police Department
- Miami-Dade Police Department (Florida)
- Orleans Parish Communications District (Louisiana)
- Pitkin County (Colorado)
- Rio Grande Council of Governments (Texas)
- South Texas Development Council (Texas)



APEX Product Description

Carbyne APEX is the leading emergency call handling solution featuring patented live caller video, caller location, silent instant messaging, and much more, all delivered leveraging industry-leading secure cloud-native architecture. Key features of Carbyne APEX include:

- **Patented Live Video** helps customers save time by triaging calls and doing more with less staff by getting eyes on the scene before sending personnel.
- **Caller Location** helps customers save time locating callers by quickly seeing their location on screen, so call-takers can send the right personnel to the right location at the right time.
- **Instant Messaging** can be invaluable to customers whether the caller is in an unsafe environment unable to speak, or simply trying to share a license plate number or the spelling of their last name.
- The **APEX Cloud-Native Platform** helps customers do away with bulky on-premise servers and other hardware. APEX simply runs on standard laptops or desktop computers, leaving cloud technology to do the heavy lifting.
- **Zero-Trust Security Architecture** is an industry-leading security standard used to host the Carbyne APEX platform, to help ensure data on the Carbyne APEX platform are off-limits to hackers on the internet.
- In conjunction with Carbyne APEX:
 - **Responder Connect** enables customers to share live caller video and caller location with field responders, not just call takers and dispatchers, for more effective and efficient emergency response.
 - **Control Center** helps customers manage sites and users, as well as launch Carbyne applications such as Events History, Analytics, Wallboards, and more.
 - **Events History** offers comprehensive records management capturing ongoing and recent calls with location, video, imagery, call transcripts, questionnaires, third-party intelligence data, and more.
 - **Video Board** enables customers to visualize multiple emergency live streams simultaneously featuring audiovisual alerts, recent call playback, pinpoint caller locations, and more.
 - **Wallboard** helps customers closely track Key Performance Indicators (KPI's) such as call handling times per queue visually on a centralized dashboard, as well as monitor call-taker status such as status (ready/busy), if they need assistance, and more.
 - **Analytics** helps customers drive data-driven decision making throughout their operations by providing predefined and personalized interactive dashboards, delivering mission-critical insights for executive leadership.



APEX Product Advantages & Capabilities

As the leading cloud-native emergency call handling solution, APEX supports numerous capabilities (without the need to download a smartphone app) including the following:

- **Two-Way Native Language Translation** - Voice transcription and text language translation will assist call takers when receiving calls from non-English speaking visitors to the community. In addition, Apex will provide automatic translation of the call taker's speech from English to the caller's detected language.
- **Automated Abandoned Call Management** - Streamlining the management of abandoned 9-1-1 calls by utilizing automation. The system will prompt the caller to either initiate an emergency call or to disconnect if the call was made in error.
- **On-Demand Device Based Location** – These services can be used to locate a caller calling from a mobile phone (providing current location as well as recent location breadcrumbs) whether calling to 9-1-1, 9-8-8, 3-1-1, or even a 10-digit admin number. This location service is initiated automatically on the engagement of a 9-1-1 call. When a caller dials a non-emergency number, Carbyne services can also be utilized to locate the caller. Examples include a lost person, a run-away child, a responder in need of back-up, and more.
- **Enhanced Device Location Attributes** – When obtaining device-based location, APEX provides the latitude and longitude of the caller, and the civic address, location accuracy, altitude, altitude accuracy, speed, and floor - taking the guesswork out of emergency response.
- **Live Caller Video** – Video from the caller's smartphone camera can be streamed live to the PSAP after the caller grants permission to use their camera.
- **Images from the Caller** – Still images from the caller's smartphone can be shared with the PSAP once the Carbyne session has been successfully initiated and the caller grants the necessary permissions.
- **Silent Instant Messaging** – Silent communication capability can be enabled which allows the caller to chat with the call taker using instant messaging, even if Text-to-911 infrastructure is not yet available. This can be useful when the caller is unable to or should not speak. Today, APEX is the only cloud-native emergency call handling solution deployed in multiple countries globally that provides this safety measure. A chat overlaying the video is unique to Carbyne. This feature is critical when callers are sharing video from the scene and need to chat and not talk or want to take snapshots while in video mode. All Carbyne messages arrive at the caller's device without any audible notifications.
- **Responder Connect** - Live caller video, caller location, and more are not only a game changer for call takers, but they can also give an invaluable eyes-on-the-scene perspective to field responders like police officers, firefighters, and paramedics to improve their safety and awareness prior to arrival. These capabilities can be added to APEX to improve the safety and effectiveness of emergency response.



Carbyne Response for City of Laredo RFP FY25-011

- **Predefined Messages in Chat** – When using instant messaging with the caller, customers can take human error out of the equation by using predefined messages within APEX. These predefined phrases are customized for the PSAP which call takers can search for and select to save time and reduce typographical errors during an emergency.
- **Integrated Text-To-911 and TTY/RTT** – With APEX, a unified chat pane consolidates messages from the caller sent via Carbyne instant messaging, Text-to-911, TTY (Teletype), and RTT (Real-Time-Text) to support callers with a speech or hearing impairment.
- **Closed Captioning** – Whether the caller is a non-native English speaker or they are having a hard time accurately describing the situation to the call taker during their moment of panic, the closed captioning feature of APEX powered by Natural Language Processing (NLP) technology enables the call taker to confirm the caller's verbal statements and improve the speed of emergency response.
- **Full Incident Recreation** – APEX makes available full incident recreation through the Events History service for after-analysis. We will store your data as long as your retention period requires. See caller video, caller location history, instant messages, call transcripts, and more.
- **Advanced Analytics** – APEX also serves three business needs including reporting, monitoring, and data-driven decision making through the Analytics service. Analytics include call volume, call answer time, queue ring time, abandoned calls, agent performance, and agent time statistics. This data can be visualized in pie charts, bar graphs, and tables on a per-queue basis when appropriate.
- **Remote Monitoring** – APEX includes powerful remote monitoring capabilities without having to be physically next to the call taker. Supervisors can use whisper mode, barge mode, and full station mirroring (live video, instant messaging, caller location, and more) from the convenience of their office or remote work location.
- **Cloud-Native Emergency Call Handling** - Never let the life-saving operations of a PSAP be interrupted by earthquakes, floods, fires, and other catastrophes. With APEX, customers get the industry leading cloud-native emergency call handling solution, ensuring they are always operational. APEX also features Zero Trust Architecture security so customers' sensitive data is off limits to hackers on the internet.
- **Region Failover** – With APEX, as dictated by the customer, the platform is replicated across multiple geographically separated regions across the country. As a result, if a catastrophe impacts an entire region (e.g. east coast), APEX automatically detects these outages and resumes service from an entirely separate region (e.g. west coast). All that call takers have to do is log in to the system to resume their operations.
- **Regular Complimentary Software Upgrades** – With APEX, the time to the next software upgrade is a matter of weeks, not years. Best of all, these software upgrades are included at no extra cost.
- **Remote Work When Necessary** – From COVID to unexpected demand surges to building repairs, there are a number of reasons why customers may need their workforce to work remotely. APEX provides the flexibility for the customer's team to work from any



Carbyne Response for City of Laredo RFP FY25-011

location of their choice, with Virtual Private Network (VPN) technology to ensure the safety and security of sensitive data.

- **Automatic Call Distribution (ACD)** – Achieve reduced call waiting time, faster call resolution, and increased productivity using Automatic Call Distribution (ACD) featuring skill-based routing within APEX. Call distribution methods include simultaneous call distribution (ring-all), most available agent (longest idle), and more. Turn on the auto-answer calls feature to route calls directly to the next available call taker automatically. These features help a PSAP comply with NENA's standard of 90% of calls answered within 15 seconds and 95% of calls answered within 20 seconds.
- **Call Conferencing and Attended Call Transfer** – Seamlessly transfer incoming 9-1-1 emergency call information using APEX to a different PSAP configured in the system including ANI/ALI as well as ESInet i3 PIDF-LO (Presence Information Data Format - Location Object) and ADR (Additional Data Repository) data with enhanced stability in the event of network errors. Transfer methods also include SIP URI address (e.g. sip:username@host:port)
- **Agent Assistance Alert** – If a call taker requires assistance, they can immediately press a button on their APEX screen to virtually raise a hand without leaving their desk. The supervisor's station and the Carbyne Wallboard screen indicate the call taker's seat position on a map so they can provide prompt assistance to keep life-saving operations running without interruption.
- **Recorded Announcements** – To keep callers informed when they call 9-1-1 or a non-emergency line, APEX can play a recorded announcement repeatedly until the call is answered by a call taker. This recorded announcement can also be played when a call is parked via APEX.
- **ESInet LoST Service Support** – To support cross-jurisdiction emergency call transfers, APEX supports the ESInet LoST (Location to Service Translation) protocol, mapping the caller's device location to the agency responsible for that jurisdiction. If the call has to be transferred out to a neighboring jurisdiction, APEX displays dynamic speed dial options marked with a red dot for the call taker's convenience. If the call is being transferred in from a neighboring jurisdiction, APEX notifies the call taker accordingly.
- **Instant Replay With Station Permissions** – Review the specifics of a call that has ended recently, including video footage, voice call recording, closed captioning, and more without leaving the APEX user interface.
- **Audio Input & Output Selection** – To ensure an optimal call-taking experience, APEX can configure different audio input and output devices for a PSAP including call input device, call output device, and APEX audio (e.g. ringing, alerts, media playback).
- **Third Party IoT Intelligence Data** – For greater situational awareness, APEX includes an Intelligence Pane where call takers can see enhanced ESInet Advanced Data Repository (ADR) data and third-party Internet-of-Things (IoT) data. When available, this includes caller profile, medical information, vehicle telematics, car-crash data, and more.
- **Light Pole Status Indicator** - For centers that have light poles at each station with colored lights indicating a call taker's status (in a 9-1-1 call, on a radio call, available), APEX supports the ability to change the light pole colors dynamically.



Carbyne Response for City of Laredo RFP FY25-011

- **Audio Arbitration Box Integration** - For centers whose multi-skilled call takers handle calls as well as radio dispatch, APEX features the Carbyne Audio Trigger Module (CATM) which relays call audio to the center's Radio Console Arbitration Box (RCAB) and to the call-taker's headset. CATM also notifies the RCAB of active/non-active call status to support audio arbitration between APEX and the radio.
- **Imperial & Metric System Support** - Based on the center's preference, APEX can display readings in Imperial (e.g. feet and mph) or Metric (e.g. meters and kph) units as desired.
- **Multi-Jurisdictional Support** - For emergency communication districts responsible for more than one jurisdiction, APEX can meet these needs by enabling cross-jurisdictional setup and collaboration.

Infrastructure

- **Unmatched availability** - Carbyne's architecture is hosted on the AWS GovCloud (US) instances in geographically diverse AWS GovCloud US-East and US-West regions. Carbyne utilizes a scalable cloud computing platform designed for high availability, resiliency, and self-healing capabilities leveraging 12 datacenters for continued operation and immediate scalability for emergency operations while offering an unmatched **99.999% uptime** SLA guarantee. Helping to protect confidentiality, integrity, and availability of your systems and data is of the utmost importance to Carbyne as is maintaining your trust and confidence. The Carbyne platform is protected by industry best standards for Encryption, Authentication and Authorization by leveraging TLS 1.3, AES256, OAuth2.0, OIDC and WAF Solutions to ensure the strongest security posture.
- **Flexible Connectivity Options** - Carbyne offers multiple connectivity options to meet the high availability required in mission critical emergency communications. The options presented in this response are only examples of the available options offered.

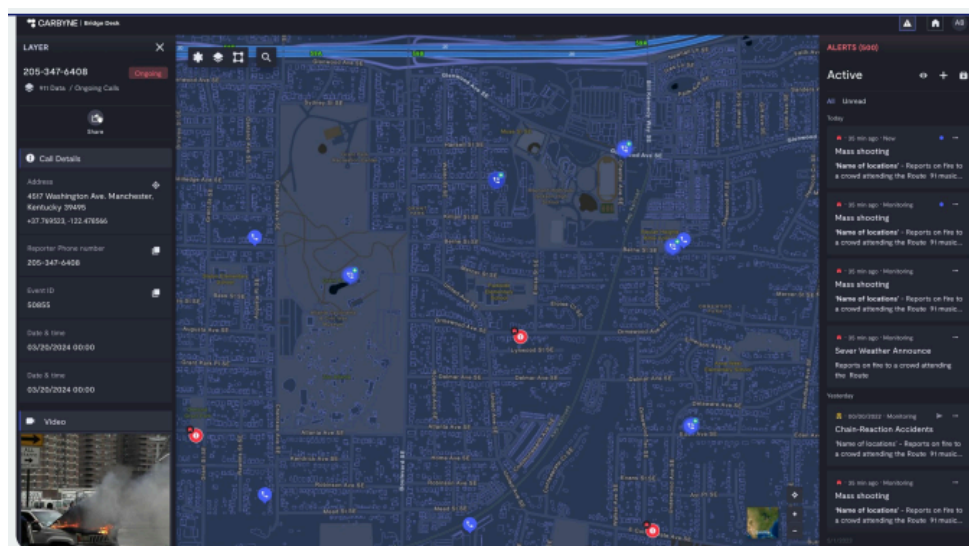


Carbyne Response for City of Laredo RFP FY25-011

Value Added Services

As part of our solution to the Board, Carbyne would like to offer Bridge Desk Essentials, a free integrated command and control system that gives PSAP supervisors and telecommunicators 360-degree visibility including 9-1-1, 3-1-1, and admin call data as well as weather data and manual notifications to Bridge Desk users/contacts.

- Enhanced Situational Awareness
- Communicate and coordinate with instant notifications
- Simultaneously monitor 9-1-1 calls for incident management





Carbyne Response for City of Laredo RFP FY25-011

Technical Proposal

First supply a line-by-line status on all items in Section 4 Hardware/Software Requirements. Please type your response under each line in italicized text. Acceptable responses are as follows:

- *Comply – The proposed solution will fully meet the requirement(s), functionality is currently supported in the current product software release.*
- *Modify – The proposed solution complies partially with this requirement; with exceptions explained in detail. If a vendor takes exception but an alternative to the requirement is recommended, the alternative must be explained, and any cost identified. Exceptions will be evaluated and considered but are not necessarily acceptable solutions to the requirement as expressed nor are they automatic disqualifications.*
- *Exception – Does not and cannot meet criteria.*

System Requirements

4.1 9-1-1 Position Hardware – 26 positions (Please price position hardware but the 9-1-1 Regional Administration reserves the right to purchase this hardware locally to meet the vendor's specifications).

- 4.1.1 All workstations should come with the latest version of Windows software installed with up-to-date patches.*
- 4.1.2 Monitors with mounts, per position.*
- 4.1.3 External multi-functional keypad*
- 4.1.4 External interface to logging recorder at each PSAP*

Carbyne Response

Comply

Carbyne has provided pricing for the requested 9-1-1 position hardware. Please see the complete list of hardware in the Unit Costs of Hardware and Software section of our response package.

4.2 Locations of 9-1-1 answering points and number of positions in the region 26 Total Positions

- 4.2.1 Laredo PD - 8 Workstations*
- 4.2.2 Webb PD - 4 Workstations*
- 4.3.3 Roma PD - 2 Workstations*
- 4.2.4 Jim Hogg PD - 2 Workstations*
- 4.2.5 Zapata PD - 2 Workstations*
- 4.2.6 Rio Grande - 2 Workstations*
- 4.2.7 Starr County - 2 Workstations*
- 4.2.8 Back Up/Training Center - 4 Workstations*

Carbyne Response

Comply



Carbyne Response for City of Laredo RFP FY25-011

Carbyne has provided pricing for the requested 9-1-1 position hardware. Please see the complete list of hardware in the Unit Costs of Hardware and Software section of our response package.

4.3 All equipment shall meet or exceed the latest applicable standards of the FCC, EIA, TIA, IEEE and NENA's NG9-1-1 standards at the time of proposal. In addition, the equipment shall conform to the requirements of the local telephone company with respect to the audio levels and control voltages presented to their lines. The vendor shall certify that the equipment being offered meets or exceeds all requirements specified.

Carbyne Response

Comply

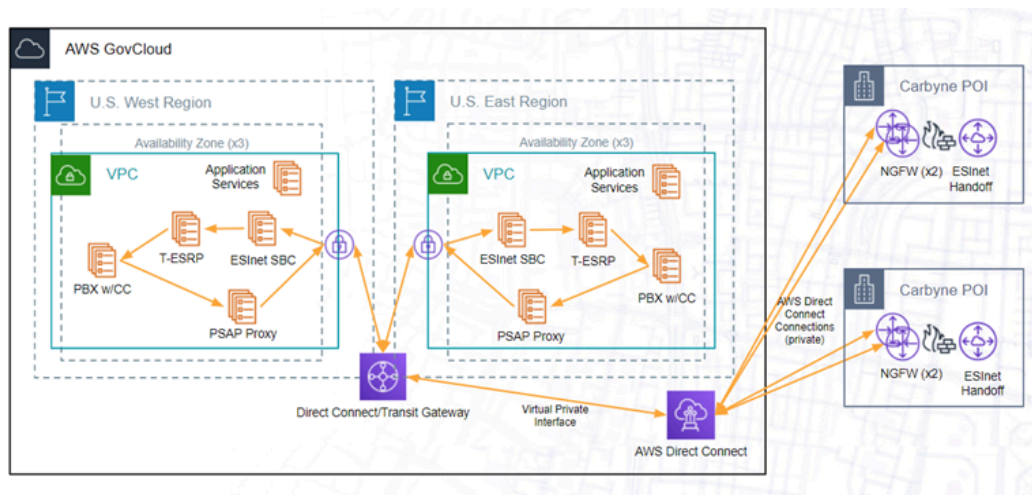
Carbyne complies with all relevant NENA, FCC, and APCO standards and will do so throughout the life of this contract and beyond. When there is conflict between individual standards, Carbyne will use the NENA standard.

4.4 The servers for this system should be geo-diverse and fully redundant. The system shall not fail given any one data server or telephony server malfunctions. Failure, in this context means the system will drop an active 9- 1-1 call or prevent the presentation and answering of a new 9-1-1 call. Please describe how your product functions when a major component goes offline or fails. The servers can be local, remotely located in a vendor maintained location or cloud based SaaS.

Carbyne Response

Comply

The APEX cloud-native platform provides end-to-end redundancy leveraging the resiliency of both AWS US Gov-Cloud regions (East and West) as well as the three Availability Zones within each region. Cloud connectivity appliances are deployed in a redundant manner provisioned with automatic failover. Local equipment is also deployed in a redundant manner to eliminate the single point of failure and in a manner that any attached lines can be moved to the surviving device to return to full capacity.





Carbyne Response for City of Laredo RFP FY25-011

4.5 The system shall not be disabled when software patches or updates are implemented. Failover from one server to another due to malfunction should happen automatically without manual intervention. Manual failover for maintenance purposes should not impact active call-takers. Please explain in detail the failover process for your product.

Carbyne Response

Comply

As a Software-as-a-Service provider, the cloud-native nature of the product allows updates to occur in the background without interruption to the call-taker or workstation. When the workstation is in a quiescent state, an indicator will appear advising the user that an update is available. Logging out and then back into APEX will complete the update. This update can occur when it is convenient and can be achieved in an orderly manner within the PSAP to avoid impacting operations. Additionally, updates can be strategically deployed to certain workstations as needed for a variety of reasons.

Our cloud-native solution, APEX, utilizes AWS GovCloud US and operates in both the East and West regions. Within each region, services are deployed across a minimum of three Availability Zones consisting of a minimum of three data centers. Our architecture is designed with modern computing technology and deployed in a fully redundant manner with highly resilient services and fault-tolerant components simultaneously processing 100% of the load. Unlike failover or active-passive designs where the passive components assume processing when the active component fails, our active-active design allows both redundant components to be processed simultaneously. Therefore, if one component in that data center should fail, the redundant component within that data center continues to carry the entire load with no delay and no degradation of service.

4.6 The system should be able to accommodate up to four (4) admin lines per location.

Carbyne Response

Comply

Carbyne can interface with any number of PSTN technologies (POTS, PRI, VoIP / SIP) as required. The Carbyne APEX solution is session-based, and utilizes call queues with skill sets for call presentation and appearance. The APEX Waiting Calls section displays the collection of queued calls based on priority. This list can include any configured queue (911, 10-digit, Admin, 311, Text, etc.) based on call taker's role and selected skill set. Non-emergency and administrative line capabilities are integrated into the APEX solution utilizing Tier 1 SIP Trunk service providers. This integration occurs cloud-to-cloud and takes advantage of network peering with AWS to enable PSTN access without requiring any hardware (e.g. media gateways and POTS lines) at the PSAP.



Incoming Emergency Call



Incoming Admin Call



Carbyne Response for City of Laredo RFP FY25-011

4.7 The system should be equipped to receive, process, store and forward multimedia data including voice, text, video and photos. Please describe how your product manages multimedia data.

Carbyne Response

Comply

The Carbyne APEX platform enables NG9-1-1 capabilities by supporting native NENA i3 interfaces and functionality, while also enhancing voice only wireless calls with live streaming video, instant chat, and precise device-based location directly from the caller's smartphone. Regardless of the Originating Service Provider (OSP) support for multimedia, these capabilities are enabled for all wireless smartphone 9-1-1 calls, 10-digit emergency and non-emergency calls, and abandoned callbacks. Enhanced multimedia capabilities provided by the APEX platform increase situational awareness of calls for service and enables the Emergency Communication Specialist to quickly locate the caller, assess the nature of the emergency, and dispatch the appropriate Field Responders and support. Multimedia sessions are handled directly in the APEX GUI and organized to avoid overwhelming the user while simultaneously providing easy access to situational information.

Data is stored securely in the AWS GovCloud (US) and retained with a user-defined retention schedule. Data can be viewed utilizing Carbyne Events History, a web based data management platform that provides secure access to call detail records, media recording (voice, video, chat, etc.) and caller location history. Events History provides search and display capabilities including list, pin map, and heat map views.

4.8 Additional features that help streamline the call-taker's workflow are desirable. Language translation software and abandoned call auto-notify options are examples of these type features. Please describe these types of options available with your product.

Carbyne Response

Comply

The APEX platform currently provides the following features to enhance and streamline the call-taker's workflow:

- Admin call enhancement (turns admin calls into rich media sessions)
- One-way Audio translation - with Two-way Audio Translation expected to be generally available in Q1 2025
- Abandoned Call text-back
- Open API access
- Responder Connect
- Integrated Advanced Mobile Location (RSOS)

The following features are currently under development and are expected to be generally available in 2025:

- Emergency Call triage
- AI-V Admin Call triage



Carbyne Response for City of Laredo RFP FY25-011

4.9 The proposed system shall allow for additional positions to be added without 100% downtime. The Vendor will describe the method in which the system can expand with additional positions.

Carbyne Response

Comply

The cloud-native design of the Carbyne APEX solution enables the system to scale on demand. The PBX, Bridging / Conference Services, and ACD system is designed and developed by Carbyne specifically for public safety communications. This "backend" system is referred to as the Call Control Service and works in conjunction with other Carbyne cloud-native components (including SBC and SIP Proxy) to provide the overall solution.

The APEX client application is session based as opposed to line / key based. This greatly simplifies the user experience and removes any imposed limits on the number of incoming 9-1-1 trunks.

