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June 24, 2009

BY HAND DELIVERY
Ms. Ann Cole, Director
Commission Clerk and Administrative Services
Room 110, Easley Building
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

Re: Docket No. 080134-TP

Dear Ms. Cole:

Enclosed for filing on behalf of Intrado Communications Inc. is an original and fifteen copies of the following documents:

1. Direct Testimony of Thomas Hicks; and

2. Direct Testimony of Eric Sorenson.

Please acknowledge receipt of these documents by stamping the extra copy of this letter "filed" and returning the same to me.

Thank you for your assistance with this filing.

Sincerely yours,

Floyd R. Self

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FRS/amb
Enclosures
cc: Rebecca Ballesteros, Esq.
Parties of Record

HC Reporter

Regional Center Office Park / 2618 Centennial Place / Tallahassee, Florida 32308
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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition by Intrado Communications Inc. for arbitration to establish an interconnection agreement with Verizon Florida LLC, pursuant to Section 252(b) of the Communications Act of 1934, as amended, and Section 364.12, F.S.	))))))	Docket No. 080134-TP

DIRECT TESTIMONY OF THOMAS W. HICKS

ON BEHALF OF

INTRADO COMMUNICATIONS INC.

June 24, 2009

SECTION I: INTRODUCTION

Q: PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS FOR THE RECORD.

A: My name is Thomas W. Hicks. My business address is 1601 Dry Creek Drive, Longmont, CO, 80503. I am employed by Intrado Inc. as Director - Carrier Relations. I also serve as the Director – Carrier Relations for Intrado Inc.'s telecommunications affiliate, Intrado Communications Inc. ("Intrado Comm"), which is currently certified as a competitive local exchange carrier ("CLEC") in Florida (Docket No. 001751-TX, *In re: Application for certificate to provide alternative local exchange telecommunications service by SCC Communications Corp.*, Order No. PSC-01-0258-PAA-TX (January 30, 2001).

Q: PLEASE DESCRIBE YOUR RESPONSIBILITIES FOR INTRADO COMM.

A: I am responsible for Intrado Comm's carrier relations with incumbent local exchange carriers ("ILECs") such as Verizon Florida LLC ("Verizon"), CLECs, wireless providers, and Voice over Internet Protocol ("VoIP") service providers.

Q: PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A: I joined Intrado Comm in 2004. Prior to that, I worked for Verizon in various technical and managerial positions for 33 years. For over 10 years at Verizon, I was responsible for administration and engineering support of 911 network and data services nationwide. In my final three years at Verizon as a Senior Engineer, I coordinated the company's wireless Phase I and Phase II implementations across the country, which required wireless carriers to provide public safety answering points

("PSAPs") with caller location information and call back numbers in accordance with Federal Communications Commission ("FCC") requirements. I received a "President's Award" for leading Verizon's (formerly GTE's) reengineering team in replacing and updating its nationwide 911 systems. My work experience also includes project management at Sonus (formerly Telecom Technologies, Inc.) for softswitch media gateway development. I attended Indiana University – Purdue University in Fort Wayne, Indiana. I hold an Associate's Degree in GTE Telops.

Q: PLEASE DESCRIBE YOUR PROFESSIONAL AFFILIATIONS AND PARTICIPATION IN INDUSTRY ASSOCIATIONS.

A: I am a former National Emergency Number Association ("NENA") emergency number professional, and have served on several industry standards bodies for 911, including participating in the Alliance for Telecommunications Industries Solutions ("ATIS") Emergency Service Interconnection Forum ("ESIF") public safety communications standards development efforts since 1999. I am a recipient of the NENA Lifetime Membership Award for contributing to and leading industry and association efforts that led to the creation of FCC Docket No. 94-102, which addresses wireless E-911 requirements. Last year, I was awarded the 2008 ATIS Outstanding Contributions Award during the ATIS Annual Meeting for my contributions to the creation of pANI administration guidelines for industry.

Q: IS INTRADO COMM A MEMBER OF NENA AND DOES INTRADO COMM PARTICIPATE IN INDUSTRY FORUMS?

A: Yes, Intrado Comm is a member of NENA through its parent company Intrado Inc. I actively participate on behalf of Intrado Comm in the following industry forums:

- Participant in the ATIS-ESIF Emergency Call and Data Routing subcommittee focused on the development of network interoperability and technology integration standards related to emergency call and data routing components of E-911;
- Participant and 911 subject matter expert ("SME") for the North American Numbering Council ("NANC") Pseudo-ANI ("pANI") Issues Management Group for development of pANI Administration Guidelines (document approved by the FCC); and
- Active participant in NENA Operations Development Committee ("ODC") and in numerous NENA working committees (*e.g.*, Next Gen 911, Default Route Working Group, etc.).

My past participation before industry bodies also includes:

- Participated in European Telecommunications Standards Institute's Emergency Telecommunications ("EMTEL") to establish European standards for emergency communications to parallel United States standards; and
- Established and led the NENA technical standards organization.

Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION?

A: Yes, I have previously testified before the Florida Public Service Commission ("Commission") in Docket No. 070699-TP regarding Intrado Comm's arbitration with Embarq Florida Inc. and in Docket No. 070736-TP regarding Intrado Comm's arbitration with BellSouth Telecommunications, Inc. d/b/a AT&T Florida.

Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE OTHER REGULATORY COMMISSIONS?

A: Yes, I have previously testified before the Public Service Commission of West Virginia, the Public Utilities Commission of Ohio, the Maryland Public Service Commission, and the Massachusetts Department of Telecommunications and Cable with respect to other arbitration proceedings with Verizon. I have also testified before the Public Utilities Commission of Ohio, the Illinois Commerce Commission, and the North Carolina Utilities Commission with respect to arbitration proceedings with other carriers.

Q: WHAT IS YOUR ROLE IN INTRADO COMM'S INTERCONNECTION NEGOTIATIONS WITH VERIZON?

A: In May 2007, I initiated the request for interconnection with Verizon for Florida. I actively participated in the negotiation of an interconnection agreement with Verizon for the states of North Carolina, West Virginia, Virginia, Maryland, Delaware, and Ohio, which forms the basis of the proposed interconnection agreement in this proceeding. I led the Intrado Comm negotiations team in its review of the Verizon template and on negotiation calls with the Verizon negotiation team. I have identified the services needed from Verizon to serve Intrado Comm's customers, and have assisted with the drafting of Intrado Comm's proposed agreement language. I am familiar with the unresolved issues between the Parties.

Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A: The purpose of my testimony is to explain Intrado Comm's position on certain issues as set forth on the joint issues matrix filed by the Parties on September 8, 2008 and

the November 12, 2008 *Order Establishing Procedure*. I will address Issues 3, 4, 6, 9, 12, 13, 14, 15, and 53 from a technical perspective, and Mr. Sorensen will address Issues 3, 4, 12, and 14 from a policy perspective.

Q: ARE YOU AN ATTORNEY?

A: No, I am not an attorney. My review and interpretation of federal and state law affecting this arbitration proceeding is from a layperson's perspective.

SECTION II: BACKGROUND

Q: PLEASE DESCRIBE INTRADO COMM'S COMPETITIVE 911/E-911 SERVICE OFFERING TO BE PROVIDED PURSUANT TO THE INTERCONNECTION ARRANGEMENT WITH VERIZON.

A: The Intelligent Emergency Network® permits Intrado Comm to provide competitive 911 emergency call delivery and management services for both voice and data transmissions. The Intrado Comm 911/E-911 service will provide the resolution of emergency situations more efficiently while enabling PSAPs to transmit information to other PSAPs even when they are not in the same jurisdiction. Intrado Comm's Internet Protocol ("IP") based network is designed to interoperate with existing legacy PSAP equipment and incumbent networks, but offers much more capability to use and receive calls from newer technologies. Intrado Comm's network is capable of accommodating and passing images, graphics, video and textual data, while Verizon's legacy 911 network is limited to simply voice and automatic number information ("ANI") signals (*i.e.*, commonly using multi-frequency analog tones). A diagram illustrating Intrado Comm's Intelligent Emergency Network® and IP-based network architecture is set forth in Diagram 1 of Exhibit TH-8.

Q: WHY IS INTRADO COMM SEEKING INTERCONNECTION WITH VERIZON?

A: Intrado Comm is seeking interconnection with Verizon under Section 251 of the Communications Act of 1934, as amended ("Act") because the services provided by Intrado Comm are competitive telephone exchange services. The Act sets forth the parameters for negotiating interconnection with the incumbent's network to ensure that competing networks are interoperable and to provide for the mutual exchange of traffic. Section 251(c) applies to interconnection between competitors (like Intrado Comm) and ILECs (like Verizon).

Q: HAS THE COMMISSION PREVIOUSLY RULED THAT INTRADO COMM'S SERVICE IS NOT TELEPHONE EXCHANGE SERVICE AND THEREFORE IS NOT SUBJECT TO 251(C) REQUIREMENTS?

A: Yes, but the ruling was based upon a misunderstanding that Intrado's Comm's Intelligent Emergency Network® is incapable of originating calls.

Q: CAN INTRADO COMM'S PSAP CUSTOMERS ORIGINATE CALLS USING INTRADO COMM'S 911/E-911 SERVICE?

A: Yes, PSAPs are technically capable of making outgoing calls with Intrado Comm's 911/E-911 service. This functionality can be provided to Intrado Comm's Intelligent Emergency Network® customers upon their request. Where activated, PSAP personnel may initiate a call to the public switched telephone network ("PSTN") at any time from any work position. Generally, however, Intrado Comm's PSAP customers do not make requests to activate the call origination option, as call takers

placing outgoing calls are not available to receive highly critical incoming 911 calls when an outgoing call is in progress.

Q: ARE THERE OTHER COMPONENTS OF INTRADO COMM'S 911/E-911 SERVICE OFFERING THAT PROVIDE FOR CALL ORIGINATION?

A: Yes, Intrado Comm offers Enterprise 9-1-1 Service (Intrado Comm's current Price List is set forth in Exhibit TH-1). Intrado Comm's Enterprise 9-1-1 Service provides for the delivery of 911 calls from end users served by multi-line private switches to the appropriate PSAP responsible for providing emergency response to the location of the enterprise end user whether that PSAP is served by Intrado Comm or another carrier.

Q: WHY DOES INTRADO COMM NEED TO INTERCONNECT ITS NETWORK WITH VERIZON'S NETWORK?

A: To deliver its competitive 911/E-911 telephone exchange service offering in Florida, Intrado Comm needs to interconnect its network to the PSTN, which is controlled by ILECs like Verizon. The 911 network is interconnected to the PSTN. This is evident by the call originator's ability to access 911 services by dialing the digits "9-1-1" via the caller's originating office.

Q: WILL 911/E-911 CALLS FLOW IN BOTH DIRECTIONS BETWEEN THE PARTIES' NETWORKS?

A: Yes, there are likely to be numerous 911 calls flowing between the Parties' networks - both traffic from Verizon's customers to Intrado Comm's customers and traffic from Intrado Comm customers to Verizon customers. The substantial increase in popularity of mobile technologies, and future services such as 911 text messaging,

will make it even more critical to ensure all 911 "calls" reach the appropriate PSAP, which may require 911 call transfers to occur between the Parties' networks. News articles support this position: "Cell phone 911 calls often get routed to the wrong 911 centers because of the location of cell phone towers. This leads to delays in sending help because operators have to figure out where a caller is and which police or fire department should respond, and then transfer the call to that jurisdiction" (*see* Sofia Santana, "Cell phone 911 calls are often routed to the wrong call centers," SOUTH FLORIDA SUN-SENTINEL, June 21, 2008). Given the continued growth of wireless and mobile technologies, it is likely that the number of calls transferred from Intrado Comm to Verizon and/or from Verizon to Intrado Comm could be significant.

SECTION III: UNRESOLVED ISSUES

Issue 3: Where should the points of interconnection be located and what terms and conditions should apply with regard to interconnection and transport of traffic?

Q: CAN YOU PLEASE SUMMARIZE WHAT THIS ISSUE ADDRESSES?

A: This issue addresses how Intrado Comm will interconnect with Verizon's network when Verizon is the designated 911/E-911 service provider and how Verizon will interconnect with Intrado Comm's network when Intrado Comm is the designated 911/E-911 service provider.

Q: WHEN INTRADO COMM IS THE DESIGNATED PROVIDER OF 911/E-911 SERVICES IN A PARTICULAR JURISDICTION, WHAT INTERCONNECTION ARRANGEMENT DOES INTRADO COMM SEEK TO IMPLEMENT?

A: Where Intrado Comm will serve as the designated 911/E-911 service provider in a particular geographic area, Intrado Comm has proposed language requiring Verizon to transport its end users' emergency calls destined for Intrado Comm's PSAP customers to points of interconnection ("POIs") on Intrado Comm's network, which would be Intrado Comm's selective router/access ports.

Q: PLEASE EXPLAIN WHY INTRADO COMM'S PROPOSAL YIELDS THE MOST EFFICIENT AND COST-EFFECTIVE INTERCONNECTION ARRANGEMENT AND HOW IT IS CONSISTENT WITH INDUSTRY PRACTICES.

A: The 911/E-911 network is connected to the PSTN because consumers are connected to the PSTN in some manner, whether served by wireline, wireless or interconnected VoIP service providers. While an arrangement in which the POI is on the ILEC's network may have developed as the common network architecture arrangement for the exchange of plain old telephone service ("POTS") traffic, 911 traffic historically has been handled in a different manner. When Intrado Comm is the designated 911/E-911 service provider, Intrado Comm is recommending that the Parties follow the same method of physical interconnection as defined by Verizon when it is the 911/E-911 service provider. Under Intrado Comm's proposed interconnection arrangement, when Intrado Comm has been selected as the designated provider of 911/E-911 services, Verizon must interconnect with Intrado Comm's selective router so Verizon customers located in the geographic area served by Intrado Comm can complete emergency calls to the appropriate PSAP (*i.e.*, Intrado Comm's end user customer).

Q: WHY DOES INTRADO COMM SUPPORT SUCH AN ARRANGEMENT?

A: Deviating from a traditional POI arrangement when Intrado Comm is serving the PSAP results in the most efficient and effective network architecture and provides the highest degree of reliability for the provision of 911 services. The POI arrangement proposed by Intrado Comm is the industry-accepted practice for 911 traffic. Intrado Comm simply seeks to mirror the type of interconnection arrangements that Verizon and other ILECs have determined to be the most efficient and effective arrangement for the termination of emergency calls. A CLEC's interconnection arrangement for the completion of POTS traffic and to compete with Verizon for POTS traffic customers is not the same as interconnection to compete for Verizon's PSAP customers. The latter interconnection arrangement must be structured to ensure Florida's public safety agencies and the citizens dialing 911 receive a reliable, redundant, and diverse 911 network. Intrado Comm's proposed interconnection arrangements achieve that goal.

Q: PLEASE EXPLAIN WHY 911 INTERCONNECTION ARRANGEMENTS BETWEEN VERIZON AND CLECS PROVIDE SUPPORT FOR INTRADO COMM'S PROPOSED POI ARRANGEMENT.

A: Where Verizon serves as the 911/E-911 service provider it has routinely designated the location of its selective routing access ports as the POI for telecommunications entities seeking to gain access to the 911/E-911 services Verizon provides to Florida PSAPs (*see* Exhibit TH-2). This POI is in addition to the POI designated by the CLEC on Verizon's network for the exchange of other 251(c) traffic.

Q: PLEASE EXPLAIN.

A: Intrado Comm is not forcing Verizon to do anything more than what Verizon requires any competitive provider to do. In its template 251(c) interconnection agreement, Verizon requires carriers seeking to terminate 911/E-911 service traffic on Verizon's network to establish direct connections to each Verizon redundant, diversely located selective router serving a PSAP in the geographic area in which the carrier offers service (*see* Exhibit TH-2). CLECs generally interconnect at Verizon's selective routers and deliver their customers' 911 calls over dedicated 911 trunks to Verizon's selective router. Verizon imposes this obligation on all competitive carriers even when the competitive carrier has established a POI for other telephone exchange service traffic (*e.g.*, POTS traffic) at a different location. Verizon therefore recognizes the importance of 911/E-911 calls being delivered directly to each redundant, diversely located Verizon selective router serving the PSAP when it is the provider of 911/E-911 services to the PSAP.

Q: HOW WOULD INTRADO COMM BE AFFECTED IF VERIZON TREATS INTRADO COMM DIFFERENTLY THAN IT TREATS OTHER 911/E-911 SERVICE PROVIDERS?

A: Effective competition with Verizon and other ILECs requires interconnection on terms and conditions that are as favorable as the ILEC offers to itself. The interconnection arrangements that Verizon provides to Intrado Comm must be "equal in quality" to the interconnection arrangements Verizon provides to itself and to other carriers. Unless technical feasibility issues are present, there is no reason for 911/E-911 calls to be delivered to any location other than the relevant selective router/911 tandem that is connected to the PSAP serving the geographic area in which the 911/E-

911 call was originated. Intrado Comm seeks physical connectivity between its network and Verizon's network that is similar to what Verizon has implemented with other carriers for the termination of 911/E-911 calls to Verizon's PSAP customers.

Q: SHOULD VERIZON BE REQUIRED TO INTERCONNECT WITH INTRADO COMM IN A SIMILAR MANNER?

A: Yes. It is my understanding that the FCC has determined that, if a particular method of interconnection is currently employed between two networks or has been used successfully in the past, a rebuttable presumption is created that such a method is technically feasible for substantially similar network architectures. Verizon bears the burden of demonstrating the technical infeasibility of a particular method of interconnection or access at any particular point.

Q: WHY IS INTRADO COMM PROPOSING THE USE OF TWO GEOGRAPHICALLY DIVERSE POIS ON INTRADO COMM'S NETWORK?

A: The establishment of geographically diverse routes for the delivery of 911 traffic is good business sense. The critical nature of 911 communications demands diversity and redundancy. The interconnection of competing 911 networks should include a minimum of two geographically diverse points of interconnection to assure a robust and fault tolerant 911 infrastructure is provided. In addition, geographically diverse routes for 911 traffic are consistent with industry guidelines and recommendations. In fact, it is Intrado Comm's understanding that Verizon has deployed its own 911/E-911 networks in Florida in a redundant and geographically diverse manner.

Q: IS A DUAL POI ARRANGEMENT SUCH AS THE ONE PROPOSED BY INTRADO COMM HERE UNUSUAL?

A: No. The main purpose for employing a dual POI arrangement as suggested by Intrado Comm is to ensure diversity and redundancy. Verizon uses "mated" or "paired" selective routers in most areas where Verizon is the E-911 service provider (such as Florida, Massachusetts, New York, Delaware, Maryland, West Virginia, California, etc.) to ensure 911 call completion is unimpeded and a PSAP is not isolated from the 911/E-911 network should a facility path failure or selective router switch failure occur. Verizon has established dedicated circuits from each of its end offices to each selective router and Verizon requires competitors to interconnect at ***each*** selective router, plus at a separate POI for exchange of POTS traffic. Thus, Verizon has established "dual POI" arrangements within its own network.

Q: HOW IS INTRADO COMM'S PROPOSAL CONSISTENT WITH INDUSTRY RECOMMENDATIONS?

A: The public benefit of the type of diversity and redundancy requested by Intrado Comm has been supported by the FCC's Network Reliability and Interoperability Council ("NRIC"), which found "[w]hen all 9-1-1 circuits are carried over a common interoffice facility route, the PSAP has increased exposure to possible service interruptions related to a single point of failure (e.g., cable cut). The ECOMM Team recommends diversification of 9-1-1 circuits over multiple, diverse interoffice facilities." Excerpts from these findings are attached as Exhibit TH-3.

Q: HAVE ANY OTHER INDUSTRY BODIES MADE SIMILAR RECOMMENDATIONS?

A: Yes. Excerpts from a NENA 911 Tutorial attached as Exhibit TH-4:

> 9-1-1 systems are expected to function without interruption. However, expecting every network and PSAP component to work perfectly forever is unrealistic. Stuff happens – things break. Reliability, then, is achieved through diversity and redundancy. One method of achieving reliability is to build redundant, diversely routed trunk groups from each end office to its 9-1-1 tandem. Each trunk group should be large enough to carry the entire traffic load for that end office.

These recommendations from NRIC and NENA also support Intrado Comm's positions under Issue 12 with respect to the implementation of dedicated trunking from Verizon's end offices.

Q: IS INTRADO COMM ASKING THAT VERIZON INTERCONNECT WITH ITS NETWORK OUTSIDE OF THE LATA?

A: Intrado Comm plans to deploy at least two (2), and possibly more, selective routers in Florida. Those selective routers may or may not be within the LATA in which Intrado Comm's customer is located. The concept of LATAs, however, does not apply in the context of 911 traffic.

Q: PLEASE EXPLAIN.

A: It is my understanding that the courts and the FCC have said that any restrictions on carrying interLATA traffic do not apply to 911. In fact, the FCC explicitly found that 911/E-911 services typically include an interLATA transmission component. I also understand that any restrictions that may have been imposed on Verizon's ability to carry interLATA traffic have been eliminated with the approval of Verizon's Section 271 long distance applications in every state in Verizon's territory.

Q: WILL INTRADO COMM REQUIRE VERIZON TO INTERCONNECT AT LOCATIONS ON INTRADO COMM'S NETWORK OUTSIDE OF FLORIDA?

A: No. As Intrado Comm has indicated to Verizon on numerous occasions, Intrado Comm will establish a minimum of two (2) selective routers in Florida. Verizon can interconnect at these two selective routers in Florida or at any other Intrado Comm selective routers throughout the country.

Q: PLEASE EXPLAIN.

A: Most voice service providers have regional or nationwide footprints. Intrado Comm plans to deploy at least two, and possibly more, selective routers in every state in which Intrado Comm plans to offer service. By connecting to any Intrado Comm selective router, a carrier can reach any PSAP connected to Intrado Comm's network. As an example, interconnecting to Intrado Comm's selective routers in North Carolina or Virginia will still permit 911 call delivery to one of Intrado Comm's PSAP customers in Florida. This means that Verizon could connect to any two Intelligent Emergency Network® access ports anywhere in Intrado Comm's nationwide network if it chooses to do so. Given that Verizon, its affiliates, and many other carriers provide services throughout the nation, interconnecting outside of Florida may be more efficient for Verizon and many providers. In either case, however, there will be at least two geographically diverse Intrado Comm selective routers located in Florida at which Verizon can interconnect with Intrado Comm to deliver 911/E-911 calls destined for Intrado Comm's PSAP customers.

Q: IS THIS WHY INTRADO COMM'S PROPOSED LANGUAGE DOES NOT SPECIFICALLY STATE THAT THE POI WILL BE LOCATED IN FLORIDA?

A: Yes. While Intrado Comm will make a minimum of two interconnection locations available in Florida, Intrado Comm also understands that it may be more efficient and cost-effective for Verizon to interconnect with Intrado Comm's network in locations other than Florida. Intrado Comm's proposed language gives Verizon that flexibility.

