BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. CENTURYLINK COMMUNICATIONS, LLC Respondent. DOCKET UT-181051 DECLARATION OF NINA M. SUETAKE

EXHIBIT B

CenturyLink’s Responses to Commission Staff Data Requests 44C, 45C, 48C, 49C and Supplemental Response to Commission Staff Data Request 52

REDACTED VERSION
UTC STAFF DATA REQUEST NO. 44:

In Exh. MDV-3C, at page 8, paragraph 20, Mr. McNealy states that **Begin Confidential...

Please admit that the correspondence and documents included in Exh. MDV-4C do not refer to **Begin Confidential... End Confidential** If you do not admit, please identify which specific content in Exh. MDV-4C refers to **Begin Confidential... End Confidential** and explain your reasoning. As part of your response, provide all and all other documents, reports, or communications that supports your denial.

RESPONSE:

CLC objects to this data request on the grounds that it is not reasonably calculated to lead to the discovery of admissible evidence. This data request seeks to investigate an outage on CLC’s national transport network. The outage did not directly affect CLC’s or its affiliates’ remaining 911 network in Washington. Instead, it affected CLC’s national transport network. More specifically, the outage affected interstate DS-3 circuits purchased by a vendor of Comtech on behalf of Comtech (for the provision of SS7 functionality), the responsible Washington 911 provider for the PSAPs that experienced a 911 outage. The interstate and non-regulated services provided on CLC’s national transport network, and the facilities utilized to provide such services, are not regulated by the Commission, and the Commission lacks jurisdiction over them. In Re AT&T Commc'ns of the Pac. Nw., No. 04, 2003 WL 23341214 (Wash. U.T.C. Dec. 1, 2003) (“AT&T’s proposed language would encompass facilities-access purchased out of federal tariffs over which the Commission lacks jurisdiction.”) (citing 34th Supplemental Order; Order Regarding Qwest's Demonstration of Compliance with Commission Orders, Investigation Into U S WEST Communications, Inc.’s Compliance With Section 271 of the Telecommunications Act of 1996; U S WEST Communications, Inc.’s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996, Dkt. Nos. UT-003022, UT-003040, ¶ 22 (May 2002)); MilleniaNet Corp. v. Pennsylvania Pub. Util. Comm'n, No. 990 C.D. 2008, 2009 WL 9104922 (Pa. Commw. Ct. Apr. 30, 2009) (complaint dismissed because the “the PUC does not have jurisdiction over interstate telecommunications services.”). CenturyLink further objects to this data request on the basis that it is overly broad and unduly burdensome. Without waiving its objections, CLC responds as follows.

Denied. Software is created in versions. Mr. McNeally’s affidavit (Exhibit MDV-3C) refers to **Begin Confidential...

REDACTED

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IGCC was effectively locked with these software versions. McNeally Affidavit ¶ 14

(emphasis added).

Respondent(s): CenturyLink Legal
UTC STAFF DATA REQUEST NO. 45:

Background to UTC Staff Data Request No. 45:

In Staff Data Request 23 to CenturyLink, Staff asked in part:

The following questions are in reference to the Confidential Root Cause Analysis filed by CenturyLink in Docket UT-170042. This document is **Begin Confidential Data**

**Begin Confidential Data**

A packet storm was experienced on the Red (FLvl3) network in February 2018 following a code upgrade and the teams reviewed whether there was a related, underlying fault. However, the signature of that event did not match the signature of this event and the triggers were different.

**End Confidential Data**

a. Please provide all documents, emails, and other communications generated in the course of **Begin Confidential Data**

**End Confidential Data**

CenturyLink responded:

Subject to its objections above, see CLC’s response to Staff DR, Attachment 3c (Bates Nos. 1470-1495), which catalogs and summarizes Infinera’s findings in the immediate aftermath of the December 2018 network event. CLC has also performed a diligent search of its records, and has not found additional correspondence or other documents in its possession beyond those already produced. It is CLC’s recollection (acknowledging, of course, that three years have passed) that much of the discussion between Infinera and CLC was verbal and not in writing. Infinera is the manufacturer of the affected equipment and provides maintenance on the Green and Red Infinera networks. Infinera is obviously very familiar with both networks and did not require much, if any, information from CLC to effect that comparative analysis.

