1   **BEFORE THE**

2   **FLORIDA PUBLIC SERVICE COMMISSION**

3   **Docket No. 070699-TP**

4   **Petition of Intrado Communications Inc. Pursuant to Section 252(b) of the**

5   **Communications Act of 1934, as amended, to Establish an Interconnection**

6   **Agreement with Embarq Florida, Inc.**

7   **DIRECT TESTIMONY OF THOMAS W. HICKS**

8   **April 21, 2008**

9   **Q:**   **PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS**

10   **FOR THE RECORD.**

11   **A:**   My name is Thomas W. Hicks. My business address is 1601 Dry Creek

12   Drive, Longmont, CO, 80503. I am employed by Intrado Inc. as Director -

13   Carrier Relations. I also serve as the Director – Carrier Relations for Intrado

14   Inc.'s telecommunications affiliate, Intrado Communications Inc. ("Intrado

15   Comm"), which is certified as a competitive local exchange carrier ("CLEC")

16   in Florida.

17   **Q:**   **PLEASE DESCRIBE YOUR RESPONSIBILITIES FOR INTRADO**

18   **COMM.**

19   **A:**   I am responsible for Intrado Comm's carrier relations with incumbent local

20   exchange carriers ("ILECs"), such as Embarq Florida, Inc. ("Embarq"),

21   CLECs, wireless providers, and Voice over Internet Protocol ("VoIP")

22   providers.

1 Q: **PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**

2   **PROFESSIONAL EXPERIENCE.**

3 A: I joined Intrado Comm in 2004. Prior to that, I worked for Verizon in various

4   technical and managerial positions for 33 years. For over 10 years at Verizon,

5   I was responsible for administration and engineering support of 911 network

6   and data services nationwide. In my final three years at Verizon as a Senior

7   Engineer, I coordinated the company's FCC-required wireless Phase I and

8   Phase II implementations across the country, which required wireless carriers

9   to provide public safety answering points ("PSAPs") with caller location

10   information and call back numbers. I received a "President's Award" for

11   leading Verizon's (formerly GTE's) reengineering team in replacing and

12   updating its nationwide 911 systems. My work experience also includes

13   project management at Sonus (formerly Telecom Technologies, Inc.) for

14   softswitch media gateway development. I attended Indiana University –

15   Purdue University in Fort Wayne, Indiana. I hold an Associate's Degree in

16   GTE Telops. I am certified as a National Emergency Numbering Association

17   ("NENA") Emergency Number Professional ("ENP"). During my career, I

18   have served on several industry standards bodies for 911, including

19   participating in the Alliance for Telecommunications Industries Solutions

20   ("ATIS") Emergency Service Interconnection Forum ("ESF") public safety

21   communications standards development efforts since 1999. I am a recipient

22   of the NENA Lifetime Membership Award for contributing to and leading

23   industry and association efforts that led to the creation of FCC Docket 94-102

1   (wireless E911 order). I continue active participation on behalf of Intrado

2   Comm in the following forums:

3   • Currently leading the ATIS-ESIF Emergency Call and Data Routing

4   subcommittee focused on the development of network interoperability

5   and technology integration standards related to emergency call and

6   data routing components;

7   • Active participant and 911 subject matter expert ("SME") for the

8   North American Numbering Council ("NANC") Pseudo-ANI

9   ("pANI") Issues Management Group for development of pANI

10   Administration Guidelines (document recently approved by the FCC);

11   and

12   • Active participant in NENA Operations Development Committee

13   ("ODC") and in numerous NENA working committees (e.g., Next Gen

14   911, Default Route Working Group, etc.).

15   My past participation before industries standards bodies also includes:

16   • Participated in European Telecommunications Standards Institute's

17   Emergency Telecommunications ("EMTEL") to establish European

18   standards for emergency communications to parallel United States

19   standards; and

20   • Established and led the NENA technical standards organization.

21 Q: **HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE FLORIDA**

22   **PUBLIC SERVICE COMMISSION?**

23 A: No.

1 Q: WHAT IS YOUR ROLE IN INTRADO COMM'S

2   INTERCONNECTION NEGOTIATIONS WITH EMBARQ?

3 A: In May 2007, I initiated the request for interconnection with Embarq for each

4   state in its operating territory, including Florida. I led the Intrado Comm

5   negotiations team in its review of the Embarq template, in responding to

6   Embarq's requests for additional information, and on negotiation calls with

7   the Embarq negotiation team. I have identified the services needed from

8   Embarq to serve Intrado Comm's customers, including our public safety

9   customers. I have assisted with drafting Intrado Comm's proposed agreement

10   language and ensuring that Intrado Comm's language is consistent with

11   industry standards. I am familiar with the unresolved issues between the

12   Parties.

13 Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?

14 A: The purpose of my testimony is to explain Intrado Comm's position on the

15   following unresolved issues: Issue 1(a), (b), and (d); Issue 2(a) and (b); Issue

16   3(a), (b), and (c); Issue 4(a) and (b); Issue 5; Issue 6(a) and (b); Issue 7; Issue

17   8, and Issue 13.

18 *Issue 1(a):   What service(s) does Intrado Comm currently provide or intend to*

19 *provide in Florida?*

20 Q: PLEASE EXPLAIN INTRADO COMM'S 911 SERVICE OFFERING

21   FOR WHICH INTRADO COMM SEEKS INTERCONNECTION

22   FROM EMBARQ.

1   A: The Intrado Intelligent Emergency Network® is a competitive next generation

2   911 network that permits Intrado Comm to provide 911 emergency call

3   delivery and management services for both voice and data through the

4   automatic retrieval and delivery of information directly to PSAPs and other

5   government agencies. The Intrado Comm 911 service will provide resolutions

6   to emergency situations more efficiently while enabling PSAPs to send

7   information to other PSAPs even when they are not in the same jurisdiction.