Q: WHEN VERIZON IS THE DESIGNATED PROVIDER OF 911/E-911 SERVICES IN A PARTICULAR JURISDICTION, WHAT INTERCONNECTION ARRANGEMENT DOES INTRADO COMM SEEK TO IMPLEMENT?

A: In geographic areas in which Verizon has been designated as the 911/E-911 service provider, Intrado Comm seeks to establish a POI on Verizon's network for the termination of 911/E-911 service calls destined for Verizon's network. This can be achieved by establishing a POI at a Verizon 911 tandem/selective router. This is consistent with the notion that 911/E-911 service traffic should be delivered to the selective router serving the PSAP.

Issue 4: (a) Should the Parties implement inter-selective router trunking?

(b) If so, what terms and conditions should govern PSAP-to-PSAP call transfers using inter-selective router trunking?

Q: WHAT IS INTER-SELECTIVE ROUTER TRUNKING?

A: Inter-selective router trunking is trunking deployed between selective routers to enable 911 calls to be transferred between selective routers, and thus, between the PSAPs served by the selective routers.

Q: WHY IS THE IMPLEMENTATION OF INTER-SELECTIVE ROUTER TRUNKING IMPORTANT?

A: As in any competitive telecommunications market, interoperability between a competitor's network and the incumbent's is needed to ensure customers of each Party can make and receive calls seamlessly. With respect to 911/E-911 services, Verizon must ensure its network is interoperable with another carrier's network for the provision of 911/E-911 services. Establishment of inter-selective router trunking, as requested by Intrado Comm, will ensure that PSAPs are able to communicate seamlessly with each other and still receive access to essential ANI and automatic location information ("ALI") when technically feasible. In addition, misdirected 911 calls can be quickly and efficiently transferred to the appropriate PSAP to be handled in parity with other 911 calls.

Q: PLEASE EXPLAIN WHAT YOU MEAN BY "INTEROPERABILITY"?

A: Interoperability ensures selective router-to-selective router call transfers may be performed in a manner that allows misdirected emergency calls to be transferred to the appropriate PSAP, irrespective of the 911 service provider initially processing the call, while still retaining the critical caller location information associated with the call (*i.e.*, ALI). Interoperability using the capabilities inherent in each 911 service provider's selective router and ALI database system enables call transfers to occur with the ANI and ALI associated with the emergency call (*i.e.*, the information needed by the public safety agency to respond adequately to the caller's emergency) to remain with the voice communication when a call is transferred from one 911 service provider to another. Failure to enable inter-selective router transfer capability requires PSAPs to transfer calls over the PSTN to a local exchange line at the PSAP, and the caller's ANI and ALI is lost.

Q: WHY SHOULD VERIZON BE REQUIRED TO IMPLEMENT INTER-SELECTIVE ROUTER TRUNKING ARRANGEMENTS WITH INTRADO COMM?

A: Other than the public safety benefits previously discussed, Verizon has established inter-selective router trunking within its own network. Verizon has established similar trunking arrangements with other providers of 911/E-911 services in other states served by Verizon. Intrado Comm is seeking the same types of architectural network arrangements that Verizon provides for its own PSAP customers, and performs for itself. Verizon should be required to implement inter-selective router transfers with Intrado Comm and other competitive 911/E-911 service providers so that Intrado Comm's Florida customers may have the benefits of this interconnection.

Q: WHAT TYPE OF INTERCONNECTION ARRANGEMENTS SHOULD THE PARTIES USE TO TRANSFER 911/E-911 CALLS BETWEEN THEIR NETWORKS?

A: The Parties should use the same interconnection arrangements established for their exchange of other 911/E-911 service traffic to transfer 911/E-911 calls between their networks. Thus, for transfers of 911/E-911 calls destined for Intrado Comm's PSAP customer, the Parties would exchange that call at the POI(s) established by Verizon on the Intrado Comm network. For transfers of 911/E-911 calls destined for Verizon's PSAP customer, the Parties would exchange that call at the POI(s) established by Intrado Comm on the Verizon network.

Q: PLEASE EXPLAIN INTRADO COMM'S PROPOSED LANGUAGE WITH RESPECT TO DIAL PLANS AND INTER-SELECTIVE ROUTER TRUNKING.

A: Dial plans are used to determine to which PSAP an emergency call transfer should be routed, based on the route number passed during the call transfer. Accurate and up-to-date dial plans are necessary to ensure proper routing of emergency call transfers is achieved and to avoid misdirected or dropped calls. Intrado Comm's proposed language requires each Party to alert the other Party when changes are made to dial plans that might affect PSAP call transfers, so emergency call transfers are assured to route to the appropriate PSAP. Intrado Comm understands that Verizon exchanges dial plan information with other providers of 911/E-911 services in states where it is not the sole provider of 911/E-911 services, and Intrado Comm seeks the same information sharing arrangements Verizon provides to other similarly situated providers.

Q: HAVE OTHER STATE COMMISSIONS RULED ON WHETHER INTRADO COMM'S PROPOSED LANGUAGE REGARDING DIAL PLAN INFORMATION SHOULD BE INCLUDED IN THE PARTIES' INTERCONNECTION AGREEMENT?

A: Yes. Both the West Virginia and Massachusetts commissions adopted the following language for inclusion in the Parties' Section 251 interconnection agreements:

> The Parties will maintain appropriate dial plans to support inter-PSAP call transfer and shall notify each other of changes, additions or deletions to those dial plans.

(Exhibit ES-17 at 16-17 (*West Virginia Arbitration Award*); Exhibit ES-19 at 46 (*Massachusetts Arbitration Award*)).

Q: WHY DOES INTRADO COMM PROPOSE DELETING VERIZON'S LANGUAGE REGARDING PAYMENT OF VERIZON TRANSPORT CHARGES IN THE INTER-SELECTIVE ROUTING PROVISIONS OF THE INTERCONNECTION AGREEMENT?

A: This language is repeated in numerous places throughout Verizon's proposed language (*see, e.g.*, Sections 1.3.5 and 1.3.6 of the 911 Attachment). While the Parties disagree on the actual rates to be paid (which is covered under another issue), the Parties have already agreed to language stating that Intrado Comm will pay Verizon for any transport Intrado Comm purchases from Verizon. It is not necessary for the same language to be repeated here.

Issue 6: Should requirements be included in the ICA on a reciprocal basis for forecasting?

Q: WHY IS FORECASTING IMPORTANT?

A: In serving Florida PSAPs and other public safety agencies, Intrado Comm must have some indication from Verizon as to how many 911/E-911 trunks will be required to support emergency calls between the Parties' networks. Forecasts are integral to assuring that the Parties have ample equipment engineered, furnished, and installed to accommodate both immediate and anticipated growth, without experiencing implementation delays. Forecasts also ensure the Parties' networks meet industry standards for 911.

Q: HOW HAS INTRADO COMM REVISED VERIZON'S PROPOSED LANGUAGE?

A: Intrado Comm has modified Verizon's proposed language to make the forecasting provisions reciprocal. Verizon's proposed language is unilateral and requires only Intrado Comm to provide ongoing trunk forecasts to Verizon. Given that the forecasts will be used to support the mutual exchange of traffic between the Parties, there is no reason the forecasting obligation should not apply equally to both Parties.

Q: IS INTRADO COMM IN THE BEST POSITION TO FORECAST THE AMOUNT OF TRUNKS NECESSARY?

A: No. The Parties have agreed that only Intrado Comm should be required to provide an ***initial*** trunk forecast. The language at issue in Section 1.6.2 of the 911 Attachment, however, governs ***ongoing*** trunk forecasts. Once the network is in place for any particular Intrado Comm customer, only Verizon knows, based on its end user usage data and network capacity data (*e.g.* all trunks busy data), its end users' demand for reaching that Intrado Comm customer. Thus, just as Intrado Comm is the best judge of its future facility needs, Verizon is the best judge of its facility needs. Ultimately, it is in the public interest for carriers to work together to ensure sufficient network facilities exist to meet customer demand.

Q: ARE INTRADO COMM'S PSAP CUSTOMERS THE BEST JUDGE OF CALL VOLUMES FROM VERIZON'S END USERS?

A: No. Verizon is the current monopoly provider of 911/E-911 services to PSAPs located in Verizon franchise territory in the state of Florida. Verizon is therefore uniquely situated to judge how many 911/E-911 calls are generally sent to a specific

PSAP that may become Intrado Comm's customer. Verizon, as a provider of local exchange dial tone services, manages and operates the switches used to provide service to its subscribers. Therefore, it has exact and precise knowledge of the call volumes originating from its end users, as well as the volume of calls blocked due to "all-trunks-busy" conditions. Call blockages occurring within the end office due to "all-trunks-busy" are only discernable by Verizon. In addition, only Verizon has knowledge of its switch consolidation plans or anticipated line growth, both of which can significantly affect 911 trunking needs. This knowledge enables Verizon to maintain the current recommended P.01 grade of service for E-911 trunk groups. Because Verizon knows the precise volume of calls from its end users, Verizon knows how many 911 trunks it needs for P.01 grade of service. Therefore, Verizon should provide Intrado Comm a trunk forecast based on current call volumes and anticipated growth.

Q: IS THERE OTHER LANGUAGE IN THE INTERCONNECTION AGREEMENT THAT WOULD REQUIRE VERIZON TO PROVIDE FORECASTING INFORMATION TO INTRADO COMM?

A: Yes, there are two agreed-upon provisions of the interconnection agreement that are associated with forecasting, but those provisions do not address Intrado Comm's request for 911 trunk forecasts. Indeed, the fact that Verizon's template interconnection agreement includes all three provisions is evidence that Verizon believes the contract provisions serve different purposes.

Q: PLEASE EXPLAIN.

A: First, the agreed-upon language in Section 16 of the General Terms and Conditions addresses forecasts for "Services" Verizon may purchase from Intrado Comm or "Services" Intrado Comm may purchase from Verizon. The forecasting language at issue in Section 1.6.2 of the 911 Attachment, however, is specific to the 911/E-911 trunking to be deployed between the Parties' networks to support their exchange of 911/E-911 service traffic. Trunks to be established between the Parties' networks may not fall into the "Services" one Party would purchase from another as contemplated by Section 16 of the General Terms and Conditions. Unlike Section 16, the forecasting language in Section 1.6 of the 911 Attachment addresses the exchange of information between the Parties with respect to the specific trunking requirements each Party expects based on traffic volumes.

Q: PLEASE CONTINUE.

A: Second, the agreed-upon language in Section 1.5.5 of the 911 Attachment requires the Parties to meet to discuss the establishment of new trunk groups, augmentation of existing trunk groups, or the disconnection of existing trunk groups. By contrast, the forecasting language at issue in Section 1.6.2 of the 911 Attachment is specific to the 911/E-911 trunking to be deployed between the Parties' networks to support their exchange of 911/E-911 service traffic. The discussions required by Section 1.5.5 may not provide Intrado Comm with the same type of information a trunk forecast would provide. Unlike Section 1.5.5, the forecasting language at issue in Section 1.6 of the 911 Attachment addresses the exchange of information between the Parties with respect to the specific trunking requirements each Party expects based on traffic volumes.

Q: WHY SHOULD INTRADO COMM'S PROPOSED LANGUAGE BE ADOPTED?

A: Forecasts will allow the Parties to work together to ensure that the growth of both Parties' networks is well managed and planned. The benefits of forecasting apply equally to both Parties and any forecasting obligations should therefore be reciprocal. Reciprocity of forecasts is essential for meeting customer demand and ensuring interoperability between the Parties' interconnected networks.

Issue 9: What terms and conditions should govern how the Parties will initiate interconnection?

Q: CAN YOU PLEASE DESCRIBE THE PARTIES' DISPUTE WITH RESPECT TO THIS ISSUE?

A: Verizon has proposed language that would require Intrado Comm to take certain steps when it seeks to initiate service in a LATA in which the Parties are not already interconnected. Intrado Comm has modified this language to apply when the Parties need to implement additional interconnection arrangements regardless of whether they are in or outside of the LATA.

Q: IS INTRADO COMM OPPOSED TO PROVIDING CERTAIN INFORMATION TO VERIZON PRIOR TO ESTABLISHING INTERCONNECTION ARRANGEMENTS WITH VERIZON?

A: No. Intrado Comm understands that it must share certain information with Verizon prior to the implementation of interconnection arrangements. In fact, Intrado Comm's proposed language in Section 1.5 of the 911 Attachment explicitly contemplates that Intrado Comm will provide specific information to Verizon to

establish interconnection arrangements. Intrado Comm's proposed language also requires Verizon to provide certain information to Intrado Comm.

Q: WHY SHOULD VERIZON BE REQUIRED TO PROVIDE INFORMATION TO INTRADO COMM?

A: As interconnected co-carriers, the Parties will need to exchange information about their networks to ensure they implement a reliable, redundant, and diverse network. Intrado Comm's proposed language therefore requires Verizon to provide certain information to Intrado Comm when additional interconnection arrangements need to be established. This information includes, for example, which points of interconnection are to be established on Intrado Comm's network and a forecast of trunking requirements.

Q: IS THIS ISSUE SOLELY DEPENDENT ON THE LOCATION OF THE POI?

A: No. Intrado Comm's proposed language recognizes that the Parties will be operating as co-carriers and thus should exchange information prior to initiating interconnection in a specific geographic area.

Q: WHY DO YOU CHARACTERIZE THE PARTIES AS "CO-CARRIERS"?

A: Given the importance of 911/E-911 services, the Parties will be required to work together to ensure adequate 911 arrangements are implemented to support the mutual exchange of 911/E-911 traffic between the Parties' networks.

Issue 12: How will the Parties route 911/E-911 calls to each other?

Q: CAN YOU PLEASE EXPLAIN THE PARTIES' DISPUTE WITH RESPECT TO THIS ISSUE?

A: This issue addresses how the Parties will route 911/E-911 calls between their networks. Intrado Comm has proposed language to ensure the Parties are using the most efficient, most reliable traffic routing arrangements possible to ensure Florida customers have the benefits of a diverse and redundant network. There are two main components to Intrado Comm's language – the trunking arrangements necessary to efficiently and effectively route 911/E-911 calls between the Parties' networks and the techniques to be used to efficiently and effectively route 911/E-911 calls between the Parties' networks.

Q: WHAT LANGUAGE HAS INTRADO COMM PROPOSED TO ADDRESS THE FIRST COMPONENT - THE NECESSARY TRUNKING ARRANGEMENTS?

A: In Intrado Comm proposed Section 1.3.4 of the 911 Attachment, Intrado Comm has proposed language requiring Verizon to implement certain minimum arrangements for routing 911/E-911 service traffic destined for Intrado Comm's PSAP customers. This includes providing the requisite number of dedicated, diversely routed 911/E-911 trunks, engineering the 911/E-911 trunks pursuant to industry recommended grades of service, monitoring 911/E-911 trunk volumes, and coordinating testing and maintenance activities for 911/E-911 trunks between the Parties' networks. Verizon, however, has opposed undertaking these trunking activities when it terminates 911/E-911 service traffic on Intrado Comm's network.

Q: DOESN'T VERIZON IMPOSE NEARLY IDENTICAL REQUIREMENTS ON CLECS THAT SEEK TO TERMINATE 911/E-911 CALLS DESTINED FOR VERIZON'S PSAP CUSTOMERS ON VERIZON'S NETWORK?

A: Yes. Intrado Comm used Verizon's template interconnection language as a template for Intrado Comm's proposed language. Verizon routinely requires CLECs seeking to terminate 911/E-911 traffic on Verizon's network to employ the same types of trunking arrangements Intrado Comm has proposed here. A copy of the relevant provisions from Verizon's template interconnection agreement language is attached as Exhibit TH-2.

Q: IF VERIZON REQUESTED, WOULD INTRADO COMM BE WILLING TO ACCEPT RECIPROCAL LANGUAGE FOR THOSE INSTANCES WHEN INTRADO COMM TERMINATES 911/E-911 SERVICE TRAFFIC ON VERIZON'S NETWORK?

A: Yes. Intrado Comm already complies with the requirements set forth in its proposed language because Intrado Comm's proposed language represents industry recommended trunking arrangements for the routing of 911/E-911 service traffic. Intrado Comm would embrace any reciprocal language supporting this position.

Q: WHAT LANGUAGE HAS INTRADO COMM PROPOSED TO ADDRESS THE SECOND COMPONENT - THE TECHNIQUES TO BE USED?

A: This issue deals with Intrado Comm's request that Verizon use direct, dedicated trunking from its end offices to deliver its end users' 911 calls to Intrado Comm's selective router when Intrado Comm is the designated 911/E-911 service provider.

Q: DOES VERIZON USE DIRECT, DEDICATED TRUNKING FOR 911 CALLS TODAY?

A: Yes. 911 interconnection arrangements were initially established by Verizon and other ILECs who determined that the optimal way for a carrier to route 911/E-911

traffic to the appropriate 911/E-911 service provider is via direct, dedicated trunking from the end office. For example, Verizon routes 911 calls via dedicated trunking from its end offices to its selective router when Verizon is the designated 911/E-911 service provider. Further, the interconnection arrangements established by Verizon and other ILECs with competitors requires the CLEC to establish dedicated and redundant trunking from the CLEC's switch or point of interconnection to each selective router serving the geographic area in which the CLEC is offering service. When a CLEC's serving area contains end users that receive emergency services from PSAPs that are served by different 911/E-911 networks, it is necessary for the CLEC's originating switch to be configured to select the appropriate dedicated and redundant trunk group to the 911 selective router connected to the PSAP that is to respond to the caller, as determined by the location of the caller.

Q: HOW DOES VERIZON MANDATE THAT CLECS USE DEDICATED TRUNKING FOR 911 CALLS?

A: In its template interconnection agreements and where dual tandem architecture is deployed, Verizon requires any CLEC seeking to complete its end users' 911 calls to Verizon's PSAP customers to establish a minimum of two (2) dedicated trunks to each Verizon selective router located in the CLEC's serving area. The establishment of these interconnection arrangements is in addition to the interconnection arrangements established by CLECs for the exchange of POTS traffic. The relevant provisions from Verizon's template interconnection agreement can be found in Exhibit TH-2. In addition, Verizon's E-911 Activation Guide stipulates a requirement for carriers to interconnect to Verizon's selective routers: "Facility

Based CLECs (CLECs owning their own switching equipment), Wireless carriers and Independent Telephone Companies are responsible for establishing facilities and trunks from their switch to the Verizon Selective Router(s)" (Exhibit TH-5).

Q: DOES VERIZON REQUIRE CLECS TO USE A CERTAIN METHOD TO DETERMINE TO WHICH SELECTIVE ROUTER A 911 CALL SHOULD BE DELIVERED?

A: No. The Verizon template interconnection agreement does not require CLECs to use a certain method to determine to which selective router a 911 call should be delivered. Rather, the interconnection agreement merely states that the CLEC is required to deliver its end users' 911 calls to the "designated" selective router (*see, e.g.*, Exhibit TH-2 at 911 Attachment § 3.2.2).

Q: IS INTRADO COMM DICTATING HOW VERIZON ROUTES TRAFFIC ON VERIZON'S SIDE OF THE POI?

A: No, Intrado Comm is simply seeking the same types of arrangements Verizon imposes on other carriers when Verizon serves the PSAP. Verizon routinely dictates how other carriers will route their originating 911/E-911 service traffic to Verizon. Verizon's template 251(c) interconnection agreement contains detailed requirements for competitors to deploy certain types and numbers of 911 trunks, to monitor and augment 911 trunks, to provide diverse routing for 911 service traffic, and to engineer 911 trunks to achieve certain grades of service (*see generally* Exhibit TH-2). Verizon mandates that competitors comply with these requirements even though the 911 trunks are on the competitive carrier's side of the POI, which is inconsistent with carriers' obligations for facilities up to the POI.

Q: DOES INTRADO COMM'S PROPOSAL FOR DEDICATED TRUNKING REFLECT HOW CARRIERS INTERCONNECT TO THE PSTN AND THE 911 NETWORK TODAY?

A: Yes. As mentioned above, Verizon uses dedicated trunking from its end offices for 911 calls within its own network and today CLECs are required by ILECs to directly interconnect to the appropriate 911 selective router and deliver only 911 traffic from their end users to the 911/E-911 selective router directly connected to the PSAP designated to serve the caller's location. The CLEC must determine at the originating office level which subscriber 911 traffic will be routed over each trunk group to the appropriate 911 selective router. Such a network arrangement is illustrated in Diagram 2 of Exhibit TH-8.

Q: HAS VERIZON AGREED TO PROVIDE THIS TYPE OF INTERCONNECTION TO INTRADO COMM?

A: No. Verizon has refused to allow Intrado Comm interconnection to its network that would permit Intrado Comm to enter the market and compete for PSAP customers on a level playing field with Verizon. Verizon takes the position that Verizon can continue in its monopoly role of routing all of its end user 911 calls through its 911 selective router before delivering the calls to a competitive provider's 911 selective routing system. Such a network arrangement is illustrated in Diagram 3 of Exhibit TH-8.

Q: IS INTRADO COMM REQUIRING VERIZON TO USE A CERTAIN METHODOLOGY TO ROUTE ITS 911/E-911 CALLS TO INTRADO COMM?

A: No. Like Verizon's template interconnection agreement language, Intrado Comm's proposed interconnection agreement language does not dictate how Verizon will transport its end users' 911 calls to Intrado Comm. Rather, Intrado Comm's proposed language indicates that Verizon will deliver its 911 calls to Intrado Comm over dedicated trunks from Verizon's end offices. In some situations, Intrado Comm's language would require Verizon and Intrado Comm to work cooperatively with the affected governmental 911 authority to determine which 911 provider is best suited to sort the 911 traffic and hand-off calls to the other 911 provider as explained further below.

Q: DO YOU HAVE ANY INFORMATION WITH RESPECT TO HOW CLECS DETERMINE WHERE TO SEND THEIR 911 TRAFFIC WHEN THERE ARE MULTIPLE SELECTIVE ROUTERS IN THE GEOGRAPHIC AREA SERVED BY THE CLEC?

A: I understand that CLECs generally rely on NPA/NXX for routing 911 calls to the appropriate selective router.

Q: COULD VERIZON EMPLOY SUCH A METHOD UNDER INTRADO COMM'S PROPOSED INTERCONNECTION AGREEMENT LANGUAGE?

A: Yes. Like Verizon's template interconnection agreement language, Intrado Comm's proposed interconnection agreement language does not dictate how Verizon will transport its end users' 911 calls to Intrado Comm, only that it do so over direct, dedicated trunks from its end offices without switching the 911 call at Verizon's selective router.

Q: WHY IS INTRADO COMM OPPOSED TO VERIZON'S PROPOSAL TO USE ITS SELECTIVE ROUTER TO ROUTE CALLS TO INTRADO COMM?

A: First, the arrangement proposed by Verizon does not utilize direct dedicated trunking from the end office to the Intrado Comm selective router and thereby imposes unnecessary switching. The only 911 calls for which this double switching occurs today are 911 calls from end users where the PSAP geographic coverage area for those end users overlaps more than one ILEC service territory. Second, Verizon's proposal would determine where to send 911 calls without taking into consideration how the affected public safety agency would like the 911 calls to be handled.