UTC Staff Data Request No. 45:

In Exh. MDV-1TC at 14:10-12, Mr. Valence states **Begin Confidential Data**

**End Confidential Data**

Please admit that the quoted statement is referring to **Begin Confidential Data**

**End Confidential Data** If you do not admit, identify the specific content in Exh. MDV-4C that Mr. Valence relies on to support the claim that the statement refers to

**REDACTED**

Shaded Information is CONFIDENTIAL Per Protective Order in Docket UT-181051
RESPONSE:

CLC objects to this data request on the grounds that it is not reasonably calculated to lead to the discovery of admissible evidence. This data request seeks to investigate an outage on CLC’s national transport network. The outage did not directly affect CLC’s or its affiliates’ remaining 911 network in Washington. Instead, it affected CLC’s national transport network. More specifically, the outage affected interstate DS-3 circuits purchased by a vendor of Comtech on behalf of Comtech (for the provision of SS7 functionality), the responsible Washington 911 provider for the PSAPs that experienced a 911 outage. The interstate and non-regulated services provided on CLC’s national transport network, and the facilities utilized to provide such services, are not regulated by the Commission, and the Commission lacks jurisdiction over them. In Re AT&T Commc’ns of the Pac. Nw., No. 04, 2003 WL 23341214 (Wash. U.T.C. Dec. 1, 2003) (“AT&T’s proposed language would encompass facilities-access purchased out of federal tariffs over which the Commission lacks jurisdiction.”) (citing 34th Supplemental Order; Order Regarding Qwest’s Demonstration of Compliance with Commission Orders, Investigation Into U S WEST Communications, Inc.’s Compliance With Section 271 of the Telecommunications Act of 1996; U S WEST Communications, Inc.’s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996, Dkt. Nos. UT-003022, UT-003040, ¶ 22 (May 2002)); MilleniaNet Corp. v. Pennsylvania Pub. Util. Comm’n, No. 990 C.D. 2008, 2009 WL 9104922 (Pa. Commw. Ct. Apr. 30, 2009) (complaint dismissed because the “the PUC does not have jurisdiction over interstate telecommunications services.”). CenturyLink further objects to this data request on the basis that it is overly broad and unduly burdensome. Without waiving its objections, CLC responds as follows.

Denied. Software is created in versions. Mr. McNeally’s affidavit (Exhibit MDV-3C) refers to **Begin Confidential ________End Confidential**. However, as Mr. McNeally explains “McNeally Affidavit ¶ 14 (emphasis added). The language “earlier software versions” by definition incorporates version 15.3.3, as the portion of the code impacted by the February 2018 outage was identical between version 15.3.3 and version 16.1.2.
See also CLC’s response to Staff DR Nos. 41-42, which CLC incorporates by reference. CLC notes that the source code is not in its possession, custody or control.

Respondent(s): CenturyLink Legal
Morgan Pofahl, Principal Network Engineer
UTC STAFF DATA REQUEST NO. 48:

In Exh. MDV-3C at pages 6-7, paragraphs 16-18, Mr. McNealy describes **Begin Confidential the malformed packets that were involved in the Red network outage in February 2018. End Confidential**

Please admit that **Begin Confidential in the case of the Red network outage, the malformed packets generated by the faulty Field Programmable Gate Array would have had minimal or no impact on the network's functioning in isolation, had they not been replicated after traversing the IGCCs to other nodes and grown in number. End Confidential**

If you do not admit, please explain your denial and provide all documents, reports, or communications that support your denial.