8   Intrado Comm's network is designed to interoperate with existing legacy

9   PSAP equipment, but avails much more capability once the PSAP migrates to

10   newer technologies, such as Internet Protocol ("IP"). A diagram illustrating

11   Intrado Comm's Intelligent Emergency Network® and next generation IP-

12   based network architecture is set forth in Exhibit No. ___ (Hicks,

13   Direct Exhibit TH-1).

14 Q: **ARE THERE DIFFERENCES BETWEEN INTRADO COMM'S NEXT**

15   **GENERATION 911 NETWORK AND EMBARQ'S LEGACY 911**

16   **NETWORK?**

17 A: Yes. For example, Embarq's reliance on four (4) separate 911 selective

18   routers in Florida without full interoperability between them limits the

19   capability of PSAPs to provide statewide support for backup, overflow or

20   disaster recovery situations caused by major catastrophes or call center

21   evacuation events. In addition, PSAPs currently have limited ability to

22   transfer calls with the caller's number and location information across and

23   between all selective routing boundaries established by Embarq. Intrado

1   Comm's network, as I have explained above, provides PSAPs a migration

2   path to next generation technology and services that will provide public safety

3   with more comprehensive and robust call transfer capabilities than that

4   currently afforded by the legacy 911 environment.

5   Q: **WHY IS INTRADO COMM SEEKING INTERCONNECTION WITH**

6   **EMBARQ?**

7   A: Historically, local exchange services, and 911 services in particular, have been

8   regulated as monopoly services provided by incumbents. Today, new entrants

9   to the market are offering consumers and public safety agencies a competitive

10   alternative to ILEC service offerings. E911 essentially consists of three

11   integrated components that are necessary for the routing and transmission of

12   an E911 call. The first part of an E911 system is the switching element and

13   consists of the selective router or 911 tandem and the associated call routing

14   database. When callers dial "911," the local serving originating office

15   translates the dialed digits and transmits the call to the selective router which

16   queries the selective routing database ("SRDB") and terminates the

17   emergency call to the appropriate PSAP. The second part consists of the

18   database system that retains the Automatic Location Information ("ALI")

19   record. Once the call is received by the PSAP, the Automatic Number

20   Information ("ANI") presented on the call is used to make an automatic query

21   to an ALI database for the caller's location and other information necessary to

22   respond to an emergency call. The ALI containing the caller location

23   information is passed from the ALI database system to the PSAP for display.

1   Third, is the 911 network facility transport infrastructure between the PSAP

2   and the selective router (usually in the form of dedicated trunks) and between

3   the PSAP and the ALI database (typically provided over a dedicated data

4   circuit). With Intrado Comm's Intelligent Emergency Network®, both voice

5   and data are provided over the same circuit/path. The 911 network is

6   interconnected to the public switched telephone network ("PSTN"). This is

7   evident by the call originator's ability to access 911 services by dialing the

8   digits "9-1-1" via the caller's originating office, which is part of the PSTN

9   having dedicated connections to deliver voice and ANI to the 911 network.

10   Each of the three functions described above are inexplicably intertwined so

11   that one would be useless without the other. Attempting to segment any of the

12   functions from the others would significantly diminish the viability and

13   reliability of 911 services. This is illustrated by the diagram contained in

14   Exhibit No. ___ (Hicks, Direct Exhibit TH-4).

15 **Q:** **DOES EMBARQ PROVIDE ALL OF THE FUNCTIONS NECESSARY**

16   **FOR THE TRANSMISSION OF A 911 CALL FOR ITS PSAP**

17   **CUSTOMERS?**

18 **A.** Yes. Embarq contracts with PSAPs to provide access to 911 services for

19   itself, for its affiliates, and for CLECs, wireless carriers, and other service

20   providers. Indeed, in other parts of its service territory Embarq acts as the

21   selective routing provider for other ILECs. A simplified illustration of a

22   legacy 911 network arrangement typically employed by most ILECs today is

23   found in Exhibit No. ___ (Hicks, Direct Exhibit TH-2).

1   Q.   **PLEASE EXPLAIN HOW THE FIRST COMPONENT OF 911**

2   **SERVICES - THE SELECTIVE ROUTER - IS PROVIDED WHEN**

3   **THERE ARE MULTIPLE SUPPLIERS.**

4   A.   It is highly common to have multiple providers of 911 selective routing

5   services within the same state; however, they generally serve discrete and

6   separate geographical areas which closely align with the franchise territory of

7   the ILEC providing the service. There is a need for interconnection

8   arrangements to be made among selective routing providers to accommodate,

9   for example, wireless call transfers because wireless call routing

10   determination is based on cell site/sector boundaries that do not track

11   jurisdictional, geographical or rate center boundaries relied upon by wireline

12   carriers for identifying serving areas. Such interconnection is also useful

13   when a 911 call is misrouted and needs to be transferred to a PSAP served by

14   another selective routing provider. Such functionality is possible through the

15   cooperative efforts and trunk translation table maintenance of the respective

16   selective router providers (*e.g.*, Embarq and another ILEC) to accommodate

17   the use and transmission of predefined routing numbers to the terminating

18   selective router, as well as the caller's number over SS7 connections installed

19   between the selective routers. Such arrangements and interconnection among

20   selective routers may also be employed where the alternate route or backup

21   route involves a PSAP that is served by a different selective router provider

22   than that of the primary PSAP. This is illustrated in Exhibit No. ___ (Hicks,

23   Direct Exhibit TH-3) using Verizon and AT&T as an example.

8

1 Q. **PLEASE EXPLAIN HOW THE SECOND COMPONENT OF 911**

2 **SERVICES - THE AUTOMATIC LOCATION IDENTIFICATION**

3 **("ALI") SYSTEM - IS PROVISIONED WHERE THERE ARE**

4 **MULTIPLE PROVIDERS.**

5 A: It is possible to have the ALI provider be an entirely different entity from that

6 of the selective router provider. Through cooperative efforts of the ALI and

7 selective routing provider, selective router database ("SRDB") updates from

8 the ALI provider can be loaded into the SRDB of the selective routing system

9 should this selective routing system be provided by another 911 service

10 provider. An ALI provider that provides ALI information to a PSAP can

11 simultaneously generate necessary information to be loaded into the SRDB,

12 such as the ANI or pseudo-ANI with ESN call routing data. Although most

13 ALI providers are capable of creating recent change files in the format

14 required for direct entry into an onboard switch (*e.g.*, Nortel DMS or CML

15 SRDB) or for direct outboard access by a Lucent 5ESS selective router, ILEC

16 selective router providers typically prefer to receive such updates and generate

