

**Before the
PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Petition of Intrado)
Communications Inc. for Arbitration)
Pursuant to Section 252(b) of the)
Communications Act of 1934, as amended,)
to Establish an Interconnection Agreement)
with Cincinnati Bell Telephone Company)

Case No. 08-TP-537-ARB

**PRE-FILED TESTIMONY OF ROBERT P. FITE ON BEHALF OF
CINCINNATI BELL TELEPHONE COMPANY LLC**

Dated: July 22, 2008

1 **Background**

2 Q. Please state your name, title and business address.

3 A. My name is Robert P. Fite. I am employed as Specialist-Technical Support in
4 Network Operations at Cincinnati Bell Telephone Company LLC (“CBT”). My business address
5 is 221 East Fourth Street, Room 121-1075, Cincinnati, OH 45202.

6 Q. Please summarize your professional background and experience at CBT?

7 A. I started with CBT in 1974. I worked in the Assignment group until moving to
8 Network Operations 1979 as a technician. I was promoted to management in 1993 as NOC
9 Supervisor. Since then I have held the titles of 5ESS Cutover Supervisor, Translations/Trunking
10 Supervisor and, since 2002, Specialist- Technical Support.

11 Q. What are your duties?

12 A. I am responsible for the design and operation of CBT’s 911 network, including
13 switching and trunking arrangements both within CBT’s network and between CBT and other
14 carriers.

15 Q. Are you the senior network engineer in charge of CBT’s 911 operations?

16 A. Yes, I am.

17 Q. Are you thoroughly familiar with the technical operations of CBT’s 911 network?

18 A. Yes, I am.

19 Q. Have you testified in a Commission proceeding before?

20 A. No.

21 Q. What issues in this arbitration does your testimony address?

22 A. I am addressing Issues 3 and 5, which involve the technical aspects of operating
23 and interconnecting 911 networks.

1 Q. What is the purpose of your testimony?

2 A. I explain how CBT's 911 network operates today and how CBT would expect to
3 operate in a multi-carrier 911 environment. I will explain why the arrangements sought by
4 Intrado are unnecessary and inefficient and why CBT's proposals are reasonable.

5 Q. How does CBT's 911 network work today?

6 A. CBT's network contains a series of end office switches that serve CBT's end user
7 customers. Each end office switch is directly connected to a central tandem switch. A portion of
8 the tandem switch is dedicated to use as a 911 selective router. CBT's end office switches are not
9 set up to determine which PSAP should receive an emergency call. That function is performed by
10 the selective router. The network is set up so that every end office switch automatically routes all
11 911 calls to the selective router over dedicated 911 trunks. In case the 911 trunks are busy, the end
12 office switch can send the call to overflow trunks that are available to handle additional call
13 volumes. The end office switch forwards the calling party's telephone number to the selective
14 router. The selective router performs a lookup of the number in the selective router database to
15 determine which PSAP is supposed to receive the call. This database is updated nightly with
16 service order activity to associate every CBT telephone number in service with the emergency
17 services number of the serving PSAP. The selective router switches the call to the trunk group that
18 serves the appropriate PSAP. There are direct trunks between the selective router and every PSAP
19 served by CBT. When the call is received by the PSAP, it does a database lookup of the calling
20 party's number to determine their geographic location.

21 Q. How does CBT handle 911 calls that are exchanged with other carriers?

22 A. There are two different types of situations where CBT interacts with other carriers
23 for purposes of 911. First, there are parts of CBT's service area where the PSAP responsible for

1 responding to emergency calls from CBT's customers is located in another telephone company's
2 service area. In those situations, CBT has to deliver the call to the adjacent telephone company for
3 it to deliver the call to the PSAP. CBT and the adjacent carrier exchange these calls between their
4 selective routers, but not through direct end office connections. Just like 911 calls within CBT's
5 network, these calls are automatically routed from CBT's serving end office to its selective router,
6 where the router determines that the call should go to another carrier. The router places the call on
7 a trunk connected to the adjacent carrier's selective router. The other carrier's selective router
8 switches the call to its trunk group serving the PSAP. The same thing happens in reverse when a
9 caller in an adjacent area is served by a PSAP served by CBT's network. All of these calls come
10 over inter-carrier trunks to CBT's selective router, which does a selective router database lookup to
11 determine the appropriate PSAP to receive the call.