RESPONSE:

CLC objects to this data request on the grounds that it is not reasonably calculated to lead to the discovery of admissible evidence. This data request seeks to investigate an outage on CLC’s national transport network. The outage did not directly affect CLC’s or its affiliates’ remaining 911 network in Washington. Instead, it affected CLC’s national transport network. More specifically, the outage affected interstate DS-3 circuits purchased by a vendor of Comtech on behalf of Comtech (for the provision of SS7 functionality), the responsible Washington 911 provider for the PSAPs that experienced a 911 outage. The interstate and non-regulated services provided on CLC’s national transport network, and the facilities utilized to provide such services, are not regulated by the Commission, and the Commission lacks jurisdiction over them. In Re AT&T Commc'n's of the Pac. Nw., No. 04, 2003 WL 23341214 (Wash. U.T.C. Dec. 1, 2003) ("AT&T's proposed language would encompass facilities-access purchased out of federal tariffs over which the Commission lacks jurisdiction.").

CenturyLink further objects to this data request on the basis that it is overly broad and unduly burdensome. Without waiving its objections, CLC responds as follows.

Denied. This question is tautological. As Mr. McNeally described in his affidavit (Exhibit MDV-3C):

**Begin Confidential

As I described above, packets are encapsulated and can therefore only be transmitted if they retain certain header information that the network

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recognizes. While malformed packets are known to generate within networks, the filter is designed to discard malformed packets. In the normal course, a malformed packet does not retain the requisite header information causing the network to reject the data packet because it lacks the necessary characteristics. In the Red Outage, a packet intended to be consumed within the chassis malformed and this particular malformed 64-byte multicast message was able to satisfy the filter’s conditions and enter the IGCC. The impact was limited to ten nodes, where the malformed packets resulted in high CPU utilization and a reduction in service.

McNeally Affidavit ¶ 17. Thus, it was the unique form of the packet malformation that created the ability for it to be propagated through the network.

Respondent(s): CenturyLink Legal
UTC STAFF DATA REQUEST NO. 49:

In Exh. MDV-3C, at page 8, paragraph 21, Mr. McNealy describes **Begin Confidential

Please admit that **Begin Confidential

End Confidential** If you do not admit, please explain your denial and provide all documents, reports, or communications that supports your denial.

RESPONSE:

CLC objects to this data request on the grounds that it is not reasonably calculated to lead to the discovery of admissible evidence. This data request seeks to investigate an outage on CLC’s national transport network. The outage did not directly affect CLC’s or its affiliates’ remaining 911 network in Washington. Instead, it affected CLC’s national transport network. More specifically, the outage affected interstate DS-3 circuits purchased by a vendor of Comtech on behalf of Comtech (for the provision of SS7 functionality), the responsible Washington 911 provider for the PSAPs that experienced a 911 outage. The interstate and non-regulated services provided on CLC’s national transport network, and the facilities utilized to provide such services, are not regulated by the Commission, and the Commission lacks jurisdiction over them. In Re AT&T Commc’ns of the Pac. Nw., No. 04, 2003 WL 23341214 (Wash. U.T.C. Dec. 1, 2003) (“AT&T’s proposed language would encompass facilities-access purchased out of federal tariffs over which the Commission lacks jurisdiction.”) (citing 34th Supplemental Order; Order Regarding Qwest's Demonstration of Compliance with Commission Orders, Investigation Into U S WEST Communications, Inc.’s Compliance With Section 271 of the Telecommunications Act of 1996; U S WEST Communications, Inc.’s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996, Dkt. Nos. UT-003022, UT-003040, ¶ 22 (May 2002)); MilleniaNet Corp. v. Pennsylvania Pub. Util. Comm’n, No. 990 C.D. 2008, 2009 WL 9104922 (Pa. Commw. Ct. Apr. 30, 2009) (complaint dismissed because the “the PUC does not have jurisdiction over interstate telecommunications services.”). CenturyLink further objects to this data request on the basis that it is overly broad and unduly burdensome. Without waiving its objections, CLC responds as follows.