17 the necessary SRDB translations themselves and offer this service as a

18 bundled service to the PSAPs. As an example, if Intrado Comm was

19 providing ALI services to a PSAP in Florida and Embarq was providing

20 selective routing, Intrado Comm would generate update files during ALI

21 processing and directly update or pass the update file to Embarq that would, in

22 turn, update its E911 selective router onboard SRDB. In those instances

23 where a portion of the users of a specific switching system are served by

1   multiple 911 service providers, multiple options exist for segregating and/or

2   processing the Service Order Information ("SOI") data for ALI processing.

3   One method might be for the SOI provider to segregate SOI data based upon

4   the tax rate area designated for each user during service activation. Service

5   order collection vehicles typically store tax authority attributes in the internal

6   systems they use for 911 data extraction purposes. Such attributes are

7   typically referred to as a TAR or TXD code, and are commonly used to

8   determine and satisfy county fee collection and remittance obligations for

9   each taxing authority. By creating separate and distinct SOI files based upon

10   the tax rate area assigned to each telephone number during the order collection

11   process, the appropriate SOI data can be passed to the appropriate ALI

12   provider for all taxing areas for which they have responsibility and ALI

13   processing may occur. A second option may be for SOI data extracts

14   associated with those switching systems served by multiple ALI providers to

15   be passed in its entirety to each ALI provider, and each ALI provider would

16   be accountable to maintain appropriate Master Street Address Guide

17   ("MSAG") processes that result in only in-area SOI being loaded into their

18   respective ALI system. A third and unreasonably costly option would be to

19   require the PSAP to continue to subscribe to a "bundled" ILEC offering that

20   forces a PSAP to continue to subscribe to ILEC-provided ALI services to

21   enable the selective routing component, even though the PSAP may prefer to

22   use an alternative provider for ALI service. Intrado Comm's Intelligent

1		Emergency Network® and services are compatible with any of the options
2		detailed for these multiple ALI provider options.
3	**Q:**	**PLEASE EXPLAIN HOW THE THIRD COMPONENT OF 911**
4		**SERVICES - THE 911 NETWORK FACILITY INFRASTRUCTURE -**
5		**IS PROVISIONED WHERE THERE ARE MULTIPLE PROVIDERS.**
6	**A.**	Last mile connectivity is typically owned and provided by the serving ILECs,
7		*i.e.*, connectivity directly to the resident or business (*e.g.*, PSAP) premises.
8		Opportunities for reducing facility transport costs or improving facility
9		transport quality therefore have been limited for public safety. Intrado
10		Comm's Intelligent Emergency Network® and competitive 911 services will
11		utilize technologies and transport facility arrangements that promote service
12		quality and reliability, while employing state-of-art IP technologies and
13		protocols that will enable more efficient use of facility transport architecture.
14	*Issue 1(b):*	*Of the services identified in (a), for which, if any, is Embarq*
15		*required to offer interconnection under Section 251(c) of the Telecommunications*
16		*Act of 1996?*
17	**Q:**	**WHY IS INTERCONNECTION NECESSARY FOR INTRADO COMM**
18		**TO PROVIDE ITS COMPETITIVE SERVICES?**
19	**A:**	In order to provide local exchange services, which includes the aggregation,
20		transport, and database management services essential for the provision of 911
21		services to PSAPs, Intrado Comm must interconnect its network with the
22		incumbent providers that have connections with and provide services to
23		PSAPs and other end users. Interconnection, at a minimum, will allow

11

1   Embarq's end users to reach Intrado Comm's end users and vice versa. In the

2   emergency services context, interconnection will permit the 911 call,

3   including the caller's information, to reach the appropriate PSAP. As the 911

4   and E911 provider designated by a governmental authority, Intrado Comm

5   routes, transmits, and transports 911 and emergency call traffic from end users

6   of wireline, wireless, VoIP, and telematics service providers to the appropriate

7   PSAP. The method of transmission of the 911 and emergency call traffic to

8   Intrado Comm's network is transparent to the PSAP. All necessary TDM

9   signaling to IP protocol conversion functions and special applications

10   necessary to transport 911 calls and information to the PSAP are made within

11   Intrado Comm's network.

12   **Q: WHY IS SECTION 251(C) INTERCONNECTION APPROPRIATE**

13   **FOR THE SERVICES INTRADO COMM SEEKS TO OFFER?**

14   **A:**   As a CLEC, interconnection pursuant to Section 251(c) of the

15   Communications Act of 1934, as amended ("Act"), is the only way to address

16   the uneven bargaining power that exists between competitors and monopoly

17   incumbents, such as Intrado Comm and Embarq. Embarq's insistence that the

18   Parties seek a "commercial agreement" for some of the interconnection

19   arrangements requested by Intrado Comm is another barrier to entry that

20   Embarq is wielding to stall Intrado Comm's entry into the Florida market.

21   The interconnection arrangements Intrado Comm needs to provide its PSAP

22   customers service fall squarely within the category of arrangements eligible to

1   be obtained from Embarq via the Section 251(c) process and for which that

2   process was adopted and implemented.