This design allows for rapid expansion of the system to accommodate temporary increases in call volume for planned or unplanned incidents or disasters as well as minimizes costs associated with adding positions as the need arises. This lowers the cost of ownership over time.

The number of answering positions is limited only to the bandwidth throughput of the PSAP network connection to AWS.

4.10 The 9-1-1 Regional Administration seeks an open architecture that does not rely on proprietary components. Understanding that i3 is an evolving standard, the system should support the Functional Elements used in the i3 architecture for NG9-1-1 as described in the latest version of NENA-STA-010. Please provide information regarding your product's use of these i3 recommendations.

Carbyne Response

Comply

Carbyne's advanced public safety technology is unmatched in recognition, security, reliability, and other key factors important to the public safety technology community. Carbyne is committed to leading the industry with agile development processes and evolving product roadmap. Carbyne's APEX call-handling ecosystem is built to optimize the performance of Public Safety Agencies in a true NG9-1-1 environment, as defined by the NENA i3 standard. APEX complies with all relevant NENA, FCC, and APCO standards and will continue to do so throughout the life of this contract and beyond. When there is conflict between individual standards, Carbyne will use the NENA standard.

Carbyne is a firm believer in using open standards across its entire architecture, both back-end microservices as well as any front-end UI systems. Both internal and external APIs utilize a RESTful protocol with JSON over HTTPS.



Carbyne Response for City of Laredo RFP FY25-011

Even when Carbyne deals with legacy interfaces such as serial RS-232 ANI / ALI, a proxy is utilized that converts serial data to IP packets, then to JSON and then over HTTPS. There are no proprietary protocols used within Carbyne's solution. All protocols are based on IETF RFC standards (or similar - including SIP, WebRTC, various Hash and Encryption algorithms, MSRP, etc.) Carbyne's solution is a pure i3 call handling implementation.

4.11 System providers shall warrant all hardware that is provided as part of their systems for a period of not less than SIX (6) YEARS from the date of installation. The five-year warranty should cover hardware replacement. The vendor shall certify that this warranty shall apply to the end user of the system. The warranty period shall begin upon acceptance by the 9-1-1 Regional Administration.

Carbyne Response

Comply

Carbyne will warrant all hardware provided as part of our solution for the life of the initial contract term based on the Hardware Addendum included in our response package.

4.12 Parts support for both repair and system expansion shall be continued for a period of not less than six years from the date of installation of the system. Repair parts (not including cabinet components) shall be available for shipment on an expedited handling basis within 24 hours, 365 days per year including weekends and holidays. The vendor shall provide a 24-hour hotline telephone number for the handling of such orders.

Carbyne Response

Comply

Carbyne will support the repair and system expansion of our solution for the life of the initial contract term based on the Hardware Addendum included in our response package.

4.13 The vendor or servicing agency must have a 24 X 7 X 365 trouble reporting number. A verbal response is required within one hour of receiving a call for assistance.

Carbyne Response

Comply

The Carbyne Network Operations Center (NOC) staff operates 24/7/365. This team monitors and supports system health including:

- Cloud services and infrastructure
- Carbyne platform
- Integrated third-party platform services

The NOC can be reached via email, a secure customer internet portal, or by phone. The NOC Engineering team will dispatch and alert support teams worldwide in an automated "follow the sun" mode. This process is designed to help expedite response time and recovery from the

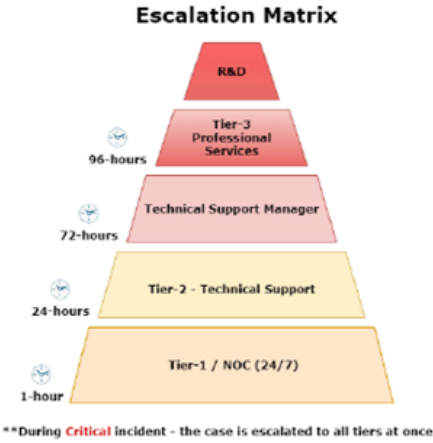
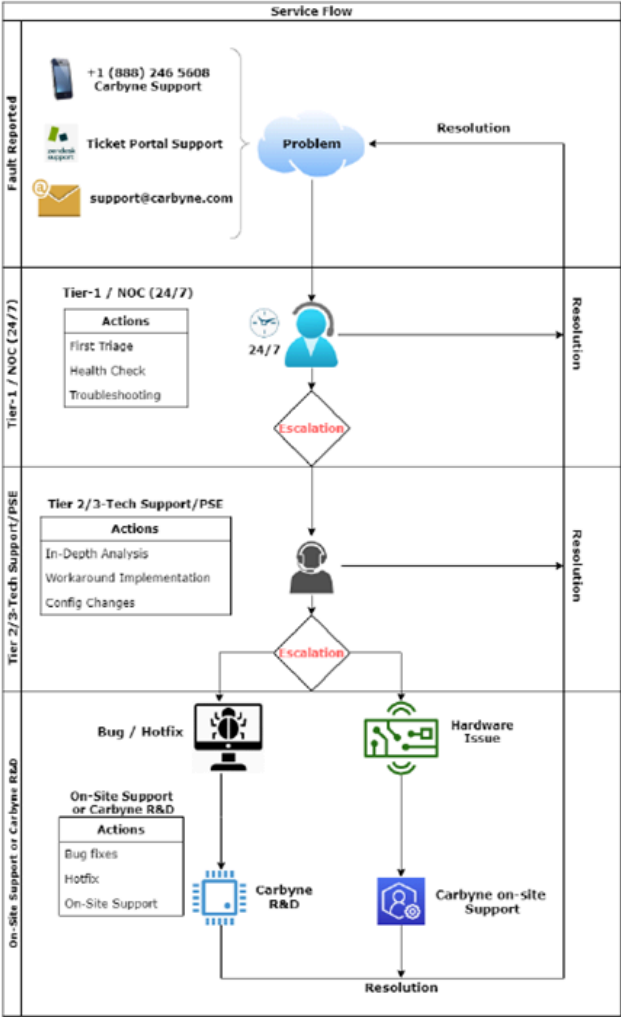


Carbyne Response for City of Laredo RFP FY25-011

relevant region with around the clock alerting and escalating procedures to meet our support services obligations.

The initial triage to provide support services will be operated by the NOC team (Tier-1 Support Services). The engineer on shift will provide troubleshooting in an effort to solve the issue, answer questions, and restore the platform or software (as applicable) to its functional state. The NOC engineer will gather as much information as possible to understand the immediate need for escalation to avoid any delay with service restoration. The NOC engineer will investigate the issue or will collaborate with the next support tier (Tier-2 Support Services) to resolve the issue. Additional escalations may be required to provide a resolution or a workaround according to a defined escalation flow. A support ticket will be opened when the customer contacts Carbyne support via one of the approved communication channels as follows:

- US Support +1 (888) 246 5608
- support@carbyne.com





Carbyne Response for City of Laredo RFP FY25-011

4.14 The vendor will also agree to supply technical installation/maintenance training if needed to a 9-1-1 Regional Administration-designated service agency that will be responsible for its maintenance. This agency will be trained to provide prompt repair service should a failure occur and have 24X7 access to the vendor should further assistance be required. This requirement must be answered by the equipment vendor.

Carbyne Response

Comply

Carbyne will partner with a 9-1-1 Regional Administration-designated service agency to support the technical/maintenance needs of this RFP. The repair service agency will have 24x7 access to Carbyne for any assistance required for the repair of the solution.

4.15 The equipment vendor shall be responsible for the complete installation of the system. The vendor's installers will work in cooperation with the servicing agency personnel (if chosen) so that they are fully trained in both the installation and maintenance of the system. This requirement must be answered by the equipment vendor, as well as the servicing agency, if included.

Carbyne Response

Comply

Carbyne employs a team of Professional Services Engineers (PSE) who provision and deploy the APEX platform that work with the Project Management team and local agency to provide a comprehensive deployment and installation plan. Carbyne coordinates closely with its partners throughout the deployment phase to ensure the most efficient project possible.

4.16 The system should have the capability of processing all wireline, wireless Phase I and Phase II, VoIP, Text to 911 including real-time text, and TTY 911 calls, set forth by NENA and the FCC.

Carbyne Response

Comply

APEX fully supports the processing of all wireline and wireless 9-1-1 technology and includes connections to an AML clearinghouse to enhance display wireless caller location information in a single pane of glass. It has a natively built-in client that supports text and messaging, currently implemented for Text-to-9-1-1, as well as TTY and RTT in compliance with the FCC and applicable NENA standards.

4.17 Power supplies should be redundant and distributed. A power related fault in one module should not affect the power supplied to other modules.

Carbyne Response

Comply

4.18 Equipment should allow a four-party voice conference with no discernable audio drop to any party. Equipment should also permit silent barge-in capability for monitoring calls and the



Carbyne Response for City of Laredo RFP FY25-011

ability to split conferenced conversations. The system should provide a method for the call-taker to see the state (active, hold, split, mute, etc.) of each party that is conferenced on a bridge.

Carbyne Response

Comply

APEX supports up to six (6) participants in a conference session. The call-taker has control over each connected participant which allows them to disconnect a participant if needed, or in a case where the call is unable to be completed for any reason. It also provides full monitoring and Barge capabilities. “Silent Barge” is also supported, with the ability to transform to a regular conference call.

4.19 Ability to make internal transfers of 9-1-1 calls, voice and data, to other PSAPs in the system.

Carbyne Response

Modify

Carbyne’s APEX platform is not host-remote architecture with multi-tenant support between sites. Calls can be transferred between sites using the connected ESInet for 9-1-1 calls, and “10-digit / admin” calls can be transferred via the PSTN.

4.20 Describe any call data reports available from basic 9-1-1 software without the addition of a MIS package. Describe add-on MIS options.

Carbyne Response

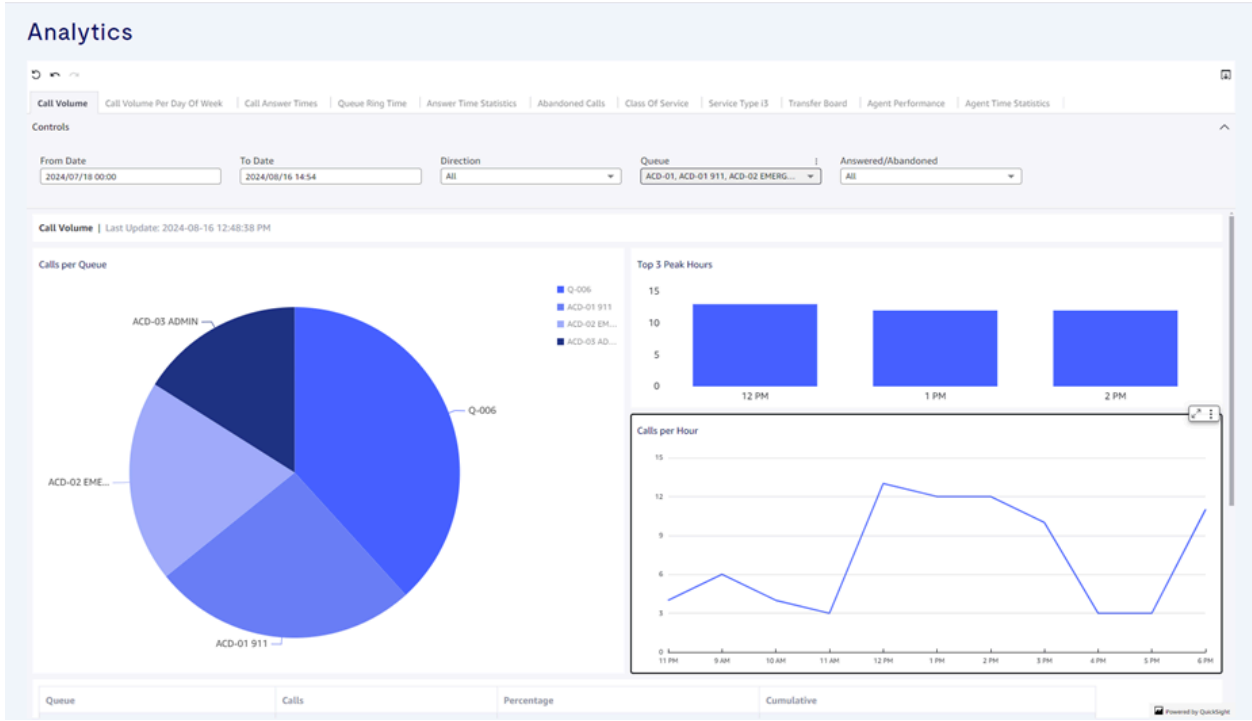
Modify

The APEX platform does not provide reporting without its MIS package, Carbyne Analytics. All call data is stored within Control Center Events History and can be exported as needed. This proposal includes Carbyne Analytics

Events History											
<div>Search</div>											
<div>Last 30 Days</div>											
<div>451 Events</div>											
<div>Export</div>											
ID	Created	Type	Phone	Last Estimated Address	Last Estimated Coordinates	Enhanced Data	Duration	Agent Name	Agent ID	Station	Qualifiers
<input type="checkbox"/>	51783227	Aug-16-2024 14:43:54	Emergency	1618934292	30 Waterside Plaza, Manhattan, Ne...	40.737588682600645, -73.9729...	<div></div>	00:09:55	Jackie Mazzeo		ur-sales-spee-0...
<input type="checkbox"/>	51782297	Aug-16-2024 14:20:14	Emergency	13036188076	3657 South Cathey Circle, Aurora, ...	39.6491384, -104.7650269	<div></div>	00:34:46	Divia Jones		ur-sales-spee-0...
<input type="checkbox"/>	51782216	Aug-16-2024 14:18:25	Emergency	1410172793	126 Clearview Drive, Jacksonville, ...	29.991294059487256, -81.51000...	<div></div>	00:31:15	Josh Schumar		ur-sales-spee-0...
<input type="checkbox"/>	51780578	Aug-16-2024 13:37:25	Emergency	1410172793			<div></div>	00:00:40	Josh Schumar		ur-sales-spee-0...
<input type="checkbox"/>	51780542	Aug-16-2024 13:36:39	Emergency	1410172793			<div></div>	00:00:39	Josh Schumar		ur-sales-spee-0...
<input type="checkbox"/>	51778455	Aug-16-2024 12:48:38	Emergency	16462955556				00:00:27			
<input type="checkbox"/>	51778430	Aug-16-2024 12:48:00	Emergency	12136184407				00:00:27			



Carbyne Response for City of Laredo RFP FY25-011



4.21 Ability to provide Instant Recall Recorder (IRR) on all lines terminated on the 9-1-1 system. Please describe the details of this feature offered by your equipment, such as number of calls or minutes stored, archive ability, media types, accessibility, etc.

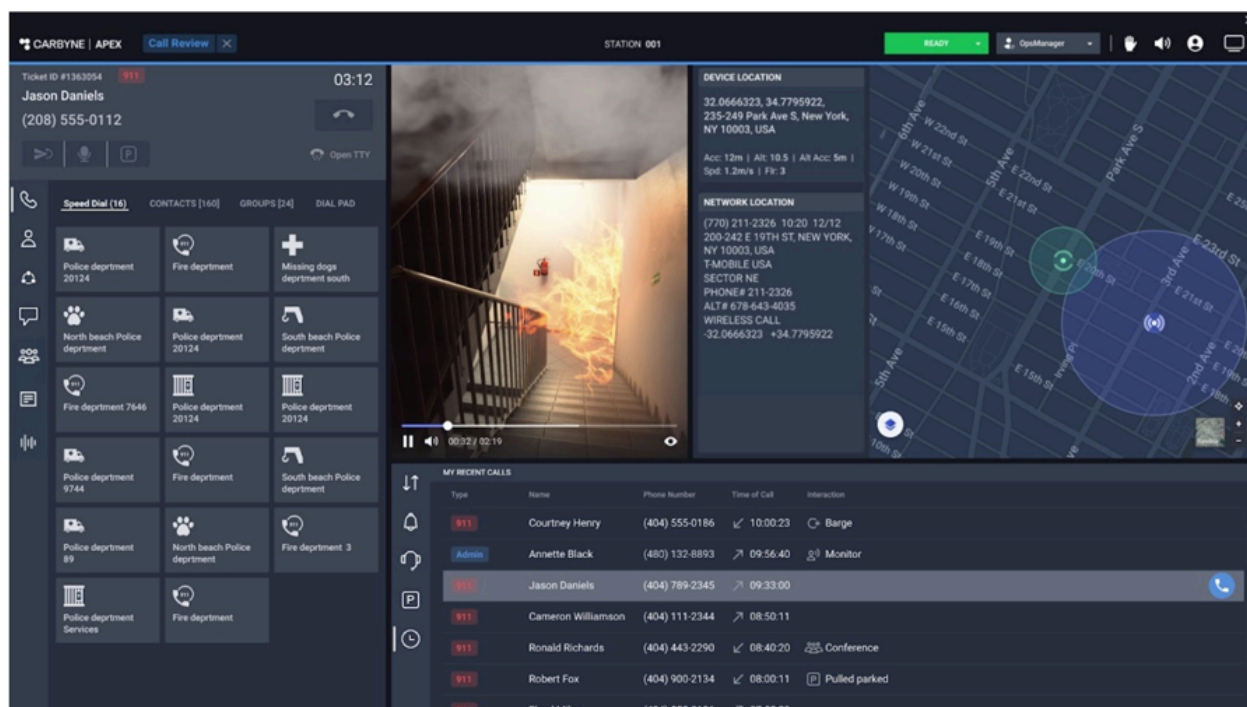
Carbyne Response

Comply

Instant Recall Recorder (IRR) calls will be handled via a Call Review. A recent or abandoned call can be reviewed, including any available device location or ANI / ALI information. If the latitude / longitude is available, the call pin is shown on the map, and can be clicked to display the Event Summary. During a call review, a Call Review indicator is displayed in the Call section. The call review includes media playback of the workstation / telephone audio based on the recorded call and / or video and is displayed exactly as it appeared during the live event.



Carbyne Response for City of Laredo RFP FY25-011



Calls are stored on the workstation for 24 hours then removed. Data can always be accessed in the Events History platform.

4.22 Ability to provide pre-answer data and any abilities to pass pre-answer data to mapping software.

Carbyne Response

Comply

4.23 Ability to accept a master timing signal locally or provided via network.

Carbyne Response

Comply

APEX meets all requirements of NENA-STA-027.3-2018, NENA E9-1-1 PSAP Equipment Standards.

4.24 A remote maintenance (diagnostics) capability, which duplicates the functionality of the local maintenance terminal, should be provided. Ability to monitor and manage alarms including the connectivity of workstations by maintenance personnel.

Carbyne Response

Comply

Our PSAP analytics are derived from various endpoints, which send critical data such as logs, keepalives, RAM and CPU metrics, among other information. This data is then aggregated into a comprehensive dashboard, where it is analyzed to generate a detailed PSAP health score.



Carbyne Response for City of Laredo RFP FY25-011

To achieve this, Carbyne will utilize the following tools:

- AWS QuickSight: Data visualization and creating insightful dashboards.
- AWS CloudWatch: Monitor and manage logs, metrics, and set alarms for system health.
- Datadog: End-to-end monitoring and performance metrics, offering real-time insights.
- Rollbar: Error monitoring and tracking to ensure the reliability of our systems.

Together, these tools enable us to monitor, analyze, and maintain the optimal performance and health of our PSAP systems.



Schedule of Work

Provide required timeframes for all phases of the project in a modular form.

Carbyne Response

Carbyne will establish a schedule of work in consultation with the Board after the completion of onsite surveys. This mutually agreed upon schedule will provide required timeframes for all phases for the project. Sample phases are provided below.

Carbyne APEX deployments can take a minimum of 6 months to complete. Project phases and time frames are broken out as follows:

Phase 1 : Initiation (2 weeks) - This phase includes sales handover, internal and external kickoff meetings, team assignments and the preparation required to begin project work.

Phase 2 : Data Collection (4 weeks) - During Data Collection, the team conducts the Site Survey, finalizes the SOW and Project Plans, defines the Bill of Materials (BOM), orders circuits, BOM hardware/software and reviews requirements to deliver by cutover.

Phase 3 : APEX Buildout (4 weeks) - In the APEX Buildout phase, the professional services team configures the backend of the APEX platform according to the contract and requirements review.

Phase 4 : Integrations (8 weeks) - Because the Integration Phase requires the engagement of third-party vendors, Carbyne relies on the customer to conduct a handoff to the project team, authorizing all parties to collaborate directly for a smooth implementation. These activities begin early to allow all vendors enough development time as required.

Phase 5 : Legacy E911 / ESINet Buildout (12 weeks) - In this phase, Carbyne engineers are finalizing the design and integration of the 911 traffic to the customer's APEX instance in the AWS GovCloud. Direct connect circuits are ordered and installed from the Points of Interconnect (POI) to GovCloud and back to the PSAP.

Phase 6 : PSAP Deployment (4 weeks) - During the PSAP Deployment phase, Carbyne works with the PSAP regarding hardware that needs to be procured to ensure it meets minimum requirements. All position-based installation is completed including APEX installation on the workstations, headsets, speakers and testing end to end call flows, where possible.

Phase 7 : Pre-Cut Preparation (2 weeks) - This phase consists of user training for admins and call takers to be comfortable with the system and ready for cutover. Monitoring and alerting is established and the customer is set up with Zendesk access to report/monitor incidents.

Phase 8 : Cutover (1 week) - Though cutover itself happens in one day, the week is devoted to final preparation, a Go/Go-No call the day before, and a few days of post cut support.

- APEX Rollout Plan by Carbyne Ops:
- QA tests/passed QA and is ready for production deployment
- Technical Documentation is sent internally and uploaded to Zendesk



Carbyne Response for City of Laredo RFP FY25-011

- Carbyne Support reads to understand the Release Notes documentation
- Support validates the Release Notes match the technical documentation
- Carbyne Support conducts operational testing
- APEX platform is deployed across all internal.
- This latest APEX version is rolled out, after customer training is completed
- A two (2) business day gradual rollout starts (~50% of each PSAP is upgraded).
- After two (2) business days, the version is rolled out to the rest of the stations



Implementation & Testing Plan

The vendor will present a schedule for implementation and testing of the system.

Carbyne Response

Implementation phase details are provided in the Schedule of Work section of this response document.

Carbyne's readiness testing process, CART (Carbyne APEX readiness testing), is a robust testing process that checks each of the APEX features/functionality that will be utilized by our onboarding customers. This process is evaluated with every release to ensure new features/functionality are tested prior to each new implementation. The Carbyne Operations team works closely with development and product teams to understand how each new feature works. The testing steps are modified to incorporate these new items.

Carbyne will do the same to ensure new features, functionality, workflows required by MHCC are incorporated into the CART testing process. CART is generally conducted by Carbyne Professional Services Engineers and customer technical contact as part of the implementation process and prior to the final Go/No-Go call.

Furthermore, as part of our maintenance strategy, Carbyne conducts regular failover drills within its cloud services to ensure business continuity under a business impacting event.



Maintenance & Support of Hardware & Software

A six year plan should be outlined that includes all hardware and software. Cost for service personnel that will perform this maintenance, if included, should be a separate line item.

Carbyne Response

Software maintenance and support is included in Carbyne subscription fees for the life of the contract. The Carbyne Support Terms and Service Level Agreement is included in our response for more details. Please also refer to the Hardware Addendum to the contract for more details related to Carbyne's hardware support.