12 Q. What is the second situation where CBT exchanges 911 calls with other carriers?

13 A. The second situation involves calls originated by carriers, such as wireless carriers
14 and CLECs, who do not serve PSAPs themselves, but who have end users who need to make
15 emergency calls. These carriers generally have service areas that overlap CBT's. 911 calls
16 originated by customers of these carriers are similarly delivered by the other carriers over 911
17 trunks to CBT's selective router, where the same database lookup procedure is followed to
18 determine which PSAP should receive the call. In the case of wireless calls, the database lookup is
19 not performed on the caller's actual telephone number, but on a pseudo-ANI assigned to the cell
20 tower to which they are connected.

21 Q. Do all calls exchanged between CBT and other carriers go through CBT's selective
22 router?

23 A. Yes.

1 Q. Is that how you would expect to interconnect with Intrado, through the selective
2 router?

3 A. Absolutely.
4

5 **Issue 3: Should the Parties be obligated to utilize the most efficient call setup and**
6 **termination technologies that reduce points of failure in 911 call delivery?**
7 **(Section 3.8.7.3)**
8

9 Q. What is your understanding of Intrado's position on Issue 3?

10 A. It is my understanding that Intrado wants to require CBT to do several things.
11 First, if Intrado is designated as the 911 service provider by a PSAP, it wants to require CBT to
12 install direct trunks between CBT's end offices and Intrado's selective router. Second, Intrado
13 does not want CBT to switch any of the 911 calls it delivers to Intrado. Third, Intrado wants
14 CBT to use "class marking" in its end office switches to control the default routing of 911 calls.

15 Q. What are CBT's positions on these issues?

16 A. CBT believes that it is up to CBT's network engineers to determine the most
17 efficient way for CBT to handle 911 calls originating on its own network. I believe that CBT's
18 network is setup in the most efficient manner to handle 911 traffic and that Intrado's demands are
19 unreasonable and unnecessary.

20 Q. How does CBT intend to exchange 911 traffic with Intrado?

21 A. CBT intends to exchange traffic with Intrado the same as it does with other carriers,
22 through direct trunk connections between selective routers.

23 Q. Does CBT use class marking in its end office switches?

24 A. No. The use of class marking in end office switches is unnecessary because CBT's
25 selective router performs the call sorting function for all CBT subscribers and delivers all

1 necessary call detail information to PSAPs or interconnected carriers. Default routing is
2 controlled by CBT's selective router based on the incoming trunk group from the CBT end
3 office.

4 Q. How do you respond to Intrado's contention that interconnection should minimize
5 the number of potential points of failure in 911 call delivery?

6 A. While reducing potential points of failure may be advisable, CBT does not agree
7 that its plan for delivering interconnection traffic to Intrado introduces unnecessary points of
8 failure. CBT plans to exchange 911 calls with Intrado exactly as it does today when it exchanges
9 911 calls with other carriers today. In fact, CBT believes that Intrado's proposal may have more
10 risk than CBT's.

11 Q. What do you mean?

12 A. I understand that Intrado is seeking the right to require CBT to deliver 911 traffic
13 to Intrado at a point of Intrado's choosing that may be outside of CBT's home LATA.
14 Increasing the distance over which telecommunications traffic is carried introduces more
15 potential points of failure.

16 Q. Does the switching of 911 calls at CBT's selective router introduce greater risk of
17 failure than switching the calls at each end office?

18 A. I do not believe so. All of CBT's end office switches are programmed to send all
19 calls dialed "911" over dedicated trunks to CBT's selective router. No database lookup is
20 necessary for that automatic function which is triggered by the dialed digits. There are diverse
21 dedicated 911 trunks, as well as overflow trunks, between all of the switches.

22 When CBT sorts 911 calls using its selective router before delivering them to Intrado or
23 any other carrier, that adds reliability through redundancy. By switching the call in its own

1 network first, only those calls intended to go to PSAPs served by Intrado would be delivered to
2 it. Only if CBT's selective router would fail for some reason and deliver calls to Intrado that
3 should not have been sent there would there be any need for Intrado to switch the call a second
4 time. In any event, given the high reliability and redundancy of current 911 networks, the risk
5 created by CBT switching 911 calls before they are handed off to Intrado is remote and
6 outweighed by the benefits and efficiencies of doing so.

7 Q. Is CBT's plan for switching 911 traffic with its own selective router more
8 efficient than sending those calls to Intrado over direct end office trunks and relying on Intrado
9 to switch the calls?

10 A. Yes. CBT proposes to use its existing 911 infrastructure to perform call sorting
11 for all 911 calls originated by its subscribers. CBT would transport traffic destined to a PSAP
12 served by Intrado through its selective router over dedicated trunks to the POI for termination by
13 Intrado. This is exactly how CBT treats 911 traffic within its own network for delivery to other
14 carriers today. Adjacent ILECs do the same with respect to 911 traffic originated by their
15 customers that is destined to PSAPs served by CBT. This is a widely accepted practice in the
16 industry and there are NENA guidelines for how to interconnect 911 networks through selective
17 routers. I believe that Intrado's proposal is less efficient and more expensive.

