

EXHIBIT B

Docket No. UT-181051

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PC-50 Please provide as many examples as known to Steven Turner where two existing 9-1-1 networks based on IP are connected with SS7. Please provide as many examples as known to Steven Turner where two 9-1-1 networks based on IP once connected using SS7 but no longer do, including the approximate dates when they transitioned away from using SS7 for that purpose.

RESPONSE:

Embedded in this question is the unusual situation that occurred in Washington where two 9-1-1 networks were interconnected and running simultaneously. Mr. Turner is not aware of a similar situation and therefore does not have any examples to provide.

CLC is of the understanding that this scenario occurs in other states, but does not have a list.

Respondent(s): **Steven Turner**
 Carl Klein, Manager Public Safety Services

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PC-51 **Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 25:6–11.**

Steven Turner's testimony states:

Network redundancy is implemented by means of ensuring route diversity. Route diversity does not simply mean geographic diversity of the transport facilities for the network. Its meaning is much broader. It requires that redundant network components must travel on different routes not only using diverse transport facilities, but also with no single points of failure either from a physical equipment or software standpoint.

Please answer the following:

- a. If Comtech had asked for route diversity as described in Steven Turner's definition, would CenturyLink have had circuits readily available to Comtech that meet that definition?
- b. If Comtech had requested diversity by using the mechanism described by CenturyLink witness Martin Valence (Exh. MDV-1TC at 21:2–22:3), would some of the links have been provisioned on a network other than one using Infinera equipment?

RESPONSE:

CLC objects to this data request on the basis that it calls for speculation. Without waiving its objections, CenturyLink responds as follows.

Yes, the company would have if it had capacity and a diverse route was available. The company has numerous different transport networks, and could potentially have placed Comtech's circuits on different networks. The company was not afforded that opportunity given Comtech's decision to order (directly and indirectly) all four circuits without explanation and without seeking diversity.

Respondent(s): **Martin Valence, Vice President Network Operations Center**

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PC-52 **Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 22:1–3, Figure 4.**
Do the originating service providers connect directly to the Intrado IP-SR as shown in Figure 4? If not, please describe how the originating service providers connect to the Intrado IP-SR.

RESPONSE:

CLC objects to this data request on the basis that, as written, it is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving its objections, CLC responds as follows.

CLC assumes Public Counsel is asking whether OSPs connected directly to the Intrado IP-SR in December 2018 (as opposed to now). With that understanding, the answer is no. It is CLC's understanding that, as noted in the referenced diagram, OSPs connected to the Intrado gateway, not directly to the Intrado selective router.

Respondent(s): Carl Klein, Manager Public Safety Services

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PC-53 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 22:1–3, Figure 4.

For the SS7 connections between the Intrado IP-SR and the penultimate element connected to the Intrado IP SR, please describe the SS7 signaling connections:

- a. For each SS7 signaling link, cite the manufacturer of equipment used for network connections.
- b. Who ordered the circuits? Did they specifically request diversity? Please provide documentation supporting your answer.

RESPONSE:

CLC objects to this data request on the basis that it is vague, ambiguous, overly broad and unduly burdensome. CLC further objects on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. There are no allegations in this case that any SS7 signaling connections “between the Intrado IP-SR and the penultimate element connected to the Intrado IP-SR” failed during the December 2018 outage. Without waiving its objection, CLC responds as follows.

CLC assumes that, when referring to “the penultimate element connected to the Intrado IP SR,” Public Counsel is referring to the “OSP” triangle in Mr. Turner’s diagram (Figure 4). CLC further assumes that Public Counsel is referring to the SS7 connections between OSPs and the Intrado gateway, as OSPs did not connect directly to the Intrado selective router. Based on those assumptions, CLC responds as follows. The network depicted in Figure 4 is no longer in service (and has not been for years), and CLC lacks granular information regarding the connections between Washington OSPs and the Intrado gateway from three and a half years ago. In general, OSPs order their own SS7 links through the SS7/STP vendor of their choosing and utilize the transport carrier of their choosing. It is the OSP’s obligation to seek and ensure diverse SS7 connections.