Site Specific Requirements

List all site requirements and/or recommendations that will insure the stability and performance of the 9-1-1 system such operating temperature requirements, grounding requirements, etc.

Carbyne Response

Please see the attached APEX System Requirements & Solution Reference document for all site requirements and recommendation details.



Carbyne Response for City of Laredo RFP FY25-011

Training

The proposal should provide a detailed outline of administrative and call-taker training. Please include technician installation and maintenance training cost estimates.

Carbyne Response

Carbyne will provide initial training as described below as part of the deployment fees included in the Unit Costs of Hardware & Software section of our response. If additional training needs are required, Carbyne will provide cost estimates for consideration.

Carbyne Training Plan Overview

The purpose of this section is to outline the schedule in which user training for use of Carbyne APEX will be conducted for the operations staff of the PSAP. The components of training will include online, self-led training, on-site skills sign-off training and continued on-site support during and post implementation.

Training Outline

- I. Training overview and approval with Training & Compliance Manager
- II. Complete training rosters
- III. Introduce online training platform Articulate.com
 - A. Provide overview to PSAP Training & Compliance
- IV. Roll out online training to staff
 - A. Two weeks to complete
- V. On-site skills check training for staff
 - A. Create schedule to train all employees
 - B. One week to complete
- VI. Weekend Roll Call Training
 - A. Twice two weekends before cutover
 - B. Twice the weekend before cutover
- VII. Second skills check exam
- VIII. On-site user support during the week of implementation
- IX. Continued on-site user support during the weeks following implementation as needed

Online Training Platform

The initial training will be conducted using a self-led online learning platform called Enabley. This training will lead users through orientation of the APEX user interface and navigate through each feature within the platform. Additionally, administrative staff will receive training in the use of Control Center and Events History. The online training will be available to users for two full weeks in order to allow for each user to complete it.



Carbyne Response for City of Laredo RFP FY25-011

Onsite Sign-off Training

Following the two week online training, your Customer Success Manager will report onsite to complete a skills sign-off with each user. This can be completed in groups of up to 10 users, according to your staffing needs, in one hour sessions. This will take place on the APEX testing stations. The skills sign-off will be completed over the course of one week prior to the implementation date. *Once an onsite training schedule is completed, you will send a link to your staff allowing them to sign up for 2 hour sessions.*

Weekend Roll Call Training

Following the one week of onsite skills training, your Customer Success team will conduct four refresher training sessions during the weekend roll call. These training sessions will be scheduled for two weekend days in order to encompass all employees. Refresher training will include an additional skills check by way of a proctored exam.

Training Rosters

A roster is needed to assign the online training to each user and create APEX user accounts. Please submit the training roster to your CSM. The blank roster will be sent to the Training & Compliance Manager and will need the following required fields completed:

- User first and last name
- User email address
- User role (Call Taker, Supervisor, Admin)

New Hires

Should newly hired employees onboard during the training period, their names, email address, and roles should be emailed to your CSM as soon as possible. This is required in order to facilitate training for newly hired employees.

Training Materials

The following training materials will be provided by the Customer Success team:

- APEX user guide
- Functional training workbook
- Skills check exam
- Quick reference guides
- Online training course

Training Timeline

Onsite training schedule sent	Once training hours are determined, a schedule will be sent so 1 hr training spots can be filled by staff
Training rosters needed to load into online platform	Once received, user email addresses will be loaded into training platform (including any newly created rosters)

**Carbyne Response for City of Laredo RFP FY25-011**

One-pager with training instructions	An instruction document will be sent outlining how to use the training platform
Email reminder sent to staff	Requesting an internal email be sent to all staff reminding them that training will be available online beginning {Date}
Online Training via Articulate	This will be online self-led training assigned to each user
Onsite skills sign-off	CSM will be on site completing user skills sign-off training
Weekend Roll Call Training	CSM will conduct refresher training for all employees accompanied by a skills exam
Make-up/refresher Onsite skills sign-off	CSM will be on site completing user skills sign-off training
Weekend Roll Call Training	CSM will conduct refresher training for all employees accompanied by a skills exam
Target cutover date	CSM team will be on site this week providing user support



References

The vendor shall provide three references of sites comparable to this proposed solution and using the same hardware and software.

Karl Fasold, Executive Director

Orleans Parish Communications District, LA

karlf@911nola.org

Please CC Executive Assistant Karen Milligan | kmilligan@opcdla.gov

Marisa Quintanilla, Regional Services Director

Rio Grande Council of Governments, TX

+1 915-533-0998 x 119 | marisaq@riocog.org

Jeff Hannon, Communications Supervisor

Guernsey County Sheriff's Office, OH

+1 740-439-4455 | j.hannon@guernseysheriff.com

D. T. Donaldson, Director

Multi Agency Communications Center, WA (MACC 911)

+1 509-793-1771 | d.donaldson@macc911.org



Unit of Costs of Hardware & Software

Every major component must be priced separately per PSAP. Services such as project management, training, etc should also be listed separately. If a vendor is also a network provider, please include the network configuration and cost. If the vendor is not a network provider, provide a description of the network requirements at minimum.

Carbyne Response

Project Fees

SKU	Description	Annual Cost
Annual Subscription Fees		
11100	• APEX Platform - 13 Concurrent Licenses	
11200	• Control Center Events History - 8 Licenses	
11206	• Control Center Analytics - 8 Licenses	
11300	• Responder Connect - 13 Licenses	
11400	• APEX Translation & Transcription - 13 Licenses	
18000	• GeoComm Maps Concurrent License - 13 Licenses	
13108	• Bridge Desk Essentials	
15301	• Essentials Customer Success Services	
15306	• Essentials Premium Technical Support Services	
Annual Subscription Fees Total		\$355,593.09
Annual Connectivity Fees		
16701	• SIP Trunking for Outbound Dialing	
16400	• Connectivity Subscription	
Total Annual Connectivity Fees		\$65,280.00
Annual Fees Subtotal		\$420,873.09



Carbyne Response for City of Laredo RFP FY25-011

SKU	Description	Annual Cost
Customer Loyalty Discount		(\$178,826.74)
Total Annual Fees		\$242,046.35
One-Time Deployment		
15102	<ul style="list-style-type: none"> APEX Deployment Package - Qty 1 	
15106	<ul style="list-style-type: none"> APEX Deployment Additional Physical Location - Qty 7 	
15200	<ul style="list-style-type: none"> Standard Integration Package (3 Included) <ul style="list-style-type: none"> Administrative PBX Integration (included) Media Recorder Integration (included) NENA Serial / CAD Interface (included) 	
18002	<ul style="list-style-type: none"> GeoComm Maps Integration - Qty 13 	
18002	<ul style="list-style-type: none"> GeoComm Maps Remote Configuration & Training (0-50) - Qty 13 	
Total One-Time Fees		\$125,000.00
One-Time Hardware Fees		
17000	<ul style="list-style-type: none"> Hardware (See Bill of Materials attached below) 	
Total Hardware Fees		\$200,600.32
Quote Summary		
Total Year 1 & One-Time Fees		\$567,646.67
Total Year 2 Fees		\$242,046.35
Total Year 3 Fees		\$242,046.35
Total Year 4 Fees		\$242,046.35
Total Year 5 Fees		\$242,046.35
Total Year 6 Fees		\$242,046.35
Total 6 Year Fees		\$1,777,878.42
Additional Network Hardware		
17000	<ul style="list-style-type: none"> Hardware from COL 911 Hardware list for Addendum #2 	
Total Year 1 & One-Time Fees & Additional Network Hardware		\$257,323.11



Carbyne Response for City of Laredo RFP FY25-011

Site Breakdown

Laredo Police Department	
Four (4) Concurrent Licenses Installed on eight (8) Workstations	
Annual Subscription Fee	\$21,481.51
Annual Connectivity Fee	\$32,640.00
One-Time Deployment	\$55,000.00
One-Time Hardware	\$65,402.26
Total Year 1 Fees	\$174,523.77
Total Year 2 Fees	\$54,121.51
Total Year 3 Fees	\$54,121.51
Total Year 4 Fees	\$54,121.51
Total Year 5 Fees	\$54,121.51
Total Year 6 Fees	\$54,121.51
Total 6 Year Fees	\$445,131.21

Webb Police Department	
Two (2) Concurrent Licenses installed on four (4) Workstations	
Annual Subscription Fee	\$23,684.61
Annual Connectivity Fee	N/A
One-Time Deployment	\$10,000.00
One-Time Hardware	\$28,696.54
Total Year 1 Fees	\$62,381.14
Total Year 2 Fees	\$23,684.61
Total Year 3 Fees	\$23,684.61
Total Year 4 Fees	\$23,684.61
Total Year 5 Fees	\$23,684.61
Total Year 6 Fees	\$23,684.61
Total 6 Year Fees	\$180,804.18

Roma Police Department	
One (1) Concurrent Licenses installed on two (2) Workstations	
Annual Subscription Fee	\$14,789.17
Annual Connectivity Fee	N/A
One-Time Deployment	\$10,000.00
One-Time Hardware	\$14,040.74
Total Year 1 Fees	\$38,829.91
Total Year 2 Fees	\$14,789.17
Total Year 3 Fees	\$14,789.17
Total Year 4 Fees	\$14,789.17
Total Year 5 Fees	\$14,789.17
Total Year 6 Fees	\$14,789.17
Total 6 Year Fees	\$112,775.76

Jim Hogg Police Department	
One (1) Concurrent Licenses installed on two (2) Workstations	
Annual Subscription Fee	\$14,789.17
Annual Connectivity Fee	N/A
One-Time Deployment	\$10,000.00
One-Time Hardware	\$14,040.74
Total Year 1 Fees	\$38,829.91
Total Year 2 Fees	\$14,789.17
Total Year 3 Fees	\$14,789.17
Total Year 4 Fees	\$14,789.17
Total Year 5 Fees	\$14,789.17
Total Year 6 Fees	\$14,789.17
Total 6 Year Fees	\$112,775.76



Carbyne Response for City of Laredo RFP FY25-011

Zapata Police Department	
One (1) Concurrent Licenses installed on two (2) Workstations	
Annual Subscription Fee	\$14,789.17
Annual Connectivity Fee	N/A
One-Time Deployment	\$10,000.00
One-Time Hardware	\$14,040.74
Total Year 1 Fees	\$38,829.91
Total Year 2 Fees	\$14,789.17
Total Year 3 Fees	\$14,789.17
Total Year 4 Fees	\$14,789.17
Total Year 5 Fees	\$14,789.17
Total Year 6 Fees	\$14,789.17
Total 6 Year Fees	\$112,775.76

Rio Grande	
One (1) Concurrent Licenses installed on two (2) Workstations	
Annual Subscription Fee	\$14,789.17
Annual Connectivity Fee	N/A
One-Time Deployment	\$10,000.00
One-Time Hardware	\$14,040.74
Total Year 1 Fees	\$38,829.91
Total Year 2 Fees	\$14,789.17
Total Year 3 Fees	\$14,789.17
Total Year 4 Fees	\$14,789.17
Total Year 5 Fees	\$14,789.17
Total Year 6 Fees	\$14,789.17
Total 6 Year Fees	\$112,775.76

Starr County	
One (1) Concurrent Licenses installed on two (2) Workstations	
Annual Subscription Fee	\$32,262.33
Annual Connectivity Fee	\$32,640.00
One-Time Deployment	\$10,000.00
One-Time Hardware	\$23,290.11
Total Year 1 Fees	\$98,192.44
Total Year 2 Fees	\$64,902.33
Total Year 3 Fees	\$64,902.33
Total Year 4 Fees	\$64,902.33
Total Year 5 Fees	\$64,902.33
Total Year 6 Fees	\$64,902.33
Total 6 Year Fees	\$422,704.09

Back up/Training Center	
Two (2) Concurrent Licenses installed on four (4) Workstations	
Annual Subscription Fee	\$40,181.22
Annual Connectivity Fee	N/A
One-Time Deployment	\$10,000.00
One-Time Hardware	\$27,048.47
Total Year 1 Fees	\$77,229.69
Total Year 2 Fees	\$40,181.22
Total Year 3 Fees	\$40,181.22
Total Year 4 Fees	\$40,181.22
Total Year 5 Fees	\$40,181.22
Total Year 6 Fees	\$40,181.22
Total 5 Year Fees	\$278,135.79



Quote Notes
<p>*All fees exclude applicable taxes and regulatory fees.</p> <p>CPI Adjustment: Annual subscription fees may be subject to a fee adjustment on each anniversary date of the subscription start date to account for changes to the U.S. Department of Labor Consumer Price Index ("CPI"). Such fee adjustments are limited to the greater of 3% or the change in the CPI for the twelve month period preceding the anniversary date.</p> <p>Concurrent Licenses: The Customer may install the Software on up to 13 workstations. Customer's Authorized Users may use up to 13 of the 26 workstations at any given time to access and use the Solution (each license available for use referred to as a "Concurrent License"). In the event Customer's use of Concurrent Licenses exceeds the permitted number of Concurrent Licenses for three consecutive months, Carbyne may charge additional fees or increase annual subscription fees for the next annual period. "Authorized User", "Software", and "Solution" as used in this paragraph are as defined in the Terms and Conditions.</p> <p>Connectivity: Connectivity and SIP Trunk Fees specified above reflect pass-through costs from Carbyne's third party providers which are based on Customer's anticipated use. Third party SIP Trunk services are provided by Bandwidth and/or Twilio. At the end of each year of the subscription term, Carbyne may, with written notice, revise the annual fees based on Customer's use in the prior year.</p> <p>Integrations: The table above summarizes anticipated integrations with APEX. Customer is responsible for providing appropriate contacts and facilitating discussions with any third-party vendor or subcontractor engaged by the Customer, whose services may be required to interact or connect with APEX or is required for Carbyne to provide APEX to Customer. Carbyne will use commercially reasonable efforts to integrate the interfaces (listed above) with APEX.</p> <p>Payment Terms: Carbyne will invoice the total fees for Year 1 upon full execution of this Quote. The subscription start date is deemed to be the sooner of six months or the first date upon which calls to the 911 call center are delivered through the APEX platform ("Cut-Over Date"). Carbyne will invoice for subsequent annual subscription fees upon each anniversary of the Cut-Over Date for the remainder of the six-year subscription term. All invoices are due Net 30 days from the date of invoice.</p> <p>Add-ons: Additional optional features can be added at any time via a mutually agreed upon Quote(s) and applicable subscription fees will be prorated from the date such feature is added through the end of the subscription term of this Quote.</p>



Supplier Information Form

Company Name:	Carbyne, Inc.
Contact Name:	Thomas Marsh, Regional Sales Manager
Address:	45 W 27th Street
	Floor 2
	New York, NY 10001-7065
Phone:	+ 1 336.978.8708
Email:	thomasm@carbyne.com

Supplier Notes

The authorized signature below from John Rucker, Chief Financial Officer, represents his ability to bind Carbyne, Inc.

By submitting your response, you certify that you are authorized to represent and bind your company.

John Rucker, Chief Financial Officer

Print Name

Signed by:

John Rucker

5B8850C3FF884CE...

Signature



Legal Terms & Conditions

Carbyne respectfully submits the following request for an exception to the RFP Terms and Conditions, as follows:

1. Section 4. Insurance Terms and Conditions. Insurance Requirements.

Carbyne requests that the City remove the requirement for the Commercial General Liability insurance to include XCU (Explosion, Collapse, Underground) hazards insurance. Such insurance is not applicable to this RFP request or the related services. Carbyne's Commercial General Liability insurance will not provide such inclusion.



Attachments

- Carbyne Standard Terms and Conditions including Hardware Addendum and Bridge Desk Terms and Conditions
- Carbyne APEX System Requirements & Solution Reference
- Support Terms & Service Level Agreement

Carbyne Terms and Conditions

These Carbyne Terms and Conditions ("**Agreement**") govern your access to and use of the Solution offered by us or our Affiliates. By using the Solution, or upon your agreement to the Quote for the Solution, you indicate you have read, understand and agree to the terms and conditions of this Agreement. If you use the Solution on behalf of an organization, you agree to this Agreement on behalf of that organization and you represent and warrant that you have the authority to do so. "**Carbyne**", "**us**", "**we**" or "**our**" refers to Carbyne Ltd., Carbyne, Inc. or Carbyne911 Mexico S. de RL de CV, as specified on the Quote, on behalf of itself and its Affiliates, and "**Customer**", "**you**" and "**your**" refers to the customer signing below.

DEFINITIONS

Affiliates means any other person that directly or indirectly controls, or is controlled by or under common control with a party, with 'control' as applied to any party being the direct or indirect ownership of more than fifty percent (50%) of the equity or voting interest in such party.

Authorized User means you or your employees, consultants, agents or contractors who are granted access to the Solution by you as part of their support of your internal business or operations.

Confidential Information means information (whether oral, written or in some other tangible form) disclosed by one party (the "disclosing party") to the other party (the "receiving party") that is obtained by the receiving party under or in connection with this Agreement and that is marked as confidential, is by its nature confidential or relates to the business or affairs of the disclosing party.

Documentation means the then-current standard product sheet provided or made available by us with respect to the Solutions which describes its features and functionalities. Documentation specifically excludes marketing and promotional materials and proposals.

Intellectual Property Rights means any and all intellectual property rights including patents, trademarks, design rights, copyright, rights in databases, know-how, look-and-feel, domain names and all similar rights (whether or not registered or capable of registration and whether subsisting in any part of the world), together with any and all goodwill relating or attached thereto, all derivative works and all extensions and renewals thereof.

License Designation refers to the permitted Software installation and Solution use rights as follows:

- (a) **Primary License:** you may install the Software on your workstations up to the number of licenses specified on the Quote and access and use the Solution from such workstations.
- (b) **Backup License:** you may install the Software on your backup workstations up to the number of licenses specified on the Quote and access and use the Solution from such workstations only for backup purposes.

(c) **Concurrent License:** you may install the Software on your workstations up to the number of licenses specified on the Quote, and you may access and use the Solution from only up to 50% of such workstations at any given time (unless otherwise indicated in the Quote).

If no License Designation is provided on the Quote, the License Designation is considered a Primary License.

Platform means the hosted platform, software as a service and/or other hosted product or service which we or our Affiliate(s) make available to you pursuant to this Agreement. The Platform excludes Software.

Privacy Policy means the policy found at <https://carbyne.com/privacy-policy-2/>, which describes how we use personal data you and your Authorized Users provide to us, including personal data which is shared with us in connection with your use of the Solutions.

Quote refers to the ordering document, such as a quote, agreed to in writing between you and us which is subject to this Agreement and describes the Solution (including the number of Software licenses, as applicable) and Support Services you wish to purchase from us and the applicable fees.

Solution means the Software and Platform which we or our Affiliate(s) make available to you pursuant to this Agreement. The Solution does not include Third Party Content.

Software means the software in object code we provide to you for download under this Agreement which enables you and your Authorized Users to access the Platform. Software includes any upgrades we provide in accordance with the Support Terms and Service Level Agreement. Software excludes the Platform.

Subscription Term means the duration of your subscription to use the Solution specified in the applicable Quote.

Support Services means the maintenance and support services provided in connection with your use of the Solution in accordance with the Support Terms and Service Level Agreement.

Support Terms and Service Level Agreement (or SLA) means the document provided by us describing the Support Services

provided by us, which includes our commitment regarding the performance of the Platform, as updated and which is incorporated into this Agreement by this reference.

Supplemental Terms means additional terms and conditions that apply to specified products and services or address specific requirements, as mutually agreed upon between the parties in writing, which are made part of this Agreement.

Third Party Content means applications, materials, data and information, such as location and transcription and translation services, which are provided by a third party and are made available to you through your use of the Solutions.

Third Party Services means services such as porting phone numbers, voice services provided by Bandwidth and Twilio and broadband circuits provided by a third party which we pass through to you for use with the Solution.

Your Data means data (including personal data of callers), records, reports, recordings and files you or your Authorized Users enter into the Solution, including the content of any message, video, or chat sent or received using the Platform, or which are otherwise generated by you or your Authorized Users through access or use of the Solution. Your Data includes log information from your use of the Platform, such as log data from your use of the Solution which is stored in Events History. Your Data does not include Third Party Content.

1. USE AND LICENSE OF PRODUCTS

1.1 Carbyne offers a Solution comprised of a cloud-based Platform accessed by Authorized Users through Software installed on an Authorized User's computer. During the Term, provided you are current in your payment obligations, we grant you: (i) the right to access the Platform through the Software; (ii) a non-exclusive, non-transferable, non-sublicensable, limited, revocable right to download, install and use the Software solely for purposes of exercising your rights to access the Platform as part of the Solution. In accordance with the specified License Designation, you may install the Software up to the number of licenses set forth in the Quote, and you may access and use the Solution for your internal business purposes only. If we provide you with our hardware or equipment, such as a serial-to-IP device or audio trigger module, for your use with the Solution, unless otherwise agreed upon in writing, upon expiration or termination of this Agreement, you are required to promptly return this hardware or equipment to us.

1.2 You may permit Authorized Users to access and use the Solution and Documentation provided you are responsible for: (i) ensuring all Authorized Users use the Solution and Documentation only for support of your internal business and operations in accordance with this Agreement, and (ii) any unauthorized use of the Solution or any breach of this Agreement by an Authorized User.

1.3 You are responsible for obtaining and maintaining your own IT infrastructure and any ancillary services needed to use the Solution (such as internet, electricity, modems, servers, workstations, hardware and operating systems) and for the security of your systems, including the Software installed on your systems, and will take commercially reasonable steps to exclude malware, viruses, spyware and Trojans from your systems. You and your Authorized Users may use the Platform to send and receive messages, and you are solely responsible for any such messages and their content.

1.4 As part of your use of the Solution and Support Services, you may receive access to Third Party Content and Third Party Services. You are responsible for compliance, including compliance by your Authorized Users, with any terms which apply to Third Party Content and Third Party Services. We make any Third Party Content and Third Party Services available "AS IS" without support (unless otherwise specified), representations or warranties of any kind and we have no responsibility or liability for the availability, quality or accuracy of Third Party Content and Third Party Services which you use or rely upon. We recommend you verify any Third Party Content made available in the Solution. We may suspend or terminate provision or availability of any Third Party Content or Third Party Services at any time without any liability, and such suspension or termination will not be deemed a breach of this Agreement.

2. Orders and Fees

2.1 Orders for the Solution, and any related services, are placed when you agree in writing to a Quote issued by us. Quotes are subject to this Agreement. The subscription start date for the Solution is as set forth in the Quote. If your subscription term to the Solution is more than one year, or your Quote states otherwise, annual subscription fees may be subject to a fee adjustment on each anniversary date of the subscription start date to account for changes to the U.S. Department of Labor Consumer Price Index ("CPI"). Such fee adjustments are limited to the greater of 3% or the change in the CPI for the twelve month period preceding the anniversary date.

2.2 You agree to pay the fees set forth on the applicable Quote. We may also invoice you for additional fees if you exceed the permitted use. Unless otherwise specified in the Quote, fees are payable within 30 days of the date of the invoice we issue. All payments not made when due are subject to a late charge of 1.5% per month or the maximum amount allowed by law, compounded annually. You agree to pay fees by wire transfer or check to the account details provided by us in writing, or such other account as may be designated by us from time to time. Any fees specified on the Quote are exclusive of applicable taxes.