Q: WHY SHOULD VERIZON BE PROHIBITED FROM SENDING ALL 911/E-911 TRAFFIC THROUGH ITS SELECTIVE ROUTER WHEN INTRADO COMM IS THE DESIGNATED 911/E-911 SERVICE PROVIDER?

A: The switching of Verizon originating office traffic through the Verizon selective router is entirely unnecessary when Intrado Comm has been designated to serve as the 911/E-911 service provider and poses an increased risk of call failure before the 911 call is passed to Intrado Comm's network. The potential for call failure can be minimized through the use of dedicated trunking between Verizon's end offices and Intrado Comm's selective router. This would enable 911 calls to be directly routed to the appropriate selective router from the originating end office, rather than inserting an additional stage of switching. In addition, by retaining Verizon's selective router in the call path, PSAPs motivated to choose a competitive provider to obtain improved service quality and/or enhanced control over originating office trunking are relegated to what they may perceive as sub-quality service and the limitations of the

legacy 911 network provided by Verizon. Lastly, the manner in which Verizon plans to deliver end user records to Intrado Comm (*i.e.*, after processing its service records through its own existing E-911 processes) induces additional delays in updating Intrado Comm's E-911 database systems and fails to create parity update performance with that to which Verizon provides the information to itself.

Q: DOES THE USE OF DIRECT DEDICATED TRUNKING BENEFIT PUBLIC SAFETY?

A: Yes. First, having separate 911 trunk groups for each originating office assists the PSAP in quickly isolating 911 service problems, as well as enabling it to re-direct an entire originating office's 911 traffic or a portion of its traffic to another PSAP during periods of excessive 911 call volume. Second, public safety will realize maintenance savings by eliminating the unnecessary costs involved in correcting errors that could have been detected during the incumbent's service provisioning process.

Q: IS THERE AN ARGUMENT THAT USE OF DEDICATED TRUNKING BENEFITS VERIZON?

A: Yes. All parties (Verizon, Intrado Comm, and the PSAP) will be able to more quickly isolate and resolve service issues to an originating office having voice and/or ANI quality issues. If 911 traffic for multiple originating offices is combined over one trunk group to the designated 911/E-911 selective router as proposed by Verizon, trouble isolation will take more time and may result in more lengthy periods of service affecting problems before the source of the problem is identified, especially if the source is one originating office. However, with dedicated trunking from the Verizon originating office, an Emergency Service Central Office ("ESCO") code is

displayed to the PSAP call taker representing the originating office of the caller should a "no ANI" or "partial ANI" condition occur. Such information aids in more quickly identifying ANI failure conditions and expediting repair so Verizon's end users' 911 calls are not subjected to lengthy service affecting failure events.

Q: ARE THERE ANY OTHER BENEFITS VERIZON MAY RECEIVE FROM THE USE OF DEDICATED TRUNKING?

A: Yes. High calling volumes (or facility failure conditions) associated with one or more originating office(s) served by the Verizon-proposed combined trunk group from its selective router may saturate the trunks to Intrado Comm's selective router. This can limit access or cause blockage to the PSAP from 911 callers served by other originating offices typically routed over the same combined group. However, with dedicated trunking from the originating office(s), Verizon's end user call completion from one office is unaffected by the end user call volume or facility deficiencies from another originating office, and access to Intrado Comm's selective router is assured for Verizon's end users. Further, public safety will no longer need to invest local resources and time assisting Verizon in reconciling its service order address errors, and Verizon's customers' data will more likely process through to the selective router and ALI database without delays caused due to address validation errors. Finally, any investment required to deploy dedicated trunking may be offset by the savings Verizon realizes from reduced switch maintenance and repair costs and from not having to correct downstream service address errors detected by Intrado Comm's ALI database management process.

Q: IS USING DEDICATED TRUNKING FROM THE END OFFICE TECHNICALLY FEASIBLE?

A: Yes. Verizon and other ILECs require competitors to deliver 911 calls to the appropriate selective router via dedicated trunking. When a competitor serves a large geographic territory using a small number of switches, the competitor must employ some type of process to determine on which dedicated trunk to place the 911 call to ensure it is delivered to the appropriate selective router serving the PSAP responsible for responding to the 911 call. It is technically feasible for Verizon to perform any required sorting of 911 traffic at the originating office when the originating office is a digital or analog electronic switching system. I understand that the FCC has found that interconnection and access requests shall be deemed technically feasible absent technical or operational concerns that prevent fulfillment of the request, and that the determination of technical feasibility does not include consideration of economic, accounting, billing, space, or site concerns.

Q: IS INTRADO COMM'S PROPOSAL FOR SEPARATE TRUNK GROUPS SUPPORTED BY INDUSTRY RECOMMENDATIONS AND GUIDELINES?

A: Yes. Industry recommendations call for identifiable end office trunk groups for default routing. Verizon's proposal to use a common trunk group for all 911/E-911 service traffic destined for Intrado Comm's network is inconsistent with NENA recommendations. Excerpts from these recommendations can be found in Exhibit TH-6.

Q: WHY HAS INTRADO COMM PROPOSED LANGUAGE WITH RESPECT TO VERIZON END USER 911/E-911 CALLS ORIGINATING OUTSIDE OF INTRADO COMM'S 911/E-911 SERVING AREA?

A: Intrado Comm recognizes that there may be instances when Verizon is technically incapable of establishing dedicated trunking between its end offices and Intrado Comm's selective router, such as when a rate center is served by more than one PSAP. In this situation, Intrado Comm has proposed language that would require the Parties to work cooperatively with the affected public safety agencies and PSAPs to determine the proper call routing arrangements.

Q: CAN YOU GIVE AN EXAMPLE OF A CALL ROUTING ARRANGEMENT THAT MIGHT BE IMPLEMENTED?

A: For example, the affected public safety agencies may determine that all 911 calls should be routed to Intrado Comm's selective router with Intrado Comm taking the responsibility to determine whether the calls should then be sent to an Intrado Comm served PSAP or sent to Verizon for delivery to a Verizon served PSAP.

Q: WHY SHOULD INTRADO COMM'S PROPOSAL FOR VERIZON END USER 911/E-911 CALLS ORIGINATING OUTSIDE OF INTRADO COMM'S 911/E-911 SERVING AREA BE ADOPTED?

A: Intrado Comm's proposed language puts the decision making authority in the hands of public safety in those situations when the use of dedicated trunking from the end office may not be feasible. By contrast, Verizon's proposal would determine where to send 911 calls without taking into consideration how the affected public safety agency would like the 911 calls to be handled.

Issue 13: Should the ICA include a description of Verizon's 911/E-911 facilities? If so, what is the appropriate description?

Q: CAN YOU PLEASE EXPLAIN THE DIFFERENCES BETWEEN THE PARTIES WITH RESPECT TO THIS ISSUE?

A: This issue deals with Section 1.1.1 of the 911 Attachment, which provides generic information regarding 911/E-911 arrangements. Verizon's proposed language contains a sentence that describes the service, equipment, and software that Intrado Comm will provide and maintain when Intrado Comm is the 911/E-911 service provider. There is no dispute with respect to that sentence. Intrado Comm, however, has proposed an identical sentence to govern instances in which Verizon is the 911/E-911 service provider.

Q: WHAT DO YOU VIEW AS THE PURPOSE OF SECTION 1.1.1 OF THE 911 ATTACHMENT?

A: Optimally, Section 1.1.1 of the 911 Attachment should merely describe what 911 arrangements do. 911/E-911 arrangements provide a caller access to the appropriate PSAP by dialing a 3-digit universal telephone number, "911." Basic 911 has the single feature of delivering the caller's voice communication to a specific single PSAP that has been designated to serve the entire exchange, even if that exchange is in multiple governmental jurisdictions. E-911 has more features. It provides the delivery of the call to the specific PSAP dispatching responders to the caller's location, the caller's voice communication, its telephone number, and the location of the caller. All 911/E-911 service providers offer these features with switching hardware and software platforms, ALI hardware and software platforms, and physical

transport. Therefore, it is probably more appropriate to describe 911/E-911 in the context of features instead of the tools used to provide those features.

Q: WHY DID INTRADO COMM OFFER ITS PROPOSED LANGUAGE?

A: Verizon's template interconnection agreement contained language to describe the network components that Intrado Comm would use to provide the features described above. Given that this interconnection agreement addresses the interconnection of competing 911/E-911 networks, any proposed language describing these network components should be reciprocal. Therefore, Intrado Comm proposed identical language applicable to Verizon.

Q: WHY IS A RECIPROCAL SENTENCE APPROPRIATE?

A: The interconnection agreement addresses Intrado Comm's obligations, rights, and responsibilities when Verizon is the 911/E-911 service provider ***and*** Verizon's obligations, rights, and responsibilities when Intrado Comm is the 911/E-911 service provider. Thus, if the interconnection agreement lists what components comprise Intrado Comm's 911/E-911 service offering and network, the interconnection agreement should contain a reciprocal listing of what components comprise Verizon's 911/E-911 service offering and network.

Q: IS INTRADO COMM'S PROPOSED LANGUAGE MORE APPROPRIATE THAN THE LANGUAGE OFFERED BY VERIZON?

A: Yes. The revised language offered by Verizon is inaccurate in that it not only describes the tools used to provide 911/E-911 service but also erroneously describes the access from Verizon end users to the 911/E-911 tools as part of the Verizon

network. It is inappropriate to include this type of language in a generic description of 911/E-911 arrangements.

Q: HAVE OTHER STATE COMMISSIONS RULED ON THIS ISSUE?

A: Yes, both the West Virginia and Massachusetts commissions adopted Intrado Comm's proposed language (Exhibit ES-17 at 21 (*West Virginia Arbitration Award*); Exhibit ES-19 at 52-53 (*Massachusetts Arbitration Award*)). The Commission should do the same here.

Issue 14: Should the ICA include a provision for maintaining ALI steering tables? If so, what provisions should be included?

Q: WHAT IS THE DISPUTE BETWEEN THE PARTIES WITH RESPECT TO THIS ISSUE?

A: Intrado Comm has proposed language that would require the Parties to work cooperatively to maintain the necessary ALI steering tables to ensure that accurate and up-to-date ALI information is displayed when a wireless, IP-enabled, or VoIP 911/E-911 call is transferred between the Parties' networks.

Q: CAN YOU PLEASE PROVIDE MORE INFORMATION ON HOW AN "ALI STEERING TABLE" IS DEVELOPED AND HOW THE PARTIES WOULD USE IT?

A: Wireless and IP-enabled service providers provide 911 calling capabilities to their end users through the use of pANI numbers employed for use in determining which PSAP the 911 call is to be terminated to, as well as for the retrieval of the ALI associated with the caller. When a PSAP receives the pANI number over the PSAP trunks from the selective router, it queries the ALI system using the pANI number.

The ALI system provider pre-provisions its ALI steering tables with the pANI numbers common to its serving area, and upon receiving a query from the PSAP, accesses those tables to identify the Mobile Positioning Center ("MPC") or VoIP Positioning Center ("VPC") where it must retrieve the "dynamic" ALI of the wireless or IP-connected caller. The "dynamic" ALI contains the caller's telephone number, address and other supplementary information necessary for emergency response.

Q: PLEASE CONTINUE.

A: Wireless call routing is typically accomplished based on the cell tower and sector detecting the greatest signal strength from the wireless caller's device. Wireless service boundaries do not perfectly align with the jurisdictional boundary of the PSAP receiving the initial 911 call. The caller may be mobile and may move into another PSAP's serving area during the duration of the call. It is not uncommon for the PSAP receiving this transient type of call to transfer the caller to the PSAP that would be responsible for delivering emergency assistance to the caller's final location. If the PSAP receiving the call transfer is interconnected with a 911/E-911 network that is separate from that of the PSAP performing the call transfer, the pANI number associated with the caller would not be contained in the ALI steering tables of the PSAP receiving the call and the location of the caller could not be automatically retrieved from the MPC provider. Consequently, emergency response may be delayed, and lives lost.

Q: HOW DOES INTRADO COMM'S PROPOSED LANGUAGE REMEDY THIS SITUATION?

A: Intrado Comm's language would require Intrado Comm and Verizon to work cooperatively and store the pANI numbers associated with adjacent PSAPs in each Party's respective ALI steering tables. This single mutual effort will permit a PSAP who receives a call transfer associated with a wireless or nomadic VoIP call to also receive the ALI information. This is achieved because each Party's ALI systems would contain the information necessary to determine which MPC/VPC provider to access to retrieve the caller's ALI for display at the PSAP location. Intrado Comm uses the term "ALI steering table synchronization" to define such cooperation between 911/E-911 service providers.

Q: HAS VERIZON EMPLOYED THIS TECHNIQUE IN OTHER AREAS?

A: Yes. Verizon has demonstrated success in performing ALI steering table synchronization with AT&T in California, which has allowed public safety entities to provide a more timely emergency response for both wireless and nomadic VoIP consumers.

Q: WHY IS INTRADO COMM'S LANGUAGE NECESSARY FOR INCLUSION IN THE INTERCONNECTION AGREEMENT?

A: As co-carriers, both Parties need to support 911/E-911 call transfer capabilities with ALI. The value of call transfer functionality would be greatly diminished without the ability for the PSAP to access the ALI information associated with the call. If the Parties do not maintain the necessary information to support the display of ALI at the PSAP location, misdirected 911/E-911 calls may not receive the prompt attention and response they deserve. Mr. Sorensen will address why it is appropriate to include Intrado Comm's proposed language in the Parties' interconnection agreement.

Q: WHAT ARE THE POTENTIAL CONSEQUENCES IF INTRADO COMM'S PROPOSED LANGUAGE IS NOT ADOPTED?

A: As many as 30-40 percent of wireless 911 calls routinely require transfer to another PSAP, regardless of the 911/E-911 service provider involved. Without the language requested by Intrado Comm, Florida PSAPs opting for a competitive 911 solution lose the ability to receive a call transfer with ALI from a Verizon served PSAP, and Verizon served PSAPs will also be unable to receive a call transfer with ALI from a PSAP served by a competitive provider. With adoption of Intrado Comm's language, PSAPs receiving a call transfer will be able to access ALI when performing 911 call transfers via inter-selective router trunking.

Issue 15: Should certain definitions related to the Parties' provision of 911/E-911 Service be included in the ICA and what definitions should be used?

Q: WHAT DEFINITIONS ARE AT ISSUE BETWEEN THE PARTIES?

A: There are six definitions at issue between the Parties: (1) definition of "Automatic Number Information" or "ANI"; (2) definition of "911/E-911 Service Provider"; (3) definition of "911 Tandem/Selective Router"; (4) definition of "Point of Interconnection or "POI"; (5) definition of "Verizon 911 Tandem/Selective Router"; and (6) definition of "Verizon 911 Tandem/Selective Router Interconnection Wire Center." The issues between the Parties with respect to the definition of "911/E-911 Service Provider" and the definition of "POI" deal with the location of the POI and are addressed under Issue 3.

Q: WHAT IS THE DISPUTE BETWEEN THE PARTIES WITH RESPECT TO THE DEFINITION OF "ANI"?

A: Intrado Comm's proposed definition of "ANI" comes from the NENA Master Glossary (relevant portions are contained in Exhibit TH-7). Intrado Comm proposed that this term and definition be included in the interconnection agreement because the term is used in Intrado Comm's proposed language in other sections of the interconnection agreement. It does not appear that Verizon has an issue with the substance of the definition. Rather, Verizon does not agree with Intrado Comm's proposed language in other sections of the interconnection agreement and thus does not think inclusion of the term is necessary.

Q: HAVE OTHER STATE COMMISSION'S RULED ON THE INCLUSION OF THIS DEFINITION IN THE PARTIES' INTERCONNECTION AGREEMENT?

A: Yes. The Massachusetts DTC adopted Intrado Comm's proposed definition (Exhibit ES-19 at 64-66).

Q: WHAT IS THE DISPUTE BETWEEN THE PARTIES WITH RESPECT TO THE DEFINITION OF "911 TANDEM/SELECTIVE ROUTER"?

A: There are two disputes between the Parties with respect to the definition of "911 Tandem/Selective Router." First, Intrado Comm has proposed including language indicating that a 911 Tandem/Selective Router both routes and terminates originating end user 911/E-911 calls to a PSAP and transfers 911/E-911 calls between PSAPs. Second, Intrado Comm opposes inclusion of language in the definition regarding how 911 Tandem/Selective Routers function within Verizon's network.

Q: WHY IS INTRADO COMM'S LANGUAGE APPROPRIATE?

A: Intrado Comm's proposed language accurately reflects the functions that will be performed by a 911 Tandem/Selective Router. In discussing the functions of the Wireline 911 Network, the FCC has stated that a selective router receives 911/E-911 calls and forwards those calls to the PSAP that has been designated to serve the caller's area.[1] The FCC thus recognizes that a selective router terminates 911/E-911 calls to a PSAP as Intrado Comm's proposed language reflects. In addition, it is well-established that selective routers are used to transfer 911/E-911 calls between PSAPs.

Q: SHOULD VERIZON'S LANGUAGE REGARDING ITS NETWORK STRUCTURE BE INCLUDED IN THE DEFINITION OF "911 TANDEM/SELECTIVE ROUTER"?

A: No, because Verizon-specific language is not appropriate for a generic definition. The term "911 Tandem/Selective Router" is used throughout the interconnection agreement in the context of both Parties. There is no reason for the definition to make a separate carve-out for how 911 Tandem/Selective Routers function within Verizon's network.

Q: WHAT IS THE DISPUTE BETWEEN THE PARTIES WITH RESPECT TO THE DEFINITIONS OF "VERIZON 911 TANDEM/SELECTIVE ROUTER" AND "VERIZON 911 TANDEM/SELECTIVE ROUTER INTERCONNECTION WIRE CENTER"?

A: These two Verizon-proposed definitions are unnecessary and repetitive of the general definitions for these terms. The terms "911 Tandem/Selective Router" and "Interconnection Wire Center" are already defined in the interconnection agreement.

[1] *E911 Requirements for IP-Enabled Service Providers*, 20 FCC Rcd 10245, ¶ 15 (2005).

There is no reason for separate, Verizon-specific definitions for these terms. To the extent the language of the interconnection agreement needs to state that the 911 Tandem/Selective Router belongs to Verizon, it should be sufficient to say "a Verizon 911 Tandem/Selective Router" without developing a separate definition for that term.

Q: WOULD INTRADO COMM ACCEPT VERIZON'S PROPOSED DEFINITIONS OF "VERIZON 911 TANDEM/SELECTIVE ROUTER" AND "VERIZON 911 TANDEM/SELECTIVE ROUTER INTERCONNECTION WIRE CENTER" IF THERE WERE RECIPROCAL DEFINITIONS FOR INTRADO COMM?

A: Possibly, but during the Parties' negotiations calls Verizon indicated that it saw no need for terms or definitions specific to Intrado Comm. It is unclear why Verizon believes Verizon-specific terms and definitions are necessary when it rejects including reciprocal terminology for Intrado Comm. Verizon is not the only carrier that can or does have selective routers. Yet Verizon's proposed definitions only address Verizon's equipment and facilities, not Intrado Comm's. While Intrado Comm generally opposes the inclusion of any carrier-specific equipment or facilities language in the interconnection agreement, there is absolutely no reason why the interconnection agreement should contain information regarding only Verizon-specific equipment and facilities. This is a co-carrier agreement, not a Verizon customer service agreement.

Q: HAVE OTHER STATE COMMISSIONS RULED ON THIS ISSUE?

A: Yes. Both the West Virginia and Massachusetts commissions rejected Verizon's proposed definitions for "Verizon 911 Tandem/Selective Router" and "Verizon 911

Tandem/Selective Router Interconnection Wire Center" as unnecessary (Exhibit ES-17 at 17-18 (*West Virginia Arbitration Award*); Exhibit ES-19 at 66-67 (*Massachusetts Arbitration Award*)).

Issue 53: Should 911 Attachment § 2.5 be made reciprocal and qualified as proposed by Intrado Comm?

Q: CAN YOU PLEASE EXPLAIN THE DISPUTE BETWEEN THE PARTIES WITH RESPECT TO THIS ISSUE?

A: Verizon has proposed language that would allow Verizon to directly deliver 911/E-911 calls to one of Intrado Comm's PSAP customers. Intrado Comm has proposed that this language be reciprocal and be qualified so that either Party would only be permitted to directly deliver 911/E-911 calls to the other Party's PSAP customer if the PSAP customer specifically authorized the requesting Party to do so.

Q: WHY IS INTRADO COMM'S PROPOSED LANGUAGE APPROPRIATE?

A: Intrado Comm understands there may be instances where a PSAP may select more than one 911/E-911 service provider. For example, a PSAP could choose to have both Verizon and Intrado Comm provide 911/E-911 services. The language should therefore reflect that such arrangements are driven by the PSAP (who is the customer of record). The PSAP must make an affirmative decision to subscribe to additional 911/E-911 services before such services are provided by either Party. In addition, Verizon's proposed language appears to permit the dual-carrier provision of 911/E-911 services to a PSAP for itself, but does not permit Intrado Comm to provide such services to Verizon PSAP customers. The language should be reciprocal.

Q: IN THE PROPOSED INTERCONNECTION AGREEMENT, INTRADO COMM'S PROPOSAL IS SHOWN AS DELETING THIS PROVISION. WHY?

A: Verizon has refused to make the changes proposed by Intrado Comm. If Verizon cannot agree to reciprocity or the limits proposed by Intrado Comm, the language should be deleted.

Q: DID INTRADO COMM REVIEW VERIZON'S PROPOSED LANGUAGE FOR NEW SECTION 2.6?

A: Yes, but that language does not address Intrado Comm's concerns regarding specific authorization from a PSAP for the direct delivery of 911/E-911 calls. Verizon's language would still allow it to bypass the Intrado Comm selective router and deliver 911/E-911 calls directly from its end offices to a PSAP served by Intrado Comm. Neither Party should be permitted to route 911/E-911 service traffic in this manner without express permission from the PSAP. And the Verizon-proposed provision is not exactly reciprocal to the Verizon proposed language and contains additional limitations, such as whose facilities are used to deliver the 911/E-911 call.

Q: HAVE OTHER STATE COMMISSIONS MADE RULINGS ON THESE ISSUES?

A: Yes. The West Virginia commission found that Verizon's proposed language should be rejected, and if there is a legitimate reason for either Verizon or Intrado Comm to directly route 911 calls to PSAPs served by the other, those reasons and conditions must be clearly spelled out in the interconnection agreement (Exhibit ES-17 at 28).

Likewise, the Massachusetts DTC rejected Verizon's proposed Sections 2.5 and 2.6 (Exhibit ES-19 at 70).

Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A: Yes.

Intrado Communications Inc.