Respondent(s): Carl Klein, Manager Public Safety Services

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- PC-54 **Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 22:1–3, Figure 4.** For the connections between the Intrado IP-SR (or, if appropriate, an Intrado STP) and the TNS STPs, please describe the SS7 signaling connections:
- a. For each SS7 signaling link, cite the manufacturer of equipment used for network connections.
 - b. Who ordered the circuits? Did they specifically request diversity? Please provide documentation supporting your answer.

RESPONSE:

CLC objects to this data request on the basis that it is vague, ambiguous, overly broad and unduly burdensome. CLC further objects on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. There are no allegations in this case that any SS7 signaling connections “between the Intrado IP-SR” and the “TNS STP” failed during the December 2018 outage. Without waiving its objection, CLC responds as follows.

As Figure 4 depicts, there are no SS7 links directly between the Intrado selective router and the TNS STP. The only SS7 connection between those points was between the Intrado gateway and the Intrado/TNS STP. The network depicted in Figure 4 is no longer in service (and has not been for years), and CLC lacks granular information regarding the connections between the Intrado gateway and the Intrado/TNS STP. In any event, Intrado (not CenturyLink) would have ordered those SS7 links.

Respondent(s): Carl Klein, Manager Public Safety Services

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PC-55 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 28:1–13.

Steven Turner cites Brian Rosen regarding the need for Supplier Diversity. At the time of the December 2018 outage, did CenturyLink employ supplier diversity for SS7 signaling links anywhere in the Washington 9-1-1 network? Please explain your answer with particularity.

RESPONSE:

CLC objects to this data request on the grounds that is vague and ambiguous, and seeks information that is not reasonably calculated to lead to the discovery of admissible evidence. There have been no allegations in this case that there were any failures of SS7 signaling links anywhere in CenturyLink's Washington 9-1-1 network. Without waiving its objections, CLC responds as follows.

Yes, CenturyLink employed supplier diversity for SS7 signaling links in its Washington 9-1-1 network. The company either self provisioned supplier diversity or purchased services off net (from other providers) to ensure diversity.

Respondent(s): **Martin Valence, Vice President Network Operations Center**
 Jennifer Powell, Manager Network Operations Center

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PC-56 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 25:12–26:19.

Steven Turner cited the FCC definition for route diversity. Please provide all documents relied upon by CenturyLink, TNS, Intrado, or any other agent or consultant of CenturyLink or Intrado, to comply with or adhere to the FCC's definition with respect to the SS7 signaling connections between CenturyLink and Intrado.

RESPONSE:

CLC objects to this data request on the basis that it is vague, ambiguous, overly broad and unduly burdensome. CLC further objects on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. This data request is not limited in time and appears to seek information beyond December 2018. Furthermore, it is impossibly broad notwithstanding the fact that there are no allegations in this case of any failed SS7 signaling connections between CenturyLink and Intrado during the December 2018 outage.

Respondent(s): CenturyLink Legal

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PC-57 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 42:5-9.

Steven Turner says,

Based on my experience in the industry and guidance from the FCC above, a Covered 911 Service Provider is a comprehensive service provider responsible for carrying a call from an originating customer (a carrier in the case of Comtech) to the correct PSAP (911 call center). This requires far more than 'selective routing and ALI interfaces,' as Public Counsel stated in its response.

The contract expressly required CenturyLink to carry calls from the originating customer, through Intrado's network, to Comtech's network. Please answer the following:

- a. Does CenturyLink assert that the definition of "Covered 911 Service Provider" cited by Turner is correct for the stage of the transition that existed in December 2018? If so, please provide documentation upon which Turner and the Company rely.
- b. Please provide the definition of "Covered Service Provider" that all parties to the contract agreed to.
- c. If there was no agreed definition for "Covered Service Provider," please state so.
- d. If there was an agreed definition for "Covered Service Provider," please state whether it is CenturyLink's position that the definition would relieve CenturyLink of "network" responsibility if it were no longer the Covered 9-1-1 Service Provider. If so, please provide documentation upon which Turner and the Company rely.