2.3 If you fail to pay any fees in accordance with the terms of this Agreement and the applicable Quote, in addition to any

other rights and remedies available to us, we may suspend or limit your access to the Platform until all outstanding fees have been paid.

2.4 You agree to pay (and to reimburse us or our authorized agent, if applicable, on request if we are required to pay on your behalf) any applicable taxes, assessments and duties of any kind and nature that is levied or imposed by any governmental authority on your use of the Solution, or your receipt of support or other services, but not including taxes based on our net income. If you are exempt from taxes, then you must provide a valid exemption certificate or other government approved documentation to us.

3. Professional Services and Your Cooperation

3.1 You may request professional services, such as installation and integration services, in connection with your use of the Solution ("Professional Services"). A description of the Professional Services will be set forth in a Statement of Work ("SOW"), as mutually agreed in writing, which will be subject to this Agreement and the Professional Services Terms and Conditions. We will invoice any fees for Professional Services, and such fees are payable, in accordance with the applicable SOW.

3.2 You acknowledge that the timely provision of and access to your systems, equipment, assistance, cooperation, complete and accurate information and data ("Your Cooperation") are essential to performance of any services, including Professional Services, under this Agreement and our performance of such services is dependent on Your Cooperation. This may also include providing appropriate contacts and facilitating discussions with any third-party vendor or subcontractor you have engaged, whose services are required to interact or connect with the Solution or is required for us to provide the Solution to you. We will use commercially reasonable efforts to integrate the specified interfaces with the Solution. If you are unable to or fail to timely perform your obligations under this Agreement or a SOW, you relieve us of any dependent obligations to the extent of such delay.

4. Your Obligations and Restrictions

4.1 You represent and warrant (i) that no third party agreement prevents you from using the Solutions as contemplated under this Agreement; (ii) you will manage, secure and protect from unauthorized use or disclosure, and keep confidential, all Software license keys and login credentials used by Authorized Users in connection with use of the Software and Platform.

4.2 You shall not, directly or indirectly: (i) infiltrate, hack, reverse engineer, decompile or disassemble the Solution or any part of the Solution for any purpose; (ii) interfere with, modify, disrupt or disable features or functionality of the Solution; (iii) remove or use the name, trademarks, trade-names, logos and

other proprietary notices contained on or in Solution; (iv) make derivative works of the Solution or copy any part or content of the Solution other than for your own internal business purposes as specifically permitted in this Agreement; (v) use the Solution or any part of the Solution to build a competitive product or service; (vi) sell, sublicense, distribute or rent the Solution (in whole or part), grant non-Authorized Users access to the Solution or use the Solution to provide a hosted or managed service to others (except to the extent expressly permitted in this Agreement). You shall provide us with reasonable assistance to prevent the occurrence of any such activities by any third parties.

4.3 Furthermore, you shall not use the Solution: (i) for any illegal or fraudulent activity; (ii) to violate the rights of others; (iii) to threaten, incite, promote or actively encourage violence, terrorism or other serious harm; (iv) for any content or activity that promotes child sexual exploitation or abuse; (v) to violate the security, integrity or availability of any user, network, computer or communications system, software application, or network or computing device; (vi) to distribute, publish, send or facilitate the sending of unsolicited mass email, robocalls or other messages, promotions, advertising or solicitations (or "spam").

5. Platform Availability and Support

5.1 You may request Support Services, as described in the Support Terms and Service Level Agreement. We will make the Platform available to you in accordance with the SLA, subject to operational requirements such as regularly scheduled maintenance and downtime. In the event of any downtime of the Platform, your only remedy is as set forth in the SLA or to cease use of the Platform. Our obligations and commitments in the Support Terms and Service Level Agreement only apply to the Solution and not to any other hardware, equipment, software, products or services. Unless otherwise specified on the Quote, all hardware and third-party licenses and any other equipment, applications, and materials (collectively "Equipment") used with our products and services are your responsibility. Our support obligations and warranties do not extend to such Equipment.

5.2 We may at any time: (i) introduce new or additional products and services, (ii) update the Solution to improve or add features or functionalities to the Solution, or (iii) modify the Solution to cease providing a feature or functionality. We may share information about future products, features, enhancements or other changes to the Solution in advance, but you should not rely upon this information when deciding to subscribe. We have no obligation to make these products, features, enhancements and changes generally available, and we are unable to promise or guarantee they will be compatible with your systems. Your decision to subscribe should be based upon the functionality available at the time you are making that decision and not on any potential future functionality. We will

make available to you any additional terms and/or technical requirements applicable to generally available new or enhanced products and services in advance. You may choose to purchase a subscription to generally available new or enhanced products and services subject to written agreement to the applicable quote and terms and conditions.

5.3 If we materially degrade or remove a functionality from the Solution that affects your use of the Solution, we will notify you as soon as reasonably practicable and you may terminate this Agreement by notifying us in writing no later than thirty (30) days after the date of such notice. If you terminate this Agreement as permitted in this Section, the termination will be effective as of the date specified in the notice and you will remain responsible for all fees incurred up to, and including, the effective date of such termination. We will refund any prepaid fees prorated from the effective date of the termination, less any applicable discounts not earned as of the effective date of the termination. Your continued use of the Solution after the effective date of any change is deemed as acceptance of the modified Solution.

6. Confidentiality

6.1 The receiving party agrees (i) not to disclose the disclosing party's Confidential Information to any third parties other than to its directors, employees, advisors, or consultants (collectively, its "Representatives") on a "need to know" basis and provided that such Representatives are bound by confidentiality obligations not less restrictive than obligations described in this Agreement; (ii) not to use or reproduce any of the disclosing party's Confidential Information for any purposes except to carry out its rights and responsibilities under this Agreement; (iii) to keep the disclosing party's Confidential Information confidential using at least the same degree of care it uses to protect its own confidential information, which shall in any event not be less than a reasonable degree of care. Notwithstanding the foregoing, the receiving party may disclose disclosing party's Confidential Information in its possession to the extent required by legal process or applicable law, rule or regulation, provided prior to such disclosure, if legally allowed, receiving party gives prompt notice to the disclosing party to give disclosing party an opportunity to seek a protective order or other appropriate relief.

6.2 Confidential Information excludes any information that: (i) is now or subsequently becomes generally available in the public domain through no fault or breach on the part of receiving party; (ii) the receiving party has in its possession without any duty of confidentiality prior to disclosure of the Confidential Information by the disclosing party; (iii) the receiving party rightfully obtains from a third party who has the right to transfer or disclose it, without default or breach of any confidentiality obligations; (iv) the receiving party has independently developed, without breach of this Agreement

and/or without any use of or reference to the Confidential Information.

6.3 This Section 6 does not prohibit you from disclosing the terms of this Agreement to the extent required by public disclosure laws which apply to you ("Public Disclosure Laws"), provided that, to the extent permitted, material terms of this Agreement (such as representations and warranties, indemnity and limitation of liability) and trade secrets, non-publicly available pricing, product road maps or business strategies are redacted.

7. Data, Data Privacy

7.1 Our Privacy Policy governs your rights arising from and relating to data protection and privacy, including our practices with respect to the collection, use and disclosure of certain data and/or personal information provided to us in connection with your use of the Solution. We may use contact information you provide to us to communicate with you about the Solution and send you information we think may be of interest to you based on your marketing communication preferences. Our use of your personal data remains subject to the Privacy Policy. The parties may enter into additional Supplemental Terms governing data privacy, if necessary to comply with applicable privacy laws.

7.2 You grant us a license to use, reproduce, transmit and analyze Your Data, solely as required to provide the Solution to you (including performance of operations by the Solution in accordance with Documentation and this Agreement), and to provide Support Services and Professional Services. You retain all rights, title and interest, including Intellectual Property Rights, in and to Your Data. You are solely responsible for all Your Data. You represent and warrant that you own all Your Data, or you have all consents and rights that are necessary to share Your Data with us and to grant us the rights to Your Data under these Terms. You also represent and warrant that neither Your Data, nor your use and provision of Your Data through the Solution, nor our use of Your Data to provide the Solution, Support Services or Professional Services, will infringe, misappropriate or violate a third party's intellectual property rights, or rights of publicity or privacy, or result in the violation of any applicable law or regulation.

7.3 Unless you provide us with written instruction otherwise, we will retain Your Data which you submit to the Platform or which is recorded or stored in the course of your use of the Solution, for a period of two years during the Subscription Term (the period we retain your data referred to as the "Data Retention Period"). Your Data is automatically deleted thirty days after (a) the Data Retention Period, (b) the expiration of the Subscription Term or (c) termination of the Subscription Term for any reason; however, at any time prior to such deletion, you may download Your Data which has been stored on the Platform. You acknowledge you are responsible for your compliance with any applicable data retention laws. You will be

solely responsible for any data requests. We will have no further obligation with respect to Your Data after the Data Retention Period or after the deletion of Your Data.

7.4 We may create anonymized and aggregated statistical data from your usage of the Solution, which does not include your personal data. We may use such anonymized and aggregated data for our own internal purposes, such as to develop and improve the Solution, to develop new services or products, and to identify usage trends.

8. Compliance

8.1 You agree to use the Solution in accordance with all applicable laws, including any applicable privacy and export laws. You agree to comply with all applicable sanctions (including embargoes) and re-export control laws and regulations including (to the extent applicable) those of the United States of America. We are not obligated to perform under this Agreement if doing so is in violation of national or international foreign trade or customs requirements or any embargoes or other sanctions.

8.2 You agree to report any known or suspected misuse of the Solution to us. We have the right to monitor your use of the Solution (but not Your Data) to verify your compliance with this Agreement at any time. If your use of the Solution exceeds the License Designation, we will provide you with notice of any additional fees or increases in the annual subscription fee for the next annual period. Furthermore, if we reasonably believe that you are using the Solution in an unauthorized or improper manner, we may, without notice and at our sole discretion, without limiting any other remedy available to us, terminate or suspend your right to use the Solution (or any feature, functionality or content which we determine is being used in violation of this Agreement) or take any other action we consider appropriate.

9. Warranties; Disclaimer

9.1 Each party warrants it has the full capacity and authority and all necessary consents to enter into and perform its respective obligations under this Agreement.

9.2 We warrant that the Solution provided to you under this Agreement are in material compliance with the features and functionalities described in the applicable Documentation. If the Solution fails to perform as warranted in this Agreement, to the extent permissible under applicable law, our sole obligation, and your exclusive remedy, will be (i) to use commercially reasonable efforts to repair or restore the non-conforming Solution so that it conforms to this warranty, or (ii) if such repair or restoration may not be, in our opinion, available within a reasonable time or with reasonable efforts, to terminate the non-conforming Solution and refund to you any prepaid amounts for such Solution on a pro-rata basis for the remainder of the Term. You acknowledge we have no responsibility for

breach of such warranty to the extent due to the operation of any third-party computer programs, software, hardware, lines, or equipment, including but not limited to computer equipment, and peripherals, server equipment, communications equipment, and data lines.

9.3 YOU ACKNOWLEDGE WE DO NOT PROVIDE TELEPHONE SERVICES, INTERCONNECTED VOIP SERVICES, OR 911 SERVICES. WE MAKE NO REPRESENTATION THAT WE ARE AN INTERCONNECTED VOIP SERVICE OR A COVERED 911 SERVICE PROVIDER, AND YOU MUST OBTAIN SUCH SERVICES FROM THE APPROPRIATE THIRD PARTY SERVICE PROVIDER. ANY SUCH THIRD PARTY SERVICES PROVIDED TO YOU ARE ONLY PASSED THROUGH TO YOU AS A CONVENIENCE IN CONNECTION WITH YOUR USE OF THE SOLUTION. YOUR USE OF THIRD PARTY SERVICES MAY BE SUBJECT TO THE TERMS OF THE APPLICABLE SERVICE PROVIDER.

9.4 YOU ACKNOWLEDGE THAT WE DO NOT MAKE ANY REPRESENTATION OR RECOMMENDATIONS WITH REGARD TO THE CONTENT OR COMPLIANCE OF THE SOLUTION, OR ANY OTHER PRODUCT OR SERVICE WE OFFER, WITH LAWS, RULES, REGULATIONS AND INDUSTRY STANDARDS (INCLUDING NENA STANDARDS AND DATA RETENTION REQUIREMENTS) WHICH APPLY TO YOUR INTENDED USE, SUCH AS RECEIVING AND PROCESSING EMERGENCY CALLS. YOU ARE RESPONSIBLE FOR MAKING YOUR OWN LEGAL DETERMINATION ON WHETHER YOU CAN USE THE SOLUTION AND ANY OTHER PRODUCTS AND SERVICES WE OFFER FOR YOUR INTENDED USE.

9.5 EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, WE PROVIDE THE SOLUTION (INCLUDING ANY INFORMATION AND DATA MADE AVAILABLE THROUGH THE SOLUTION OR ANY FEATURE), SUPPORT SERVICES AND DOCUMENTATION TO YOU ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND. YOUR USE OF THE SOLUTION AND ANY INFORMATION OR DATA MADE AVAILABLE TO YOU IS AT YOUR DISCRETION. WE EXPRESSLY DISCLAIM ALL WARRANTIES, WHETHER STATUTORY, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR A PARTICULAR PURPOSE, OR ACCURACY. WE FURTHER DISCLAIM ANY WARRANTY THAT THE OPERATION OF THE PLATFORM OR ANY RELATED SERVICES WILL BE UNINTERRUPTED, ERROR-FREE, FAULT TOLERANT, FAIL SAFE, FREE OF HARMFUL COMPONENTS, OR THAT ANY CONTENT, INCLUDING YOUR DATA, WILL BE SECURE OR NOT OTHERWISE LOST OR DAMAGED.

10. Intellectual Property Rights; Our Indemnity; Customer Responsibilities

10.1 As between you and us, we or our licensors retain all rights, title and interest, including Intellectual Property Rights, in and to the Solution, Support Services, Professional Services and

Documentation, including specifications, materials and user manuals provided by us. You agree not to copy, distribute, modify or make derivative works of the Solution and Documentation or any other components or content, or to use any of our Intellectual Property Rights in any way not expressly permitted by us.

10.2 Provided you comply with Section 10.3 below, we will defend you from any claims brought by a third party alleging your use of the Solution in accordance with this Agreement infringes their Intellectual Property Rights ("IP Claim"). We will indemnify you from any amount finally awarded against you by a court of competent jurisdiction or amount which is agreed upon in settlement as a result of the IP Claim. This indemnity will not apply to the extent the underlying allegation arises from: (i) your breach of this Agreement or your negligence, or use of the Solution outside the scope of this Agreement; (ii) combination or use of the Solution with third party equipment, hardware, materials, components or applications; or (iii) use of the Solution after you become aware of the IP Claim (unless we agree you can continue to use it). Our entire obligation and liability in connection with any allegation that a person's intellectual property rights have been infringed are set forth in this Section 10.2.

10.3 To receive the benefit of Section 10.2, you shall (i) promptly notify us in writing of any IP Claim for which indemnity is claimed, provided that failure to so notify will not relieve us of our obligation except to the extent it is prejudiced by your delay in providing us with such notice, and (ii) allow us to solely control the investigation, defense and settlement of the IP Claim, (iii) provide us with reasonable cooperation and assistance in defending such claim (at our cost), and (iv) immediately cease use of the Software and Platform which is subject to the IP Claim.

10.4 You are responsible for any claims, suits or proceedings arising out of or relating to your (or your Authorized Users'): (i) violation of any third party rights (including third party Intellectual Property Rights or privacy rights); (ii) use of the Solution and Documentation in breach of the terms of this Agreement; (iii) the operation and your combination or use of the Solution with Your Data and third party equipment, software, applications, materials and/or services; (iv) Your Data; and (v) breach of Section 4 (Your Obligations).

11. Limitation of Liability

11.1 NOTHING IN THIS AGREEMENT LIMITS A PARTY'S LIABILITY FOR WILLFUL MISCONDUCT OR FRAUD, BREACH OF ITS CONFIDENTIALITY OBLIGATIONS UNDER THIS AGREEMENT, ITS RESPECTIVE OBLIGATIONS UNDER SECTION 10 (INDEMNITY; RESPONSIBILITIES), OR ANY LIABILITY WHICH CANNOT BE EXCLUDED UNDER APPLICABLE LAW.

11.2 SUBJECT TO SECTION 11.1, EACH PARTY'S MAXIMUM AGGREGATE LIABILITY UNDER, ARISING OUT OF OR RELATING

TO THIS AGREEMENT SHALL NOT EXCEED THE TOTAL AMOUNT OF FEES PAID OR PAYABLE BY YOU TO US DURING THE 12 MONTHS PRECEDING THE DATE THE LIABILITY FIRST ARISES.

11.3 SUBJECT TO SECTION 11.1, TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT WILL EITHER PARTY BE LIABLE FOR LOST PROFITS, LOSS OF USE, LOSS OF DATA (INCLUDING YOUR DATA), COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, OR FOR SPECIAL, PUNITIVE, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED, WHETHER FOR BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), STATUTORY OR OTHERWISE, WHETHER OR NOT SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

12. Term; Termination

12.1 The Subscription Term and start date are set forth on the Quote. The subscription shall automatically renew for additional 12 month periods (each a "**Renewal Term**") after the initial Subscription Term unless either party provides written notice of its desire to terminate to the other party at least 30 days prior to the expiration of the then applicable term, unless otherwise set forth in the Quote or unless the Agreement is terminated in accordance with the terms of this Section 12.

12.2 Either party may terminate an Quote or this Agreement immediately by giving written notice to the other party if: (i) the other party breaches a material provision of this Agreement and fails to remedy the breach (if capable of remedy) within thirty (30) days after receipt of written notice; (ii) the other party breaches any of its confidentiality obligations; (iii) the other party is judged bankrupt or insolvent, makes a general assignment for the benefit of its creditors, a trustee or receiver is appointed for such party, or any petition by or on behalf of such party is filed under any bankruptcy or similar laws. Additionally, we may also terminate this Agreement if we reasonably believe you intend to undergo any of the foregoing or reasonably believe you are, or will be, unable to provide your services which require use of the Solution. Outstanding Quotes are automatically terminated upon termination of this Agreement.

12.3 Upon expiration of the Subscription Term or termination of the Quote, any outstanding fees shall become due and payable, and you will immediately cease use of the affected Solution. Furthermore, any Third Party Services which are passed through to you for use with the Solution will automatically terminate unless you contract directly with the third party providers for such services prior to the subscription expiration or termination, and we will have no further obligation to provide Third Party Services to you following expiration or termination of your subscription for any reason. In the event of termination of this Agreement, you will also return or destroy, at our option, all Confidential Information in your possession (and certify in writing you have done so). Sections 1.4, 6, 7, 9.2, 9.3, 9.4,

9.5, 10, 11, 12.3, 13.2 and 14 shall survive any expiration or termination of this Agreement.

13. Trial Services; Free of Charge Services

13.1 We may enable you to access and use a Carbyne feature, product or service (which may not be generally available) for use with the Solution for beta-testing or evaluation purposes, as specified in a Quote, and to provide feedback to us (which we may use freely) (each a "Trial Service"). We may also give you access to a generally available Carbyne feature, product or service for use with the Solution without additional fee for your internal use in accordance with this Agreement (each a "Free of Charge Service"). If we do so, you may use the Trial Service and Free of Charge Service only for the permitted purpose.

13.2 Any use of a Trial Service or Free of Charge Service is at your own risk. Trial Services and Free of Charge Services are provided "AS IS" WITHOUT WARRANTY OF ANY KIND AND "AS AVAILABLE". The SLA and any security standards in this Agreement do not apply to Trial Services and Free of Charge Services. We may, at our discretion and without notice, change, limit or discontinue any Trial Services and Free of Charge Services, including your access and use. Our entire liability for all claims, damages and indemnities arising out of or related to your use of Trial Services and Free of Charge Services will not exceed in the aggregate USD \$1,000.00 (or equivalent in local currency).

14. General

14.1 The Solution is a commercial product that was developed exclusively at private expense. If the Solution is acquired directly or indirectly for use by the U.S. Government, then the parties agree that the Solution is considered 'Commercial Items' and 'Commercial Computer Software' or 'Computer Software Documentation', as defined in 48 C.F.R. §2.101 and 48 C.F.R. §252.227-7014(a)(1) and (a)(5), as applicable. The Solution may only be used under the terms of this Agreement as required by 48 C.F.R. §12.212 and 48 C.F.R. §227.7202. The U.S. Government will only have the rights set forth in this Agreement, which supersedes any conflicting terms or conditions in any government order document, except for provisions which are contrary to applicable mandatory federal laws. Unless otherwise expressly required, we will not be required to obtain a security clearance or otherwise be involved in accessing U.S. Government classified information.

14.2 Neither party will be liable for events beyond its reasonable control or for delay or failure to perform any obligations under this Agreement (except with respect to any payment obligations) due to any cause beyond its reasonable control. The delayed party will promptly notify the other party of any such event.

14.3 All notices shall be in writing and given in person, by an overnight courier service which provides tracking information to evidence delivery, by registered mail, or by email with confirmation of receipt, addressed to the address or email, as applicable, set forth in this Agreement or to such other address or email as a party may designate to the other in accordance with the notice procedure. All notices delivered in person or by courier service are deemed to have been given upon delivery, notices sent by registered mail are deemed given three calendar days after posting, and notices sent by email are deemed given when received and opened as validated by the read receipt.

14.4 We may reference you as a customer or user of our products in our publicity or general marketing communications and activities.

14.5 This Agreement constitutes the entire agreement between you and us and supersedes any previous agreements or representations, either oral or written, including any additional or preprinted terms on purchase orders, with respect to the subject matter of this Agreement. All amendments will be made only in writing. We may update, amend or modify this Agreement from time to time as required to comply with applicable law or as required by our licensors or vendors with thirty (30) days prior written notice. If there is a conflict between this Agreement, Supplemental Terms and a Quote, the Quote, then the Supplemental Terms, will take precedence to the extent of such conflict and only with respect to the applicable Solution, Support Services and any Professional Services under such Quote and Supplemental Terms. If any part of this Agreement is declared invalid or unenforceable for any reason, such part shall be deemed modified to the extent necessary to make it valid and operative and in a manner most closely representing the intention of the parties. Any failure by a party to insist upon or enforce performance by the other of any of the provisions of this Agreement or to exercise any rights or remedies under this Agreement or otherwise by law will not be construed as a waiver or relinquishment of any right to assert or rely upon the provision, right or remedy in that or any other instance.

14.6 You may transfer or assign your rights or obligations under this Agreement to a third party only with prior written consent from us. Any purported assignment contrary to this section shall be void. We may assign this Agreement to any of our Affiliates or to a successor entity in the event of a merger or acquisition without your prior written consent, and we will provide you with written notice of such assignment.

14.7 Some of our licensors and suppliers may be third-party beneficiaries under this Agreement.

14.8 If you provide any ideas or feedback regarding any products and services offered by Carbyne (including Free of Charge Services), such as suggestions for changes or enhancements and new product ideas, (collectively

"Feedback"), you agree Feedback is not considered your Confidential Information, intellectual property or trade secret. You hereby assign any rights you may have in the Feedback to us, and accordingly we may use Feedback freely without restriction. In the event such assignment is not feasible or is deemed invalid for any reason, you grant us an irrevocable, sublicensable, perpetual, worldwide, royalty free right and license to use the Feedback freely.