3   *Issue 1(d):   For those services identified in 1(c), what are the appropriate rates?*

4 **Q:**   **SHOULD EMBARQ BE PERMITTED TO IMPOSE RATES ON**

5   **INTRADO COMM THAT ARE INCONSISTENT WITH THE**

6   **PROCESS ESTBLISHED BY SECTIONS 251 AND 252?**

7 **A:**   No. Any rates Embarq intends to charge for interconnection facilities and

8   UNEs should be developed pursuant to the 251/252 process. Rates for

9   interconnection under 251/252 are to be developed pursuant to a specifically

10   defined process to ensure charges between competing carriers foster the

11   successful development of competition, which Congress and the FCC

12   recognized would not happen under a commercial arrangement due to the

13   uneven bargaining power of the CLEC. Embarq's proposed language would

14   allow Embarq to arbitrarily develop rates and post those rates on its website.

15   Embarq's language would also impose unspecified tariff charges on Intrado

16   Comm. Any rates to be imposed on Intrado Comm must be developed

17   pursuant to the process established by Sections 251 and 252, and must be set

18   forth in the interconnection agreement.

19 **Q:**   **SHOULD THE TERMS AND CONDITIONS GOVERNING THE**

20   **APPLICATION OF RATES AND CHARGES BE RECIPROCAL?**

21 **A:**   Yes, to the extent applicable, the terms and conditions governing the

22   application of rates and charges should apply equally to both Parties and give

23   both Parties reciprocal rights and obligations.

1   *Issue 2(a):   What trunking and traffic routing arrangements should be used for*

2   *the exchange of traffic when Intrado Comm is the designated 911/E911 Service*

3   *Provider?*

4   *Issue 2(b):   What trunking and traffic routing arrangements should be used for*

5   *the exchange of traffic when Embarq is the designated 911/E911 Service Provider?*

6   **Q: WHAT TRUNKING AND TRAFFIC ROUTING ARRANGEMENTS**

7   **SHOULD BE USED FOR THE EXCHANGE OF TRAFFIC WHEN**

8   **INTRADO COMM HAS BEEN DESIGNATED BY THE**

9   **GOVERMENTAL AUTHORITY TO PROVIDE 911/E911 SERVICES?**

10   **A:**   Intrado Comm believes the optimal way for carriers to route their traffic to the

11   appropriate 911 provider is to establish direct and redundant trunk

12   configurations from ILEC originating offices to multiple, diverse 911 network

13   access points. This would require the carrier to sort their calls at the

14   originating switch, and deliver the calls to the appropriate 911 routing system

15   over diverse and redundant facilities. This trunk and transport configuration

16   minimizes the switching points, which reduces the potential for failure arising

17   from the introduction of additional switching points into the call delivery

18   process. Also, should one path be unable to complete the call, the presence of

19   an alternative diverse facility greatly enhances the ability for the emergency

20   call to be delivered to the PSAP. Furthermore, Intrado Comm supports a

21   redundant architecture by establishing up to 3 diverse points for the carrier to

22   interconnect to Intrado Comm's network. Such a network arrangement is

23   illustrated in Exhibit No. ___ (Hicks, Direct Exhibit TH-5).

14

| 1 | Q: | **IS THIS HOW CARRIERS INTERCONNECT TO THE EXISTING** |

1   Q: **IS THIS HOW CARRIERS INTERCONNECT TO THE EXISTING**

2   **ILEC 911 NETWORKS TODAY?**

3   A;   Today, CLECs are required by the ILECs to directly interconnect to the

4   appropriate 911 router and deliver only 911 traffic from callers in the areas

5   served by the PSAPs using a specific selective router. Also, there is generally

6   only one selective router, and the CLECs determine if they wish to

7   interconnect using diverse facilities. In any event calls eventually arrive at a

8   single termination point, the 911 selective router of the ILEC. There are

9   instances where the ILEC 911 provider may provide mated and diverse

10   routers as a level of 911 service to the PSAP. In such instances, most CLECs

11   voluntarily connect to each geographically diverse and redundant selective

12   router to ensure their end user customers have the most reliable access to

13   emergency assistance. Lastly, should a carrier's switch have subscribers in

14   calling scopes served by multiple selective routers, the CLEC must determine

15   at the originating office level which subscriber 911 traffic will be routed over

16   each trunk group to the appropriate 911 router. The CLEC undertakes the

17   provisioning, sorting, transport and delivery of 911 traffic on their side of the

18   point of interconnection with no expectation of cost recovery from the PSAPs.

19   Q: **HAS EMBARQ OFFERED TO PROVIDE INTRADO COMM WITH**

20   **INTERCONNECTION THAT IS AT LEAST EQUAL IN QUALITY TO**

21   **THAT PROVIDED TO ITSELF, AN AFFILIATE, OR OTHER**

22   **CARRIERS?**

1   A: No. Embarq has refused to permit Intrado Comm interconnection to its

2   network that would permit Intrado Comm to enter the market and compete for

3   PSAP consumers on a level playing field with Embarq. Embarq continues to

4   believe that only Embarq can continue in its monopoly role of routing all of

5   their end user 911 calls through its 911 selective routing system before

6   delivering the calls to a competitive providers 911 selective routing system for

7   termination to PSAPs located within Embarq's franchise territory in Florida.

8   It is important to note that Embarq has permitted the same type of

9   interconnection that Intrado Comm is requesting with other ILECs for the

10   provision of 911 services. It is my understanding that the FCC has said that

11   an ILEC's interconnection arrangement with another ILEC is evidence that a

12   particular interconnection arrangement is technically feasible. Intrado Comm

13   is seeking the same types of arrangements that Embarq utilizes for

14   interconnection with other providers of 911 services and for itself.