Florida Price List No. 1 (T)
2nd Revised Title Sheet (T)
Cancels 1st Revised Title Sheet

FLORIDA TELECOMMUNICATIONS PRICE LIST (T)

This Price List contains the descriptions, regulations, and rates applicable to the furnishing of service and facilities for alternative local exchange telecommunications services provided by Intrado Communications Inc., with principal offices at 1601 Dry Creek Drive, Longmont, CO 80503. This price list applies for services furnished within the state of Florida. This price list is on file with the Florida Public Service Commission, and copies may be inspected, during normal business hours, at the Company's principal place of business. (T)

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Intrado Communications Inc.

Florida Price List No. 1
4th Revised Sheet 1
Cancels 3rd Revised Sheet 1

CHECK-SHEET

The sheets of this Price List are effective as of the date shown at the bottom of the respective sheet(s). Original and revised sheets as named below comprise all changes from the original Price List and are currently in effect as of the date on the bottom of this page.

SHEET	REVISION		SHEET	REVISION	SHEET	REVISION	
TITLE	2nd Revised		26	2nd Revised	52	1st Revised	
1	4th Revised	*	27	2nd Revised	53	1st Revised	
2	4th Revised	*	28	2nd Revised	54	Original	*
3	2nd Revised		29	2nd Revised	55	Original	*
4	2nd Revised		30	2nd Revised	56	Original	*
5	2nd Revised		31	2nd Revised			
6	2nd Revised		32	2nd Revised			
7	2nd Revised		33	2nd Revised			
8	2nd Revised		34	2nd Revised			
9	3rd Revised		35	2nd Revised			
10	2nd Revised		36	2nd Revised			
11	2nd Revised		37	2nd Revised			
12	2nd Revised		38	2nd Revised			
13	2nd Revised		39	2nd Revised			
13.1	1st Revised		40	2nd Revised			
14	2nd Revised		41	2nd Revised			
15	2nd Revised		42	3rd Revised			
16	2nd Revised		43	3rd Revised			
17	2nd Revised		44	3rd Revised			
18	2nd Revised		45	3rd Revised			
19	2nd Revised		46	1st Revised			
20	2nd Revised		47	1st Revised			
21	2nd Revised		48	1st Revised			
22	2nd Revised		49	1st Revised			
23	2nd Revised		50	1st Revised			
24	2nd Revised		51	1st Revised			
25	2nd Revised						

*Denotes pages included in this filing.

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TABLE OF CONTENTS

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Longmont, Colorado 80503

1.0 APPLICATION AND REFERENCE

1.1 APPLICATION OF PRICE LIST

1.1.1 This Price List contains the regulations, terms, conditions, and maximum rates and charges applicable to local and interexchange and network services and equipment furnished by Intrado Communications Inc., hereinafter referred to as Intrado Communications or the Company. (T) | (T)

(D)
(D)

1.1.2 The Company's Florida service territory is statewide. (T)

1.1.3 Service is available where facilities permit. (T)

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Intrado Communications Inc.

Florida Price List No. 1 (T)
2nd Revised Sheet 4 (T)
Cancels 1st Revised Sheet 4

1.0 APPLICATION AND REFERENCE, (CONT'D.) (T)

1.2 EXPLANATION OF ABBREVIATIONS

AMA	Automatic Message Accounting
ANI	Automatic Number Identification
ALI	Automatic Location Identification
ASCII	American Standard Code for Information Interexchange
Bps	Bits per second
CAMA	Centralized Automated Message Accounting
CCITT	The International Telegraph and Telephone Consultative Committee
CCSA	Common Control Switching Arrangement
CNCC	Customer Network Control Center
CO	Central Office
Cont'd	Continued
cps	Cycles per second
CRT	Cathode Ray Tube
dB	Decibel
DC	Direct Current
DID	Direct-Inward-Dialing
ESS	Electronic Switching System
FCC	Federal Communications Commission
GMT	Greenwich Mean Time
Hz	Hertz
IXC	Interexchange Carrier
Kbps	Kilobits per Second
kHz	Kilohertz
MHz	Megahertz
MSAG	Master Street Address Guide
NPA	Numbering Plan Area
PBX	Private Branch Exchange
PSAP	Public Safety Answering Point
SS 7	Signaling System 7
SRA	Selective Routing Arrangement

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1.0 APPLICATION AND REFERENCE, (CONT'D.) (T)

1.3 PRICE LIST FORMAT

1.3.1 LOCATION OF MATERIAL

1.3.1.1 Section 1 provides the following sections in this Price List.
- Subject Index – an alphabetical listing to find the desired section.
- Table of Contents – a numerical listing to find the desires section and page.

1.3.1.2 Each individual section in the Price List provides a Subject Index for the material located within that section.

1.3.1.3 Obsolete Service Offerings
Obsolete service offerings are identified in the Price List by adding 100 to the current section number, i.e., obsolete items from Section 5, will be found in Section 105. This section is then filed behind Section 5.

1.3.2 OUTLINE STRUCTURE

Paragraph Numbering Sequence - There are various levels of alphanumeric coding. Each level of coding is subservient to its next higher level. The following is an example of the numbering sequence suggested for use in Price Lists.

2.1
2.1.1.
2.1.1.1.1.
2.1.1.1.1.1.

1.3.3 SHEET NUMBERING

Sheet Numbering - Sheet numbers appear in the upper right corner of the page. Sheets are numbered sequentially. However, new sheets are occasionally added to the Price List. When a new sheet is added between sheets already in effect, a decimal is added. For example, a new sheet added between sheets 14 and 15 would be 14.1.

1.3.4 SHEET REVISION NUMBERS

Sheet Revision Numbers - Revision numbers also appear in the upper right corner of each page. These numbers are used to determine the most current sheet version on file with the Commission. For example, the 4th revised Sheet 14 cancels the 3rd revised Sheet 14

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1.0 APPLICATION AND REFERENCE, (CONT'D.) (T)

1.3 PRICE LIST FORMAT, (CONT'D.) (T)

1.3.5 RATE TABLES

Within rate tables, four types of entries are allowed:

- Rate Amount

The rate amount indicates the dollar value associated with the service.

- A dash "-"

The dash indicates that there is no rate for the service or that a rate amount is not applicable under the specific column header.

- A footnote designator "[1]"

The footnote designator indicates that further information is contained in a footnote.

- ICB

The acronym "ICB" indicates that the product/service is rated on an individual case basis.

1.3.6 CHECK SHEETS

Check Sheets: When a Price List filing is made with the Florida Public Service Commission, an undated check sheet accompanies the Price List filing. The check sheet lists the sheets contained in the Price List, with a cross reference to the current revision number. When new pages are added, the check sheet is changed to reflect the revision. All revisions made in a given filing are designated by an asterisk (*). There will be no other symbols used on the check sheet if these are the only changes made to it (i.e., the format, etc. remains the same, just revised revision levels on some pages). The Price List user should refer to the latest check sheet to find out if a particular sheet is the most current on file with the Florida Public Service Commission.

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1.0 APPLICATION AND REFERENCE, (CONT'D.) (T)

1.4 EXPLANATION OF CHANGE SYMBOLS

SYMBOL	EXPLANATION
(D)	To signify discontinued material
(I)	To signify rate increase
(M)	To signify material moved from or to another part of the Price List with no change, unless there is another change symbol present
(N)	To signify new material
(R)	To signify rate reduction
(T)	To signify a change in text or regulation but no change in rate or charge

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1.0 APPLICATION AND REFERENCE, (CONT'D.) (T)

1.5 TRADEMARKS, SERVICE MARKS AND TRADE NAMES

Intelligent Emergency Network® Registered Service Mark of Intrado Communications Inc. (T)

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(T)
|
|
(T)

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING

2.1 DEFINITION OF TERMS

9-1-1
A local exchange service using a three-digit telephone number used to report an emergency situation requiring a response by a public agency such as a fire department or police department. (T)

9-1-1 Failure or Outage
A situation in which 9-1-1 calls cannot be transported to the Public Safety Answering Point (PSAP) responsible for answering the 9-1-1 emergency calls. (T)

Access Line
An arrangement from a local exchange telephone company or other common carrier, using either dedicated or switched access, which connects a Customer's location to Company's location or switching center. (T)

Authorized User
A person, firm, or corporation that is authorized by the Customer or joint user to be connected to the service of the Customer or joint user, respectively. An Authorized User must be specifically named in the application for service. (T)

Automatic Numbering Identification (ANI)
A type of signaling provided by a local exchange telephone company that automatically identifies the local exchange line from which a call originates.

Automatic Location Identification (ALI)
The automatic display, on equipment at the PSAP, of the location of the caller's telephone number, the address for the telephone, including non-listed and non-published numbers and addresses, and other information about the caller's location.

Emergency Service
A telecommunications service that permits the use of the local exchange network and the three-digit number 9-1-1 for reporting police, fire, medical, or other emergency situations to a PSAP and referral to a public agency. Emergency service does not include discretionary equipment purchased by, or contracted for, that is not essential to the provision of 9-1-1 or E9-1-1 service. (T) (T) (T) (T)

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Intrado Communications Inc.

Florida Price List No. 1 (T)
2nd Revised Sheet 10 (T)
Cancels 1st Revised Sheet 10

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

(D)
|
|
|
(D)

Basic Local Exchange Service or Basic Service
The telecommunications service that provides a local dial tone line and local usage necessary to place or receive a call within an exchange area and any other services or features that may be added by the Commission.

Bit
The smallest unit of information in the binary system of notation.

Building
A structure occupied by one or more Customers.

Campus
A group of two or more buildings or spaces located on a single owned continuous or contiguous property.

Central Office (CO)
A switching unit providing telecommunication services to the general public, designed for terminating and interconnecting lines and trunks. More than one CO may be located in a building.

Central Office Line
See "Exchange Access Line."

Certified Telecommunications Provider
Providers of telecommunications local exchange service who are certified with the Florida Public Service Commission as a Local Exchange Services Provider.

Commission (N)
Florida Public Service Commission. (N)

Common Carrier
An authorized company or entity providing telecommunications services to the public.

Company
Refers to Intrado Communications Inc.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

Customer
A person, partnership, firm, municipality, cooperative organization, corporation, or governmental agency furnished communications service by the Company under the provisions and regulations of this price list and who is responsible for paying the communication service bills and for complying with the rules and regulations of the Company. (T)

Dedicated
A facility or equipment system or subsystem set aside for the sole use of a specific Customer.

Demarcation Point
The point of interconnection between the Company's regulated telecommunications facilities and terminal equipment, protective apparatus or wiring at the premise. The demarcation point location will be within twelve inches (12) of the protector, or when there is no protector, within twelve inches (12) (or as close as practicable) of the point at which the cable/wire enters the Customer premises.

Duplex Service
Service that provides for simultaneous transmission in both directions. (T)

E9-1-1 Features
The ANI, ALI database and selective routing capabilities and all other components of an E9-1-1 system, not including the transport and switching facilities.

E9-1-1 Facilities
The facilities provided by the basic emergency service provider that interconnect to the wireless providers, certificated local exchange carriers, and other services that are used to transport E9-1-1 and other emergency calls to the PSAP. The facilities may include the use of E9-1-1 tandem switches or direct trunking of E9-1-1 calls to the PSAPs. (T)

E9-1-1 Tandem or 9-1-1 Selective Routing Tandem
The switch that provides the routing and switching of 9-1-1 calls. The E9-1-1 Tandem controls delivery of the call with ANI to the PSAP and provides selective routing, speed calling, selective transfer, fixed transfer, and certain maintenance functions for each PSAP. (T)

E9-1-1 Selective Router Trunk (N)
A trunk from a Selective Router capable of transmitting the ANI associated with an End User call to 911. The E9-1-1 Selective Router Trunk may be between a Selective Router and a PSAP or between Selective Routers. The latter configuration may also be known as an inter-Selective Router Trunk. (N)

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

E9-1-1 Trunks
The trunks that connect from the end office serving the individual telephone that originates a 9-1-1 call to the E9-1-1 Selective Router. (T) (T)

(D) | | (D)

Emergency Telephone Service
A telephone system using the three-digit number 9-1-1 to report police, fire, medical or other emergency situations.

End User
The term "End User" means the Person that subscribes to (subscriber of record) and/or uses the Telecommunications Services provided by the Company. (T) (T)

Enhanced 9-1-1 (E9-1-1)
An emergency telephone service that includes ANI, ALI (including non-listed and non-published numbers and addresses), and selective routing, to facilitate public safety response. (T)

Entrance Facilities
Those facilities from the property line to the point at which the cable enters the premises and terminates at the protector.

Facilities
Central office equipment, supplemental equipment, apparatus, wiring, cables (outside plant) and other material and mechanisms necessary to or furnished in connection with the services of the Company.

Fiber Optic Cable
A thin filament of glass with a protective coating through which a light beam carrying communications signals may be transmitted by means of multiple internal reflections to a receiver, which translates the message.

Geographic Area
The area such as a city, county, municipality, multiple counties, or other areas defined by a governing body or other governmental entity for the purpose of providing public agency response to 9-1-1 calls.

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

Governing Body
A board or county commissioners of a county or the city council or other governing body of a city, city and county, or town or the board of directors of a special district. (T)

Holiday
New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, or Christmas Day.

Individual Case Basis (ICB)
A service arrangement in which the regulations, rates, charges and other terms and conditions are developed based on the specific circumstances of the individual End User. (T) (T)

Inside Wire
Wiring located on the building owner's/Customer's side of the demarcation point. Such wiring is deregulated. Installation and maintenance of Inside Wiring is the responsibility of the Customer or premises owner.

Local Access and Transport Area (LATA)
A geographical area established by the U.S. District Court for the District of Columbia in Civil Action No. 82-0192, within which a local exchange company provides communications services.

Local Exchange Carrier (LEC)
Refers to any person, corporation or entity that pursuant to the statutes and rules of the State of Florida and the Commission is authorized to provide local exchange telecommunications services on a resale or facilities basis. (N) (N)

(M)

Some material previously found on this sheet now found on Original Sheet 13.1 (M)

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.)

2.1 DEFINITION OF TERMS (CONT'D.)

Local Exchange Service (M)
Refers to local service that allows a subscriber to complete calls through facilities provided for intercommunications to other telephones within a specified area without payment of toll charges. This service also provides access to and from the telecommunication network for long distance calling. (T)

Master Street Address Guide (MSAG)
A database of street names and house number ranges within their associated communities that defines Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of E911 calls (T)

Maintenance of Service
Maintenance of Service (Trouble Isolation) denotes an occurrence of a visit to a Customer's premises in connection with a service difficulty when it is determined that the difficulty is due to a condition in Customer-provided facilities, terminal equipment, a communication system or for Customer-maintained premises wire. When a Maintenance of Service visit is made, Premises Work Charges will apply.

Mbps (M)
Megabits, denotes millions of bits per second.

Some material now found on this sheet previously found on 1st Revised Sheet 13

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Intrado Communications Inc.

Florida Price List No. 1 (T)
2nd Revised Sheet 14 (T)
Cancels 1st Revised Sheet 14

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

Minimum Point of Entry
The closest practicable point to where regulated facilities of the Company cross a property line or enter a building.

National Emergency Number Association (NENA)
An international not-for-profit organization whose purpose is to lead, assist, and provide for the development, availability, implementation and enhancement of a universal emergency telephone number or system common to all jurisdictions through research, planning, publications, training and education.

Network Control Signaling
Transmission of signals used in the telecommunications system which perform functions such as supervision (control, status, and charging signals), address signaling (e.g., dialing), calling and called number identification, audible tone signals (call process signals indicating reorder or busy conditions, alerting tones) to control the operating of switching equipment in the system.

Network Facilities
All Company facilities from the central office up to and including the Standard Network Interface at the demarcation point.

Non-listed service
Telephone numbers that are not published in the telephone directory but are available through directory assistance.

Non-published service
Telephone numbers that are neither published in the telephone directory nor available through directory assistance.

Nonrecurring Charge
A charge associated with a given service or item of equipment which applies on a per service and/or a per item basis each time the service or item of equipment is provided or changed.

Pseudo Automatic Number Identification (pANI)
Refers to a number, which may be used in lieu of ANI, for query into routing databases for the delivery to PSAPs and corresponding ALI of E911 calls. (T) (T)

(M) | | (M)

Some material previously found on this sheet now found on 2nd Revised Sheet 15

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

Person (M)
Any individual, firm, partnership, copartnership, limited partnership, joint venture, association, cooperative organization, limited liability corporation, corporation (municipal or private and whether organized for profit or not), governmental agency, state, county, political subdivision, state department, commission, board, or bureau, fraternal organization, nonprofit organization, estate, trust, business or common law trust, receiver, assignee for the benefit of creditors, trustee, or trustee in bankruptcy or any other service user. (M)

Premises
See "Same Premises."

Premises Work Charge
A time-sensitive one-time charge that applies to Customer requested work done by the Company on the Customer's side of the Network Interface.

Private Branch Exchange (PBX) (T)
An arrangement that comprises manual and/or automatic common equipment, wiring and station apparatus, and which provides for interconnection of main station lines associated with an attendant position and/or common equipment located on the Customer's premises or extended to another premises of the same Customer.

PBX Service
This service provides for centralized processing of exchange access by stations through groups of Central Office trunks, WATS lines, etc., or with other communication systems through voice circuits connected to the common equipment. Interconnection between stations through the common equipment is an inherent feature of the service.

Protector
An electrical device located in a central office, a Customer premises or any where along the telecommunications facility path. This device protects both the Company's and the Customer's property and facilities from high voltages and surges in current.

Public Agency
Any city, city and county, town, county, municipal corporation, public district, or public authority located in whole or in part within this state which provides or has the authority to provide fire fighting, law enforcement, ambulance, emergency medical, or other emergency services.

Public Safety Answering Point (PSAP)
A facility equipped and staffed to receive 9-1-1 calls from the basic emergency service provider. PSAPs operate under the direction of the governing body and are responsible to direct the disposition of 9-1-1 calls.

Some material now found on this sheet previously found on 1st Revised Sheet 14

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

Reseller of Local Exchange Service (Resellers) (T)
For the purpose of this Price List, a reseller of basic local exchange service is providing basic local exchange service.

Routing
The central office programming required to transport a 9-1-1 call to the correct 9-1-1 Tandem.

Same Premises
All the space in the same building in which a Customer has the right of occupancy to the exclusion of others or shares the right of occupancy with others; and all space in different buildings on continuous property, provided such buildings are occupied solely by one Customer. Foyers, hallways, and other space provided for the common use of all occupants of a building are considered the premises of the operator of the buildings.

Shared facility
A facility or equipment system or subsystem which can be used simultaneously by several Customers.

Selective Routing
The capability of routing an E9-1-1 call to a designated PSAP based upon the seven-digit or ten-digit telephone number of the subscriber dialing 9-1-1.

Standard Network Interface (SNI)
A standard Federal Communications Commission (FCC) registration jack or its equivalent, which is provided, installed, owned and maintained by the Company at the Customer's premises. The SNI is placed at the point on the Customer's premises where all premises services are connected to the telecommunication's network via Company or Customer owned facilities/wire.

Supporting Structure
Consisting, of, but not limited to, pipes, conduits, risers, poles, trenches, backboards, plenum spaces, etc., as required for the physical placement, protection and support of telecommunications facilities. These structures are furnished, installed and maintained at the expense of the premises owner for use by the Company in terminating regulated facilities.

TDD/Text Phone
A telecommunications device for use by the hearing or speech impaired that employs graphic communication in the transmission of coded signals through a wire or radio communication system. (T)

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.1 DEFINITION OF TERMS (CONT'D.) (T)

Telecommunications Device for the Deaf (TDD)/Text Phone Emergency Access
Provides 9-1-1 access to individuals that use TDDs and computer modems.

Telecommunications Service Priority (TSP)
Denotes the regulatory, administrative, and operational system developed by the federal government to ensure priority provisioning and/or restoration of National Security Emergency Preparedness (NSEP) telecommunications services. The FCC defines NSEP telecommunications services as those services which are used to maintain a state of readiness or to respond to and manage any event or crisis, which causes or could cause harm to the population, damage to or loss of property, or degrades or threatens the NSEP posture of the United States.

Telecommunications Relay Services
These services provides the ability for hearing- or speech-impaired individuals to communicate, by wire or radio, with a hearing individual in a manner that is functionally equivalent to communication by an individual without a hearing or speech impairment. This definition includes telecommunication relay services that enable two-way communications between an individual who uses a TDD or other non-voice terminal device and an individual who does not use such a device.

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Wire Center
The building which houses the local switching equipment (central offices) from which exchange and private line services are furnished and where cable facilities are terminated which furnish telephone service within a designated wire center serving area.

Wire Center Serving Area
The area of the exchange served by a single wire center.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.2 ESTABLISHING AND FURNISHING SERVICE

These regulations are added to those pertaining to specific service items in other sections. Any change in rates, charges or regulations approved by appropriate governmental authority modifies all service terms and conditions unless otherwise specified in writing pursuant to an ICB agreement, the following terms and conditions will apply to the services.

2.2.1. APPLICATION FOR SERVICE

2.2.1.1. Applications for establishment of service must be made to the Company in writing. These applications become contracts upon approval by the Company and the customer or the establishment of the service, and shall be subject at all times to the lawful rates, charges and regulations of the Company.

2.2.1.2. Requests from Customers for additional service or equipment must be made in writing and, upon approval of installation of the service, become a part of the original contract, except that each additional item is subject to the appropriate Price List rates, charges and initial contract period, if any.

2.2.1.3. Any change in rates, charges or regulations authorized by the legally constituted authorities will act as a modification of all contracts to that extent without further notice.

2.2.2. REFUSAL

The Company reserves the right to refuse an application for service made by a present or former Customer who is indebted to the Company for service previously furnished, until the indebtedness is satisfied.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.2 ESTABLISHING AND FURNISHING SERVICE (CONT'D.) (T)

2.2.3. CANCELLATIONS AND DEFERMENTS

When the Company advises a Customer that ordered services are available on the requested due date, and the Customer is unable or unwilling to accept service at that time, the facilities will be held available for the Customer for a 30 business day grace period. If after 30 business days the Customer has still not accepted service, regular monthly billing for the ordered services may begin, or the facilities will be released for other service order activity, and cancellation charges (non-recurring charges that would have applied had the service been installed) may be applied. These cancellation and deferment provisions apply to requests for all Company services.

2.2.4. USE OF SERVICE

2.2.4.1. Customer service will be furnished to business Customers for:

- The Customer;
- The Customer's employees and representatives;
- Customers who share the Company's service;
- Joint users of Company provided services.

2.2.4.2. Intrado Communications' services may be used for any lawful purpose consistent with the transmission and switching parameters of the telecommunications facilities utilized in the provision of the Company's services. (T) (T)

2.2.4.3. The Company's services are available for use twenty-four (24) hours per day, seven (7) days per week. (T)

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.2 ESTABLISHING AND FURNISHING SERVICE (CONT'D.) (T)

2.2.5. OBLIGATION TO FURNISH SERVICE

2.2.5.1. The Company's obligation to furnish service or to continue to furnish service is dependent on its ability to obtain, retain, and maintain with just and reasonable earnings, suitable rights and facilities, and to provide for the installation of those facilities required to the furnishing and maintenance of that service. At the option of the Company, in managing its facilities, certain regular service restrictions may be temporarily imposed at locations where new or additional facilities being constructed are not readily available to meet service demands.