14.9 If you are entering into this Agreement with Carbyne, Inc. this Agreement is governed by the laws of the State of New

York, without regard to its conflict of law principles, and the parties agree to submit to the exclusive jurisdiction of courts in New York, New York. If you are entering into this Agreement with Carbyne Ltd. or Carbyne911 Mexico S. de RL de CV, this Agreement is governed by the laws of Israel, without regard to its conflict of law principles, and the parties agree to submit to the exclusive jurisdiction of courts in Israel. Notwithstanding the foregoing, if you are a public entity and your state law requires you to contract under your state law, then your state law shall apply to this Agreement.

Bridge Desk Terms of Use Addendum

This Bridge Desk Terms of Use Addendum (“**Addendum**”) is subject to and made part of the Carbyne Terms and Conditions or, if applicable, a mutually agreed upon agreement which governs your use of the Solution (“**Agreement**”). Capitalized terms in this Addendum will have the same meaning as set forth in the Agreement, unless otherwise expressly specified in this Addendum. Additional definitions are set forth below.

Bridge Desk is a hosted asset monitoring and incident alert solution which consolidates disparate tracking systems under a single interface (the “**Bridge Desk Service**”). By using the Bridge Desk Service, or upon your agreement to the Quote for the Bridge Desk Service, you indicate you have read, understand and agree to the terms and conditions of the Agreement and this Addendum. This Addendum addresses additional terms and conditions under which you may access and use the Bridge Desk Service.

1. Use of the Bridge Desk Service

- 1.1. During the Term, provided you are current in your payment obligations and subject to the terms of this Agreement, we grant you the right to access and use the Bridge Desk Service up to the number of Authorized Users specified on the Order Form and only for your internal business purposes.
- 1.2. You are responsible for obtaining and maintaining your own IT infrastructure and any ancillary services needed to use the Bridge Desk Service (such as asset sensors, trackers, internet, electricity, modems, servers and operating systems) and for the security of your systems, including applications installed on your systems which integrate with the Bridge Desk Service, and will take commercially reasonable steps to exclude malware, viruses, spyware and Trojans from your systems. You are solely responsible for all software, network and internet connection costs related to use of the Bridge Desk Service (including with respect to any Bridge Desk Service updates released by us), including but not limited to internet, mobile phone or mobile network data usage fees and applicable roaming charges, and we are not responsible for these internet or data services or any related costs.
- 1.3. You and your Authorized Users may receive alerts based on your Bridge Desk Service configuration preferences and you and your Authorized Users may comment on and resend such alerts. Such alerts may be sent by email, text or phone call based on your and your Authorized Users' configuration preferences. You represent and warrant you have obtained any consents necessary for Authorized Users to receive and resend such alerts. You are also solely responsible for any such comments and messages and their content.
- 1.4. Furthermore, you shall not use the Bridge Desk Service (including any commenting or messaging capability in the Bridge Desk Service): (i) for any illegal or fraudulent activity; (ii) to violate the rights of others; (iii) to threaten, incite, promote or actively encourage violence, terrorism or other serious harm; (iv) for any content or activity that promotes child sexual exploitation or abuse; (v) to violate the security, integrity or availability of any user, network, computer or communications system, software application, or network or computing device; (vi) to distribute, publish, send or facilitate the sending of unsolicited mass email or other messages, promotions, advertising or solicitations (or “spam”).

- 2. Your Data.** The Bridge Desk Service enables you to use the Bridge Desk Service to connect with your other applications, allowing you to receive and access Your Data available from such applications through the Bridge Desk Service and to make Your Data available to your Authorized Users. When you connect to such applications with the Bridge Desk Service, you: (a) represent and warrant you have all necessary rights to use such applications and to connect such applications to the Bridge Desk Service, and (b) consent to automatically and continuously transmit Your Data from the applications through the Bridge Desk Service. Further, you acknowledge that your Authorized Users may interact with and manage Your Data and that we are not liable for any act or omission of your Authorized Users, including access to, use of, or sharing of Your Data. You are solely responsible for all Your Data. You represent and warrant that you own all Your Data, or you have all consents and rights that are necessary to share Your Data with us and to grant us the rights to Your Data under this Agreement. You also represent and warrant that neither Your Data, nor your use and provision of Your Data through the Bridge Desk Service, nor our use of Your Data to provide the Service, Support Services or Professional Services, will infringe, misappropriate or violate a third party's intellectual property rights, or rights of publicity or privacy, or result in the violation of any applicable law or regulation. "Your Data" as used in this Addendum means data (including data from your applications connected to the Bridge Desk Service and personal data of Authorized Users), records, reports, recordings or messages you or your Authorized Users enter into the Bridge Desk Service, including the content of any message or comment sent or received using the Bridge Desk Service, or which are otherwise generated by you or your Authorized Users through access or use of the Bridge Desk Service. Your Data includes log information from your use of the Bridge Desk Service.
- 3. Compliance.** You agree to use the Bridge Desk Service in accordance with all applicable laws, including any applicable privacy, GPS tracking (including individual tracking), audio and video recording laws, and export laws. You agree to comply with all applicable sanctions (including embargoes) and re-export control laws and regulations including (to the extent applicable) those of the United States of America. We are not obligated to perform under the Agreement and this Addendum if doing so is in violation of applicable laws or of national or international foreign trade or customs requirements or any embargoes or other sanctions.
- 4. Additional Disclaimer.** The Bridge Desk Service provides you with data for you to assess and use as you see fit. We do not suggest, control, or monitor the choices you make as to the use of the data or changes in your operations based on the data. You are solely responsible for any use made of the Bridge Desk Service and for any data received through the Bridge Desk Service. In particular, although the Bridge Desk Service is intended to provide you with information that can help monitor and improve the efficiency, safety and compliance of your operations, you are solely responsible for those and all other aspects of your operations, and acknowledge that the Bridge Desk Service does not constitute advice as to managing your operations. You acknowledge the Bridge Desk Service is not designed to track individuals. If you are using Bridge Desk Essentials, which is provided to you without charge, the Bridge Desk Service is deemed a "Free of Charge Service" under the Agreement, and such terms for Free of Charge Services will apply.
- 5. Your Responsibility.** You are responsible for any claims, suits or proceedings arising out of or relating to your (or your Authorized Users'): (i) violation of any third party rights (including third party Intellectual Property Rights or privacy rights); (ii) use of the Bridge Desk Service and Documentation in breach of the terms of this Addendum (including the Agreement); (iii) the operation and your combination or use of the Bridge Desk Service with Your Data, Third Party

Content and third party equipment, software, applications, materials and/or services; (iv) Your Data; and (v) breach of Section 1 of this Addendum (Use of the Bridge Desk Service).

- 6. Limitation of Liability.** This Addendum is subject to liability caps and limitations in the Agreement.
- 7. Termination.** Upon expiration of the subscription term, termination of the Quote or termination of this Addendum, any outstanding fees shall become due and payable, and you will immediately cease use of the Bridge Desk Service. Termination of the Agreement shall automatically terminate this Addendum. In addition to all sections under the Agreement which survive, Sections 4, 5, 6, 7 and 8 of this Addendum shall survive any expiration or termination of this Addendum.
- 8. General.** The Agreement and this Addendum constitutes the entire agreement between you and us and supersedes any previous agreements or representations, either oral or written, including any additional or preprinted terms on purchase orders, with respect to the subject matter of this Agreement. All amendments will be made only in writing. We may update, amend or modify this Addendum from time to time as required to comply with applicable law or as required by our licensors or vendors with thirty (30) days prior written notice. Terms of the Agreement shall apply to this Addendum, except to the extent addressed in this Addendum. For purposes of this Addendum, "Solution" or "Platform" as used in the Agreement shall refer to the Bridge Desk Services and all rights and obligations with respect to the Solution and Platform under the Agreement will apply to Bridge Desk Services. If there is a conflict between this Addendum and the Agreement, this Addendum will take precedence to the extent of such conflict only with respect to the Bridge Desk Service.



Carbyne APEX System Requirements & Solution Reference

Revision August 2023 US [EN]



Notice

This document does not constitute an offer of any nature whatsoever and does not create any binding obligations on Carbyne to enter into an agreement with any third-party in relation to the End Customer or otherwise. All information contained herein is for informational purposes only. The products and/or systems described in this document are furnished under the terms and conditions of a specific license agreement or non-disclosure agreement and only such written agreement shall be binding on Carbyne. All information included in this document, such as text, graphics, photos, logos and images, is the sole and exclusive property of Carbyne, which is proprietary confidential information of Carbyne and/or its licensors and is protected by applicable national and international copyright. Any other copying, distribution, re-transmission or modification of the information in this document, whether in electronic or hard copy form, without the express prior written permission of Carbyne, is strictly prohibited. In the event of any permitted copying, redistribution or publication of copyrighted material, no changes in, or deletion of, author attribution, trademark legend or copyright notice shall be made.

All contents of this document are: Copyright © 2023 CARBYNE Ltd. All rights reserved.

Revision History

Revision	Date	Author	Changes
February 2022	16 February 2022	Michael Railey	Graphic and asset updates
December 2022	December, 2022	Ohad Moses	Architecture updates
August 2023	August 11, 2023	Tim Hand	Expanded scope of document to include feature requirements

Contact Information

Tim Hand Professional Services Team Lead – US Region tim@carbyne.com +1 347-252-4603 New York, NY	Ohad Moses Director Professional Services Engineer ohad@carbyne.com +1 201-486-9349 New York, NY
--	--



Table of Contents

1. Introduction	5
1.1. Document Purpose	5
1.2. Full Cloud vs Hybrid Deployment Architecture	5
1.3. Hardware Manufacturers	5
1.4. Base Technologies	6
Carbyne Cloud using Amazon Web Services (AWS)	6
2. Abbreviations	6
3. Platform Delivery Architecture	7
3.1. PSAP Dual Site Architecture (Type 1)	7
3.2. PSAP Single Site Architecture (Type 2)	8
3.3. Call Termination - E911	9
3.4. Call Termination - ESInet	9
4. Infrastructure Requirements	10
4.1. PSAP Connectivity	10
4.1.1. Cloud IP-WAN	10
4.1.2. General Circuit Requirements	10
4.1.3. Telephony Service Providers (PSTN)	10
4.1.3.1. Inbound Emergency (911) Calls	11
4.1.3.2. Outbound calls	11
4.1.3.3. Inbound Admin/Non-emergency Calls	11
4.1.4. Cloud Latency	12
4.2. Communications Room	13
4.2.1. Layer 2 Switching	13
Recommendations	13
4.2.2. Layer 3 Switching	14
4.2.3. Firewalls	14
4.2.4. PSTN Gateways (E911 solution only)	15
4.2.5. ALI Connectivity (E911 solution only)	15
4.2.6. ALI Interfacing (E911 solution only)	15
4.2.7. Electrical Power	16
4.2.7.1. Rack UPS	16
4.2.7.2. Building-wide UPS	16
4.2.8. Electrical Grounding	17
4.2.8.1. Comms Room Rack	17
4.2.8.2. Comms Room Rack Equipment	17
4.2.8.3. Trunk and ALI Circuits (E911 only)	17
4.2.9. Patching	18



4.3. APEX Station	19
4.3.1. PC Hardware (bare metal)	19
4.3.2. Network	19
4.3.3. Operating System Software	20
4.3.4. Electrical Power (recommendation)	20
4.3.4.1. Per Station UPS	20
4.3.4.2. Building-wide UPS	20
5. Configuration Requirements	21
5.1. PSAP and Cloud IP Routing	21
5.1.1. AWS Direct Connect	21
5.1.2. Direct Internet Access	21
5.2. LAN Routing	21
5.3. Quality of Service (QoS)	21
5.4. Network Time Protocol (NTP)	22
5.5. Firewall Connections & FQDN Filtering	22
6. Feature Requirements	24
6.1. Emergency Services IP Network (ESInet)	24
6.2. Text-to-911 SMS	24
6.2.1. Text-to-911 for NG911	24
6.2.2. Text-to-911 for E911	24
6.3. On-Premises CAD Spill	25
6.4. Voice Recording (VR) Integration	25
6.5. Call Taker Audio Pathway	26
6.5.1. USB Headset connectivity	26
6.5.2. Carbyne Trigger Module	27
6.6. Wallboards	28
6.7. Responder Connect	29



1. Introduction

1.1. Document Purpose

This document describes the hardware, software and networking requirements to support the deployment of the Carbyne APEX Call Handling solution. Since each agency has unique complexities, coupled with State laws and regulations, it is intended to deliver only preliminary information to the Customer in order to aid decision-makers with regards to the solution.

We encourage you to contact the Carbyne Professional Services Team regarding topics that require further clarification.

1.2. Full Cloud vs Hybrid Deployment Architecture

Carbyne APEX architecture is deployed on the cloud with IP-based voice connectivity to the PSTN. This is typically achieved through the use of an ESInet for emergency calls, and for non-emergency calls through the use of an enterprise-grade SIP trunk services. Carbyne can work with the Customer to convert their existing analog (POTS) or digital (T1) non-emergency trunks to enterprise-grade SIP trunk services.

Where this can not be achieved, we also support a hybrid solution where we can install additional equipment at the customer location (CPE) which will terminate legacy TDM or analog-based emergency circuits (e.g. CAMA).

1.3. Hardware Manufacturers

This document provides general guidelines and features for defining on-premises hardware, allowing the customer and/or partner to choose their preferred hardware manufacturer, as long as the base requirements are met. The only exception to this is the deployment of the E911 (hybrid) solution utilizing CAMA and ALI circuits terminating at the Customer's location into on-prem gateways. These devices terminate the TDM or analog-based circuits, and convert them to IP in order to be processed by Carbyne's cloud services. This hardware can not be swapped with another manufacturer due to Carbyne compatibility, management and SLA capabilities.



1.4. Base Technologies

Carbyne uses the latest software technologies and platforms, both in the cloud and on-premises, to deliver a robust and full-featured call handling solution.

Java

Carbyne APEX operates on a minimal resource footprint through the use of [Java](#) technologies. The Windows installer contains all components needed for APEX to operate.

Carbyne Cloud using Amazon Web Services (AWS)

Carbyne Cloud is powered by AWS [Cloud](#) (global) or AWS [GovCloud](#) (US-only), allowing delivery of location, video, chat and other valuable data in a scalable, secured and highly redundant environment.

2. Abbreviations

ALI	Automatic Location Identification	NG911	Next Generation 911
BTS	BaseStation	NGCS	Next Generation Core Services
BW	Bandwidth	PC	Personal Computer
CAMA	Centralized Automatic Message Accounting	PoE	Power Over Ethernet
CCS	Call Control Service	POP	Point of Presence
CHS	Call Handling Solution	PSAP	Public Safety Answering Point
CO	Central Office (e.g. Telco Carrier)	PSTN	Public Switching Telephony Network
DIA	Direct Internet Access by an ISP	SBC	Session Border Controller
ESInet	Emergency Services IP Network	SIP	Session Initiation Protocol
E911	Enhanced 911	TBB	Telecommunications Bonding Backbone
FW	Firewall	TGB	Telecommunications Ground Busbar
HA	High-Availability	TMGB	Telecommunications Main Ground Busbar
ISP	Internet Service Provider	UPS	Uninterruptible Power Supply
ITSP	Internet Telephony Service Provider	VG	Voice Gateway
KVM	Keyboard Video Mouse	WAN	Wide Area Network
L2	OSI Layer 2 (Data-Link)		
L3	OSI Layer 3 (Network)		
LAN	Local Area Network		



3. Platform Delivery Architecture

Carbyne supports a number of deployment architectures encompassing two key components:

1. PSAP Site Architecture – Dual or Single Sites
2. Call Termination – E911 or ESInet

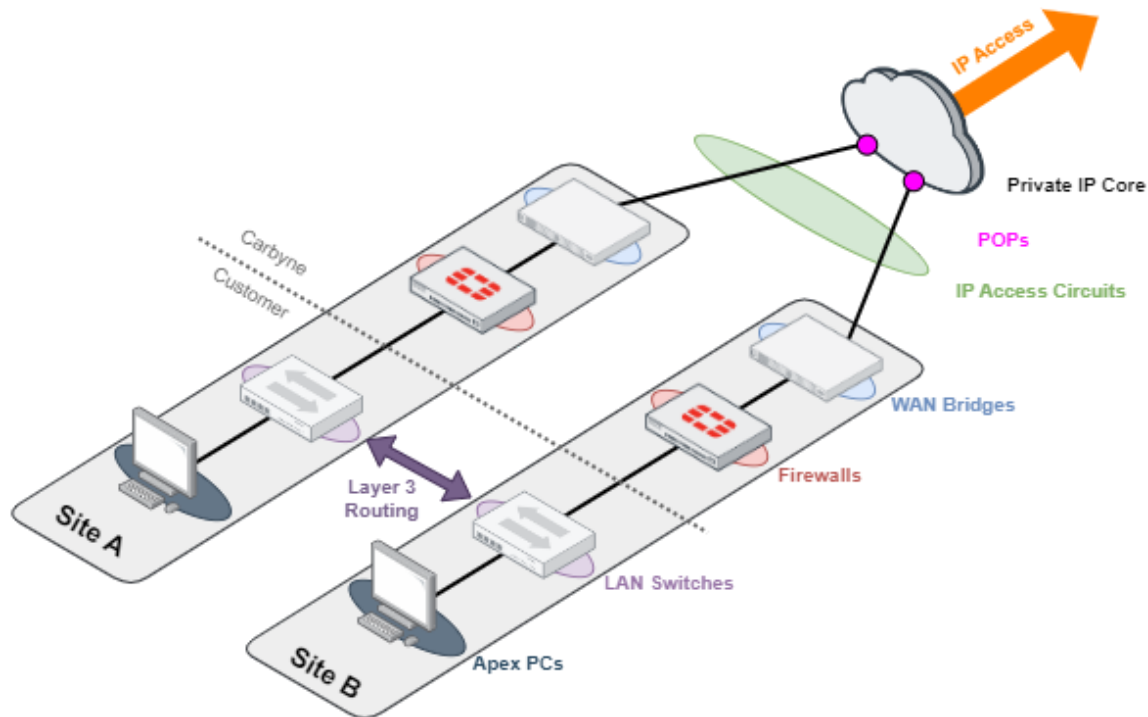
The fundamental goal of the architecture is to ensure highly available access to IP infrastructure in order for the PSAP's APEX PC to communicate with the cloud native Call Control Service (CCS) on AWS US-Gov Cloud.

3.1. PSAP Dual Site Architecture (Type 1)

Carbyne's dual site architecture allows for highly-available IP access between the Private IP Core and a PSAP with primary/secondary locations, or a group of PSAPs. Networking devices are deployed with single IP access circuits to each of the two sites (Site A and Site B).

Redundancy is achieved by utilizing Customer-provided Layer 3 routing between sites, to ensure failure of a firewall, WAN bridge or IP access circuit will not result in any loss of service.

This architecture can be expanded to support additional *satellite* sites that can be routed via the Customer-provided Layer 3 network.

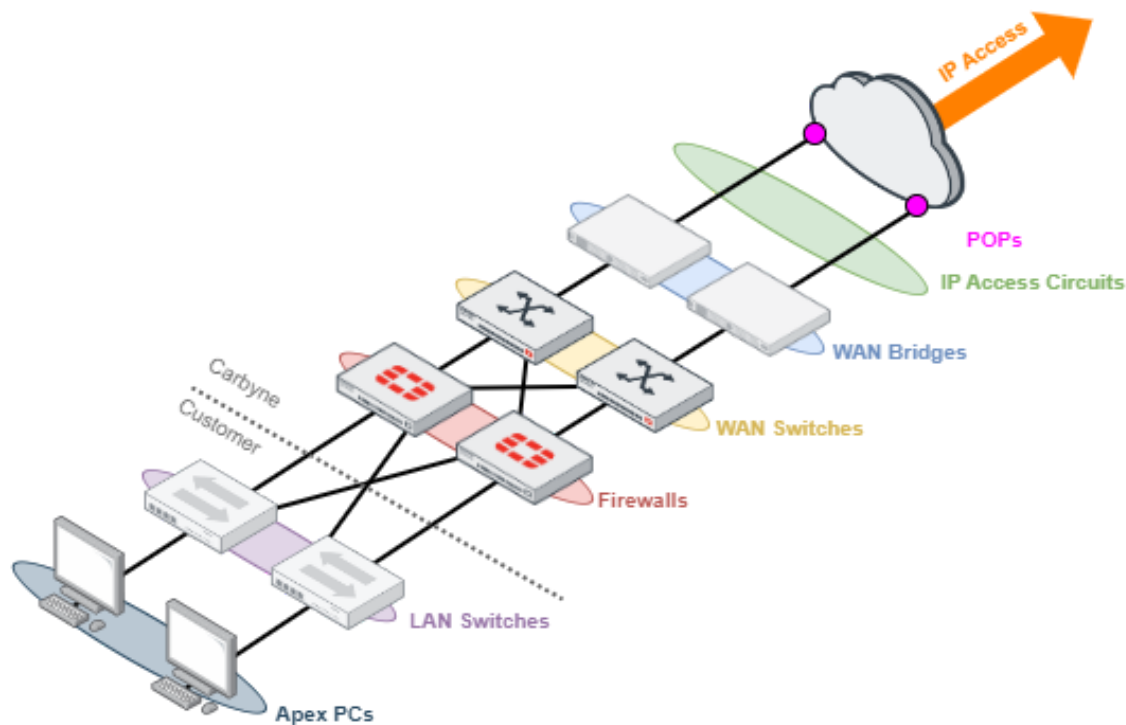




3.2. PSAP Single Site Architecture (Type 2)

Carbyne's single site architecture allows for highly-available IP access between the Private IP Core and the PSAP's two or more sites.

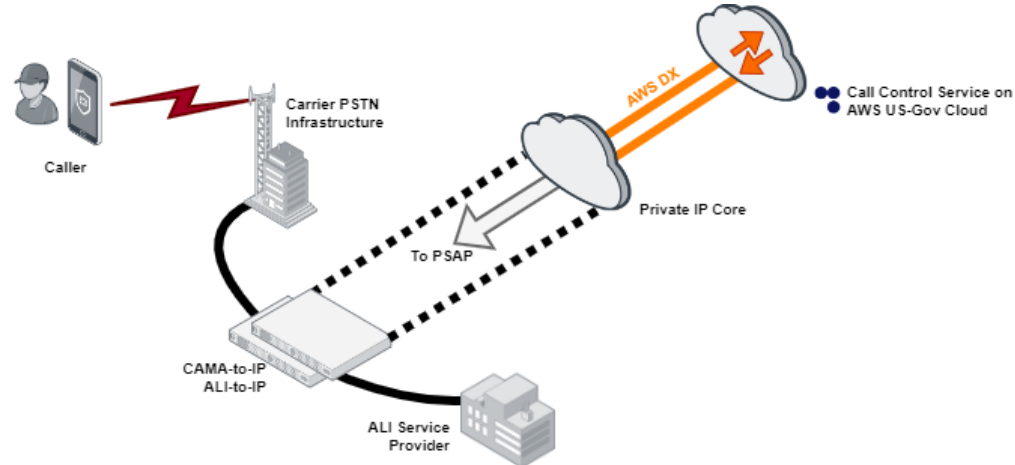
Redundancy is achieved by utilizing on-prem devices deployed in a redundant fashion, to ensure failure of a firewall, WAN bridge or IP access circuit will not result in any loss of service.