15   Q: **DOES EMBARQ PROPOSE TO INTERCONNECT IN THE SAME**

16   **MANNER AS OTHER CLECS WHEN INTRADO COMM, NOT**

17   **EMBARQ, IS THE DESIGNATED 911 PROVIDER?**

18   A: No. Embarq has determined that it will use its embedded 911 infrastructure to

19   perform a call sorting function for 911 calls coming from their subscribers

20   served by their originating offices. Furthermore, Embarq indicates it will

21   transport this aggregated originating office traffic over a single common trunk

22   group to Intrado Comm. Such a network arrangement is illustrated in Exhibit

23   No. ___ (Hicks, Direct Exhibit TH-6).

1   **Q:**   **PLEASE EXPLAIN WHY THIS HAS A POSSIBLE NEGATIVE**

2   **EFFECT ON PUBLIC SAFETY.**

3   **A:**   The unnecessary switching of Embarq originating office traffic through the

4   Embarq selective router introduces another potential point of failure in the 911

5   call path. Intrado Comm understands the preference of Embarq to use its 911

6   selective routing infrastructure to sort traffic from originating offices that may

7   have subscribers served by differing 911 service providers, however using its

8   911 selective routing infrastructure to sort the calls and placing such calls on a

9   single common trunk group creates numerous parity issues and presents

10   operational risks for those Embarq subscribers served by another 911 selective

11   router provider. In this situation, the competitive 911 service providers

12   overall reliability and 911 integrity remains subject to the effectiveness and

13   efficiency of the ILEC. Further, the manner in which the ILEC wishes to

14   deliver its subscribers calls is inconsistent with the NENA recommendations

15   relating to default routing principles. The use of a common transport trunk

16   group for all originating office traffic makes it impossible for a PSAP served

17   by Intrado Comm to determine the carrier's originating office. Today's 911

18   trunk configuration of a separate 911 trunk group for each originating office

19   readily assists both Embarq and the PSAP in quickly troubleshooting 911

20   service problems. Intrado Comm would be disadvantaged where Embarq uses

21   its 911 selective routing infrastructure to sort the 911 calls and place calls

22   destined for Intrado Comm-served PSAPs on a single common trunk group

23   Intelligent Emergency Network®.

1 **Q:** **WHAT DOES INTRADO COMM RECOMMEND AS A SOLUTION**

2 **TO ADDRESS EMBARQ'S CALL SORTING AND TRANSPORT**

3 **PREFERENCES WHILE RETAINING NETWORK INTEGRITY?**

4 **A:** The public interest in robust, accurate emergency service call completion is

5 best served by diverse transport facilities and interconnection at

6 geographically diverse points on the Intrado Comm network. Where it is

7 technically infeasible for Embarq to sort its end users' 911 call traffic at the

8 associated originating office and where an originating office serves customers

9 both within and outside of Intrado Comm's network serving area, it is best for

10 Embarq and Intrado Comm to work cooperatively with the affected

11 governmental 911 authority to determine which 911 provider is best suited to

12 sort the 911 traffic and hand-off calls to the other 911 provider as appropriate.

13 Furthermore, any originating offices that do not require call sorting should be

14 directly connected to the Intrado Comm Intelligent Emergency Network®.

15 Lastly, Embarq should retain discrete trunk groups representing each

16 originating office so that the government 911 authority may define appropriate

17 default routing arrangements for each originating office. I understand that the

18 FCC has found that interconnection and access requests shall be deemed

19 technically feasible absent technical or operational concerns that prevent

20 fulfillment of the request, and that the determination of technical feasibility

21 does not include consideration of economic, accounting, billing, space, or site

22 concerns. It is technically feasible for Embarq to perform any required sorting

23 of 911 traffic at the originating office when the originating office is a digital

1	or analog electronic switching system. Call sorting via another stage of
2	switching (*i.e.*, the Embarq selective router) is entirely unnecessary and only
3	increases the risk of error into the E911 call processing system.
4	***Issue 3:*** ***What terms and conditions should govern points of interconnection***
5	***(POIs) when (a) Intrado Comm is the designated 911/E911 service provider; (b)***
6	***Embarq is the designated 911/E911 service provider; and (c) Intrado Comm***
7	***requests the use of a mid-span meet point?***
8	**Q:** **WHEN INTRADO COMM IS THE DESIGNATED PROVIDER OF**
9	**911/E911 SERVICES IN A PARTICULAR JURISDICTION, WHAT**
10	**INTERCONNECTION ARRANGEMENT DOES INTRADO COMM**
11	**SEEK TO IMPLEMENT?**
12	**A:** Where Intrado Comm will serve as the designated 911/E911 service provider
13	in a particular geographic area, Embarq may aggregate (mux) and/or transport
14	its end users' emergency calls destined for Intrado Comm's PSAP customers
15	to a minimum of two geographically diverse POIs on Intrado Comm's
16	network, which would be Intrado Comm's selective router/access ports.
17	Intrado Comm understands that Embarq either uses mid-span meet points with
18	adjacent ILECs for the transport of 911/E911 traffic to the appropriate PSAP
19	or transports traffic to the selective router of the 911/E911 provider. Intrado
20	Comm seeks to mirror the type of interconnection arrangements that Embarq
21	has used historically with other ILECs. Intrado Comm's proposed language
22	would permit Embarq to use any method to transport its traffic to Intrado
23	Comm's network while ensuring that Embarq does not engage in switching

1   prior to delivering its traffic to Intrado Comm's network. There should be

2   only one stage of E911 switching after the originating office processes the

3   call, which should be the selective router serving the PSAP in order to ensure

4   the greatest degree of reliability.

5   Q: **PLEASE EXPLAIN WHY INTRADO COMM'S PROPOSAL FOR**

6   **POINTS OF INTERCONNECTION WITH EMBARQ YIELDS THE**

7   **MOST EFFICIENT AND COST-EFFECTIVE INTERCONNECTION**

8   **ARRANGEMENT AND HOW IT IS CONSISTENT WITH INDUSTRY**

9   **PRACTICES.**

10 A: The 911 network is connected to the PSTN for public safety purposes. While

11   an arrangement in which the POI is on the incumbent's network may be the

12   most efficient network architecture arrangement for the exchange of plain old

13   telephone service ("POTS") traffic, 911 traffic has historically been handled

14   in a different manner between adjacent ILECs. Intrado Comm is

15   recommending that the Parties follow that method of physical interconnection

16   in geographic areas in which Intrado Comm is the designated 911/E911

17   service provider. Under this method, when Intrado Comm has been selected

18   as the designated provider of 911/E911 services, Embarq's network must

19   interconnect with Intrado Comm's network so customers of Embarq located in

20   the geographic area served by Intrado Comm can complete emergency calls to

21   the appropriate PSAP (*i.e.*, Intrado Comm's end user customer). Deviating

22   from a traditional POI arrangement in those instances when Intrado Comm is

23   serving the PSAP results in the most efficient and effective network

1   architecture and provides the highest degree of reliability for the provision of

2   911 services. The ILECs have relied on this method of interconnection with

3   adjacent ILECs or for themselves to aggregate and transport 911/E911 traffic

4   to the appropriate PSAP serving a geographic area in which two ILECs are

5   providing service. Intrado Comm simply seeks to mirror the type of

6   interconnection arrangements that Embarq and other ILECs have determined

7   to be the most efficient and effective for the termination of emergency calls.