2.2.5.2. The Company shall not be required to furnish, or continue to furnish, facilities or service where the circumstances are such that the proposed use of the facilities or service would tend to adversely affect the Company's plant, property or service.

2.2.5.3. The Company reserves the right to refuse an application for service made by a present or former customer who is indebted to the Company for service previously rendered pursuant to this Price List until the indebtedness is satisfied.

2.2.5.4. When connections are requested and facilities to provide the required connections at the CO normally designated to serve the premises of the Customer are inadequate, facilities may be furnished from another CO to provide the requested interconnection. Under such circumstances additional monthly rates and installation charges will apply.

2.2.5.5. The customer shall be responsible for making arrangements or obtaining permission for safe and reasonable access for Company employees or agents of the Company to enter the premises of the customer or any joint user or customer of the customer at any reasonable hour for the purpose of inspecting, repairing, testing or removing any part of the Company's facilities.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.2 ESTABLISHING AND FURNISHING SERVICE (CONT'D.) (T)

2.2.6. LIMITED COMMUNICATION

The Company reserves the right to limit use of its services when emergency conditions arise that cause a shortage of facilities.

2.2.7. RESALE/SHARING OF SERVICE

Service on Customers' premises furnished by the Company shall not be used for performing any part of the work of transmitting, delivering, or collecting any message where any toll or consideration has been or is to be paid any party other than the Company, without written consent of the Company.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.3. TERMINATION OF SERVICE – COMPANY INITIATED

The Company may terminate service, with notice, due to:

2.3.1. Nonpayment

2.3.1.1. The Company may, by notice in writing to the Customer, in accordance with paragraph 2.6.2.9, suspend or terminate the service for nonpayment of any sum due the Company.

2.3.1.2. Exception: The Company may not use its purchase of a Customer's indebtedness, i.e., the accounts receivable from another telecommunications service provider as a basis to deny or discontinue providing its services to that Customer.

2.3.2. Abandonment
In the event of the abandonment of the service, the Company may terminate its service.

2.3.3. Abuse
Use of service that interferes with another Customer's service or that is used for any purpose other than its express intended purpose, or if a Customer or End User causes or permits any signals or voltages to be transmitted over the Company's network in such a manner as to cause a hazard or to interfere with services to other Intrado Communications Customers (T) | (T)

2.3.4. Fraud
Abuse or fraudulent use of service includes the use of facilities of the Company to transmit a message or locate a person otherwise to give or obtain information, without the payment of a toll charge. The Company reserves the right to discontinue or refuse service because of fraudulent use of its service.

2.3.5. Unlawful Use of Service
The service is furnished subject to the condition that it will not be used for an unlawful purpose. Upon request of an order from a court, acting within its jurisdiction, advising that such service is being used or will be used in violation of law, service will be discontinued.

2.3.6. Violation of Price List
Any other violation of the regulations of the Company or this Price List, the Company may in its sole discretion, without notice, either suspend service or terminate the service without suspension.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.4. SPECIAL SERVICES

2.4.1. General

2.4.1.1. The rates and charges quoted in the Price Lists of the Company contemplate the use of service arrangements, equipment and facilities in quantities and types regularly furnished by the Company. Where equipment, facilities, or service arrangements are requested which are not provided for in the Company's applicable Price Lists, monthly rates and one-time charges, such as nonrecurring and construction charges, will apply based on the circumstances in each case.

2.4.1.2. These special equipment and service items will be provided whenever, in the judgment of the Company, there is a valid reason for providing the service requested. In such cases, the Company reserves the right to require an initial contract period commensurate with relevant circumstances.

2.4.1.3. The rates and charges specified contemplate that work will be performed during regular working hours, 9:00AM – 5:00PM, Monday – Friday except Holidays, and that work once begun will not be interrupted by the Customer. If, at the request of the Customer, work is performed outside of regular working hours, either to meet the Customer's convenience or because the time allowed is insufficient to permit completion during regular hours or if the Customer interrupts work which has begun, the Customer may be required to pay any additional costs incurred. (T)

2.4.1.4. The rates and charges quoted in the Price Lists of the Company contemplate the use of standard procedures and practices for furnishing service, equipment and facilities. Where the Customer requests special procedures or practices, such as expedited material handling or shortened installation intervals through the use of overtime, etc., additional rates and charges will apply based on the circumstances in each case. These special practices or procedures will be provided at the discretion of the Company, depending upon each individual case.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.5. TERMINATION OF SERVICE – CUSTOMER INITIATED

2.5.1. Initial Contract Period

2.5.1.1. An initial contract period of one year will apply unless otherwise specified.

2.5.1.2. Where service is disconnected and subsequently reestablished at the same location for the same or a different Customer, a new initial contract period will apply, whether or not the equipment has been removed.

2.5.1.3. Where the provision of service requires unusual costs or involves special assemblies of equipment, or where the provision of service requires construction of facilities for possible short term use, the Company reserves the right to require an initial contract period longer than one year in addition to any construction charge that may be applicable.

2.5.2. Charges for Termination of Service

2.5.2.1. Nonrecurring charges do not apply to disconnect service unless otherwise specified.

2.5.2.2. After the expiration of the initial contract period, service may be terminated upon reasonable advance notice to the Company and payment of all charges due to the date of termination of the services.

2.5.2.3. Prior to the expiration of the initial contract period, service may be terminated upon reasonable advance notice to the Company and upon payment of the termination charges hereinafter provided, in addition to all charges for the period service has been rendered.

2.5.3. Service Involving Unusual Cost

Where the provision of service requires construction of facilities for possible short term use, or involves unusual costs or special assemblies of equipment, the initial contract period and termination charge base will be determined by the Company in each individual case.

2.5.4. Termination Liability

Services provided via service agreements will be subject to Termination Liability.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.5 TERMINATION OF SERVICE – CUSTOMER INITIATED (CONT'D.) (T)

2.5.4 Termination Liability (Cont'd.) (T)

2.5.4.1. Definitions

Minimum Service Period
When services are provided under a service agreement, a Minimum Service Period may be established. This would be the period of time that the 100% factor of the Termination Liability Charge would apply.

2.5.4.2. Complete Disconnect
If the Customer chooses to completely discontinue service, at any time during the term of the agreement, a termination charge will apply. The termination charge will be determined on an individual case basis.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.6. PAYMENT FOR SERVICE

2.6.1. CUSTOMER RESPONSIBILITY

The Customer is responsible for payment of all charges for facilities and services furnished the Customer, including charges for services originated, or charges accepted, at such facilities.

2.6.2. PAYMENT OF BILLS

2.6.2.1. Customers will either be billed directly by the Company or its intermediary, or charges will be included in the Customer's regular bill pursuant to billing and collection agreements established by the Company or its intermediary with the applicable customer.

2.6.2.2. Unless otherwise specified, all charges for Company-provided services, equipment and facilities, exclusive of usage or transaction sensitive charges, start the day after service is installed, continue through the day service is disconnected and are payable monthly in advance. Charges for usage or transaction related services are payable monthly except the Company reserves the right to require payment of such charges at more frequent intervals.

2.6.2.3. When service does not begin on the first day of the month, or end on the last day of the month, the charge for the fraction of the month in which service was furnished will be calculated on a pro rata basis. For this purpose, every month is considered to have 30 days.

2.6.2.4. In the event a Customer is indebted to the Company for charges and services previously rendered in Florida, or for service under one or more accounts at the same location, and the Customer does not pay the charges or satisfy such indebtedness, the Company may charge and bill such indebtedness against other accounts of this Customer.

2.6.2.5. In the event that payment from a Customer is less than the total amount of all charges owing to the Company and the Customer does not specifically designate the manner in which he wishes to apply said payment, then the Company may apply all or any part of the payments received to such accounts or indebtedness in any manner that the Company deems appropriate.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.6.2 PAYMENT FOR SERVICE (CONT'D.) (T)

2.6.2.6. Except as otherwise specified, where the rate to be charged for a particular service is determined by applying a percentage of similar factor to a quoted rate, and such computation results in a fraction, the charge for the service shall be computed to the nearest cent, a half cent being increased to the next higher cent.

2.6.2.7. The furnishing of services, equipment and facilities and any indebtedness resulting therewith shall not result in a lien, mortgage or other security interest in any real or personal property of the Customer, unless such indebtedness has been reduced to judgment.

2.6.2.8. Service may be discontinued or refused to a Customer for the nonpayment of any sum for service furnished in the State of Florida or for the provision of facilities which also have been provided in Florida.

2.6.2.9. Unless otherwise specified, in the event it becomes necessary for service to be discontinued to a Customer for nonpayment, a written notice of at least seven days (measured from the date of mailing) will be given to the Customer advising the Customer of the amount due and the date by which the same must be paid. If the Customer fails to pay or make suitable arrangements for payment by said due date, the Company may suspend the service or discontinue the service and remove any or all equipment from the Customer's premises.

2.6.2.10. Payment of bills for service may be made by any means mutually acceptable to the Customer and the Company. Payment that is not honored or paid by the payer's designated financial institution will be considered as nonpayment. A returned payment charge is applicable to the account for each occasion that a payment is returned to the Company for reason of insufficient funds or closed account.

	Maximum Charge
• Returned Payment Charge	$20

2.6.2.11. Customers may have the following options as to the method of paying bills for Company provided service(s): (D) (D)

- If by U.S. Mail, by check or money order only;
- Through an agent of the Customer;
- By any means acceptable to financial institutions and the Company.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.6.2 PAYMENT FOR SERVICE (CONT'D.) (T)

2.6.2.12. Payments received by the Company on or before the due and payable date on the Customer's bill will be considered timely, provided the following billing information is remitted with payment:

- Customer's name;
- Customer's telephone number
- Customer's address;
- Customer's Account Code (if applicable);
- Customer's account type;
- Amount of payment;
- Other information as required by the service agreement.

2.6.2.13. Payments received by the Company after the due and payable date on the Customer's bill, but at least one day before the termination date on the suspension notice, may result in discontinuance of the Customer's service unless the following billing information is remitted with the payment:

- All of the items enumerated in 2.6.2.12., and
- The final payment date before discontinuance for nonpayment.

2.6.2.14. The Company will not be responsible if a Customer's service is discontinued after payment has been remitted, unless the payment is timely, as set forth in 2.6.2.12. or, if the payment is not timely, the requirements of 2.6.2.13. have not been met.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.7. LATE PAYMENT CHARGES

2.7.1. A maximum late payment charge of 1.5% per month applies to all billed balances that are not paid by the billing date shown on the next bill unless the balance is $45.00 or less.

2.7.2. Collection procedures, temporary disconnection of service, and the requirements for deposit are unaffected by the application of a late charge. The late payment charge does not extend the time for payment or otherwise enlarge or change the rights of a Customer. Notice of intention to pay late will not avoid this charge.

2.7.3. The late payment charge does not apply to the following:

- Bills mailed more than ten days after bill date.
- Final bills.
- One time miscellaneous bills.
- Billed amounts under dispute that are resolved to the Company's satisfaction in the Customer's favor.

2.7.4. The Company is entitled to recover from the customer the Company's cost of collection including reasonable attorney fees.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.8. ADJUSTMENT OF CHARGES

2.8.1. Interruptions

2.8.1.1. For the purpose of applying this provision, the word "interruption" shall mean the inability to complete calls either incoming or outgoing or both. Interruption does not include, and no credit allowance shall be given for, service difficulties such as busy circuits or other network and/or switching capacity shortages or as further defined.

2.8.1.2. The credit allowance will not apply where service is interrupted by the negligence or willful act of the Customer or the failure of facilities provided by the Customer, or where the Company, pursuant to the terms of the Price List, suspends or terminates service because of unlawful or improper use of the facilities or services, or any other reason covered by the Price List or as further defined.

2.8.1.3. No credit allowance shall be made for interruptions in service due to electric power failure where, by the provisions of this Price List or as further defined, the Customer is responsible for providing electric power.

2.8.1.4. Should any such error, mistake, omission, interruption, failure, delay, defect or malfunction of equipment or facilities result in an interruption or failure of jurisdictional service to a Customer for more than eight hours during a continuous 24-hour period after being reported by the Customer or discovered by the Company, whichever occurs first, an appropriate adjustment shall be made automatically by the Company to the Customer's bill. The adjustment, unless further defined, shall be a credit allowance on the monthly bill of 1/30 of the Price List monthly rate for all jurisdictional services and facilities affected by such interruption or failure for each occurrence of more than eight hours in a continuous 24-hour time period after notice by the Customer or discovery by the Company, whichever occurs first. Credit allowances in any billing period shall not exceed the total charges for that period for the services and facilities that are affected by the interruption or failure.

2.8.1.5. In addition and not by way of limitation, in the event that there is a delay in installation of service, if any service date is promised, or any failure to service or properly maintain the items of service as provided for herein concerning maintenance or any failure to repair or replace the items of service as provided in 2.8.1.4., then the refunds provided in 2.8.1.4. shall be the exclusive remedy against the Company.

2.8.1.6. Under all circumstances set forth above, the Company shall not be liable to the Customer or any other persons for special, incidental, punitive or consequential damages, losses, expenses, or costs, if any.

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2. GENERAL REGULATIONS - CONDITIONS OF OFFERING (CONT'D.) (T)

2.9. LIABILITY OF THE COMPANY

2.9.1. SERVICE LIABILITIES

THE COMPANY MAKES NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, EXCEPT THOSE EXPRESSLY SET FORTH HEREIN.

In view of the fact that the Customer has exclusive control of their communications over the facilities furnished them by the Company, and of the other uses for which facilities may be furnished them by the Company, and because of unavoidable errors incidental to the services and to the use of such facilities of the Company, the services and facilities furnished by the Company are subject to the following terms, conditions and limitations.

2.9.2. Limitations

2.9.2.1. Except as otherwise provided herein, no liability for direct, incidental punitive or consequential damages shall attach to the Company, its officers, directors, agents, servants or employees, for damages or costs arising from errors, mistakes, omissions, interruptions, failures, delays, or defects or malfunctions of equipment or facilities, in the course of establishing, furnishing, maintaining, rearranging, moving, terminating, or changing the service(s) or facilities (including the obtaining or furnishing of information in respect thereof or with respect to the Customer or End Users of the service or facilities) in the absence of willful and wanton conduct, whether a claim for such liability is premised upon breach of contract, breach of warranty, fulfillment of warranty, negligence, strict liability, misrepresentation, fraud, or any other theories of liability. (T)

2.9.2.2. The sole and exclusive remedy against the Company for an interruption or failure of service resulting from errors, mistakes, omissions, interruptions, failures, delays, or defects or malfunctions of equipment or facilities shall be as follows: The Company shall repair or replace any item of its facilities or defective part thereof at its expense. The Company shall have the option to decide whether to repair or to replace its facilities.

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.9 LIABILITY OF THE COMPANY (CONT'D.) (T)

2.9.3. Transmission

2.9.3.1. The Company does not transmit messages but offers the use of its facilities, when available, for communications between parties, each of whom is present at a telephone or communications device.

2.9.3.2. The 9-1-1 emergency telephone number quickly summons emergency service in a crisis. When persons dial "9-1-1" to report an emergency, the telephone number (including non-published numbers) and address may be automatically displayed on a viewing screen located at the 9-1-1 answering centers and the call may also be recorded. The display of the calling number and address enables the emergency agency to quickly locate the caller if the call is disrupted by the crisis.

2.9.3.3. The 9-1-1 caller forfeits the privacy afforded by non-listed and non-published service to the extent that the telephone number, the address and name associated with the originating station location are furnished to the PSAP. Telephone subscribers (published and non-published) consent to the storage and retention of the subscriber name, telephone number and address in the database management systems and also consent to access of this information by Public Agencies for the sole purpose of responding to emergency calls.

2.9.3.4. The Customer indemnifies and saves the Company harmless against claims for libel, slander, or infringement of copyright or trade secrets from the material transmitted over the Company's facilities; against claims for infringement of patents arising from combining with, or using in connection with, facilities of the Company, apparatus and systems of the Customer, and against all other claims arising out of any act or omission of the Customer in connection with facilities provided by the Company.

2.9.4. Connections with other telecommunications providers

When the facilities or services of other companies are used in establishing connections to points or services provided to Customers not reached by the Company's facilities, the Company is not liable for any act or omission of the other company or companies and their agents, servants, or employees.

2.9.5. Defacement of Premises

The Company shall not be liable for any defacement of, or damage to, Customer's premises resulting from the existence of the Company's instruments, apparatus, or wiring, on such premises, or caused by the installation or removal, when such defacement or damage is not the result of the negligence of the Company.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.9 LIABILITY OF THE COMPANY (CONT'D.) (T)

2.9.6. 9-1-1

The Company shall not incur any liability, direct or indirect, to any person who dials or attempts to dial the digits "9-1-1" or to any other person affected by the dialing of the digits "9-1-1."

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.10. MAINTENANCE AND REPAIR

2.10.1. All ordinary expense of maintenance and repair in connection with services provided by the Company is borne by the Company unless otherwise specified.

2.10.2. Nonrecurring charges do not apply to repair services.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.11. DATABASE ERRORS OR OMISSIONS

2.11.1. Notwithstanding any other provisions herein, the Company expressly denies any representation or warranty that database records, data, or other information created, utilized or furnished hereunder will be furnished without interruption or free of errors or omissions. In no event shall the Company, its officers, directors, agents, servants, or employees, be liable for direct, incidental, punitive, or consequential damages for damages, injuries or costs arising from any such interruptions, errors, or omissions, whether a claim for such liability is premised upon breach of contract, breach of warranty, fulfillment of warranty, negligence, strict liability, misrepresentation, fraud, or any other theories of liability.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.12. RESPONSIBILITIES OF THE CUSTOMER

2.12.1. LOST OR DAMAGED EQUIPMENT

2.12.1.1. In the case of damage to, or destruction of, any of the Company's equipment, instruments, apparatus, accessories or wiring due to the negligence or willful act of the Customer and not due to ordinary wear and tear, the Customer will be held responsible for the cost of restoring the equipment, instruments, apparatus, accessories or wiring to its original condition, or of replacing the equipment, instruments, apparatus, accessories or wiring destroyed.

2.12.1.2. The Customer is required to reimburse the Company for loss, through theft of equipment, instruments, apparatus, accessories or wiring furnished to the Customer.

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2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.13. BUILDING SPACE AND ELECTRIC POWER SUPPLY

2.13.1. All operations at the Customer's premises will be performed at the expense of the Customer and will be required to conform to whatever rules and regulations the Company may adopt as necessary in order to maintain a proper standard of service.

2.13.2. The Customer is required to provide adequate building space, lighting and atmospheric control for the proper installation, operation and maintenance of the equipment and facilities placed by the Company on his premises.

2.13.3. When Company equipment, installed on the Customer's premises, requires power for its operation, the Customer is required to provide such power. The Customer is required to provide adequate commercial power, wiring, electrical outlets, and environmentally appropriate conditions necessary for the proper operation of the Company's equipment on the Customer's premises.

2.13.4. The Customer is responsible for arranging access to its premises at times mutually agreeable to the Company and the Customer when required for the Company's personnel to install, repair, maintain, program, inspect or remove equipment with the provision of the Company's services. (T)

2.13.5. The Customer shall ensure that the equipment and/or system is properly interfaced with Company facilities or services, that the signals emitted into the Company's network are (T) of the proper mode, bandwidth, power, and signal level for the intended use of the Customer and in compliance with the criteria set forth in this Price List and that the signals do not damage equipment, injure personnel, or degrade service to other Customers. If the Federal Communications Commission or some other appropriate certifying body certifies terminal equipment as being technically acceptable for direct electrical connection with interstate communications service, the Company will permit such equipment to be connected with its channels without use of protective interface devices. If the Customer fails to maintain the equipment and/or the system properly, with resulting imminent harm to Company equipment, personnel, or the quality of service to other Customers, the Company may, upon written notice, require the use of protective equipment at the Customer's expense. If this fails to produce satisfactory quality and safety, the Company may, upon five (5) days written notice via first class U.S. mail, terminate the Customer's service.

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.14. SPECIAL TAXES, FEES, CHARGES

2.14.1. Rate schedules of the Company in Florida do not include any municipal, license, franchise, or occupation tax, costs of furnishing service without charge, or similar taxes or impositions on the Company.

2.14.2. The amount paid by the Company to a municipality as a cost of doing business within that municipality under a franchise, or pursuant to a license or occupation tax levied by the municipality, will be added to the bill for service to the Company's Customers within such municipality for the privilege of employment within the municipality shall be so surcharged.

2.14.3. A monthly surcharge to recover the additional expense related to any municipal, license, franchise, or occupation tax, costs of furnishing service without charge, or similar taxes will be added to Customer bills for all recurring and nonrecurring rates and charges for all intrastate service except returned check charges and late payment charges.

2.14.4. Introduction, cancellation, or modification of a surcharge will be effective on the date of the Customer's first bill rendered after the effective date of the change.

2. GENERAL REGULATIONS – CONDITIONS OF OFFERING (CONT'D.) (T)

2.15. Promotional Offerings

2.15.1. Nonrecurring Charges

During specific promotional periods not to exceed 90 days, the offer may be made to reduce nonrecurring charges on a non-discriminatory basis. Each such offer shall be briefly described in a sequentially numbered informational letter to the Commission on seven days notice.

2.15.2. Recurring Rates and Charges

For the purpose of encouraging Customers to try different telecommunications services, the Company may offer promotional programs. The purpose of these programs is to waive or reduce recurring rates or charges to introduce present or potential Customers to Intrado Communications' product(s) or service(s) not currently being received by the Customer. (T)
The Company may also offer incentives or other benefits to Customers to encourage the purchase or retention of any such service or product. Any such offers will be made on a non-discriminatory basis but are subject to service and facility availability and are subject to Commission rule requirements and state statutes.

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3. THIS SECTION IS RESERVED FOR FUTURE USE

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5. Emergency Services

5.1 Intelligent Emergency Network® Service (T)

Intelligent Emergency Network Services are telecommunications services that permit a Public Safety Answering Point (PSAP) to receive emergency calls placed by dialing the number 9-1-1 and/or emergency calls originated by personal communications devices.

Intelligent Emergency Network Services support interconnection to other telecommunications service providers for the purpose of receiving emergency calls originated in their networks. Intelligent Emergency Network Services include 9-1-1 call routing and transfer services that use a call management system to either directly perform (T)
the selective routing of an emergency call to the appropriate PSAP, or may be used to hand-off the call to a separate 9-1-1 Service Provider (possibly a legacy 9-1-1 selective router) for call completion to the appropriate PSAP. Intelligent Emergency Network Services also provide call bridging and post call activity reporting. (T)

Intelligent Emergency Network 9-1-1 Routing includes a comprehensive data management and delivery service, ALI Management Services. ALI Management Services provide PSAPs more control over ALI data management with highly accurate data and superior reporting. ALI Management allows Customers to optimize their 9-1-1 (T)
operations. ALI Management Services offers superior features such as "drill down" metric reporting capabilities for wireline, wireless, and VoIP 9-1-1 calls. The solution includes a web interface for data queries and MSAG management. (T)

Intelligent Emergency Network Services are offered subject to the availability of facilities. The Customer is the Governing Authority that orders service and is responsible for the payment of charges and compliance with the terms and conditions of this Price (T)
List.