3.3. Call Termination - E911

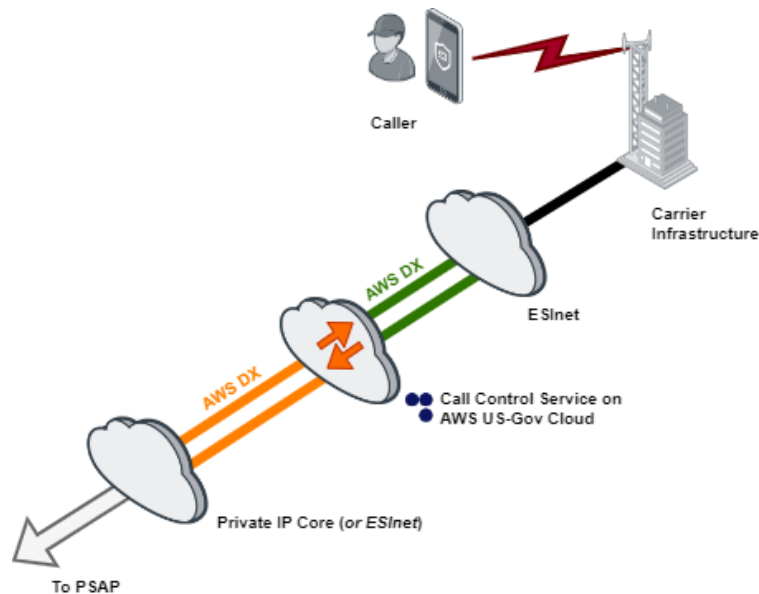
Carbyne supports E911 infrastructure, such as CAMA and ALI circuits with the deployment of on-prem devices to the PSAP. E911 services are converted and encrypted on-prem, then transmitted towards Carbyne's Call Control Service (CCS) hosted on AWS US-Gov Cloud.



3.4. Call Termination - ESInet

Carbyne supports full-IP call delivery with the deployment of ESInet infrastructure coupled with Next Generation Core Services (NGCS), directly between the ESInet provider and Carbyne's CCS hosted on AWS US-Gov Cloud. Primary benefits of this architecture ensure that the entire call control flow is handled within the Cloud itself, without having to be hairpinned down to the PSAP.

In some deployments, it is possible to leverage the ESInet infrastructure between Carriers and AWS US-Gov Cloud, and also down to the PSAP itself.





4. Infrastructure Requirements

4.1. PSAP Connectivity

4.1.1. Cloud IP-WAN

Item	Service	Description
1.0	EPL	Ethernet Private Line, dedicated IP access circuit where the allocated capacity is fully allocated to the customer. Connectivity is directly between Customer's PSAP and IP Access POP.
2.0	Broadband	IP access circuit where the total capacity is shared amongst the different subscribers. A common service in this category is coax internet.
3.0	DIA	Dedicated Internet Access, DIA provides a dedicated and guaranteed bandwidth, where the allocated capacity is fully allocated to the customer. Connectivity is routed over public internet links.

*Note: Total bandwidth required is dependent on a number of factors including the number of APEX stations, full cloud vs hybrid deployment, etc. General bandwidth requirements are listed in the [Network](#) section of the APEX Workstation requirements.

4.1.2. General Circuit Requirements

Parameter	Description	Value	Comments
Latency	One way latency between the APEX station and the Carbyne Cloud (AWS US-Gov West and/or East regions)	< 150ms	End-to-end latency should not exceed 300ms RTT .
Jitter	Total variance of latency	< 30ms	
Packet Loss	Total loss of packets	< 1%	
Tagging	Telecommunications Service Priority (TSP)	N/A	Circuits that are tagged as TSP have increased repair priority above other circuits

4.1.3. Telephony Service Providers (PSTN)

Telephony provided services depend on the state infrastructure. The listed services are in preferential order i.e. the first call technology is preferred over later. The trunks provided should be redundant from the provider's side. i.e multiple POPs/COs.

Carbyne will work with the Customer to provision adequate trunk capacities to ensure the total number of concurrent calls meets the PSAPs call SLA expectations.



4.1.3.1. Inbound Emergency (911) Calls

Item	Technology	Termination Point	Comments
1.0	SIP i3 Trunk	Carbyne Point of Interconnect (POI)	Native SIP delivered via ESInet infrastructure
2.0	CAMA Trunk	PSAP	Voice traffic will be converted to SIP at the PSAP and routed to Carbyne Cloud through secure networks.

4.1.3.2. Outbound calls

Outbound calls are handled by Carbyne's cloud services, ensuring the highest level of SLAs can be achieved for the Customer. We utilize authentication and authorization technologies in order to provide outbound CallerIDs that match the Customer's requirements.

Item	Technology	Termination Point	Comments
1.0	SIP Trunk	Carbyne Cloud	Native SIP delivered via Carbyne's Cloud connectivity to Carbyne's selected ITSPs.

4.1.3.3. Inbound Admin/Non-emergency Calls

Item	Technology	Termination Point	Comments
5.1	SIP Trunk	Carbyne Cloud	Native SIP
5.2	T1/E1 Trunk	PSAP On-prem	Voice traffic will be converted to SIP at the PSAP and routed to Carbyne Cloud through secure channels. Requires a media gateway for converting to SIP and RTP.
5.3	POTS Line	PSAP On-prem	Voice traffic will be converted to SIP at the PSAP and routed to Carbyne Cloud through secure channels. Requires a media gateway for converting to SIP and RTP.
5.4	SIP Trunk	PBX On-prem	Native SIP to on-prem PBX. May require a media gateway for converting to SIP and RTP.



4.1.4. Cloud Latency

Carbyne's services are hosted on Amazon Web Services cloud infrastructure which provide availability via several regions in the United States and rest of the world. Please follow the instructions on this [web page](#) in order to determine your latency/distance to all the regions. Depending on your geographical area, the maximum required latency to your defined region must not be greater than 300ms.



4.2. Communications Room

4.2.1. Layer 2 Switching

Power	1 per device, minimum	General Power Outlet NEMA 5-15R sockets, grounded and surge protected
Rack Space	1U minimum	Installed on shelf or rack mounted
Quantity	1 minimum	Dependent on number of stations and redundancy requirements
Procurement	Carbyne or Customer	
Maintenance	Carbyne or Customer	Hardware support – 24x7
Description	Layer 2 ethernet switch, RJ45 GigE, VLAN, QoS, Link Aggregation	802.1Q VLAN tagging, 802.1p and TOS/DSCP based Priority Queuing, 10Gbps switching capacity, Port Mirroring, Etherchannel including PAgP or LACP (802.3ad).
IP Handoff	1-2 ports per device	RJ45 Copper, support for Etherchannel including PAgP or LACP (802.3ad).

Note: If audio arbitration is needed, a POE 802.3af/at switch, or PoE injectors are required.

Recommendations

- PCs should be connected over the provided switching infrastructure. *For example (assuming two switches):* 50% of PCs should be connected to the 1st switch, with the remaining 50% connected to the 2nd switch.
- Switches should not be fully utilized in order to allow for PCs attached to a failed switch, to be re-connected to a working switch. *For example:* With two switches, each switch should not be filled past 50% capacity each; three switches past 66% capacity each, four switches past 75% capacity each etc.
- Utilize PCs with dual NIC ports, each connected to separate switches for increased resiliency and availability.



4.2.2. Layer 3 Switching

Power	1 per device, minimum	General Power Outlet NEMA 5-15R sockets, grounded and surge protected
Rack Space	1U minimum	Installed on shelf or rack mounted
Quantity	1 minimum per site	Dependent on number of stations and redundancy requirements
Procurement	Carbyne or Customer	
Maintenance	Carbyne or Customer	Hardware support - 24x7
Description	Layer 3 ethernet switch, RJ45 GigE, VLAN, QoS, Link Aggregation, internal routing protocol such as iBGP, EIGRP	802.1Q VLAN tagging, 802.1p and TOS/DSCP based Priority Queuing, 10Gbps switching capacity, Port Mirroring, Etherchannel including PAGP or LACP (802.3ad).
IP Handoff	1-2 ports per device	RJ45 Copper, support for Etherchannel including PAGP or LACP (802.3ad).

*Note: L3 switching is only required for **Type 1: Dual Site** architecture. Refer to Section 3 topology diagram.

4.2.3. Firewalls

Power	1 per device	General Power Outlet NEMA 5-15R sockets, grounded and surge protected
Rack Space	1U-2U total	Installed on shelf (provided by Carbyne)
Quantity	1-2	Dependent on single (HA) or dual-site deployment
Procurement	Carbyne	
Maintenance	Carbyne	Hardware support - 24x7
Description	FortiGate NGFW 60F/80F/100F	RJ45 GigE, VLAN, QoS, IPSEC (gateway-to-gateway) tunneling, 802.1Q VLAN tagging, 802.1p and TOS/DSCP based Priority Queuing, High Availability (HA) firewall and WAN failover (including SD-WAN).
IP Handoff	1-2 ports per device	RJ45 Copper, support for Etherchannel including PAGP or LACP (802.3ad).



4.2.4. PSTN Gateways (E911 solution only)

Power	1 per device	General Power Outlet NEMA 5-15R sockets, grounded and surge protected
Rack Space	1U-2U total	Installed on shelf (provided by Carbyne)
Quantity	1-4	Dependent on numbers of trunks needed
Procurement	Carbyne	
Maintenance	Carbyne	Hardware support - 24x7
Description	AudioCodes Mediant 500/800 (M500/M800) AudioCodes MediaPack 500 (MP500)	FXS (CAMA), FXO (POTS) or T1 (digital) devices to support PSTN connectivity where required, to support the number of legacy trunks.
IP Handoff	1-2 ports per device	RJ45 Copper, support for Etherchannel including PAgP or LACP (802.3ad).

4.2.5. ALI Connectivity (E911 solution only)

Power	1 per device	General Power Outlet NEMA 5-15R sockets, grounded and surge protected
Rack Space	1U-2U total	Installed on shelf (provided by Customer)
Quantity	2	Minimum 2 modems required for HA
Procurement	Customer	
Maintenance	Customer	Hardware replacement by Customer
Description	ALI Modem, iComm or equivalent	64K CSU/DSU V.35 & RS232, serial DB9/DB25 output
Serial Handoff	1 DB9 or DB25 port per device	

4.2.6. ALI Interfacing (E911 solution only)

Power	1 per device	General Power Outlet NEMA 5-15R sockets, grounded and surge protected
Rack Space	1U total	Installed on shelf (provided by Carbyne)
Quantity	2	Minimum 2 devices required for HA
Procurement	Carbyne	
Maintenance	Carbyne	Hardware support - 24x7

Carbyne APEX**System Requirements - US [EN]**

Description	Digi EZ Mini – 1 Port Serial	Serial DB9 input, RJ45 IP ethernet output
Interface Handoff	1 Serial to ALI Modem 1 IP Ethernet	Carbyne supports industry standard 9600/8/N/1

4.2.7. Electrical Power

Electrical power can be delivered using either of the two methods below to equipment rack:

4.2.7.1. Rack UPS

Inlet Connection	(1) General Power Outlet NEMA 5-15R socket or better, grounded and surge protected
Power Outlets	UPS with at least (6) General Power Outlet NEMA 5-15R sockets. Hybrid deployments require at least (12) GPOs.
Capacity	At least 15 minutes of runtime for all equipment, or until the building generator comes online (whichever comes first). Must have adequate capacity to support all equipment in the rack including: <ul style="list-style-type: none"> • Switches • Firewalls • On-Premises CAD Spill • PSTN Gateways and SBCs (E911 only) • ALI Modem Connectivity (E911 only)
Monitoring	RJ45 IP connectivity, SNMP v3

4.2.7.2. Building-wide UPS

Power Outlets	(6) General Power Outlet NEMA 5-15R outlet, grounded and surge protected. Hybrid deployments require at least (12) GPOs.
Capacity	Provided by building. Must have adequate capacity to support all equipment in the rack including: <ul style="list-style-type: none"> • Switches • Firewalls • On-Premises CAD Spill • PSTN Gateways and SBCs (E911 only) • ALI Modem Connectivity (E911 only)
Monitoring	Carbyne does not provide monitoring capabilities for the Customer's building UPS



4.2.8. Electrical Grounding

4.2.8.1. Comms Room Rack

Bonding and grounding of the rack is required to ensure equipment is sufficiently protected against electrical discharge due to faults or electrical storms. All bonding and grounding should be in accordance with local standards, or if none are available, the ANSI/TIA-607-B, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises.

Rack-Mounted Ground Bar	<ul style="list-style-type: none"> Equipment rack should be electrically bonded to the Rack-Mounted Ground Bar The Rack-Mounted Ground Bar should be bonded to the room's TGB TGB should be grounded to the facility's TMGB All rack equipment should be bonded to the Rack-Mounted Ground Bar
--------------------------------	--

4.2.8.2. Comms Room Rack Equipment

Bonding and grounding of equipment is required to ensure equipment is sufficiently protected against electrical discharge due to faults or electrical storms. All bonding and grounding should be in accordance with local standards, or if none are available, the ANSI/TIA-607-B, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises.

Rack Equipment	<ul style="list-style-type: none"> Equipment should be electrically bonded to the Rack-Mounted Ground Bar
-----------------------	--

4.2.8.3. Trunk and ALI Circuits (E911 only)

Electrical protection of trunk circuit/line is required to ensure equipment is sufficiently protected against electrical discharge due to faults or electrical storms. All bonding and grounding should be in accordance with local standards, or if none are available, the ANSI/TIA-607-B, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises.

Space Requirements	2U	Installed on shelf or rack mounted
Quantity	1 minimum per site	Dependent on number of analog trunks to be protected
Procurement	Carbyne	
Maintenance	Carbyne	Hardware support - 24x7
Description	Circamax 50-pair BEP	Building Entry Protection unit to mounted within rack. 5-pin surge modules will be provided, dependent on the number of analog trunks to be protected.
Handoff	RJ11 or RJ45	



4.2.9. Patching

All horizontal cabling from the Cooms Rack to APEX positions should be terminated on a rack mounted patch panel to aid connectivity to the LAN switches.

Patch Panel	<ul style="list-style-type: none">• RJ45• CAT5e UTP or better supporting 1 Gbps
-------------	--



4.3. APEX Station

4.3.1. PC Hardware (bare metal)

CPU	Intel core i7 or better	Recommended, CPUs should be less than 3yrs old.
GPU	On-core or external	CPUs must include GPU i.e. consumer/business-level CPU. Server-grade CPUs (e.g. Intel Xeon) do not have GPU.
RAM	Typical Usage: 3GB Maximum Usage: 5GB Recommended: 16GB	APEX operates within a Java VM. It is recommended where APEX is cohabitated with other Windows software on the same PC, that RAM provisioning for the entire PC take into consideration RAM utilization by other software applications..
Disk Space	20% free disk space (Up to 2GB used at install)	
Screen	Recommended 24"-32" with 1920x1080 resolution (widescreen 16:9)	
Human Input	Windows Keyboard and Mouse	Mouse with scroll wheel will allow for faster map zooming
NIC	1Gbps Ethernet RJ45	Optional 2nd NIC for high availability
Audio Output	USB Audio Speaker	Any Windows-compatible speaker that supports the Windows Driver Model (WDM). The speaker will be used for APEX alerting functionality only e.g. abandoned call audible alert, ringing alert etc. Call audio (transmit or receive) will be handled via separate device - refer to <i>Section 6.5 Call Taker Audio Pathway</i>

*Note 1: PC may be connected via KVM if required.

*Note 2: Carbyne does not support virtualized (VDI) environments for Carbyne APEX.

4.3.2. Network

Throughput	2Mbps (typical) download 1Mbps upload	Throughput values are per APEX station. WebRTC video uses adaptive bit rates up to 300kbps
WAN IP	Static IP assignment	We utilize cloud-based IP whitelisting to enhance our security, and support single IPs (/32) down to a /29 subnet. Subnets /28 or larger on a case-by-case basis.

*Note: This designates the throughput required per station. Actual throughput (min/max) will vary depending on features that are in use at any given time.



4.3.3. Operating System Software

Operating System	Windows 10 or Windows 11	
Power Plan	Ensure the system is set to 'high performance' to avoid video lag or abnormal program performance.	
Permissions	Installation	Installation requires administrator-user privileges.
	Operation	BAU operation requires standard-user privileges.
	Updates	Software updates require modify/write permissions to the C:\Carbyne\APEX folder, inclusive of any endpoint security software such as anti-virus software.
Domain	Microsoft Windows domain <i>is not</i> required for Carbyne APEX.	

4.3.4. Electrical Power (recommendation)

Electrical power can be delivered using either of the two methods below to each APEXposition:

4.3.4.1. Per Station UPS

Power	(1) General Power Outlet NEMA 5-15R socket, ground and surge protected, for use with UPS.
UPS	500VA UPS with at least (3) General Power Outlet NEMA 5-15R sockets, supporting at least 15 minutes of runtime.

4.3.4.2. Building-wide UPS

Power	(3) General Power Outlet NEMA 5-15R socket, ground and surge protected
UPS	Provided by building



5. Configuration Requirements

5.1. PSAP and Cloud IP Routing

Carbyne supports IPv4 with all traffic addressable via publicly routable IP addressing. IPv6 is currently under certification approval by Carbyne. Routing decisions will be handled by the Carbyne Firewalls.

5.1.1. AWS Direct Connect

AWS Direct Connect (AWS DX) provides direct connectivity into the Carbyne AWS Cloud Infrastructure for traffic hosted within AWS US-Gov Cloud. Routing will be optimized to ensure all APEX traffic destined for AWS, will utilize the AWS DX.

5.1.2. Direct Internet Access

Carbyne APEX will leverage direct internet access for services *not* hosted on AWS US-Gov Cloud. This includes such services as Google Maps APIs, endpoint monitoring. Routing will be optimized to ensure all APEX traffic destined for the internet will utilize the Direct Internet Access link.

5.2. LAN Routing

Carbyne recommends a dedicated local network in order to ensure SLAs are met. We also support 802.1Q VLANs to segregate traffic on the local network segment.

5.3. Quality of Service (QoS)

Carbyne utilizes 802.1p and TOS/DSCP based Priority Queuing to ensure traffic required for APEX is given high priority over other traffic on the network. A QoS plan shall be implemented and honored on all LAN and WAN infrastructure to ensure data is prioritized and delivered accordingly.

Carbyne follows industry best practice RFCs (RFC2474, RFC3246, RFC2597, RFC3662) for defining traffic types, based on the following classifications. Carbyne will work with the Customer to further break down these classifications that are suitable for their infrastructure.

1. Realtime
2. Call Signaling
3. Critical Data
4. Best Effort
5. Scavenger

Specific configurations can be discussed and agreed upon in conjunction with the Customer's IT team during deployment.



5.4. Network Time Protocol (NTP)

Carbyne Cloud, powered by AWS, utilizes NTP in order to ensure that all service logs and data timestamps are synchronized with their Amazon Time Sync Service. This ensures data is accurately logged including timestamps for all calls, location, chat messages or videos.

It is strongly advised that PSAPs ensure that their local PCs running Apex or accessing Carbyne Control Center, are synchronized using NTP to a stratum 1 or stratum 2 server. This ensures features such as Apex Call Review Mode, chat messages etc. are sorted and listed correctly within the Apex platform. [nist.gov](https://www.nist.gov) provides guidance on NTP sources and setup.

5.5. Firewall Connections & FQDN Filtering

The Carbyne APEX platform requires outbound connections to a number of destinations hosted within AWS and selected API platforms. In general, all connections are encrypted end-to-end and leverages industry best practice policies and protocols including:

- Typical data traffic is encrypted using industry best practices including v1.3 TLS.
- SNMP monitoring of on-premises equipment is encrypted using SNMPv3 AES.

Carbyne supports only managed

The table below outlines the general firewall configuration requirements in order to provide the optimal experience and scalable maintenance.

Additional details about FQDNs, protocols and ports utilized can be requested upon deployment and are available within the Carbyne Support Portal.

Category	Purpose	Protocol /Ports	Notes
APEX Core	Operational components of the APEX platform.	TCP/443	carbyneapi.com carbynenet.com
APEX Telemetry	Telemetry components of the APEX platform.	TCP/443	rollbar.com mixpanel.com
APEX Auxiliary Data	Operational Google maps, satellite imagery and traffic	TCP/443	googleapis.com
Time Synchronization	Syncing of Windows PC time	UDP/123	NTP servers provided by nist.gov

Carbyne APEX**System Requirements - US [EN]**

Category	Purpose	Protocol /Ports	Notes
DNS Resolution	DNS services to public DNS and Carbyne DNS servers	UDP/53	Carbyne leverages public DNS servers including Akamai, Cisco Umbrella, and Quad9. Carbyne DNS servers are hosted by AWS Route53.
Call Trunk Traffic (E911 only)	Call SIP trunks between on-prem CAMA/POTS and Carbyne SBCs	TCP/5060 UDP/10000-20000	
Digi Management	Monitoring and management	TCP/3199	Devices used for CAD Spill and ALI Modem connectivity.
Digi Operational	ALI spill call data from ALI Service Provider	TCP/443	Connected directly to ALI Modem.



6. Feature Requirements

6.1. Emergency Services IP Network (ESInet)

Carbyne supports Emergency Services IP Network (ESInet) which allows for PSTN traffic from the Caller to be routed over dedicated networks into Carbyne's AWS US-Gov Cloud infrastructure. This ensures call integrity, SLA compliance and support for Next Generation Core Services (NGCS)

Below you will find the list of certified ESInets to which Carbyne has integrated with to date. Carbyne is adding new ESInet compatibility and certifications on a frequent basis.

1. AT&T ESInet with Intrado NGCS
2. Washington (WA) State, and PEMA ESInets with Comtech NGCS (*pending final certification*)
3. CalOES ESInet with Atos NGCS (*pending final certification*)
4. Colorado (CO) State ESInet with Lumen RFAI (*pending final certification*)

6.2. Text-to-911 SMS

Carbyne supports Text-to-911 (T2911) SMS services which allows for the Caller to SMS 911 for emergency services assistance. SMS content (MSRP) is delivered directly into the APEX platform for the Call-Taker to respond to

6.2.1. Text-to-911 for NG911

Text-to-911 connectivity is handled in-band within the NGCS that traverses the ESInet. No additional on-prem equipment is required.

Below you will find the list of certified NG911 Text-to-911 solutions to which Carbyne has integrated with to date. Carbyne is adding new Text-to-911 compatibility and certifications on a frequent basis.

- AT&T with Intrado [NG911]
- Comtech (*pending final certification*) [NG911]
- ATOS (*pending final certification*) [NG911]

6.2.2. Text-to-911 for E911

Text-to-911 connectivity is handled via at least one (1) on-prem router, or in cases of HA requirements, dual (2) on-prem routers. Routers communicate back with the Text-to-911 vendor via IP access circuits, provided by Carbyne.

Below you will find the list of certified E911 Text-to-911 solutions to which Carbyne has integrated with to date. Carbyne is adding new Text-to-911 compatibility and certifications on a frequent basis.