8   It is my understanding that the FCC has determined that any arrangements

9   between neighboring ILECs for the mutual exchange of traffic are considered

10   technically feasible arrangements for interconnection between CLECs and

11   ILECs. Effective competition with Embarq and other ILECs requires

12   interconnection on terms and conditions that are as favorable as the ILEC

13   offers to neighboring ILECs or itself. There is no reason for 911/E911 calls to

14   be delivered to any tandem other than the relevant selective router/911 tandem

15   that is connected to the PSAP for the geographic area in which the 911/E911

16   call was originated. Where Embarq serves as the selective routing provider it

17   has routinely designated the location of its selective routing access ports as the

18   POI for telecommunications entities seeking to gain access to the 911 services

19   Embarq is providing to PSAPs.

20 Q: **WHEN EMBARQ IS THE DESIGNATED PROVIDER OF 911/E911**

21   **SERVICES IN A PARTICULAR JURISDICTION, WHAT**

22   **INTERCONNECTION ARRANGEMENT DOES INTRADO COMM**

23   **SEEK TO IMPLEMENT?**

1   **A:**   In geographic areas in which Embarq has been designated as the 911/E911

2   service provider, Intrado Comm seeks to establish a POI on Embarq's network

3   for the termination of local exchange traffic and emergency calls originated by

4   Intrado Comm's end users and destined for Embarq's network. This can be

5   achieved by establishing a POI at Embarq's selective router/911 tandem or

6   utilizing a mid-span meet point. The selective router/911 tandem or any mid-

7   span meet point established by the Parties would be deemed to be on

8   Embarq's network and would be a technically feasible point of

9   interconnection. It is my understanding that Embarq bears the burden of

10   demonstrating the technical infeasibility of a particular method of

11   interconnection or access to the network at any individual point.

12   **Q:**   **WHAT METHOD OF INTERCONNECTION IS AVAILABLE TO**

13   **INTRADO COMM FOR EXCHANGE OF NON-911 TRAFFIC?**

14   **A:**   For non-911 traffic, Intrado Comm has the right to designate a single POI at

15   any technically feasible location on Embarq's network. Embarq is not

16   permitted to dictate the POIs that Intrado Comm may use to exchange traffic

17   with Embarq. In addition, each carrier is required to bear the costs of

18   delivering its originating traffic to the POI designated by the Intrado Comm.

19   Intrado Comm is not required, for example, to establish a POI at every tandem

20   in a LATA or every originating office connected to a tandem as Embarq's

21   proposed language requires.

1   *Issue 4(a):   Should specific terms and conditions be included in the ICA for*

2   *inter-selective router trunking? If so, what are the appropriate terms and*

3   *conditions?*

4   *Issue 4(b):   Should specific terms and conditions be included in the ICA to*

5   *support PSAP-to-PSAP call transfer with automatic location information ("ALI")?*

6   *If so, what are the appropriate terms and conditions?*

7   **Q: WHY IS INTEROPERABILITY BETWEEN INTRADO COMM'S**

8   **NETWORK AND EMBARQ'S NETWORK CRITICAL TO MEETING**

9   **THE NEEDS OF CONSUMERS AND PUBLIC SAFETY?**

10   **A:**   As in any competitive telecommunications market, interoperability between a

11   competitor's network and the incumbent's is needed to ensure customers of

12   each Party can make and receive calls seamlessly. With respect to 911

13   services, Embarq must ensure its network is interoperable with another

14   carrier's network for the provision of 911 services. Interoperability ensures

15   selective router-to-selective router call transfers may be performed in a

16   manner that allows misdirected emergency calls to be transferred to the

17   appropriate PSAP, irrespective of 911 service provider, while still retaining

18   the critical caller location information associated with the call (*i.e.,* ALI).

19   Interoperability using the capabilities inherent in each 911 service provider's

20   selective router and ALI database system enables call transfers to occur with

21   the ANI and ALI associated with the emergency call (*i.e.,* the information

22   needed by the public safety agency to respond to the caller's emergency) to

23   remain with the voice communication when a call is transferred from one 911

23

1 service provider to the other. Failure to enable inter-selective router transfer

2 capability requires PSAPs to transfer calls over the PSTN to a local exchange

3 line at the PSAP, and the caller's ANI and ALI is lost. Sadly, although

4 technically feasible, Florida's ILECs have chosen to deny Florida consumers

5 and public safety agencies the ability for 911 transfers among their selective

6 routers, as well as other benefits from interoperable networks. Establishment

7 of inter-selective router trunking, as requested by Intrado Comm and

8 discussed further in my testimony, will ensure that PSAPs are able to

9 communicate seamlessly with each other and still receive the essential

10 ANI/ALI information. In addition, misdirected 911 calls can be quickly and

11 efficiently transferred to the appropriate PSAP. The interoperability currently

12 available on a limited basis between ILECs providing 911 services must be

13 made available to Intrado Comm when it offers a competing 911 service

14 product. Maintaining the same functionality available today is critical for

15 ensuring that PSAPs receive the full benefits of competition – next generation

16 911 services provided over IP-based technology – while continuing to receive

17 the minimum service available today. Neither the Commission, nor Congress

18 intended that the opening of markets to competition would result in less

19 functionality. The Parties' interconnection agreement should embrace

20 interoperability and the Intrado Comm proposed language will ensure the

21 public interest receives the benefits of interoperability.