(D)
|
|
|
|
(D)

Intelligent Emergency Network Services are only available under contract with a minimum term agreement of one year.

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5. Emergency Services, (Cont'd.)

5.1 Intelligent Emergency Network Service, (Cont'd.)

5.1.1 9-1-1 Routing Service

9-1-1 Routing is a public safety grade, specialized managed network for processing 9-1-1 calls that allows the PSAP to accommodate new technologies while simultaneously enabling more control over 9-1-1 call routing operations. The Company's solution utilizes a redundant, secure network. Facilities and nodes are geographically diverse and are equipped with physically redundant data communications and power equipment that allow for continuous operation and reliability. 9-1-1 Routing delivers emergency calls from both traditional and non-traditional voice networks. In addition to processing traditional TDM voice traffic, 9-1-1 Routing also provides Internet Protocol based call processing capabilities. (T) (T)

Intrado Communications' 9-1-1 Routing Service facilitates interoperability and allows for specialized management of different call types. The Customer can designate, capture, and report on specific instructions for handling each call type: (T)

Wireline: Supports traditional wireline emergency calls originating from an end office, central office and/or enterprise private branch exchange (PBX) over standard based Centralized Automatic Message Accounting (CAMA), both analog and digital interfaces, SS7 and PRI interfaces.

Wireless: Supports delivery of wireless 9-1-1 calls to assigned PSAPs. Carriers having the capability to provide wireless handset ANI, cell site and sector and/or longitudinal and latitudinal (x,y) coordinates in the appropriate format, may connect directly to the 9-1-1 Routing Service.

VoIP: Supports delivery of voice over Internet protocol (VoIP) emergency calls originating from a VoIP Service Provider. VoIP Service Providers capable of providing calls and data in the appropriate format can connect directly to the 9-1-1 Routing Service. (T)

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5. Emergency Services, (Cont'd.)

5.1 Intelligent Emergency Network Service, (Cont'd.)

5.1.2 9-1-1 Routing Service Features

A. Automatic Number Identification (ANI)

Automatic Number Identification (ANI) is the feature by which the telephone number or other related routing (pANI) number associated with an inbound 9-1-1 caller is received by Intelligent Emergency Network 9-1-1 Routing and passed on to the proper PSAP. The ANI is also used to determine the proper PSAP to receive the inbound call.

B. 9-1-1 Routing Options

Selective Routing
The routing of a 9-1-1 call to the proper PSAP based upon the location of the caller. Selective Routing is typically accomplished by mapping the ANI to an ESN that has been derived based on the caller's location. The ESN maps to a specific routing rule that identifies the PSAP and possible alternative destinations.

Trunk Only Routing
Inbound trunks, typically from a given Telecommunications Carrier, can be designated to route all calls to a given destination, usually a specific PSAP. If Trunk Only Routing is not specified the system will attempt to perform Selective Routing.

Default Routing
When an incoming 9-1-1 call cannot be selectively routed due to the reception of an ANI number that is either not stored in the selective router data base, unintelligible ANI or when no ANI number is passed, a predetermined call route will be chosen and the caller will be terminated to the PSAP based upon the incoming trunk facility the call is passed over.

PSAP Abandonment Routing
If a situation arises where a PSAP must be closed or evacuated, this feature provides specific routing instructions for delivery of calls to recovery locations.

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5. Emergency Services, (Cont'd.)

5.1 Intelligent Emergency Network Service, (Cont'd.)

5.1.2 9-1-1 Routing Service Features, (Cont'd.)

C. 9-1-1 Transfer Options

Fixed Transfer
Fixed transfer is a feature which enables a PSAP call taker to transfer a 9-1-1 call to a secondary destination (possibly another PSAP) by dialing a pre-assigned speed dial code or by use of a single button on an approved Customer telephone system that dials the appropriate code. (T)

Selective Call Transfer
Selective Call Transfer is a feature enabling a PSAP call taker to transfer an incoming 9-1-1 call to another agency by dialing a pre-assigned speed dial code associated with police, fire or medical agencies or by use of a single button on an approved Customer telephone system that dials the (T)
appropriate code. The specific transfer destination is determined by the caller's originating location as specified by the ESN.

Manual Transfer
A PSAP call taker may transfer an incoming call manually by depressing the hook switch of the associated telephone or the "add" button on approved Customer telephone system, and dialing either an appropriate seven or 10-digit telephone number.

Alternate Routing
The Overflow Call Disposition transfer feature enables the ability for callers to be terminated either to a previously designated alternate call center, a prerecorded message or to a busy tone when all PSAP trunks are busy.

D. Call Event Logging

The Call Event Logging feature delivers reporting information containing the ANI received from a 9-1-1 call, the identity of the incoming trunk the Selective Router received the call over, the identity of the outgoing PSAP trunk the call is terminated to, and the date and time the call was delivered to its target destination, transferred and/or disconnected.

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5. Emergency Services, (Cont'd.)

5.1 Intelligent Emergency Network Service, (Cont'd.)

5.1.3 ALI Management Service

A. MSAG Management
The Company provides a data management and administration tool that automates the viewing and communication of updates, insertions, and deletions to the MSAG database. (T)

B. MSAG Build Services
Intrado Communications acts as the facilitator with the addressing authority in the creation and maintenance of the MSAG utilizing recognized National Emergency Number Association (NENA) standards. (T)

C. English Language Translation (ELT) Management
ELT information provides the names of fire, EMS and police jurisdictions associated with each ESN so that it may be delivered with the ALI to the PSAPs at the time of the E9-1-1 call. The requests are validated for accuracy and either updated into the database, or referred back to the PSAP for resolution. Upon completion of the transaction, notification is provided to the Customer

D. Subscriber Record Management
Subscriber Record Management is the collection of service order records from Telephone Service Providers (TSPs), validation of those records against the MSAG, and storage of the records for the generation of the ALI database.

E. ALI Database Updates
After processing and validating subscriber record updates, the Company posts ALI records for call routing and for retrieval and display by the PSAP during 9-1-1 calls. (T)

F. ANI/ALI Discrepancy Resolution
An ANI/ALI discrepancy occurs when an ALI record delivered to a PSAP does not match the information of the caller. Intrado Communications will investigate ANI/ALI discrepancy reports and refer each discrepancy to the respective TSP for resolution. (T)

5. Emergency Services, (Cont'd.)

5.1 Intelligent Emergency Network Service, (Cont'd.)

5.1.3 ALI Management Services, (Cont'd.)

G. Misroute Resolution
An ANI/ALI misroute occurs when a 9-1-1 call is delivered to the incorrect PSAP. The Company investigates ANI/ALI misroute reports and refers each misroute report to the TSP for resolution. (T)

H. No Record Found (NRF) Resolution
An NRF occurs when the ANI provided does not exist in the ALI database and/or when NRF is displayed at the PSAP. The Company will resolve or refer each NRF to the respective TSP for resolution. (T)

I. Local Number Portability (LNP) Processing
Intrado Communications supports LNP, which allows subscribers to switch from one TSP to another without changing their phone numbers. (T)

J. ALI Delivery
ALI Delivery provides location information via the ALI Data Access Connections to a PSAP during a 9-1-1 call.

K. Data Support of Wireless and VoIP E9-1-1
Intrado Communications' database management systems support both Phase I and Phase II wireless and VoIP E9-1-1 call processing. This includes the E2 interface used by wireless service providers to communicate 9-1-1 caller location information to the ALI database. (T)

L. ALI Metrics Reporting
The Company provides access to reports that provide details on data transactions, the number of records processed, and the number of errors. (T)

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5. Emergency Services, (Cont'd.)

5.1 Intelligent Emergency Network Service, (Cont'd.)

5.1.4 9-1-1 Exchange Access

9-1-1 Exchange Access provides one way call delivery trunks from the 9-1-1 Routing Service to the PSAP. The 9-1-1 Exchange Access trunks are conditioned to allow delivery of ANI to the PSAP. They also allow signaling from the PSAP to the 9-1-1 Routing Service to invoke special features of the 9-1-1 Routing Service, such as transfer, speed dialing, etc.

5.1.5 ALI Data Access Connections

ALI Data Access Connections provide the PSAP network access to the ALI Database for ALI Delivery.

5.1.6 Diverse Facility Routing

Where facilities exist and a Customer wishes to subscribe to such services, the Company will arrange for diverse routing over alternate voice and/or data paths to reduce the potential for service failure as a result of an interruption of transport facilities. (T)

Diverse routing is supplied to the extent made possible as determined by the availability of current facilities. Diversity at Customer locations and additions to existing facilities to obtain diversity, where feasible within E9-1-1 network and as determined by the respective facility provider, will be based upon the costs incurred by the respective facility provider and will be supplied upon Customer request.

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5. Emergency Services, (Cont'd.)

5.2 Intelligent Emergency Network 9-1-1 Routing Rules & Regulations

5.2.1 The Intelligent Emergency Network Service Customer may be a municipality, other federal, state or local governmental unit, an authorized agent of one or more municipalities or other federal, state or local governmental units to whom authority has been lawfully delegated. The Customer must be legally authorized to subscribe to the service and have public safety responsibility by law to respond to telephone calls from the public for emergency police, fire or other emergency services within the served territory.

5.2.2 Intelligent Emergency Network Service is provided by the Company where facilities and operating conditions permit.

5.2.3 Intelligent Emergency Network Service is not intended as a total replacement for the local telephone service of the various public safety agencies which may participate in the use of this service. The Customer must subscribe to additional local exchange services for purposes of placing administrative outgoing calls and for receiving other calls. (T) (T) | (T)

5.2.4 Application for Intelligent Emergency Network Service must be executed in writing by the Customer. If execution is by an agent, satisfactory evidence of the appointment must be provided in writing to the Company. At least one local law enforcement agency must be included among the participating agencies.

5.2.5 Intelligent Emergency Network Service is provided solely for the benefit of the Customer operating the PSAP as an aid in handling assistance calls in connection with fire, police and other emergencies. The provision of Intelligent Emergency Network Service by the Company shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit of or creating any relationship with or any Company obligation direct or indirect, to any third person or legal entity other than the Customer.

5.2.6 The Company does not undertake to answer and/or forward 9-1-1 or other emergency calls, but furnishes the use of its facilities to enable the Customer's personnel to respond to such calls.

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5. Emergency Services, (Cont'd.)

5.2 Intelligent Emergency Network 9-1-1 Routing Rules & Regulations, (Cont'd.)

5.2.7 The rates charged for Intelligent Emergency Network Service do not contemplate the inspection or constant monitoring of facilities to discover errors, defects and malfunctions in the service, nor does the Company undertake such responsibility. The Customer shall make such operational tests as, in the judgment of the Customer, are required to determine whether the system is functioning properly for its use. The Customer shall promptly notify the Company in the event the system is not functioning properly.

5.2.8 The Company's liability for any loss or damage arising from errors, interruptions, defects, failures, or malfunctions of this service or any part thereof shall not exceed an amount equivalent to the pro rata charges for the service affected during the period of time that the service was fully or partially inoperative.

5.2.9 The Customer must furnish the Company its agreement to the following terms and conditions.

A. That all 9-1-1 or other emergency calls will be answered on a 24-hour day, seven-day week basis.

B. That the Customer has responsibility for dispatching the appropriate emergency services, or will undertake to transfer all emergency calls received to the governmental agency with responsibility for dispatching such services, to the extent that such services are reasonably available.

C. That the Customer will develop an appropriate method for responding to calls for nonparticipating agencies which may be directed to their PSAP by calling parties.

D. That the Customer will subscribe to local exchange service at the PSAP location for administrative purposes, for placing outgoing calls, and for receiving other calls.

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5. Emergency Services, (Cont'd.)

5.2 Intelligent Emergency Network 9-1-1 Routing Rules & Regulations, (Cont'd.)

5.2.10 When the ALI Management Service is provided, the Customer is responsible to:

A. Provide information regarding the jurisdictional boundaries associated with all involved public safety agencies.

B. Support the creation of a master address file for use in validating subscriber address information and application of appropriate jurisdictional responsibility.

C. Define the unique combinations of public safety agencies (police, fire, medical, etc) responsible for providing emergency response services in any specific geographic location.

5.2.11 When the 9-1-1 Routing feature is provided, the Customer is responsible for identifying primary and secondary PSAPs associated with the unique combinations noted in 5.2.10.C. above and providing the access or telephone numbers required to support the selective transfer feature of 9-1-1 Routing Service.

5.2.12 After establishment of service, it is the Customer's responsibility to continue to verify the accuracy of the routing information contained in the master address file, and to advise the Company of any changes in street names, establishment of new streets, closing and abandonment of streets, changes in police, fire, emergency medical or other appropriate agencies' jurisdiction over any address, annexations and other changes in municipal and county boundaries, incorporation of new cities or any other matter that will affect the routing of 9-1-1 calls to the proper PSAP.

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5. Emergency Services, (Cont'd.)

5.2 Intelligent Emergency Network 9-1-1 Routing Rules & Regulations, (Cont'd.)

5.2.13 The following terms define the Customer's responsibilities with respect to any information provided by the Company to the Customer as part of ALI Management Service:

A. Such information shall be used by the Customer solely for the purpose of aiding the Customer in more accurately identifying, updating and/or verifying the addresses of subscribers within the Customer's serving areas in connection with the Customer's provision of emergency response services.

B. Customer shall strictly limit access to the information to those authorized employees of the Customer with a need to know and those employees actually engaged in the provision of emergency assistance services.

C. Customer shall use due care in providing for the security and confidentiality of the information.

D. Customer shall make no copies of the information except as may be essential for the verification of emergency assistance services.

5.2.14 Each Customer agrees to release, indemnify, defend and hold harmless the Company from any and all loss, claims, demands, suits, and other action, or any liability whatsoever, whether suffered, made, instituted or asserted by the Customer or by any other party or person: (1) for any personal injury to or death of any person or persons, or for any loss, damage or destruction of any property, whether owned by the Customer or others, and which arises out of the negligence or other wrongful act of the Company, the Customer, its user agencies or municipalities or employees or agents of any one of them, or (2) for any infringement or invasion of the right of privacy of any person or persons, caused or claimed to have been caused, directly or indirectly, by the installation, operation, failure to operate, maintenance, removal, presence, condition, location or use of Intelligent Emergency Network Service features and the equipment associated therewith, including, but not limited to, the identification of the telephone number, address, or name associated with the telephone number used by the party or parties accessing Intelligent Emergency Network Service hereunder, or (3) arising out of any act or omission of the Customer, in the course of using services provided pursuant to this Price List. (T)

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5. Emergency Services, (Cont'd.)

5.3 Intelligent Emergency Network Service Rates and Charges

	Nonrecurring Charge	Monthly Charge
9-1-1 Routing Service	ICB	ICB
ALI Management Services	ICB	ICB
9-1-1 Exchange Access Trunks	ICB	ICB
ALI Data Access Connections	ICB	ICB
Diverse Facility Routing	ICB	ICB

Note:

1. Additional charges may be rendered by other local exchange carriers in connection with the provisioning of E911 service to the Customer.
2. 9-1-1 Routing Services and ALI Management Services are provided as a package. Customer requests to obtain these services separately will be handled individually. (T) | (T)
3. ICB pricing to be determined based upon unique service configuration requirements for each customer including, but not limited to, term of agreement, volume of subscribers served, and proximity of customer to company facilities.

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5. Emergency Services, (Cont'd.)

5.4 Enterprise E9-1-1 Service (N)

5.4.1 Description

Enterprise E9-1-1 Service is an offering that enables delivery of E9-1-1 calls originating from telephone stations/lines served by a multi-line private switch.

5.4.2 Enterprise E9-1-1 Service Regulations

A. Enterprise E9-1-1 Service is furnished subject to availability of facilities.

B. Customer is responsible for installation of sufficient voice grade facilities (minimum of two) to maintain a P.01 grade of service from the private switch location to Company's E911 network.

C. Customer's private switch must be capable of forwarding ANI of a station/line served by Customer's private switch to Company's network when 9-1-1 is dialed. This ANI may represent an individual station or group of stations located together.

D. Customer is responsible for verifying service address information of stations for insertion in the ALI database through MSAG provided by Company. Customer is responsible for coordinating with Company to provide address information in an industry standard format, and may provide telephone number and service address updates no more frequently than one time per day.

E. Enterprise E9-1-1 Service information consisting of name, address and telephone number of private switch users is confidential. Customer is permitted to provide private switch user sub-location information; e.g., floor, room number, apartment number, etc. (N)

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5. Emergency Services, (Cont'd.)

5.4 Enterprise E9-1-1 Service, (Cont'd.) (N)

5.4.2 Enterprise E9-1-1 Service Regulations, (Cont'd.)

F. Private switch users originating 9-1-1 calls using Company's Enterprise E9-1-1 Service forfeit the privacy afforded by nonlisted and nonpublished services offered by local exchange providers to the extent such information is furnished to the PSAP and/or to the Company.

G. Rates charged for Enterprise E9-1-1 Service do not include, and Company does not undertake, the tasks of constant inspection or monitoring of facilities to discover errors, defects or malfunctions in the service. It is the responsibility of Customer to conduct such operational tests as it deems necessary to determine if service is functioning properly for its use, and to report any errors, defects or malfunctions Customer discovers to the Company.

H. Company's liabilities for interruption, failure, errors, acts of omission or other occurrences related to the provision of Enterprise E9-1-1 Service shall be limited to the same extent as set forth elsewhere in this price list regarding E9-1-1 Service.

I. Enterprise E9-1-1 Service information provided to a PSAP in connection with an emergency call shall be used solely for the purpose of public safety responding to emergency calls or to originate a call back to the party dialing 9-1-1. (N)

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5. Emergency Services, (Cont'd.)

5.4 Enterprise E9-1-1 Service, (Cont'd.) (N)

5.4.3 Enterprise E9-1-1 Service Rates and Charges

	Nonrecurring Charge	Monthly Charge
Enterprise E9-1-1 Service Connection, each (minimum of two)	ICB	ICB
Database - Initial Installation	ICB	ICB
Database - Subsequent Addition of Station Records	ICB	ICB

Notes:

1. Separate charges, not specified in this price list, are applicable for facilities used to connect from Customer's private switch to the Enterprise E9-1-1 Service Point of Connection on Company's network.

2. If Company is required to provide additional facilities from the Company's network to a PSAP or PSAPs in order to handle the E9-1-1 calls originating from Customer's private switch end users, the cost of such additional facilities will be the responsibility of Customer. (N)

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[AMENDED, EXTENDED AND RESTATED] AGREEMENT

by and between

*****CLEC Full Name TXT*****

and

*****VERIZON COMPANY FULL NAME 1 TXT*****

FOR THE STATE OF

[STATE]

911 ATTACHMENT

1. 911/E-911 Arrangements

1.1 911/E-911 arrangements provide a caller access to the appropriate PSAP by dialing a 3-digit universal telephone number "911". Verizon provides and maintains such equipment and software at the 911/E-911 Tandem Office(s)/Selective Router(s), Verizon interface point(s) and ALI Database as is necessary for 911/E-911 Calls in areas where Verizon is the designated 911/E-911 Service Provider.

1.2 Verizon shall make the following information available to ***CLEC Acronym TXT***, to the extent permitted by Applicable Law. Such information is provided at the Verizon Partner Solutions website (formerly referred to as the Verizon wholesale website):

1.2.1 a listing of the CLLI code (and SS7 point code when applicable) of each 911/E-911 Tandem Office(s)/Selective Router(s) and associated geographic location served for areas where Verizon is the designated 911/E-911 Service Provider;

1.2.2 a listing of appropriate Verizon contact telephone numbers and organizations that currently have responsibility for operations and support of Verizon's 911/E-911 network and ALI Database systems; and

1.2.3 where Verizon maintains a Master Street Address Guide (MSAG) on behalf of the Controlling 911 Authority, Verizon shall provide to ***CLEC Acronym TXT*** a complete copy of such MSAG annually upon written request for each county within the LATA(s) in the State of [State], where ***CLEC Acronym TXT*** is providing Telephone Exchange Service, provided that Verizon is permitted to do so by Controlling 911 Authority.

2. ALI Database

2.1 Where Verizon manages the ALI Database, information regarding the ALI Database is provided electronically at the Verizon Partner Solutions website (formerly referred to as the Verizon wholesale website).

2.2 Where Verizon manages the ALI Database, Verizon will:

2.2.1 store ***CLEC Acronym TXT*** end user data provided by ***CLEC Acronym TXT*** in the ALI Database;

2.2.2 provide ***CLEC Acronym TXT*** access to the ALI Database for the initial loading and updating of ***CLEC Acronym TXT*** end user records in accordance with information contained in the Verizon Partner Solutions website (formerly referred to as the Verizon wholesale website); and

2.2.3 provide ***CLEC Acronym TXT*** an error and status report based on updates to the ALI Database received from ***CLEC Acronym TXT***.

2.3 Where Verizon manages the ALI Database, ***CLEC Acronym TXT*** will:

2.3.1 provide MSAG valid E-911 data for each of its end users for the initial loading of, and any and all updates to the ALI database;

2.3.2 utilize the appropriate Verizon electronic interface to update E-911 data in the ALI Database related its end users (and all such database information in the ALI Database shall conform to Verizon standards, which are provided at the Verizon Partner Solutions website (formerly referred to as the Verizon wholesale website));

2.3.3 use its company ID on all end user records in accordance with NENA standards;

2.3.4 correct any errors that occur during the entry of E-911 data in the ALI database; and

2.3.5 enter E-911 data into the ALI Database in accordance with NENA standards for LNP. This includes, but is not limited to, using ***CLEC Acronym TXT***'s NENA ID to lock and unlock records and the posting of the ***CLEC Acronym TXT*** NENA ID to the ALI Database record where such locking and unlocking feature for E-911 records is available, or as defined by local standards. ***CLEC Acronym TXT*** is required to promptly unlock and migrate its E-911 records in accordance with NENA standards. In the event that ***CLEC Acronym TXT*** discontinues providing Telephone Exchange Service to any of its end users, it shall ensure that its E-911 records for such end users are unlocked in accordance with NENA standards.

2.4 In the event ***CLEC Acronym TXT*** uses an Agent to input its end user's E-911 data to the ALI Database through the appropriate Verizon electronic interface, ***CLEC Acronym TXT*** must provide a Letter of Authorization, in a form acceptable to Verizon, identifying and authorizing its Agent.