1. Intrado ITS (via Carbyne IP circuits) [E911]



IP Configuration	Static IP assignment for the T2911 internal (LAN) interface. Carbyne will provide an external (WAN) IP address for the purposes of 1:1 NAT.
NAT	Traffic to/from the Carbyne Cloud will be handled by the Carbyne firewall with a 1:1 NAT configuration. The T2911 router should ensure that the external public IP is manipulated within the SIP header field of SIP responses/requests that are to/from Carbyne's cloud. This includes the SDP header.
SIP Port	TCP/5060
SIP Options Port	UDP/5060
MSRP Ports	TCP/2855–TCP/2857
GeoLocation Ports	TCP/60535

6.3. On-Premises CAD Spill

Carbyne supports NENA standard RS-232 (serial) CAD spill to third party systems including CADs and Voice Recorders. Carbyne implements an IP-to-Serial device to generate on-prem CAD spill updates from the Carbyne Cloud. This connectivity is established using a TLS encrypted connection to the Carbyne Cloud.

Serial Configuration	Carbyne supports industry standard 9600/8/N/1
Serial Handoff	DB9

6.4. Voice Recording (VR) Integration

Carbyne supports third-party Voice Recording (VR) via the SIPREC protocol (RFC 7866). Our solution uses SIPREC plus a CAD spill to provide voice and the associated call metadata to a customer's third-party VR.

Below you will find the list of certified VRs and minimum software versions to which Carbyne has integrated with to date. Carbyne is adding new VR compatibility and certifications on a frequent basis.

1. NICE: Inform Recorder v10.0.2.372
2. Verint: v15.2.8.856
3. Eventide: MediaWorks DX v2023.1 [3095] (MediaWorks non-DX is not supported)



Specific VR parameters are listed below:

IP Configuration	Static IP assignment for the VR's internal (LAN) interface. Carbyne will provide an external (WAN) IP address for the purposes of 1:1 NAT.
NAT	Traffic to/from Carbyne's cloud will be handled by the Carbyne firewall with a 1:1 NAT configuration. The VR should ensure that the external public IP is manipulated within the SIP header field of SIP responses/requests that are to/from Carbyne's cloud. This includes the SDP header.
SIP Port	TCP/5060
RTP Ports	Total ports: 1024 UDP/16384 – UDP/17408

6.5. Call Taker Audio Pathway

Call takers have two options available in order to allow for two-way telephony audio communications on the APEX PC.

1. USB I/O Audio Device including Headset, Handset or Speakerphone
2. Separate Radio Console headset via Audio Arbitration

6.5.1. USB Headset connectivity

Generally, any Windows-compatible USB I/O Audio Device that supports the Windows Driver Model (WDM). The headset or handset will be used by APEX to route audio transmit and receive to/from the Caller to the call taker's ears.

Below lists the QA certified USB headset or handsets devices.

Headsets	<ul style="list-style-type: none"> • Poly C3200 Series USB • Poly Encore Pro 700 Digital series QD • Poly Encore Pro 500 series QDs • Poly Encore Pro 300 series QD
Headset Adapters	<ul style="list-style-type: none"> • Poly DA75 USB-to-QD, QD Headset compatible • Poly CA12CD-S Cordless Base+PTT, QD Headset compatible
Handsets	<ul style="list-style-type: none"> • Jabra 450
Speakerphones	<ul style="list-style-type: none"> • Jabra 400 series • Jabra 500 series • Jabra 700 series

*Note 1: Bluetooth is not supported (due to power saving features of BT)

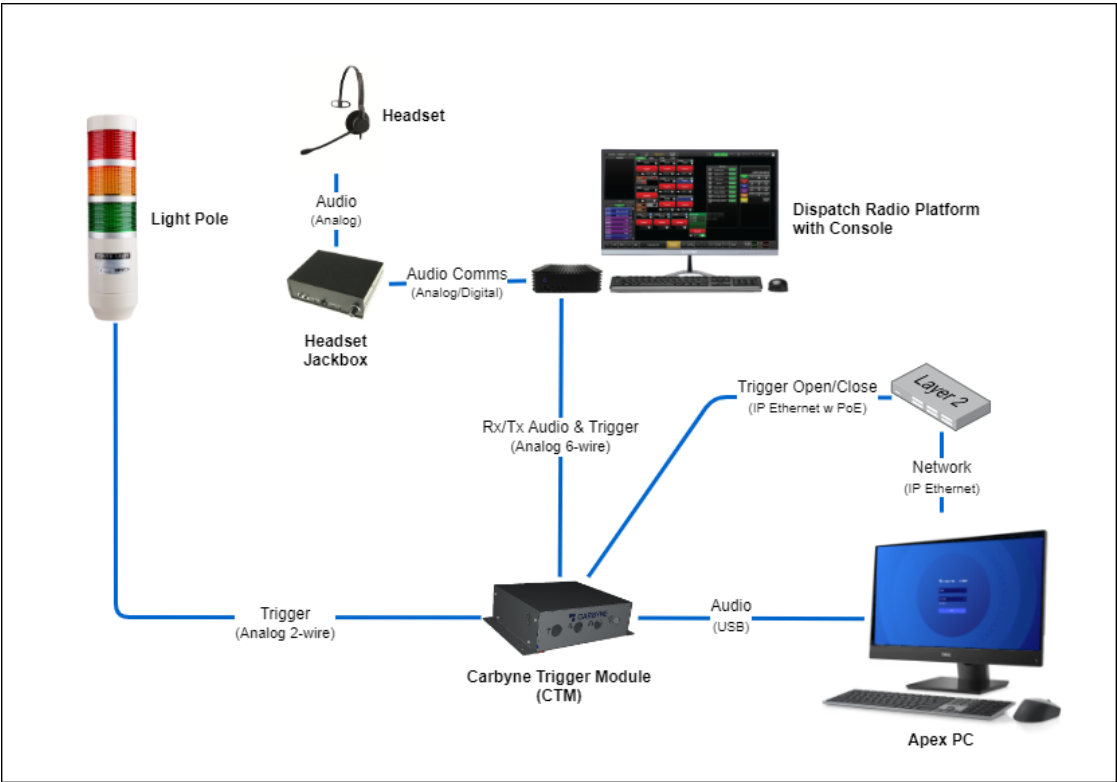
*Note 2: Any other USB I/O Audio Device configuration is subject to Carbyne approval.



6.5.2. Carbyne Trigger Module

Carbyne can provide a proprietary Carbyne Trigger Module (CTM) device which allows for the following functionality.

- 1. Triggering of light poles
- 2. Triggering for audio arbitration via existing radio console



The device itself has a number of ports and connections, and will appear within the Windows environment on the APEX PC as additional audio I/O devices.

Dimensions	7.87 x 4.72 x 2.95 in (200 x 120 x 75mm)
Mounting	Under-desk mountable via four (4) screws
Connections	1x – RJ45 (Network & POE connectivity) 1x – RJ45 (NENA port handoff – T568B. Connection to a Radio Console) 1x – RJ45 (Light pole connection – T568B. Supports up to 3 light triggers) 1x – USB-B (Computer connectivity as an external audio device)
Module Power	The RJ45 Network & POE port supports POE Class 1 (0.44 to 3.84 Watt) or 9-28VDC. Inline POE injector: <i>Supported</i>



Network	The RJ45 Network & POE port must be connected to the same LAN segment as the APEX PC's NIC. Control of the CTM is directly between the APEX PC and the CTM device.
Arbitration Type	Audio Arbitration is deployed in two styles, depending on which system is controlling the arbitration: <ul style="list-style-type: none"> • Radio System Arbitration: <i>Supported</i> • Telephony System Arbitration: <i>Unsupported</i>
Audio Impedance	Radio console with a 600 ohm impedance in line with NENA specifications.
Light Power	Power supply for the lights themselves shall be provided by the light pole vendor, and be provisioned separately from the CTM.

6.6. Wallboards

Carbyne's Wallboard product allows PSAP operations managers and supervisors to view the various forms of information relating to the current call, queues and call taker statuses.

Seat Map	This board shows what positions are logged in and who is logged into these positions.
Queues	This board shows up to 6 queues with the current queued call status. It can be configured to have a two-stage alarm level, in order to provide audible alerts to call takers indicating waiting calls.
Video	This board shows any active/live videos being captured from callers. This is a live stream and the board can show up to six different sessions concurrently.

*Dedicated PCs, with unique wallboard user credentials

Wallboards are accessible via Carbyne Control Center, available within standard web browsers. PC specifications are as follows:

CPU	Intel core i5 or better	Recommended, CPUs should be less than 3yrs old.
GPU	On-core or external	CPUs must include GPU i.e. consumer/business-level CPU. Server-grade CPUs (e.g. Intel Xeon) do not have GPU.
RAM	16GB	Recommended
Disk Space	20% free disk space (1GB used at install)	



Screen	External TV or Monitor (widescreen 16:9)	HDMI connection recommended. HD (1080p) recommended. Multiple screens can be utilized, one for each wallboard.
Browser	Chrome	Safari, Edge or Firefox browsers are not officially supported at this time.
URL	Refer to Section 5.5 Firewall Connections & FQDN	

6.7. Responder Connect

Carbyne's Responder Connect feature allows the call taker to share the event's location and video by sending them a link to their device. The URL link is generated within the APEX application itself, and will be available via the Windows clipboard.

Sharing Capability (clipboard)	The URL link is available to paste within any other application that is running cohabitation with the APEX PC, such as email or CAD. Link sharing via a KVM clipboard function is available, and dependent on KVM models.
Sharing Capability (API Integration)	The URL link can be passed through to the CAD application via API integration. This requires support by the CAD vendor to support clickable URL links.
First Responder (no login)	Required to have a device with Chrome or Safari, and operating system with Windows, iOS or Android.
First Responder (credential login)	Allow specific users to access the first responder link, In this case, the customer will need to create users for the first responders link via the Control Center.
URL	Refer to Section 5.4 <i>Firewall Requirements</i>



Support Terms & Service Level Agreement (Support Terms)



v2.15

April 2024
US-EN

Notice

This document does not constitute an offer of any nature whatsoever and does not create any binding obligations on CARBYNE to enter into an agreement with any third party. All information contained herein is for informational purposes only. The products and/or systems described in this document are furnished under the terms and conditions of a specific license agreement or non-disclosure agreement and only such written agreement shall be binding on CARBYNE. All information included in this document, such as text, graphics, photos, logos, and images, is the sole and exclusive property of CARBYNE, which is the proprietary confidential information of CARBYNE and/or its licensors and is protected by applicable national and international copyright. Any other duplication, distribution, re-transmission, or modification of the information in this document, whether in electronic or hard copy form, without the express prior written permission of CARBYNE, is strictly prohibited. In the event of any permitted duplication, redistribution, or publication of copyrighted material, no changes in, or deletion of, author attribution, trademark legend, or copyright notice shall be made.

All contents of this document are Copyright © 2024 CARBYNE Ltd. All rights reserved.

Table of Contents

Definitions	4
Chapter 1 Support Terms Overview	5
Chapter 2 Support Services	6
2.1 Reporting Technical Issues to Carbyne	6
2.1.1 Our Support Service Responsibilities	6
2.1.2 Your Responsibilities	6
2.2 Escalation	7
2.3 Software Upgrades	9
2.4 Supported Products and Versions	9
Chapter 3 Support Work Procedure	10
3.1 Communication	10
3.2 Ticket Escalation Matrix (by Level)	10
3.3 Ticket Classification (Severity Levels)	11
3.4 Ticket Handling	11
Chapter 4 Support Level for Support Services	13
4.1 Support Level Time Definition	13
Chapter 5 IP Connectivity	15
5.1 Dedicated IP connectivity	15
5.2 Shared IP connectivity	15
5.3 Connectivity Definition	16
Chapter 6 On-Site Support Services	17
6.1 On-Site Support Services Description	17
6.2 Our On-Site Support Services Responsibilities	17
6.3 Your Responsibilities	17
Chapter 7 Monitoring Services	18
7.1 Monitoring Services Description	18
7.2 Our Monitoring Services Responsibilities	18
7.3 Your Responsibilities	18
Chapter 8 Remote Operating System Maintenance and Update Services (for APEX customers)	19
8.1 Service Description	19
8.2 Our Remote Operating System Maintenance and Update Service Support Responsibilities	19
8.3 Your Responsibilities	19
Chapter 9 Premium Offerings	20
Support Level Subscription Plans	20
ADDENDUM	21
Product and Feature Service Level Agreement (SLA)	21
1. System Availability and Scheduled System Unavailability	22
2. System Availability with Third-Party Integrations	24
3. Service Credits	25

Definitions

Term	Definition
Hot Fixes	A software patch, software version, file, or script that Carbyne provides to remedy any fault which is out of Carbyne's regular software version release cycle.
Integrated Product Scheduled System Unavailability	Any scheduled and pre-announced unavailability period of an Integrated Third-Party Component.
Integrated Product Unscheduled System Unavailability	Any unscheduled System Unavailability of an Integrated Third-Party Component.
Integrated Third-Party Components	Any component that is provided by a third party and is embedded in the Platform and/or Software. An example of such a component is Google Maps which is viewed in APEX.
Integration with External Interfaces	Any software or hardware that is not owned or provided by Carbyne and which you require Carbyne to write code and/or connect physically to use with the Platform and/or Software.
Key Performance Indicator (KPI)	Any measured indicator of performance of the Platform which is tracked and reported (e.g. System Unavailability, availability) as described in these Support Terms.
NOC	Network Operations Center
Platform	The hosted platform, software as a service and/or other hosted product or service which Carbyne or its affiliate(s) make available to you pursuant to the applicable agreement between you and Carbyne. The Platform excludes Software.
Professional Services	Professional services, such as installation and integration services, Tier-3 Support Services and complex support escalations from Tier-2 Support Services (such tiers as described in these Support Terms). A description of the Professional Services will be set forth in a Statement of Work.
Services	The services provided or required to be provided by or through Carbyne, such as Support Services and Professional Services.
Software	The software in object code we provide to you for download which enables you and your Authorized Users to access the Platform. Software includes any upgrades we provide in accordance with these Support Terms. Software excludes the Platform.
Statement of Work or SOW	A detailed plan of work that describes professional services (such as installation and integration services) to be agreed upon in writing by the parties.
Support Services	The maintenance and support services provided in connection with your use of Platform and/or Software, as applicable, in accordance with these Support Terms.

Chapter 1

Support Terms Overview

These Support Terms outline the maintenance and technical support for Carbyne's products and services. As used in these Support Terms, "Carbyne", "us", "we" or "our" refers to Carbyne Ltd., Carbyne, Inc. or Carbyne911 Mexico S. de RL de CV, as applicable, and "Customer", "you" and "your" refers to the customer who purchased or subscribes to Carbyne's products and services.

These Support Terms remain valid until superseded by revised or updated Support Terms provided or made available to the Customer by Carbyne.

The Carbyne Customer Support department operates a 24/7/365 global services and support center staffed by Carbyne's product and IT experts who provide remote management of Carbyne products and services.

Under these Support Terms, Carbyne also addresses proactive support to maintain the operation of the Platform. Tasks may include the systematic inspection, test, measurements, adjustment, detection, and correction of suspected issues in the Platform and/or Software either before they occur or before they develop into major defects.

The primary goal of this preventive maintenance is to avoid or mitigate the consequences of potential failures in the Platform, including the Software and its core capabilities. Preventive maintenance is designed to preserve and restore reliability of the Platform and Software by identifying potential issues in advance.

Chapter 2

Support Services

We offer Support Services during the period for which you have purchased Support Services from Carbyne as specified in the applicable valid purchase order or valid contract between you and Carbyne ("Maintenance & Support Period").

2.1 Reporting Technical Issues to Carbyne

2.1.1 Our Support Service Responsibilities

Carbyne operates 24 hours a day, 7 days a week, and 365 days a year, Network Operations Center (NOC) staff which is monitoring the Platform system health including:

- Cloud services and infrastructure
- Carbyne platform
- Third-Party platform services integrated with the Platform

Our NOC will dispatch and alert our support teams worldwide in an automated "follow the sun" mode, to help expedite response time and recovery from the relevant region with around the clock alerting and escalating procedures to meet our Support Services obligations.

You may submit a Support Services ticket by contacting us as described in Chapter 3 below. The NOC will assign an initial tier of Support Services (the tiers are described below) based on the information you provide and will keep you informed of the repair status regularly until the ticket is closed.

2.1.2 Your Responsibilities

- All technical support requests should be directed to the Technical Support Center as described below.
- When submitting a service request, include the following information:
 - Name of your organization and location
 - Contact name and email address (including an alternate contact)
 - Detailed information regarding the technical issue
- The individual requesting support should be knowledgeable and properly trained on the operation of the Platform, including the Software, if applicable.
- Provide us with any additional information as requested regarding the technical issue as in order to assist us in resolving it.
- Provide timely feedback to our Support Services team regarding case status and resolution.

- Provide remote access (if required and in compliance with your security policies) to enable us to detect Platform availability and performance stats.
- Notify our Support Services team or Customer Success Management of any activity that impacts the Platform (such as software installation, hardware upgrades, network upgrades, firewall changes, ISP changes or deactivation).
- The Platform must be updated to the latest version or n-1, as required in section 2.7 in these Support Terms. Versions older than n-1 may be not supported.

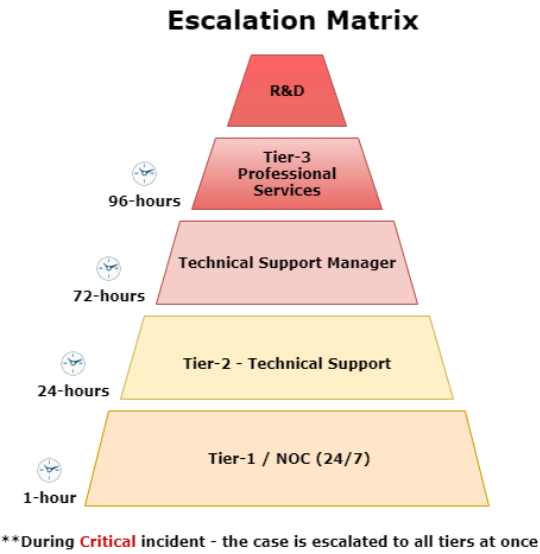
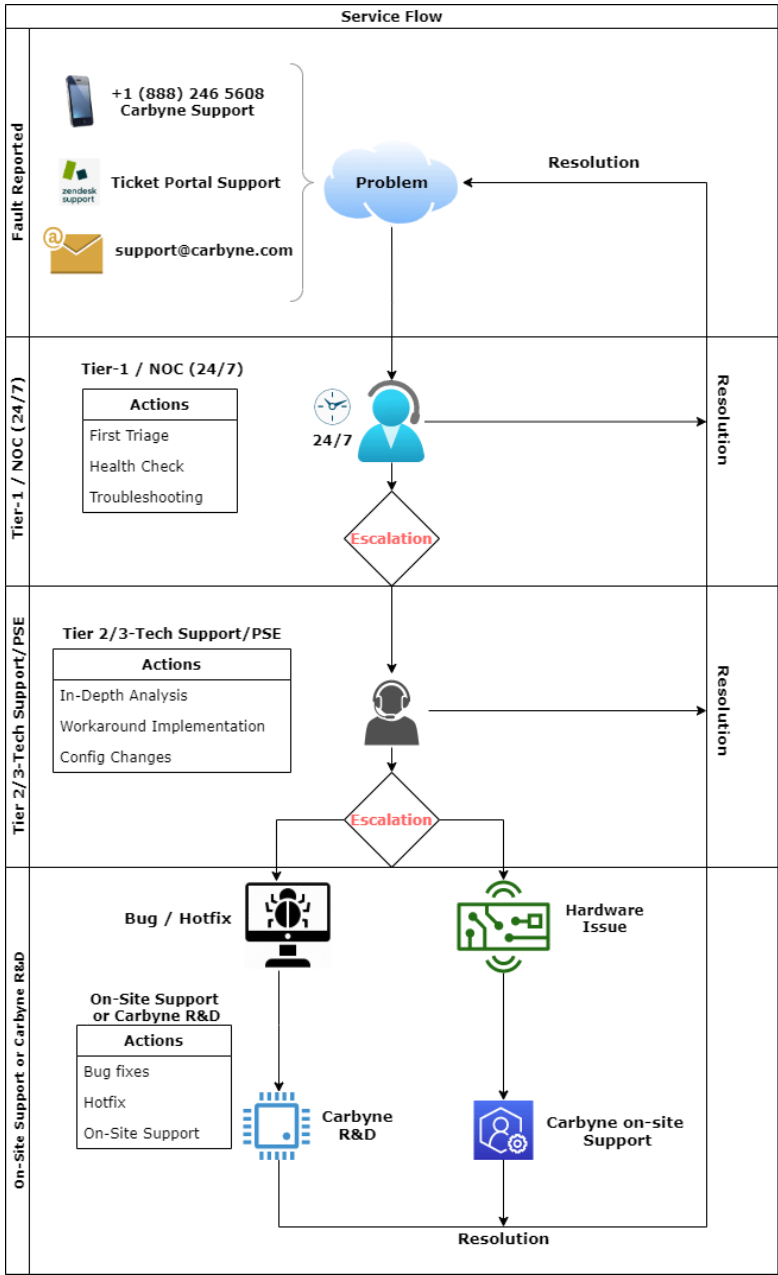
2.2 Escalation

The initial triage to provide Support Services will be operated by the NOC team (Tier-1 Support Services). The engineer on shift will provide troubleshooting in an effort to solve the issue, answer questions and restore the Platform or Software (as applicable) to its functional state.

The NOC engineer will gather as much information as possible from you to understand whether an immediate escalation is needed to avoid any delay with Platform service restoration.

The NOC engineer will investigate the issue or will collaborate with the next support tier (Tier-2 Support Services) to resolve the issue. Additional escalations may be required to provide a resolution or a workaround according to the described escalation flow, as described on the next page:

Internal Escalation Flow:



2.3 Software Upgrades

We make Platform upgrades available at no additional cost, typically four (4) times a year (each a “Quarterly Release”), during the Maintenance & Support Period. These upgrades generally include newly released versions and “Hot Fixes” but may exclude new features that are made available separately.

Upgrade dates will be announced by the Customer Success Manager (CSM) via email. User manual, release notes, and additional relevant information will be posted on the Carbyne Support portal.

2.4 Supported Products and Versions

Support Services will be provided for the then-current version of the Platform and/or Software (and applicable features) and one version back. We will support earlier versions on a best reasonable effort basis and for critical faults only.

Support Services shall not cover, and will not be provided to address, errors caused by amendments, alterations or modifications to the Platform and/or Software, which you, or a third party, have made without Carbyne’s written consent, or errors caused by using the Platform and/or Software in a manner that violates Carbyne Terms and Conditions (or the applicable agreement between you and Carbyne) or instructions provided by Carbyne.

Carbyne does not offer assistance with, or pair with, any third-party integrator which is not provided by Carbyne. This includes any third-party hardware or software installations, uninstallations, modifications, or any other types of configurations, which may impact the Platform and/or Software.

Carbyne does not advise, recommend, prefer or consult on any third-party provider or integrator which is not related to the Platform and/or Software.

Carbyne is not responsible for the correction of issues resulting from a third-party software, equipment or any other third-party vendor which is not related to the Platform and/or Software.

Chapter 3

Support Work Procedure

3.1 Communication

- a. You may communicate with our Support Services team by email (support@carbyne.com), a secure customer internet portal, or by phone:
US Support (24/7) - +1 (888) 246-5608
LATAM Support (24/7) - +52 (55) 8526 5076
IL Support (24/7) - +972 (53) 982 1236
All communications related to Support Services will be in English unless otherwise agreed upon for specific customers.
- b. Our Support Services team will respond according to the ticket severity as defined in section 4.1.a below.