22 Q: **ARE PROVISIONS FOR INTER-SELECTIVE ROUTING TRUNKS**

23 **APPROPRIATE FOR THE INTERCONNECTION AGREEMENT?**

1   **A:**   The interconnection agreement serves as the framework for the

2   interconnection and interoperability of competing local exchange networks.

3   911 is a local exchange network and end users (*i.e.*, PSAPs) of the 911

4   network should be able to transfer 911 calls amongst themselves with full

5   functionality; regardless of who is the designated 911 service provider for the

6   911 caller. Much like any "traditional" telephone exchange service, a

7   subscriber can place calls to other subscribers without regard to who is the

8   service provider. PSAP subscribers are entitled to the same benefits in a

9   competitive environment. The best way to effectuate such seamless

10   interoperability is to include provisions requiring inter-selective router trunk

11   groups in the interconnection agreement.

12   **Q:**   **IS A SEPARATE AGREEMENT NECESSARY TO IMPLEMENT**

13   **INTER-SELECTIVE ROUTER ARRANGEMENTS?**

14   **A:**   While Intrado Comm agrees that E911 Customers and PSAPs should be

15   involved and advised of the inter-tandem functionality that is being deployed

16   between the Parties, Intrado Comm does not agree that formal written PSAP

17   approval is necessary before the deployment of inter-selective router trunks.

18   Each Party is responsible for its end user customers (*i.e.*, the E911 Customer

19   or PSAP) and can provide any information it deems appropriate, but there is

20   no need to include a provision in the interconnection agreement that requires

21   the Parties to obtain approval from end users as a prerequisite to deploying

22   inter-selective router trunking.

1 Q: **IN WHAT TYPES OF SITUATIONS WOULD INTER-SELECTIVE**

2   **ROUTER TRUNKING BE USED?**

3 A: Interoperability between 911 networks, such as that created by inter-selective

4   router call transfers, could mean the difference between saving a life or

5   property through the provision of voice and location data or an emergency

6   response disaster. Inter-selective router trunking enables PSAPs to

7   communicate with each other more effectively and expeditiously. Misdirected

8   calls can be quickly and efficiently transferred to the appropriate PSAP and

9   avail caller details that will improve public safety's ability to provide

10   accelerated emergency response. Full interoperability allows the ANI and

11   ALI associated with an emergency call (*i.e.*, the information needed by the

12   public safety agency to respond to the caller's emergency) to remain with that

13   communication when it is transferred to the other selective router and/or

14   PSAP. If the call is required to be re-routed over the PSTN, the caller's ANI

15   and ALI is lost and the valuable information needed to assist emergency

16   services personnel is unavailable. Maintaining the same functionality

17   available today that ILECs provide with 911/E911 services is critical for

18   ensuring PSAP end users continue to receive comparable service when

19   switching to enhanced, next-generation 911/E911 service providers like

20   Intrado Comm. These critical interconnections need to be geographically

21   diverse and redundant where technically feasible. The public benefit of such

22   diverse and redundant interconnections is also recognized by the FCC. It

23   specifically has inquired whether such arrangements should require redundant

1 trunks to each selective router and/or require that multiple selective routers be

2 able to route calls to each PSAP.

3 **Q:** **PLEASE EXPLAIN INTRADO COMM'S PROPOSED LANGUAGE**

4 **REGARDING TRUNKING REQUIREMENTS FOR INTER-**

5 **SELECTIVE ROUTER TRANSFERS.**

6 **A:** Intrado Comm's proposed language indicates that the Parties will deploy

7 inter-selective router trunking to enable call transfers between PSAPs

8 subtending Embarq's selective routers and PSAPs subtending Intrado Comm's

9 selective routers. Each Party must maintain grades of service quality on their

10 inter-selective router trunks and in their networks in accordance with industry

11 standards, and both Parties must ensure network designs support diversity,

12 redundancy, and reliability in accordance with state or local 911 rules when

13 deploying inter-selective router trunking. Embarq's proposed language

14 includes a limitation on inter-tandem switching, and Intrado Comm has

15 revised that language to clarify that those terms and conditions do not apply to

16 the inter-selective router transfer of 911/E911 calls. Intrado Comm also

17 modified Embarq's language to indicate that certain additional documentation

18 requirements of Embarq are not necessary from Intrado Comm for the

19 establishment of inter-selective router trunking.

20 **Q:** **PLEASE EXPLAIN INTRADO COMM'S PROPOSED LANGUAGE**

21 **REGARDING UPGRADES IN THE NETWORK THAT MAY AFFECT**

22 **INTER-SELECTIVE ROUTER TRANSFERS BETWEEN THE**

23 **PARTIES.**

1   **A:**   Intrado Comm's proposed language requires Embarq to notify Intrado Comm

2   if Embarq upgrades its selective routers or makes modifications that might

3   affect inter-selective routing capabilities. As interconnected co-carriers,

4   nearly any change made to Embarq's network could affect the efficiency and

5   effectiveness of Intrado Comm's network. Even if Embarq's network changes

6   do not directly affect Intrado Comm, Intrado Comm must be notified of those

7   changes in order for Intrado Comm to determine whether new or additional

8   network architecture arrangements should be deployed. Efficiency in the

9   network benefits both Parties and public safety. In addition, to the extent

10   Embarq's network modifications with respect to inter-selective router trunking

11   enables improved call transfer functionality for Intrado Comm and its

12   customers, Embarq should be required to provide notice to Intrado Comm of

13   that fact. Each Party should also be required to maintain appropriate updates

14   and routing translations for 911/E911 services and call transfers.