RESPONSE:

CLC objects to this data request on the basis that it seeks information already in Public Counsel's possession and calls for legal conclusions. CLC further objects to the introduction to the data request to the extent that Public Counsel is asserting the existence or truth of facts. Without waiving its objections, CLC responds as follows.

- a. Amendment M, which speaks for itself, refers to the FCC definition of "Covered 911 Service Provider." Amendment M also described which party will be acting as the Covered 911 Service Provider during the transition of 911 services from CenturyLink to Comtech. Mr. Turner correctly paraphrases these obligations in his testimony.
- b. CLC notes that this subpart includes the undefined term "Covered Service Provider." CenturyLink assumes that Public Counsel meant "Covered 911 Service Provider" and has responded as such. As noted above, Amendment M refers to the FCC definition of "Covered 911 Service Provider" and also describes which party will be acting as the Covered 911 Service Provider during the transition of 911 services from CenturyLink to Comtech.

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- c. See CLC's response to data request PC-57.b.
- d. Subpart d. calls for a legal conclusion.

Respondent(s): CenturyLink Legal

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PC-58 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 43.

Please provide the footnote text for footnotes 43, 44, and 45, which was omitted in the testimony filed on March 31, 2022.

RESPONSE:

The footnote text for footnotes 43-45 was inadvertently omitted, as was the text for footnote 46. Footnotes 43 and 44 should refer to Exhibit SET-7C.

Footnote 43 should read as follows:

See Exh. SET-7C, Burton, Victor, TeleCommunication Systems, State of Washington E-911 Transition Call Flows between CenturyLink/West-Intrado and Comtech TCS ESInets, November 21, 2016.

Footnote 44 should read as follows:

See Exh. SET-7C, Section 1.1.

Footnote 45 should read as follows:

See Exh. SH-5C. This discussion is related to SIP signaling messages as opposed to SS7 signaling messages. The exchange of information that occurs for SIP and SS7 is virtually the same. However, despite the fact that Comtech wrote these standards for how CTL and Comtech would interconnect using SIP signaling, ultimately Comtech indicated in writing to CTL that it wanted to utilize SS7 signaling. The bottom line is that the similarity between SIP and SS7 signaling confirms that the demarcation is when the INVITE (SIP) or IAM (SS7) message is sent from CTL to Comtech. And for the purposes of understanding the importance of defining the demarcation, the technology differences are irrelevant.

Footnote 46 should read as follows:

Rosen Direct Testimony.

Respondent(s): Steven Turner

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PC-59 Please provide all documents related to defining the agreed demarcation between Intrado and Comtech in the implemented SS7 interconnect.

RESPONSE:

CLC objects to this data request on the basis that it is vague, ambiguous, overly broad and unduly burdensome. CLC further objects on the basis that Public Counsel is seeking documents already in its possession. Without waiving its objections, CLC responds as follows.

See Exhibit SET-7C and Comtech's response to data request PC-23. Furthermore, see the Response Testimony of Steven Turner (Exhibit SET-1C), pp. 38-43, 47-48.

Respondent(s): CenturyLink Legal

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PC-60 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 44:6-13.

Does CenturyLink or Steven Turner assert that Noanet exclusively supplied the connections between the Intrado ALI and the Comtech ALI (as opposed to the connections to the PSAPs)? If Noanet did not exclusively supply the connection, please identify any other vendor supplying the connections.

RESPONSE:

CLC objects to this data request on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving its objections, CLC responds as follows.

CLC and Steven Turner are unaware regarding connections between the Intrado ALI and the Comtech ALI, and do not assert that Noanet exclusively supplied those connections.

Respondent(s): **Steven Turner**
 Carl Klein, Manager Public Safety Services

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PC-61 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 45:5–11.