3.2 Ticket Escalation Matrix (by Level)

- a. Support Services tickets for Critical issues (as defined in Section 3.3 below) which require a prompt response may be escalated based on the table below. You acknowledge that we may substitute the named individual as part of this escalation process as we deem appropriate.

Level	Name	Position	Contact Email	Contact Phone
Level 1	Julio Campos	NOC Manager	julioc@carbyne.com	+1 (571) 699-9432
Level 2	Alex Mor	Director of Customer Service	alexm@carbyne.com	+972 (54) 6488-646
Level 3	Ohad Moses	Director of Professional Services	ohad@carbyne.com	+1 (201) 486-9349
Level 4	Eyal Oron	VP of Global Operations	eyal@carbyne.com	+1 (201) 888-1955
Level 5	Noam Fraenkel	VP of Research & Development	noam@carbyne.com	+972 (54) 4497-073
Level 6	Alex Dizengof	Founder & CTO	alex@carbyne.com	+1 (201) 744-1192

3.3 Ticket Classification (Severity Levels)

We will determine the severity of a Support Services ticket based on the impact of the issue. Ticket classification levels are described in the table below.

Problem Severity	Description
Critical [P1]	A system-wide service degradation resulting in System Unavailability
	Malfunction or inaccessibility of critically defined product or feature core capabilities (as described in the ADDENDUM)
	For APEX , when requiring ingress 911 calls traffic re-route
Major [P2]	Data transmission delays but without any loss of information
	An incident with significant performance degradation of one or more Platform core capabilities, that causes a major impact on business operations for a significant number of end-users
	User interface problems causing significant difficulty in performing basic operations
	For APEX , when 50% or more of available workstations are unusable (no voice) and/or location feature degradation for all Call Handling positions.
Minor [P3]	Non-critical user interface issues
	Problems in non-critical components that do not affect system users
	Significant delay in video initialization and/or latency issues
	For APEX , when a third-party interface is inaccessible
Other [P4]	May reflect any problem that does not fit into one of the above categories

3.4 Ticket Handling

- a. A support ticket will be opened when the customer contacts Carbyne support via one of the approved communication channels as described above.
- b. Upon receipt of a Support Services ticket through the secure customer internet portal, we will deliver a ticket to you via the secure customer internet portal.
- c. The progress of the issue will be recorded and documented in the secure customer internet portal ticketing system, where you can also track the progress.
- d. You agree to provide the necessary details as required under Section 2.1.2 above.
- e. We will identify the reported Error as a Minor, Major, or Critical Severity based on our initial evaluation. If you disagree with our classification, we will work together with you to jointly determine the Error classification. If after such good faith efforts the parties do not come to a joint determination, our determination of the Error classification will apply.

- f.** We will respond to Support Service requests in accordance with anticipated response times as described in Chapter 4 below. During the handling of Support Service tickets, we will regularly update you on the resolution progress via email or phone.
- g.** Ticket Resolution. A reported issue is considered resolved when:

 - i. The applicable Platform and/or Software conforms substantially to its specifications as detailed in the product Documentation; or
 - ii. We have advised you on how to correct or bypass the Error; or
 - iii. The correction to the Error will be available through a future Software upgrade or Software patch; or
 - iv. You have confirmed to us that the issue has been resolved or is no longer occurring.
- h.** If the resolution of a Support Service ticket requires a fix to the Platform and/or Software code (i.e. "we"), we will provide a fix in the upcoming minor or major release.

 - i. Note that in some cases, when the upcoming release is already in the "Code Freeze" stages, the relevant release might be the one after it.
- i.** In some cases, we may issue an ad-hoc fix (i.e. "HotFix") in parallel to include this fix in the upcoming release. These cases will be discussed on a per-case basis between Carbyne support personnel and the customer's point of contact.
- j.** Requests for enhancements to the Platform and/or Software (i.e. requests to change and/or augment the Platform to support a new feature) will be documented and taken into consideration for the product roadmap. We have no obligation to add requested enhancements to the Platform, Software or any product offering.

Chapter 4

Support Level for Support Services

4.1 Support Level Time Definition

We provide the following target response time to Support Service tickets:

- a. Submission hours: Email, Carbyne’s support portal, and phone support shall be available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days a year.

Target ticket response times in accordance with the following table:

Severity	Target Response Times			Resolution Time
	Acknowledgement Procedure	Response Time	Progress Report	
Critical [P1]	By phone	By Phone < 5 mins By Email < 30 mins By Portal < 30 mins	< 1 hour	< 3 hours for a temporary fix Permanent fix in the next maintenance window
Major [P2]	By email receipt notification		< 12 hours	< 72 hours for a temporary fix Permanent fix in the next maintenance window
Minor [P3]	By providing ticket ID		< 96 hours	< 10 Business days
Other [P4]			N/A	Next version release

Target response times do not apply in the event of “Force Majeure” (as defined below)*

- b. We provide remote support when a remote connection is available.
- c. We may provide on-site Support Services under specific circumstances only and only as agreed upon in writing. On-site Support Services may be subject to additional fees.

- d. **APEX target on-site response times related to Hardware which we have provided or resold to you with APEX** in accordance with the following table:

Severity	Target Response Times			Resolution Time
	Acknowledgement Procedure	On-Site arrival	Progress Report	
Critical [P1]	By phone	< 2 hours	< 30 mins	< 3 hours for a temporary fix Permanent fix in the next maintenance window
Major [P2]	By email receipt notification	< 4 hours	< 60 mins	< 6 hours for a temporary fix Permanent fix in the next maintenance window
Minor [P3]	By providing ticket ID	Next business day	Next business day (or as required)	Next business day

*Target response times do not apply in the event of "Force Majeure" **

- e. In the event the issue relates to third party hardware (i.e. hardware which we have resold to you), we will contact the applicable hardware manufacturer or vendor within the specified resolution time.
- f. We are not responsible for any hardware that was not installed at your site by us, and is part of our infrastructure (such as equipment, racks, ladder, enclosures, cable trays, etc.) which was bonded to the grounding system by you.
- g. In the event that hardware is affected by poor grounding, and it is necessary to replace the hardware at a cost, it will be your responsibility to pay for the replacement.
- h. **VoIP services included with APEX are provided by Twilio or Bandwidth.** We will contact the applicable provider, Twilio or Bandwidth, for Support Services tickets which relate to voice services included with APEX in accordance with the following table:

Severity	Target Response Times		Target Resolution Time
	Acknowledgement Procedure	Progress Report	
Critical [P1]	By phone	< 60 mins	< 3 hours for a temporary fix Permanent fix in the next maintenance window
Major [P2]	By email receipt notification	< 120 mins	< 6 hours for a temporary fix Permanent fix in the next maintenance window
Minor [P3]	By providing ticket ID	Next business day (or as required)	Next business day

*Target response times do not apply in the event of "Force Majeure" **

* **"Force Majeure"** refers to any System Unavailability or issues that are the result of events or conditions beyond Carbyne's reasonable control. Such events might include but are not limited to any acts of a common enemy, the elements, earthquakes, floods, fires, epidemics, and the inability to secure products or services from other persons or entities.

Chapter 5

IP Connectivity Services (for APEX)

We offer IP Connectivity Services to assist you in establishing IP Connectivity between your call center and our cloud-native APEX platforms. The scope of our IP Connectivity Services is a Managed Dedicated IP Connectivity.

5.1 Managed Dedicated IP Connectivity

Managed Dedicated IP Connectivity is provided by one of our third party IP Access Managed Service Providers ("IP Access MSP") on our behalf using managed equipment. We use IP Access MSPs to enable the movement of data more efficiently, securely and quickly to and from our cloud infrastructure. IP Access MSPs may also use local points-of-presence (POPs) built on the IP Access MSP's high-speed core backbone that they own, provision, and maintain. To achieve greater fault tolerance, we require a High Availability (HA) architecture. Fault tolerant capabilities will be built into the Managed Dedicated IP Connectivity Services, so if a single on-premises device or cable fails, or a physical or logical connection fails, you will not completely lose service, however you may experience a reduced level of service.

You may choose from the following types of telecommunications circuit connectivity:

- **Ethernet Private Line over two circuits ("EPL")** - EPL provides a dedicated and direct point-to-point connection between two locations. This connection is private, which means it is not shared with other customers nor does it route over the public internet. EPL access circuits allocate bandwidth to the specified customer, and are typically used to provide the Customer with direct access to the IP Access MSP core backbone network.
- **Direct Internet Access over two circuits ("DIA")** - DIA is a connection, delivered via ethernet or private-line circuits, that is not directly shared or used with others. While DIA provides dedicated bandwidth to the specified customer, the bandwidth traverses into core carrier networks that may be shared with others.

Our (or the IP Access MSP on our behalf) connectivity responsibilities:

- Management of the connectivity
- Operation, maintenance and troubleshooting of the connectivity

5.2 Connectivity Service Levels

The following sets forth the service level (uptime) for the specified connectivity service:

Initials	Connectivity Name	SLA (Uptime)
EPL (Over Two Connections)	Ethernet Private Line	99.999%
DIA (Over Two Connections)	Dedicated Internet Access	99.999%

The **Product and Feature Service Level Agreement (SLA)** table listed in the **ADDENDUM** to these Support Terms is calculated based on the **SLA (uptime)** percentage of the **Connectivity Service Level** table above.

Carbyne will provide a 99.999% SLA only for the connectivity options included in the APEX solution (such as last mile connectivity, MultiProtocol Label Switching (MPLS), AWS DirectConnect (DX), and Managed Equipment). Any other connectivity services not specified or which are customer-provided are beyond our control. We do not offer any service level guarantee for Managed Shared IP Connectivity or connectivity services which you obtain elsewhere.

Chapter 6

On-Site Support Services

The On-Site Support Services are not included in Essentials Support Services. On-site Support Services are available for additional fees, including travel costs and fees for time and labor. On-Site Support is also available if you have purchased Premium Support Services.

6.1 On-Site Support Services Description

The purpose of on-site Support Services is to provide assistance with issues that require smart-hands troubleshooting and restoration at your site and which cannot be resolved remotely.

On-Site Support Services may be provided by third-party vendors.

On-Site Support Services includes quarterly preventive and routine maintenance reviews (four per year) of your system which is connected to the Platform and/or Software. We may also provide installation of Software updates, if applicable.

6.2 Our On-Site Support Services Responsibilities

- If the reported problem cannot be resolved remotely, we may recommend dispatching a technician to your site
- We will collaborate with your personnel to analyze applicable components (such as those provided by Carbyne or third party components which are connected to the Platform) to help resolve the issue

6.3 Your Responsibilities

- Perform responsibilities as detailed in the Report 2.1.b section
- Provide remote connectivity access (if required)
- Team with our on-site technical support personnel to perform all reasonable or necessary actions towards resolving the issue

We do not provide any technical assistance or Support Service with respect to any third party components that are not part of the Platform and/or Software. Such third party components may include any cable, hardware, or software operation activities, or any other network changes.

Chapter 7

Monitoring Services

The Monitoring Services are not part of Essentials Support Services, and are available if you have purchased Premium Support Services.

7.1 Monitoring Services Description

Monitoring Services are offered to provide you with remote visibility of the Platform, through a managed dashboard hosted by a third party (currently operated by Datadog).

By using the Monitoring Services, you will receive up to date information regarding the Platform health, such as Platform usage insights.

If you purchase this service, we will make a dashboard available to you and your authorized personnel.

7.2 Our Monitoring Services Responsibilities

- We will work with you to design the Monitoring Services dashboard.
- We will provide training to your authorized personnel who will access and use the Monitoring Services dashboard.
- If an issue on the Platform is detected, the Carbyne NOC representative will use reasonable efforts to address the issue.
- We will work with you to help optimize and improve the monitoring dashboard if there are changes to any integrations with the Platform.

7.3 Your Responsibilities

- Assign the champion to work with us to design, build and maintain the Monitoring Services dashboard.
- Update Carbyne's NOC with any changes to the authorized personnel contact information.
- Validate network connectivity to the relevant IPs, listed under the System Requirement document.
- Inform Carbyne's NOC prior to any scheduled changes to your systems which may inadvertently trigger the Monitoring Services dashboard.

Chapter 8

Remote Operating System Maintenance and Update Services (for APEX customers)

The Remote Operating System Maintenance and Update Services are not included with Essentials Support Services, and are available for additional fees.

8.1 Service Description

The purpose of Remote Operating System Maintenance and Update Services is to verify the APEX Platform is running on up-to-date operating systems which we have tested for compatibility with APEX. This service is currently available only for APEX.

8.2 Our Remote Operating System Maintenance and Update Service Support Responsibilities

- We will download and install Operating System updates for workstations or computers which we have provided to you (i.e. workstations or computers we have provided to you through an authorized reseller) and which have APEX installed. We are not responsible for any other workstations or computers.
- We will test and validate compatibility of applicable Operating System updates in test environments, prior deploying to your production environment.

8.3 Your Responsibilities

- Whitelist port 80 for HTTP and port 443 for HTTPS to obtain updates.
- Whitelist the following domains to obtain updates:
 - http://*.microsoft.com
 - https://*.microsoft.com
 - http://*.windowsupdate.com
 - https://*.windowsupdate.com
- Restart your work stations or take other action as required by Microsoft for updates to take effect.

Chapter 9

Premium Offerings

Support Level Subscription Plans

We offer two levels of Support Services as follows. Essential Technical Support is included in your subscription to the Platform. Premium Technical Support is available for an additional fee.

Support Service	Essentials	Premium
Communications via email, global support line, and customer support portal	Included	Included
SLA-based response and resolution	Included	Included
On-demand ticket reports	Included	Included
24×7×365 NOC	Included	Included
Third-party ticket management	Included	Included
Ticket summary meetings and reports	Not included	Monthly
Direct contact with Tier-2 support with escalation to Tier 3-4	Not included	Via a designated remote engineer
Preventive maintenance and troubleshooting	Not included	Up to 4 times per year
External Dashboards and usage monitoring	Not included	Tailored to Customer's needs
Advanced Performance Tuning	Not included	Detailed performance analysis to help optimize system efficiency and resource utilization
Root Cause Analysis Report	Root cause stated in the ticket	Incident report with root cause analysis, actions taken, and preventive measures (within 5 business days)
Disaster Recovery Planning and Testing	Not included	Collaborate on disaster recovery planning, conduct regular testing, and refine procedures to minimize downtime and data loss
Purchased Hardware Support	Standard maintenance as agreed in the contract	Proactive hardware maintenance designed to keep hardware in peak condition

ADDENDUM

Product and Feature Service Level Agreement (SLA)

We currently use Amazon Web Services (AWS) to host the Platform. Our back-end applications are clustered and deployed globally, designed to provide redundancy with disaster recovery capabilities and minimal service restoration time ("Carbyne's System").

During any calendar month, uptime for core capabilities of the applicable Product shall be operational no less than:

Product	Feature	Uptime*	System Unavailability
APEX	Inbound 911 Call Flow (911 Voice Call, Text2911, TTY, RTT, 911 Location)	99.999%	26s
	Carbyne Location, AML, Chat, Imagery	99.99%	4m 22s
	Audio Recordings, Live Video	99.95%	21m 54s
Universe	Carbyne Location, Chat	99.99%	4m 22s
	Live Video	99.95%	21m 54s
Bridge Desk	Presenting Units, Map Layers, Weather Capabilities	99.9%	43m 49s
Customer Control Center, APEX Analytics	Customer Control Center Features Call Control Live Data Call Control Analytics	99.5%	3h 37m 21s
Smart API	Emergency Communications as a Service (ECaaS) Carbyne Connect IoT Capability	99.9%	43m 49s

** The uptime specified above excludes Planned Maintenance (as defined below) of the Platform. We are not responsible for System Unavailability caused by your IT infrastructure (such as internet services, electricity, modems, servers, workstations, hardware and operating systems), applications, by Third-Party integrations (such as your use of the Platform with your applications, software and equipment) over which we have no control or by Integrated Third-Party Components. Such System Unavailability will not count against the service levels specified in this SLA and the Support Terms.*

1. System Availability and Scheduled System Unavailability

"Planned Maintenance" refers to our scheduled System Unavailability period.

- a. We may require Planned Maintenance for the reasons such as following:
 - i. Upgrade or installation of software components (which is usually done without service implication on end-users)
 - ii. Maintenance procedures required to upkeep the system
 - iii. Database or cloud services configuration changes
- b. We will use reasonable efforts to notify you of any Planned Maintenance no less than 2 business days before the System Unavailability period as follows:
 - i. By email to your contacts registered in Carbyne's support portal
 - ii. Published in Carbyne's support portal under the relevant message board
- c. We will not exceed more than sixty (60) minutes of Planned Maintenance for any of the core functionalities of the applicable Platform in any consecutive 30-day period.
 - i. Planned Maintenance for non-core functionality - Monday-Thursday during business hours
 - ii. Planned Maintenance for core functionalities (excluding 911/10 digit emergency call flow) - Monday and Thursday between 01:00-04:00 am EST (no longer than 60 minutes, or upon predefined notification agreed with the customer)
- d. We will not exceed more than twenty six (26) consecutive seconds at a time of service degradation for the 911/10 digit emergency call flow.
- e. We shall use commercially reasonable efforts to provide prompt notification (by email or phone) as soon as we become aware of any actual or potential unscheduled System Unavailability of the applicable Platform (or a functionality of the Platform) as well as provide regular updates during the unscheduled System Unavailability regarding progress in restoring the service and the estimated timeframe when the Platform (or the affected functionality) will be available.

- f. "System Unavailability" is defined as the percentage of seconds per month during which the feature or core functionality of the Platform, as applicable, is completely unavailable for your use. System Unavailability does not include any unavailability attributable to: (a) any Planned Maintenance; (b) your acts or omissions; (c) to connectivity issues resulting from third-party-managed integrations which access the Platform servers or from your internal network problems; (d) defects or bugs in the Platform or Software caused by any city, county or business, any PSAP Users, or any employee, agent or independent contractor of city, county or business; or (e) any other cause(s) beyond our reasonable control, including but not limited to those caused by Third-Party Data services over which we have no control (e.g. customer's internet service provider), Third-Party Components or a Force Majeure event. You are responsible for immediately notifying Carbyne of all third-party-managed related access, internal or external (e.g. internet service provider) network problems that arise.

2. System Availability with Third-Party Integrations

a. The Integrated Third-Party Component which is integrated with the Platform to provide additional external data to the Platform through an Application Program Interface (API) will be operational no less than 99.9% (43 minutes and 28 seconds System Unavailability in a calendar month) for a calendar month, excluding any scheduled maintenance of such Integrated Third-Party Component, whether scheduled by Carbyne or by the Third-Party Provider. This specified uptime applies only to the Integrated Third-Party Component as integrated with the Platform and/or Software and not to the Integrated Third-Party Component itself. We will use commercially reasonable efforts to schedule any Planned Maintenance for such integrations on minimal traffic days. Carbyne shall use commercially reasonable efforts to not schedule more than sixty (60) minutes of any such Planned Maintenance in any consecutive 30-day period.

b. We will use commercially reasonable efforts to provide you with notice as soon as we become aware of any actual or potential unavailability of a third party application, software or service which is integrated with the Platform which is outside of Planned Maintenance, as well as provide regular updates during the Integrated Product Unscheduled System Unavailability regarding the progress in restoring the service and the estimated timeframe when the integrated product will be available.

c. You will provide us with prompt notice, and in no case fewer than thirty (30) days advance notice, of any planned upgrade, whether by you or by any other third-party provider, of software or applications integrated with the Platform that we have no control of, such as power outages, ISP connections, IP or LAN connections or PBX maintenance, upgrades or updates of IT related hardware or software. Any downtime as a result of such upgrades or updates does not count against the service levels specified in this SLA.

d. In case of degradation of inbound or outbound non-emergency voice capability (provided by Twilio or Bandwidth) which results in failure to meet the SLA in Section 2(a) above, we will reach out to the applicable service provider (Twilio or Bandwidth) to submit a Critical Severity request. If possible, we may failover the voice services from one provider to the other while resolving such initial degradation of services.

3. Service Credits

Calculation

If we do not meet the applicable uptime set forth above, you may be eligible for credits which may be applied toward your subscription fees (the “Service Credits”), as follows:

Service Credits are calculated as a percentage of the monthly subscription fee for the applicable product or feature based on the System Unavailability as described below. You may receive up to a maximum Service Credit of the percentage of one month’s subscription fee paid for such product or feature.

System Availability	Product or Features	Service Credit Percentage
Less than 99.95% but equal to or greater than 99.9%	APEX Platform, Call Control	2%
Less than 99.9% but equal to or greater than 99.85%	Universe Platform, Bridge Desk, Carbyne Connect, ECaaS	2%
	APEX Platform, Call Control	4%
Less than 99.85% but equal to or greater than 99.8%	Universe Platform, Bridge Desk, Carbyne Connect, ECaaS	4%
	APEX Platform, Call Control	6%
Less than 99.8% but equal to or greater than 99.75%	Universe Platform, Bridge Desk, Carbyne Connect, ECaaS	6%
	APEX Platform, Call Control	8%
Less than 99.75% but equal to or greater than 99.5%	Universe Platform, Bridge Desk, Carbyne Connect, ECaaS	8%
	APEX Platform, Call Control	10%
Less than 99.5% but equal to or greater than 99.0%	Universe Platform, Bridge Desk, Carbyne Connect, ECaaS	12%
	APEX Platform, Call Control	15%
Less than 99.0%	Universe Platform, Bridge Desk, Carbyne Connect, ECaaS	20%
	APEX Platform, Call Control	25%
Equal or less than 75.0%	APEX Platform. Call Control	100%

Requesting Service Credits

To receive a Service Credit, you must notify us using one of the following options:

- Open a ticket by emailing to support@carbyne.com, or submit a ticket using the customer portal; or
- In writing at 45 W 27th St. Floor 2, New York, NY 10001, US, Attn: Legal Department, with a copy to legal@carbyne.com, or such other address provided by Carbyne from time to time

The request should be submitted within fifteen (15) days following the end of the month in which the System Unavailability occurred.

Claims must include the words "SLA Credit Request" in the subject line; the dates and times of each System Unavailability incident; and any documentation to corroborate your claim of System Unavailability. You are required to remove or redact any confidential or sensitive or personal information in these logs.

All claims are subject to our review and verification before any Service Credits are granted. We will acknowledge requests for Service Credits within fifteen (15) business days of receipt and will use reasonable efforts to inform you of whether such a claim request is approved or denied within thirty days from receipt of the request.

If we confirm that the applicable uptime has not been met in the applicable calendar month, for which the Customer already paid, we will issue a Service Credit within one billing cycle from such confirmation. If you do not meet the submission requirements above, you will not be eligible to request a Service Credit for the applicable System Unavailability.

Service Credits will not entitle you to any refund or other payments from us and Service Credits are non-transferable. Service Credits will be provided only to a customer who has purchased and paid for the applicable Platform and has entered into a valid agreement with us governing such Platform, and followed the above process to request Service Credits.

The parties acknowledge and agree that Service Credits are intended as genuine pre estimates of loss that may be suffered as a result of any failure to achieve the applicable uptime specified above and are not deemed as penalties. To the extent legally permitted, our issuance of a Service Credit is your sole and exclusive remedy for our failure to meet the applicable uptime level specified above.