15   **Q:**   **PLEASE EXPLAIN INTRADO COMM'S PROPOSED LANGUAGE**

16   **WITH RESPECT TO DIAL PLANS AND INTER-SELECTIVE**

17   **ROUTER TRUNKING.**

18   **A:**   Dial plans are used to determine to which PSAP emergency calls should be

19   routed, based on the route number passed during the call transfer. Accurate

20   and up-to-date dial plans are necessary to ensure proper routing of emergency

21   call transfers is achieved and to avoid misdirected or dropped calls. Intrado

22   Comm's proposed language requires each Party to alert the other Party when

23   changes are made to dial plans that might affect call transfers, so emergency

1   call transfers are assured to route to the appropriate PSAP. Intrado Comm

2   understands that Embarq exchanges dial plan information with other providers

3   of 911/E911 services and seeks the same information sharing arrangements

4   Embarq provides to other similarly situated providers.

5 **Q:** **WHY SHOULD INTRADO COMM'S PROPOSED LANGUAGE FOR**

6   **INTER-SELECTIVE ROUTING TRUNKING BE ADOPTED?**

7 **A:** Embarq has established inter-selective router trunking within its own network

8   and with other providers of 911/E911 services. Intrado Comm is seeking the

9   same types of architectural network arrangements that Embarq provides for its

10   own PSAP customers, and performs for itself and other 911/E911. Embarq

11   should be required to implement inter-selective router transfers with Intrado

12   Comm and other competitive 911 providers so that Florida PSAPs choosing

13   Intrado Comm as their designated 911/E911 service provider may have the

14   benefits of this interconnection.

15 *Issue 5:*   *Should the interconnection agreement include the terms and*

16 *conditions under which Embarq orders services from Intrado Comm? If so, what*

17 *are the appropriate terms and conditions?*

18 **Q:** **PLEASE EXPLAIN INTRADO COMM'S PROPOSED LANGUAGE**

19   **REGARDING THE PROCESS FOR EMBARQ ORDERING**

20   **SERVICES FROM INTRADO COMM.**

21 **A:** While Embarq's proposed language contains detailed provisions setting forth

22   the process for Intrado Comm to order services and facilities from Embarq,

23   the language does not address how Embarq will order services from Intrado

1   Comm. As co-carriers, both Parties will be purchasing services from the other

2   and thus each Party should be aware of the process to order services and

3   facilities from the other. Intrado Comm has therefore included language

4   addressing its ordering process in the interconnection agreement.

5 *Issue 6(a):   What terms and conditions should be included in the ICA to address*

6 *access to 911/E911 database information when Embarq is the Designated 911/E911*

7 *Service Provider?*

8 *Issue 6(b):   What terms and conditions should be included in the ICA to address*

9 *access to 911/E911 database information when Intrado Comm is the Designated*

10 *911/E911 Service Provider?*

11 **Q: PLEASE EXPLAIN WHY EMBARQ MUST WORK WITH INTRADO**

12 **COMM AS IT DOES WITH OTHER PROVIDERS TO UPLOAD**

13 **INFORMATION INTO THE 911/E911 DATABASES.**

14 **A:**   It is my understanding that the FCC's rules require Embarq to provide Intrado

15 Comm with nondiscriminatory access to Embarq's 911 and E911 databases on

16 an unbundled basis. While Embarq's language reflects that fact, it does not

17 acknowledge Embarq's requirements to provide Intrado Comm access to

18 Embarq's 911 and E911 databases when either Embarq *or* Intrado Comm has

19 been chosen as the designated 911/E911 service provider. In situations where

20 Intrado Comm is the designated 911/E911 provider, other carriers will input

21 their customers' information into Intrado Comm's database. Intrado Comm

22 has therefore proposed language that would allow Embarq to access Intrado

23 Comm's 911 and E911 databases. Intrado Comm has also included language

1   requiring both Parties to work together as co-carriers to quickly and accurately

2   upload end user record information into the relevant databases while

3   maintaining the confidentiality of the data.

4   *Issue 7:   Should 911/E911 Service calls be included in the type of traffic to be*

5   *exchanged by the Parties over local interconnection trunks?*

6   **Q: WHAT IS INTRADO COMM'S POSITION ON THIS ISSUE?**

7   **A:**   911 Service and E911 Service calls should be included in the types of traffic

8   to be exchanged by the Parties over local interconnection trunks. These calls

9   should be treated like any other telephone exchange service.

10 *Issue 8:   What are Embarq's obligations to build out transport facilities?*

11 **Q: PLEASE EXPLAIN HOW THE PARTIES WOULD IMPLEMENT A**

12   **MID-SPAN MEET POINT ARRANGEMENT IF INTRADO COMM**

13   **REQUESTED TO UTILIZE THAT METHOD OF**

14   **INTERCONNECTION.**

15 **A:**   If the Parties were to interconnect using a mid-span meet point, the Parties

16   would negotiate a point at which one carrier's responsibility for service ends

17   and the other carrier's begins and each Party would pay its portion of the costs

18   to reach the mid-span meet point. It is my understanding that the FCC has

19   determined that both the ILEC and the new entrant "gains value" from the use

20   of a mid-span meet to exchange traffic and thus each Party to the arrangement

21   should bear its portion of the economic costs of the arrangement. Each carrier

22   is required to build to the mid-span meet point even if the ILEC is required to

1   build out facilities to reach that point. Intrado Comm's proposed language

2   reflects these concepts.

3   *Issue 13:   Should the term "designated" or the term "primary" be used to*

4   *indicate which Party is serving the PSAP or municipality?*

5   **Q: SHOULD THE TERM "DESIGNATED" OR THE TERM "PRIMARY"**

6   **BE USED TO INDICATE WHICH PARTY IS SERVING THE PSAP**

7   **OR MUNICIPALITY?**

8   **A:**   Use of the terminology "designated" is more appropriate in the

9   interconnection agreement. The term "primary" implies that there is a

10   "secondary" provider, which may not be the case. Moreover, the use of the

11   term "primary" may be confused with the use of the term "primary PSAP" as

12   defined by the National Emergency Number Association ("NENA"), which

13   refers to an entirely different concept.

14   **Q: DOES THIS COMPLETE YOUR DIRECT TESTIMONY?**

15   **A:**   Yes.

16