3. 911/E-911 Interconnection

3.1 ***CLEC Acronym TXT*** may, in accordance with Applicable Law, interconnect to the Verizon 911/E-911 Tandem Office(s)/Selective Router(s) or Verizon interface point(s). Verizon will designate interface point(s), e.g., digital cross connect systems (DCS), where ***CLEC Acronym TXT*** may interconnect with Verizon for the transmission and routing of 911/E-911 Calls to all subtending PSAPs that serve the areas in which ***CLEC Acronym TXT*** provides Telephone Exchange Services.

3.2 In order to interconnect with Verizon for the transmission and routing of 911/E-911 Calls, ***CLEC Acronym TXT*** shall:

3.2.1 interconnect with each Verizon 911/E-911 Tandem Offices(s)/Selective Router(s) or Verizon interface points that serves the exchange areas in which ***CLEC Acronym TXT*** is authorized to and will provide Telephone Exchange Service;

3.2.2 provide a minimum of two (2) one-way outgoing 911/E-911 trunks over diversely routed facilities that are dedicated for originating 911/E-911 Calls from the ***CLEC Acronym TXT*** switch to each designated Verizon 911/E-911 Tandem Office(s)/Selective Router(s) or Verizon interface point(s), using SS7 signaling where available, as necessary;

3.2.3 [Intentionally Left Blank];

3.2.4 provide sufficient trunks and facilities to route 911/E-911 Calls from ***CLEC Acronym TXT*** to the designated Verizon 911/E-911 Tandem Office(s)/Selective Router(s) or Verizon interface point(s). ***CLEC Acronym TXT*** is responsible for requesting that trunks and facilities be routed diversely for 911/E-911 interconnection;

3.2.5 determine the proper quantity of trunks and facilities from its switch(es) to the Verizon 911/E-911 Tandem Office(s)/Selective Router(s) or Verizon interface point(s);

3.2.6 engineer its 911/E-911 trunks and facilities to attain a minimum P.01 grade of service as measured using the "busy day/busy hour" criteria or at such other minimum grade of service as required by Applicable Law or the Controlling 911 Authority;

3.2.7 monitor its 911/E-911 trunks and facilities for the purpose of determining originating network traffic volumes. If the ***CLEC Acronym TXT*** traffic study indicates that additional trunks and/or facilities are needed to meet the current level of 911/E-911 Call volumes, ***CLEC Acronym TXT*** shall order or otherwise provide adequate additional trunks and/or facilities;

3.2.8 promptly test all 911/E-911 trunks and facilities between the ***CLEC Acronym TXT*** network and the Verizon 911/E-911 Tandem Office(s)/Selective Router(s) or Verizon interface point(s) to assure proper functioning of 911/E-911 arrangements. ***CLEC Acronym TXT*** agrees that it will not transmit or route live 911/E-911 Calls until successful testing is completed; and

3.2.9 isolate, coordinate and restore all 911/E-911 network maintenance problems from its switch(es) to the Verizon 911/E-911 Tandem Office(s)/Selective Router(s) or Verizon interface points. ***CLEC Acronym TXT*** will advise Verizon of the circuit identification when notifying Verizon of a failure or outage.

4. 911/E-911 General

4.1 Verizon and ***CLEC Acronym TXT*** will work cooperatively to arrange meetings with the Controlling 911 Authorities to answer any technical questions the PSAPs, or county or municipal coordinators may have regarding the initial 911/E-911 arrangements

4.2 ***CLEC Acronym TXT*** will compensate Verizon for provision of 911/E-911 Services pursuant to the Pricing Attachment of this Agreement.

4.3 ***CLEC Acronym TXT*** and Verizon will comply with all Applicable Law (including 911 taxes and surcharges as defined by Applicable Law) pertaining to 911/E-911 arrangements.

4.4 ***CLEC Acronym TXT*** will collect and remit, as required, any 911/E-911 applicable surcharges from its end users in accordance with Applicable Law.

5. Good Faith Performance

If and, to the extent that, Verizon, prior to the Effective Date, has not provided in the State of [State] a Service offered under this Attachment, Verizon reserves the right to negotiate in good faith with ***CLEC Acronym TXT*** reasonable terms and conditions (including,

without limitation, rates and implementation timeframes) for such Service; and, if the Parties cannot agree to such terms and conditions (including, without limitation, rates and implementation timeframes), either Party may utilize the Agreement's dispute resolution procedures.

Network Reliability Council Focus Group IV

Essential Communications During Emergencies Team Report

Findings and Recommendations Pertaining to Emergency Service Network Reliability

January 12, 1996

Focus Group Leader: M. Michael Foster
GTE Telephone Operations

Focus Group Mentor: Arthur Prest
Cellular Telecommunications Industry Association

6. Essential Services Best Practice Recommendations

Best Practices are those countermeasures (but not the only countermeasures) that go furthest in eliminating the root causes of outages. *Network Reliability: A Report to the Nation* contained a total of 27 Best Practices pertaining to 9-1-1. All 27 original Best Practices have been rewritten and expanded to include alternate technologies where appropriate. These 27, and new best practices ES28 through ES33, being introduced by the ECOMM Team are categorized as follows. The ECOMM Team believes implementation of these practices will improve the reliability of the Public Switched Telephone Network (PSTN) and minimize the potential for interruption to vital emergency communications.

Category	New Best Practice No.	Former Best Practice No.
6.1 Defensive Measures for Interoffice Facilities...		
6.1.1 Diverse Interoffice Transport Facilities	ES01	112
6.1.2 Diverse Interoffice Transport Facilities with Standby Protection	ES02	113
6.1.3 Diverse Interoffice Transport Facilities Using DCS	ES03	114
6.1.4 Fiber Ring Topologies for 9-1-1 Circuits	ES04	115
6.1.5 Red-Tagged Diverse Equipment	ES05	125
6.2 Alternate Path when the Primary 9-1-1 Interoffice Facility Fails...		
6.2.1 Alternate PSAPs from the 9-1-1 Tandem Switch	ES06	118
6.2.2 Alternate PSAPs from the Serving End Office	ES07	119
6.2.3 PSTN as a Backup for 9-1-1 Dedicated Trunks	ES08	121
6.2.4 Wireless Network as Backup for 9-1-1 Dedicated Trunks	ES09	122
6.2.5 Intraoffice 9-1-1 Termination to Mobile PSAP	ES10	123
6.2.6 Backup PSAP in the LECs Serving Office	ES11	124
6.3 Defensive Measures for 9-1-1 Tandem Switches...		
6.3.1 Dual Active 9-1-1 Tandem Switches	ES12	116
6.3.2 Re-home to backup 9-1-1 Tandem Switch	ES13	117
6.3.3 Redundant Paired 9-1-1 Tandems	ES14	126
6.3.4 Multiple Diverse Tandem Switches with Diverse DCSs	ES15	127
6.3.5 TOPS as a 9-1-1 Tandem Backup	ES16	120

Table 6-1 NRC Essential Service Best Practices

Category	New Best	Former Best

	Practice No.	Practice No.
6.4 Reverse Trends toward Centralization	ES17	109
6.5 Local Loop Diversity	ES18	128
6.6 Network Management Center and Repair Priority	ES19	129
6.7 Diverse ALI Data Base Systems	ES20	130
6.8 Mass Call Management... 6.8.1 Move Mass Calling Stimulator away from 9-1-1 Tandem Switch 6.8.2 Pre-Planning for Mass Calling Events	 ES21 ES22	 131 132
6.9 Contingency Planning... 6.9.1 Contingency Plan Development 6.9.2 Contingency Plan Training 6.9.3 Public Education on Proper Use of Essential Communications	 ES23 ES24 ES25	 133 134 135
6.10 Improve Communications among Network Providers and PSAPs	ES26	111
6.11 Common Channel Signaling (CCS)	ES27	110
6.12 Critical Response Link Redundancy/Diversity	ES28	New
6.13 Media and Repair Link Redundancy/Diversity	ES29	New
6.14 Private Switch/Alternative LEC ALI	ES30	New
6.15 CMRS - Emergency Calling	ES31	New
6.16 Cable Television Services	ES32	New
6.17 Outage Reporting	ES33	New

Table 6-1 NRC Essential Service Best Practices

Some of the best practices are alternate solutions for improving network reliability, and implementation of one practice may negate the need to implement another. For example, if one

were to implement Best Practice ES03, it would not be necessary to implement Best Practice ES01 since the concept of facility route diversity is achieved in both practices.

6.1 Defensive Measures for Interoffice Facilities

Best Practices ES01 through ES05 describe practices that promote safeguarding of network facility paths between the callers end office and the PSAP.

6.1. Best Practice ES01 Diverse Interoffice Transport Facilities

When all 9-1-1 circuits are carried over a common interoffice facility route, the PSAP has increased exposure to possible service interruptions related to a single point of failure (e.g., cable cut). The ECOMM Team recommends diversification of 9-1-1 circuits over multiple, diverse interoffice facilities.

Diversification may be attained by placing half of the essential communication circuits on one facility route, and the other half over another geographically diverse facility route (i.e., separate facility routes). Many LECs deploy diverse interoffice facility strategies when diverse facilities are already available. (See Figure 6-1)

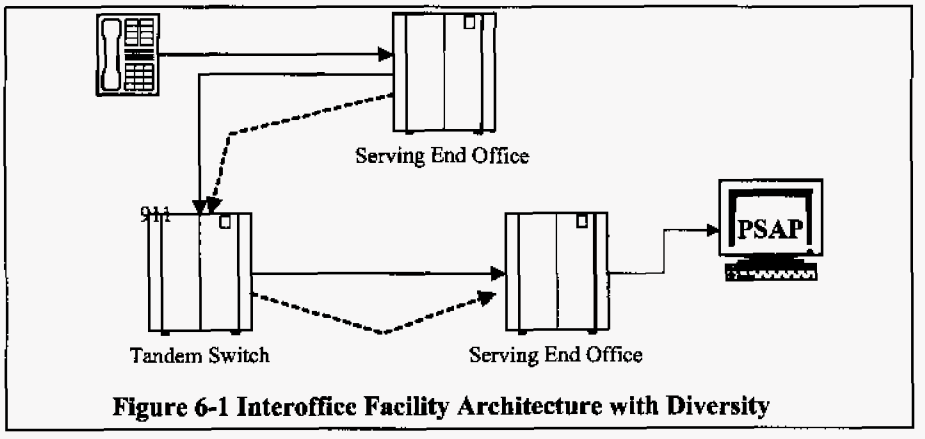


Figure 6-1 Interoffice Facility Architecture with Diversity

6.1.2 Best Practice ES02 Diverse Interoffice Transport Facilities with Standby Protection

A variation of the facility diversity architecture is deployment of a 1-by-1 facility transport system. This architecture is protected by a standby protection facility that is geographically diverse from the primary facility. Because no calls are lost while switching to the alternate transport facility during primary route failure, this architecture is considered self-healing.

6.1.3 Best Practice ES03 Diverse Interoffice Transport Facilities Using DCS

Earlier NRC Focus Group recommendations suggested using diverse interoffice transport facilities from the called serving end office via two diverse Digital Cross-connect Systems (DCS) for concentration. This approach provides diversity and, due to the concentration by the DCS network elements, offers a less costly network solution. Circuit rearrangement activity under this configuration will less likely result in the circuits being placed into non-diverse facilities. (See Figure 6-2)

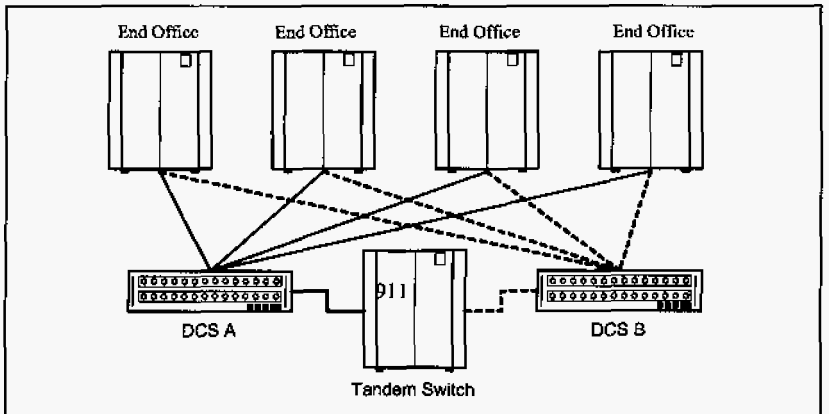


Figure 6-2 Interoffice Facility Architecture

6.1.4 Best Practice ES04 Fiber Ring Topologies for 9-1-1 Circuits

Fiber optic network elements offer network service providers the ability to aggregate large amounts of call traffic onto one transport facility. Traffic aggregation opposes the diverse facility transport recommendations defined in this document. However, fiber rings permit a collection of nodes to form a closed loop whereby each node is connected to two adjacent nodes via a duplex communications facility.

Fiber rings provide redundancy such that services may be automatically restored (self healing), allowing failure or degradation in a segment of the network without affecting service.
Fiber rings are used in some metropolitan areas, ensuring essential communications service is unaffected by cuts to fibers riding on the ring. Ring features and functionality are part of the Synchronous Optical Network (SONET) technical requirements. The ECOMM Team believes

when essential communications is placed on SONET rings, service interruptions are minimized due to the self-healing architecture employed. (See Figure 6-3)

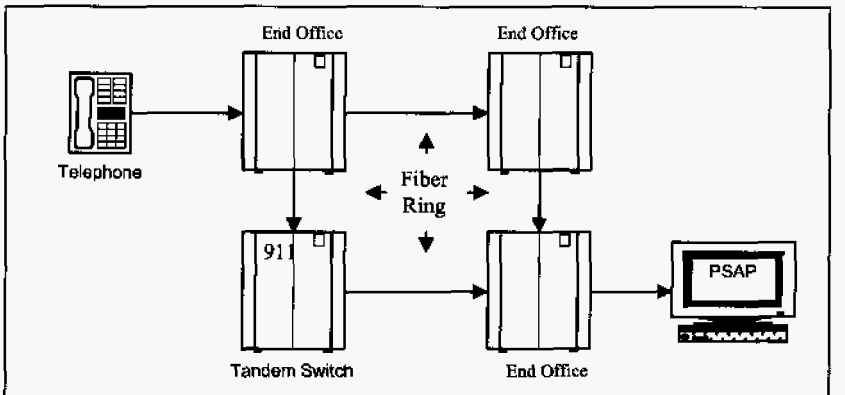


Figure 6-3 Interoffice Facility Architecture with Ring Diversity

6.1.5 Best Practice ES05 Red-Tagged Diverse Equipment

Depending on LEC provisioning practices, the equipment in the central office can represent single points of failure. The ECOMM Team supports the common LEC practice of spreading 9-1-1 circuits over similar pieces of equipment, and marking each plug-in-level component and frame termination with red tags. The red tags alert LEC maintenance personnel that the equipment is used for critical, essential services and is to be treated with a high level of care.

6.2 Alternate Path when the Primary 9-1-1 Interoffice Facility Fails

Best Practice ES06 through ES11 provide practices that promote establishment of alternate call paths between the caller's end office and the PSAP serving office.

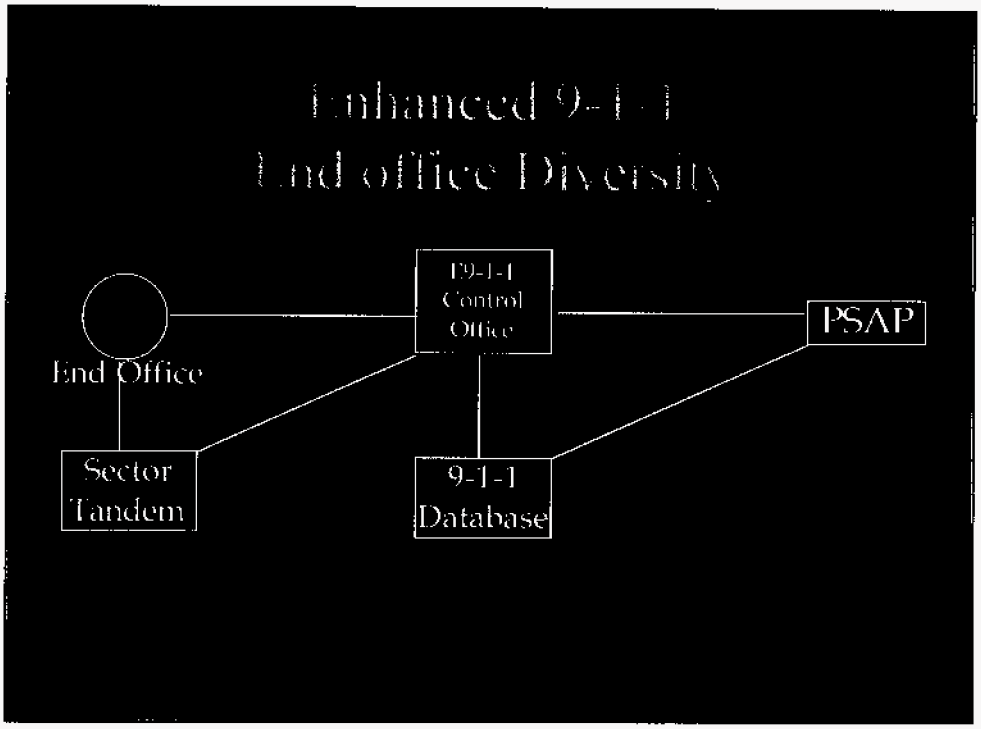
6.2.1 Best Practice ES06 Alternate PSAPs from the 9-1-1 Tandem Switch

A common method of handling PSAP-to-Tandem transport facility interruptions is to program the 9-1-1 tandem switch for alternate route selection. If the 9-1-1 caller is unable to complete the call to the PSAP, the tandem switch would automatically complete the call to a pre-programmed directory number or alternate PSAP destination. The alternate PSAP may be either administrative telephones or another jurisdiction's PSAP positions, depending upon the primary PSAPs pre-arranged needs. (See Figure 6-4)

NENA TDC
TECHNICAL DEVELOPMENT CONFERENCE

9-1-1 Tutorial

Billy Ragsdale	NENA Technical Liaison Chair, PSAP CPE Technical Committee
Bob Gojanovich	Chair, Network Technical Committee
Barb Thornburg	Chair, Database Technical Committee
Roger Hixson	Chair, ALEC/PS Technical Committee



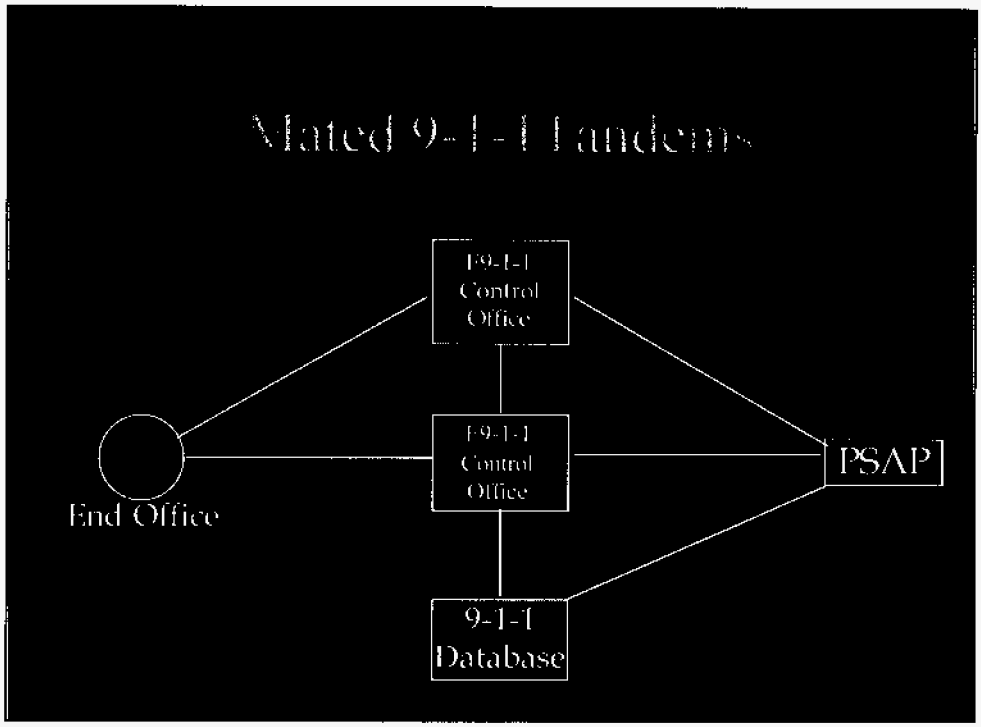
9-1-1 systems are expected to function without interruption. However, expecting every network and PSAP component to work perfectly forever is unrealistic. Stuff happens - things break. Reliability, then, is achieved through diversity and redundancy.

One method of achieving reliability is to build redundant, diversely routed trunk groups from each end office to its 9-1-1 tandem. Each trunk group should be large enough to carry the entire traffic load for that end office.

In this example, a primary 9-1-1 trunk group is built from the end office directly to the 9-1-1 tandem. A secondary, or overflow group, is built to the sector tandem that serves the end office. Many other end offices have overflow trunks to the sector tandem which, in turn, has a large common trunk group to the 9-1-1 tandem.

Depending upon local convention or regulation, the primary and overflow trunk groups may each be large enough to provide a P.01 grade of service, or may provide a P.01 grade of service in total. "P.01" means that, during the average busy hour of an average week, one call out of one hundred will be blocked due to an all-trunks-busy condition.

Yes, 9-1-1 calls sometimes get blocked. However, if trunk groups are engineered correctly, blocking will only occur under extraordinary circumstances that generate abnormal volumes of 9-1-1 calls - many of which are redundant. This "congestion control" (sometimes called "choking") is necessary to protect the rest of the network and the PSAPs.



Many 9-1-1 tandems are "mated". Each end office is trunked to both tandems, and both tandems are connected to the PSAP. If one of the tandems fails, the PSAP remains in service. Call handling capacity is reduced by 50%, but there is no interruption of service.

E 9-1-1 Activation Process

For Verizon Partner Solutions Customers

February 2008

Version: 02/08

E911 Activation Process –Verizon

1.0 Introduction

This document is intended for all Carriers providing service in the Verizon Incumbent Telephone Company Territories. As used in this document, the term Carrier will apply to facilities-based Competitive Local Exchange Carriers (CLECs), Wireless Carriers, Independent Telephone Companies (ITC) and Resellers, collectively. Information provided in this document is intended solely to assist Carriers in the interconnection of 9-1-1/E-9-1-1 service with Verizon. Interconnecting VoIP providers impacted by FCC's First Report and Order released June 3, 2005 ("In the Matter of IP-Enabled Services (WC Docket No. 04-36) and E911 Requirements for IP-Enabled Service Providers (WC Docket No. 05-196)" that desire to order facilities and/or trunking from Verizon can address their facility and trunking inquiries by using this guide. In addition, interconnected VoIP providers should refer to the VoIP 9-1-1 guide on the Verizon E9-1-1 web site for further assistance in providing 9-1-1/E 9-1-1 service to their end users in Verizon service areas.

http://www22.verizon.com/wholesale/local/E911/1,21070,,00.html

The carrier is responsible for assessing and meeting all requirements of applicable law in connection with 9-1-1/E-9-1-1 services if conflicts arise between the information contained in this document and applicable law, including federal, state and/or local statutes, regulations and standards or the carrier's interconnection agreements, the information/requirements of applicable law or in such specific documents shall take precedence. By its use, the carrier agrees to release Verizon and hold harmless from any claims resulting from information obtained from this document.