18 Q. Why do you believe Intrado's proposal for direct trunks from each CBT end
19 office is less efficient than CBT's proposal?

20 A. CBT's 911 network connects all of its end offices directly to its selective router
21 using diverse routes. All PSAPs served by CBT have diverse direct trunks from CBT's selective
22 router to their CPE equipment. If and when Intrado obtains one of those PSAPs as a customer
23 and the PSAP indicates that it no longer wants CBT to deliver traffic directly to it, CBT would

1 simply deliver the traffic that would normally go over those PSAP trunks to the Intrado POI
2 instead. The only change necessary to accommodate Intrado would be to point the trunks that
3 currently go to the PSAPs to Intrado. The calls destined to the PSAP served by Intrado would
4 already have been sorted by CBT. In the event Intrado obtains multiple PSAP customers, CBT
5 would even agree to continue segregating 911 calls onto separate trunks for each PSAP as it does
6 today. There would be no need for Intrado to switch those calls and it could “default route” its
7 traffic based on the originating trunk over which CBT delivered the calls to it.

8 Instead of this highly efficient plan that would not unnecessarily duplicate facilities,
9 Intrado demands that CBT create a duplicate network of trunk groups from each CBT end office
10 to Intrado’s designated POIs without any of the traffic first passing through CBT’s selective
11 router. In fact, Intrado wants CBT to deliver traffic to it over diverse paths to at least two POIs,
12 that would further multiply the number of trunks from each end office. There is insufficient 911
13 call traffic from each end office to justify two additional sets of dedicated trunks from each CBT
14 end office to Intrado’s selective router when all the traffic can be sent to CBT’s selective router
15 and aggregated on far fewer dedicated trunks to Intrado. CBT will still need its own selective
16 router and internal 911 trunks in order to deliver 911 calls to PSAPs served by CBT. It is much
17 more efficient to only have trunk groups from CBT’s end offices to CBT’s selective router and to
18 use the selective router to aggregate traffic destined to other carriers than to build a parallel
19 network of trunk groups from each end office to every carrier serving a PSAP. That is the whole
20 concept behind tandem switching, which is to use concentration to boost efficiency.

21 Q. Why do you object to Intrado’s language addressing split rate centers?

22 A. Intrado’s language is unnecessary because CBT can determine for itself where to
23 send 911 calls initiated by callers on its network. By routing calls originating on its network

1 through its own selective router first, CBT will know which calls are to be completed on its own
2 network and which calls need to be delivered to Intrado or another network for completion. CBT
3 does not need to rely on Intrado for that function.

4 Q. Why do you object to Intrado's proposal that CBT "class mark" 911 calls
5 originating in CBT end offices?

6 A. As I understand Intrado's proposal, the purpose of "class marking" a customer's
7 line would be to provide default routing instructions identifying which PSAP is responsible for
8 serving that customer. CBT's plans for handling 911 traffic make Intrado's "class marking"
9 proposal unnecessary. Instead of having to individually mark each line in each end office
10 switch, CBT uses its selective router database to determine the PSAP to which the calls should
11 be directed and does not need to rely on Intrado to perform that function for CBT customers.
12 The purpose of the selective routing database is to determine where to direct 911 calls. The
13 selective router database is updated daily and is a more efficient way to switch calls than running
14 individual switch translations on each individual line in the network.

15 Q. Are there technical and financial reasons not to adopt Intrado's class marking
16 proposal?

17 A. Yes. Intrado's proposal would require CBT to install additional switching logic
18 and memory in each of its end office switches in order to default route 911 calls to the designated
19 PSAP based upon a data field that would be populated in the end office switch through the
20 service order process. The way CBT's 911 system works, all 911 calls dialed from an end office
21 are automatically sent over dedicated 911 trunks from that end office to CBT's selective router
22 without any need for individual line instructions. The selective router does a database lookup
23 based on the originating telephone number to determine which PSAP the call should go to.

1 Intrado is asking CBT to move that database lookup function away from the selective router and
2 out to every individual end office switch. That would require substantial reprogramming of the
3 end office switches, additional switch memory, and changes to the provisioning process, all of
4 which are unnecessary. Intrado appears to have no regard for the process changes and costs its
5 proposal would impose on CBT.