Steven Turner cites to a data request response from Comtech, which states that Comtech uses SS7 links to receive traffic delivered by certain TDM-based originating service providers. Is Turner or CenturyLink aware of any circumstances in which two ESInets are interconnected with SS7 rather than IP? If so, please describe the circumstances with particularity.

RESPONSE:

Please see CLC's response to data request PC-50.

**Respondent(s): Steven Turner
Carl Klein, Manager Public Safety Services**

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PC-62 Re: Response Testimony of Steven E. Turner, Exh. SET-1TC at 22–24.

As to Steven Turner's discussion of the steps a 9-1-1 call would go through, was the connection between the CenturyLink selective router and the Intrado network carried, in part, over the Qwest local network? For the connections between the Intrado IP-SR (or an Intrado STP if there was one), was at least one signaling link carried over the Qwest local network?

RESPONSE:

CLC objects to this data request on the basis that it is vague and ambiguous. CLC further objects on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. There are no allegations in this case of any failure involving the "CenturyLink selective router" or any connections to the Intrado network. Without waiving its objections, CLC responds as follows.

At the time of the December 2018 outage, there was no "CenturyLink selective router" in the call flow. As for connections between the Intrado selective router and Intrado STP, the only SS7 links were between the Intrado gateway and the Intrado STP. As that network is no longer in service, CLC is not able to specifically identify how, and on what networks, those connections were built. With that understanding, CLC does not believe those SS7 connections traversed the CLC local network.

Respondent(s): Carl Klein, Manager Public Safety Services

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PC-63 Re: Direct Testimony of Steven E. Turner, Exh. SET-1TC at 24:1-4.

Does TNS maintain diversity in its network similarly to how CenturyLink asserts it maintains diversity for its own 9-1-1 circuits?

RESPONSE:

CLC objects on the basis that the data request is vague and ambiguous. CLC further objects on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving its objections, CLC responds as follows.

CLC is not in a position to definitively describe TNS's practices. That said, CLC is of the understanding that TNS generally provides geographic and carrier diversity in its network. Obviously, however, the SS7 links Comtech and TNS collectively ordered, maintained and constructed to connect the Comtech/TNS STP node and the Comtech gateway lacked carrier diversity.

**Respondent(s): CenturyLink Legal
Carl Klein, Manager Public Safety Services**

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PC-64 **Direct Testimony of Martin Valence, Exh. MDV-1TC.**

Please describe CenturyLink's mechanisms to provide network diversity at the time of the outage, including an explanation of how CenturyLink provided software diversity (e.g., and explanation of how it would ensure that not all links ran on Infinera networks).

RESPONSE:

CLC objects to this data request on the basis that it is vague and ambiguous. CLC timely notified Public Counsel of its need for clarification, and is still awaiting clarification from Public Counsel. Upon receiving a clearer of understanding of what this data request seeks, CLC will supplement its response.

Respondent(s): CenturyLink Legal

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PC-65 **Re: Response Testimony of Martin D. Valence, Exh. MDV-1TC at 20:2-8.**

Martin Valence quotes from CenturyLink's Wholesale Product Catalog for 9-1-1 service the following passage:

You can order diverse routing for 911/E911 circuits, if facilities are available. These trunks must be provisioned to conform to the standard CAMA signaling format. When CenturyLink facilities are available, CenturyLink will comply with diversity of facilities and systems as ordered by you. Where there is alternate routing of 911/E911 calls to a PSAP in the event of failures, CenturyLink shall make that alternate routing available to you.

Please state whether there are similar services available through CenturyLink for SS7 links, which do not use CAMA signaling.

RESPONSE:

CLC objects to this data request on the basis that it is vague and ambiguous. CLC further objects to this data request on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving its objections, CLC responds as follows.

Yes, as described in CenturyLink's SS7 wholesale services catalog.

<https://www.centurylink.com/wholesale/pcat/ccsacss7.html>. Please also see the Response Testimony of Martin Valence, which specifically detailed the wholesale ordering process and provided screen prints of the ordering portal which provides customers (like Comtech) the ability to indicate whether diversity is needed.

Respondent(s): CenturyLink Legal