As used within this document, the term "Verizon East" refers to the following states:

Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania (as part of fBA territory), Rhode Island, Vermont, Virginia and West Virginia;

And "Verizon West" refers to the following states:

California, Florida, Idaho, Illinois, Indiana, Michigan, Nevada, North Carolina, Ohio, Oregon, PA (as part of fGTE territory), South Carolina, Texas, Washington, and Wisconsin.

1.1 What Is 9-1-1 ?

1.1.1 Basic 9-1-1 Service (9-1-1)

Basic 9-1-1 Service is an emergency telephone system that automatically connects 9-1-1 callers to a designated answering point. Call routing is determined by originating central office only. Basic 9-1-1 services are provided in areas where Enhanced 9-1-1 is not available.

2.1.1 Enhanced 9-1-1 (E 9-1-1)

E 9-1-1 service delivers a voice connection and the caller's telephone number (called ANI for Automatic Number Identification) to a Public Safety Answering Point (PSAP). E 9-1-1 provides additional selective routing flexibility for 9-1-1 calls. E 9-1-1 uses end user data contained in the E 9-1-1 database to determine routing to the appropriate PSAP. The E 9-1-1 database provides the PSAP with the name and street address of the calling party. The E 9-1-1 database must be updated when an end user is added to the database, changes local service provider, telephone number, name or street address.

1.2 Responsibilities of Carriers

1.2.1 Facility Based CLECs and Independent Telephone Companies

1.2.1.1 Trunking

Facility Based CLECs (CLECs owning their own switching equipment), Wireless carriers and Independent Telephone Companies are responsible for establishing facilities and trunks from their switch to the Verizon Selective Router(s). See also Sections 2.2 Network Information and Section 2.3 Recommendations for the Provisioning of Facilities.

1.2.1.2 Database

Facilities-Based CLECs, Wireless carriers and ITCs are responsible for entering their end-users' name and address information into E 9-1-1 databases, and for the accuracy of that information. Facility-based CLECs, ITCs and Wireless Carriers submit end-user information to the E 9-1-1 databases using the Verizon Electronic Interface. This electronic database interface uses an industry-standard format. To see specific NENA formatting guidelines for each geographic jurisdiction included in the Verizon 9-1-1 Data Base Management Systems, go to:

http://www22.verizon.com/wholesale/local/E911/1,21070,,00.html

(then key on the Electronic Interface Guide). This interface allows Carriers to enter and maintain their end-users' E 9-1-1 database entries. Carriers may submit up to ten files containing multiple entries each business day. Carriers are responsible for the accuracy of their end-user E 9-1-1 information, and must verify that the name and address information entered into the database is complete, correct, and accurate. This information must also be validated against the local Master Street Address Guide (MSAG) for facility-based CLECs and Independent Telephone Companies.

NENA-03-501
Revised October 3, 2005

NENA

Technical Information Document on

Network Quality Assurance

NENA Technical Information Document 03-501

Prepared by:
National Emergency Number Association (NENA) Network Quality Assurance Working Group

Published by NENA
Printed in USA

- LECs should carefully evaluate and consider reversing the trend toward concentrating 9-1-1 network elements. Examples of such concentration include large numbers of PSAPs in single E9-1-1 Control Offices and the use of high capacity network concentrators such as digital cross connect systems without an appropriate diverse routing architecture.

- The ECOM Team considers all of the Best Practices formerly defined by the earlier NRIC effort to still be valid with the exception of the recommendation to avoid use of the Common Channel Signaling (CCS) network for 9-1-1 services. The CCS network has demonstrated reliability for non-emergency applications and may now be considered as a viable alternative for emergency network routing applications (i.e., Best Practice ES27 – Common Channel Signaling). Further, telecommunication standards bodies have created SS7-compatible data packets for passing caller location and other wireless information detail to Integrated Services Digital Network (ISDN) PSAPs.

- LECs, wireless carriers, 9-1-1 administrators, and public safety agencies should improve communications among themselves. A formal communications mechanism should be established to develop, review, and update disaster recovery plans for 9-1-1 service. The forum should be open to all stakeholders of 9-1-1 service. Emerging issues such as cellular-based 9-1-1 calls and PBX/9-1-1 call handling would be appropriate agenda items.

- The 9-1-1 Focus team recommended the use of FCC outage reports (Docket 91-273) as the standard metric by which national 9-1-1 reliability improvements should be tracked. Criteria and rules for reporting 9-1-1 outages can be viewed at the FCC web site, Chapter I – Federal Communications Commission (FCC), Part 63, Rules in Sec 63.100 "Notification of Service Outage" at the Network Outage Reports page (http://www.fcc.gov/oet/outage/).

3 Alternate/Diverse Routing

As indicated in the NRC's Emergency Services Best Practices, NENA strongly recommends the use of alternate or diverse routing and diverse facilities in order to avoid single points of failure. These facilities would include but are not limited to carrier, cable, fiber (ring topology), trunk bay, fusing and power feed to help ensure fault tolerance. Where diverse facilities exist they should be used.

According to the NENA Master Glossary Standard of 9-1-1 Terminology, diverse routing is defined as the practice of routing circuits along different physical paths (diverse facilities) in order to prevent total loss of 9-1-1 service in the event of a facility failure. The concept of diverse facilities is integral to diverse routing.

Diverse facilities provide at least two physical circuits to transport network traffic and are characterized by separate cable sheaths and outside plant structures. The facilities should be physically separated (diverse routing) so that the failure of any single network element cannot interrupt E9-1-1 service to all trunks in a group.

3.1 E9-1-1 Circuits

The circuits in the E9-1-1 system are a combination of switched message trunks and private line data circuits. Provided below is a description of some circuit types:

- Serving End Office to E9-1-1 Control Office Switched Message Trunks -
  Provide communications paths for traffic from the end office serving the 9-1-1 caller to the E9-1-1 Control Office.

- E9-1-1 Control Office to PSAP Switched Private Line/Trunk Circuits - Provide analog/digital communications paths for traffic from the E9-1-1 Control Office to the PSAP.

- PSAP to ALI Host Private Line Data Circuits or Switched Data Circuits -
  Provide data communications paths between the PSAP and the ALI host for Automatic Location Identification (ALI) information requests and/or ALI data delivery.

- E9-1-1 Control Office to the E9-1-1 database Private Line Data Circuits

- Other critical data circuits are required to link various critical 9-1-1 data components / adjunct systems (Database Management System (DBMS), Emergency Service Control Point (ESCP), etc.) to each other

These dedicated E9-1-1 trunks and private line circuits are to be assigned to route diverse facilities so that the failure of any single Network element cannot interrupt E9-1-1 service to all trunks in a group. This concept applies to all E9-1-1 Control Offices, including mirrored control offices.

3.2 E9-1-1 Network Diversity

When discussing diversity in a network, two concepts must be considered – diverse routing and diverse facilities (or transport). Diverse routing implies diverse facilities but the opposite may not be true. Both must be implemented to completely eliminate single points of failure.

Diverse routing is highly recommended and may be required per local statutes for all circuits associated with the E9-1-1 system. Requirements for each circuit type are provided below:

- Serving End Office to E9-1-1 Control Office Switched Message Trunks must be route diverse. There should be at least two trunks from each central office to the E9-1-1 Control Office. A pair of diverse circuits may be assigned on a fiber ring system or a fiber system with diversely routed protection. These circuits do not need to be assigned to different DS3s.

- E9-1-1 Control Office to PSAP Switched Private Line Circuits should be route diverse from the E9-1-1 Control Office to the serving wire center of the PSAP where available (the local loop between the PSAP and its serving end office is still vulnerable to single point failures, but this shortcoming can be overcome using sheath diversity, route diversity, etc). One circuit from the

PSAP to each ALI host computer is required. A pair of diverse circuits may be assigned on a fiber ring system or a fiber system with diversely routed protection. These circuits do not need to be assigned to different DS3s.

- PSAP to ALI host Private Line or Switched Data Circuits should be route diverse from the serving wire center of the PSAP location to the ALI host computer locations where available. Where each PSAP is connected to two different ALI host computers for diversity and redundancy, the pair of diverse circuits may be assigned on a fiber ring system or a fiber system with diversely routed protection. These circuits do not need to be assigned to different DS3s. If dual-switched packet data circuits are used, host diversity and call redirection should be provided.

- E9-1-1 Control Office to the E9-1-1 database Private Line Data Circuits should be route diverse from the E9-1-1 Control Office to the ALI host computer locations where available. Each E9-1-1 Control Office is connected to two different ALI host computers located in different locations for diversity and redundancy. The pair of diverse circuits may be assigned on a fiber ring system or a fiber system with diversely routed protection. However, these circuits do not need to be assigned to different DS3s. If dual switched packet data circuits are used, host diversity and call redirection should be provided.

(NOTE: CALL-REDIRECTION means the "switched data" NETWORK software that allows "switched data" calls to be re-routed to an alternate switched data circuit in case of primary switched data circuit failure.)

It is important to note that when planning routes for mirrored control offices, each member of the mirrored pair MUST be viewed as if it were not in a pair. This means that, where facilities exist, route diversity is recommended for each E9-1-1 control office.

4 Fiber Rings

Fiber optic network elements are providing the opportunity to aggregate large amounts of traffic into one transport facility. This traffic aggregation is in opposition to the transport diversity as described in best practices. An important network topology available with the new fiber optic terminals is fiber rings. A fiber ring is a collection of nodes forming a closed loop whereby each node is connected to two adjacent nodes via a duplex communications facility. A ring provides redundancy so services can be automatically restored following a failure or degradation in the network. Rings are usually described as being "self healing" architectures.

5 Minimum Trunking Requirements

The quantity of 9-1-1 trunks should be discussed fully by the service provider and the public safety entity. It is recommended that E9-1-1 trunking be designed at a minimum of P.01 grade of service. The probability (P), expressed as a decimal fraction, of a telephone call being blocked. P.01 is the grade of service reflecting the probability that one call out of one hundred during the average busy hour will be blocked. P.01 is the minimum recommended Grade of Service for 9-1-1 trunk groups.

NENA Standard for Enhanced 9-1-1 (E9-1-1) Default Routing Assignments and Functions

NENA Standard for E9-1-1 Default Assignment and Call Routing Functions
NENA 03-008, Version 1, January 19, 2008

Prepared by:
National Emergency Number Association (NENA) Technical Committee Chairs

Published by NENA
Printed in USA

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2 Introduction

This document is a complement to NENA 03-001and 03-501 documents regarding NENA recommendations for Network Quality Assurance and as deemed applicable to other NENA standards and technical information documents addressing directly or partially the subject of default routing.

The major distinguishing feature of Enhanced 9-1-1 (E9-1-1) is the ability to selectively route a 9-1-1 call to a designated Public Safety Answering Point (PSAP) based upon the caller's location. However, there are times when, even in an Enhanced 9-1-1 network, a call cannot be routed to the designated Primary PSAP. Unique and specific terminology is used to describe each set of circumstances when such call cannot be properly routed.

This document will try to depict such circumstances and to offer potential solutions to help lessen the impact on call taking and dispatch activities. It shall address both the default assignment rationale within the databases and call routing determination in the network environment.

2.1 Call Routing Facts

9-1-1 call routing accuracy may be affected by various factors ranging from lack of up-to-date identification of the subscriber's service address/calling location; delay in service order processing; default call routing rules used to support the subscriber's NPA NXX, the serving area or the network elements; the manner in which a carrier provides local end office trunking to the designated E9-1-1 Control Office; the 9-1-1 network infrastructure or even the way a reseller offers its local service.

It must be recognized that "default call routing" by definition may result in having some emergency calls reach a PSAP not directly responsible for the subscriber's location. Local authorities, E9-1-1 System Service Providers and carriers should ensure that default call routing impacts are minimized through the appropriate association of trunk groups with defined geographic areas. Further, unless using Enhanced MF (EMF) , Signaling System 7 (SS7), Internet Protocol (IP) type trunking, all carriers must provide NPA-specific MF E9-1-1 trunk groups within those exchanges served by more than one NPA.

It must also be recognized that "default" call routing is not the same as a "misroute". Misrouted calls are generally caused by incorrect information associated with the caller due to a human or mechanical failure, whereas default routed calls are caused by a lack of selective routing information.

By following the basic provisioning specifications outlined herein, carriers and service providers should be able to provide for an efficient delivery of E9-1-1 calls to a designated authority, even

NENA
Master Glossary
Of
9-1-1 Terminology

NENA Master Glossary of 9-1-1 Terminology
NENA-00-001, Version 11, May 16, 2008

Prepared by:
National Emergency Number Association (NENA) Committee Chairs

Published by NENA
Printed in USA

One Nation 9-1-1 One Number

Term	Definition	New Update
Automatic Location Identification (ALI) Customer Retrieval	A process of counting ALI data base queries not duplicated within a twenty-four (24) hour time frame.	
Automatic Location Identification (ALI) Data Base	The set of ALI records residing on a computer system.	
Automatic Location Identification (ALI) Discrepancy	An ALI Discrepancy is defined as a record being retrieved from ALI during an actual E9-1-1 call with incorrect address. For example, the house number or directional is wrong for the caller.	
Automatic Location Identification (ALI) Multiplexer	A CPE component which performs the function of communicating with the ALI data base. An ALI Multiplexer typically works in conjunction with an ANI controller.	
Automatic Location Identification (ALI) Operator	Operates the Automatic Location Identification infrastructure used to provide caller information associated with a pANI offered in a query from a PSAP.	
Automatic Location Identification (ALI) Queries	The act of querying/retrieving the automatic display at the PSAP of the address/location of the telephone and supplementary emergency service information related to the caller's telephone number.	
Automatic Location Identification (ALI) Retrieval	The process of querying the 9-1-1 data base for ALI records.	
Automatic Number Identification (ANI)	Telephone number associated with the access line from which a call originates.	
Automatic Number Identification (ANI) Controller	A stand-alone CPE component which provides the ANI decoding and function key control for 9-1-1 service.	
Automatic Number Identification Information Digits (ANI II Digits)	Digits in the Enhanced MF Signaling protocol that indicate to the PSAP CPE ANI display device whether the display should remain steady or flash, or if the call is a test call.	
Automatic Vehicle Location (AVL)	A means for determining the geographic location of a vehicle and transmitting this information to a point where it can be used.	
Average Busy Hour	The 1-hour period during the week statistically shown over time to be the hour in which the most telephone calls are received.	

Hicks Direct Testimony Diagrams

Diagram 1

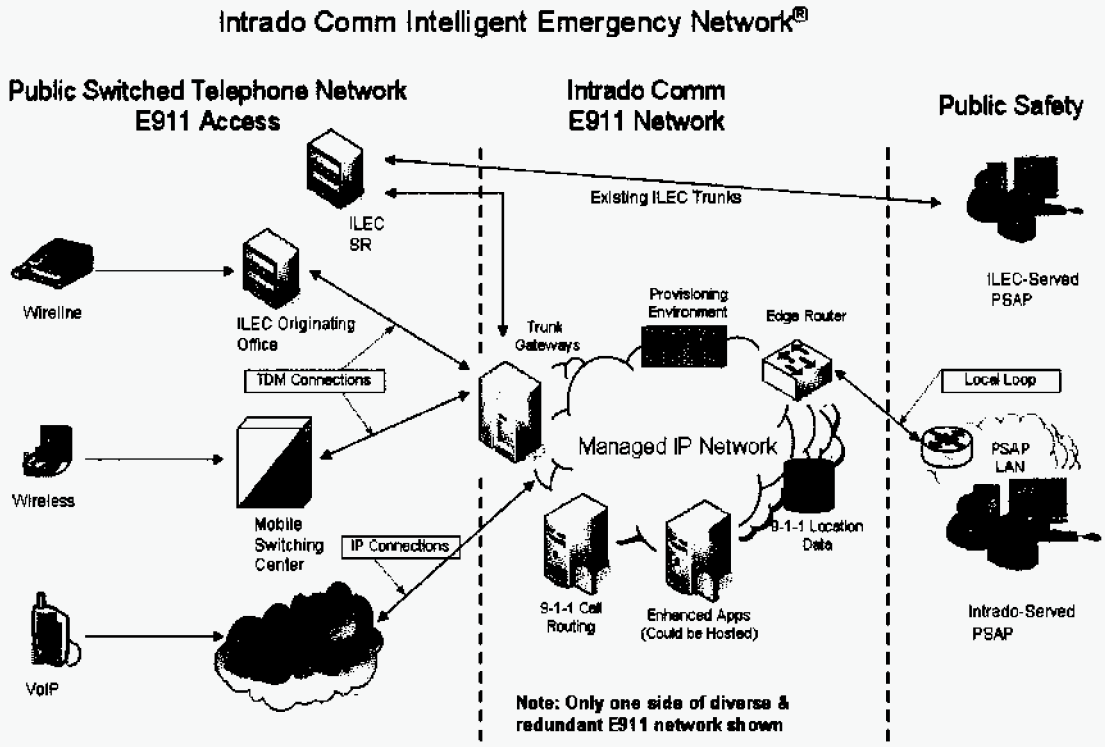


Diagram 2

CLEC Originating Office 911 Call Sorting

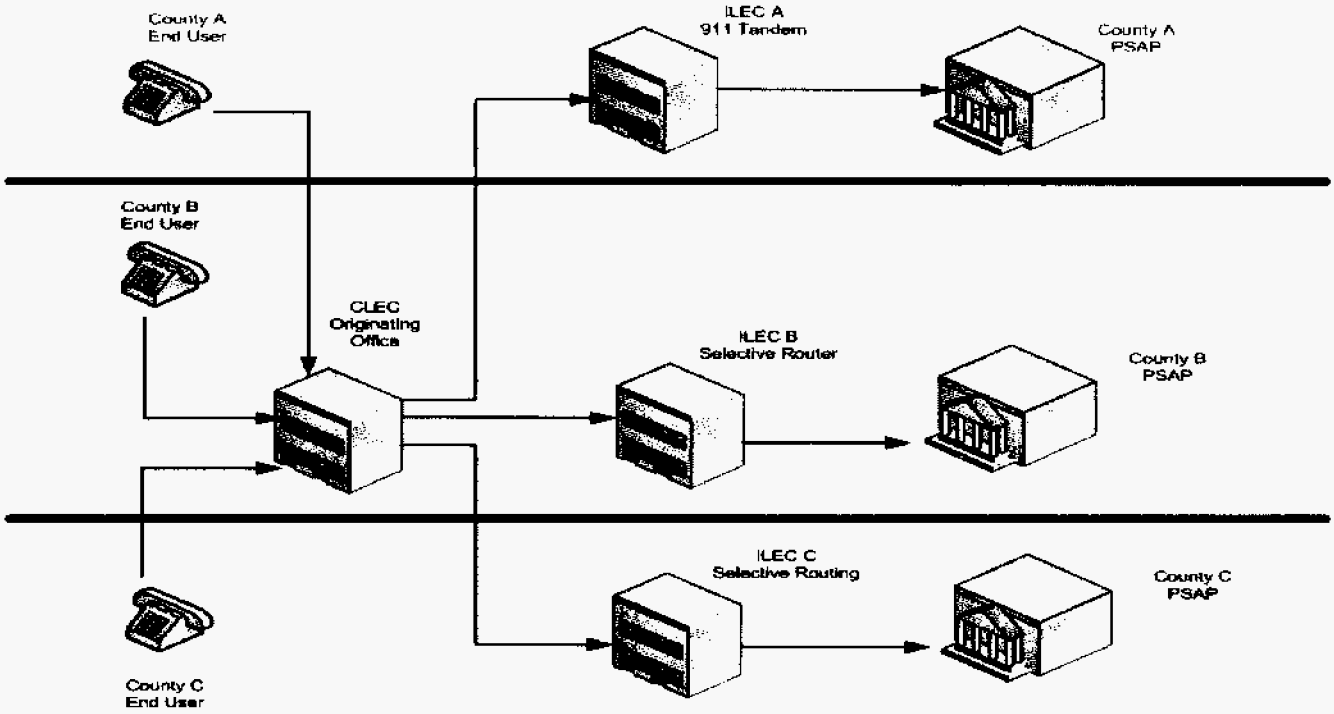
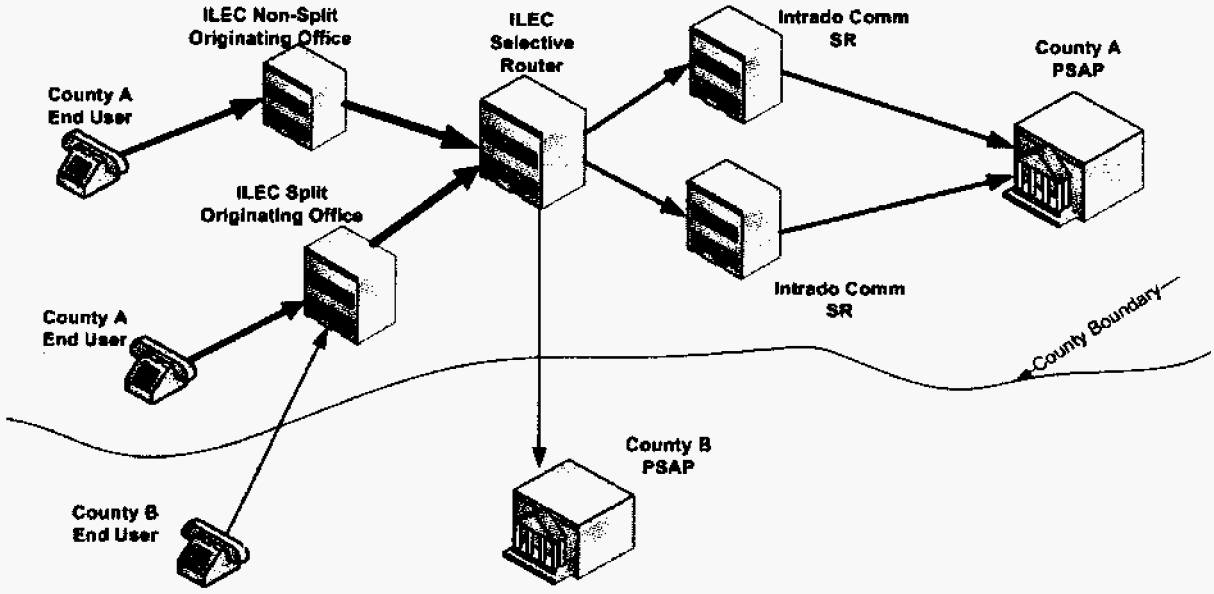


Diagram 3

Example of 911 Call Sorting at the ILEC Selective Router



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