6 Q. Why isn't Intrado's request as simple as a long distance carrier PIC change?

7 A. The ability to make a PIC change in the end office switch was a result of the
8 FCC's equal access rules. Before then, local access lines were automatically programmed to use
9 AT&T long distance unless the customer used a dial-around code. With equal access, all long
10 distance carriers were given an opportunity to be selected by the customer as their default long
11 distance carrier so that 1+ dialed calls would be routed directly from the end office switch to that
12 carrier without dialing a special code. In order to implement equal access, CBT had to make
13 substantial investments to upgrade and reprogram its switches to accommodate this feature. It
14 took a long time to implement that conversion and the cost to implement equal access was
15 substantial. The FCC allowed ILECs to build those costs into their switched access rates to be
16 recovered from interexchange carriers. Intrado is essentially asking that CBT undertake the
17 same work to implement a "PIC" selection for 911 providers, with none of the associated cost
18 recovery mechanisms. It is unnecessary to do any of that for 911 carrier selection which can be
19 handled more efficiently in one place using a simple database lookup.

20 Q. Isn't there a risk that the originating telephone number would not be passed to
21 CBT's selective router?

22 A. No. A call cannot be delivered from a CBT end office to CBT's selective router
23 without passing the originating telephone number because that number resides in CBT's end

1 office switch which has dedicated 911 trunks to CBT's selective router.

2 **Issue 5: Should the Parties adhere to the National Emergency Number Association**
3 **("NENA") and FCC Network Reliability and Interoperability Council**
4 **("NRIC") recommended standards for trunking? (Sections 3.8.7.2, 3.8.7.8)**
5

6 Q. What is CBT's position on this issue?

7 A. NENA and NRIC guidelines and recommendations are not mandatory and each
8 carrier retains control over the engineering details of its own network. CBT's proposed network
9 configuration is NENA compliant.

10 Q. Why does CBT object to Intrado's proposed language?

11 A. Intrado's proposed language is vague and could require CBT to comply with
12 various NENA and NRIC guidelines and standards other than those applicable to the specific
13 issue that is Intrado's true concern. CBT does not want to surrender the design and control of its
14 network to "guidelines" without consideration of the details of a particular issue. If trunking
15 arrangements are Intrado's true concern, then it needs to justify the specific trunking
16 arrangement that it desires, as opposed to generically forcing CBT to comply with all NENA or
17 NRIC recommendations.

18 Q. Is CBT's proposal to continue handling 911 traffic as it does today inconsistent
19 with NENA or NRIC recommendations?

20 A. No. CBT's proposed means of handling 911 traffic is consistent with NENA
21 guidelines for interconnection of networks, which support 911 tandem interconnection and do
22 not require separate end office trunks to other carriers. Technical Reference NENA 03-003
23 describes the interconnection of two 911 networks between the tandems, *i.e.*, between selective
24 routers, which is exactly what CBT does now and what it would intend to do with Intrado. CBT
25 currently exchanges 911 traffic with adjacent LECs using its selective router.

1 Q. Does Intrado need to know where a call originated so that it knows how to default
2 route the call in case of ANI failure?

3 A. No. Those calls will have already been screened by CBT's selective router to
4 determine their destination before they are handed off to Intrado. CBT is not proposing to dump
5 every call originating in its network (or delivered to it by another carrier) onto a common trunk
6 group for delivery to Intrado without any identifying information. CBT will have already
7 performed an ANI database lookup to determine where to route the call and would pass the ANI
8 on to Intrado so it could also use it for a database lookup. In the highly unlikely event of an ANI
9 failure within CBT's own network, CBT would default route that call to the primary PSAP that
10 serves that end office and would also pass on the call detail information. Intrado has no need to
11 know which end office the calls came from within CBT's network when it will be given the
12 calling party's telephone number.

13 Q. Why does CBT object to Intrado's proposed requirement that CBT deploy diverse
14 transport facilities to geographically diverse points on Intrado's network.

15 A. CBT is not saying that it would not use diverse transport facilities or diverse
16 points of interconnection with Intrado. What CBT is saying is that the design of its network is its
17 business, just like the design of Intrado's network is its business. This is not a proper subject to
18 be dictated by an interconnection agreement, but is a matter for CBT's engineers to determine
19 what is best for CBT's customers. If Intrado selects geographically diverse routes to
20 interconnection with CBT's network, CBT would likely use those same POIs to return traffic to
21 Intrado.

22 Q. Does this conclude your testimony?

23 A. Yes.

CERTIFICATE OF SERVICE

I certify that on this 22nd day of July 2008, I electronically served the foregoing Pre-Filed Testimony of Robert Fite on behalf of Cincinnati Bell Telephone Company LLC to Petition for Arbitration on the following:

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Summary: Testimony of Robert P. Fite electronically filed by Mr. Douglas E. Hart on behalf of CINCINNATI BELL TELEPHONE COMPANY