Denied. This question is again tautological. As Mr. McNeally described in his affidavit (Exhibit MDV-3C):

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End Confidential**

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was released prior to R16.2 and Infinera believed the IGCC to be effectively disabled because the filter did not allow messages smaller to enter the IGCC.

21. In the early morning of December 27, 2018, a single OXM in one of the nodes in Denver, Colorado spontaneously generated four malformed packets. The malforming caused the packets to expand to be larger than 64 bytes, and at the same time retained fragments sufficient to satisfy each of the filter's conditions. Because the malforming caused the packets to grow to be larger than 64 bytes, the packets were not automatically blocked from entering the IGCC by R15.3.3 and the LMs propagated the malformed packets to other nodes.

22. The root cause of the Green Outage was very different from the root cause of the Red Outage. The root cause of the Green Outage was the spontaneous generation of spliced Transmission Control Protocol ("TCP") packets that should never have existed. The malformed packets that caused the Green Outage originated from a single OXM in the Denver node, with each packet exceeding 64 bytes in length and splicing components of valid TCP packets that otherwise are 64 bytes and smaller. The OXM's spontaneous generation of malformed packets that grew in size to be larger than 64 bytes with characteristics sufficient to satisfy the filter was an unforeseeable occurrence. The Green Outage was the product of several unique events, none of which was foreseeable:

• TCP data packets that were 64 bytes in length malformed and grew to be larger than 64 bytes in length;
• Despite growing in size, the malformed packets retained the required header information to satisfy the filter's conditions;
• Data packets that were never intended to enter the IGCC because they are 64 bytes in length (and software R15.3.3 did not allow such packets to be transmitted), were transmitted because the spontaneous malformation spliced valid TCP packets and made them larger than 64 bytes.

23. In my experience, inclusive of twenty-five years in telecommunications and optical networks, an event like this is exceptionally rare. While the Green Outage yielded similar symptoms to the Red Outage—mainly the same underlying packet loop mechanism—the root cause of the Green Outage was not the same as the root cause of the Red Outage. I am not aware of any other Infinera network where packets of this type were formed or where packets larger than 64 bytes were able to enter the IGCC.
Respondent(s): CenturyLink Legal
UTC STAFF DATA REQUEST NO. 52:

Please provide:

a. All documents and communications in Mr. McNealy’s possession, custody, or control related to docket UT-181051, including any documents and communications that support Mr. McNealy’s statements in Exh. MDV-3C.

b. A copy of Mr. McNealy’s resume or curriculum vitae.

RESPONSE:

CLC objects to this data request on the grounds that it is not reasonably calculated to lead to the discovery of admissible evidence. This data request seeks to investigate an outage on CLC’s national transport network. The outage did not directly affect CLC’s or its affiliates’ remaining 911 network in Washington. Instead, it affected CLC’s national transport network. More specifically, the outage affected interstate DS-3 circuits purchased by a vendor of Comtech on behalf of Comtech (for the provision of SS7 functionality), the responsible Washington 911 provider for the PSAPs that experienced a 911 outage. The interstate and non-regulated services provided on CLC’s national transport network, and the facilities utilized to provide such services, are not regulated by the Commission, and the Commission lacks jurisdiction over them. In Re AT&T Commc’ns of the Pac. Nw., No. 04, 2003 WL 23341214 (Wash. U.T.C. Dec. 1, 2003) (“AT&T's proposed language would encompass facilities-access purchased out of federal tariffs over which the Commission lacks jurisdiction.”) (citing 34th Supplemental Order; Order Regarding Qwest's Demonstration of Compliance with Commission Orders, Investigation Into U S WEST Communications, Inc.’s Compliance With Section 271 of the Telecommunications Act of 1996; U S WEST Communications, Inc.’s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996; Dkt. Nos. UT-003022, UT-003040, ¶ 22 (May 2002)); MilleniaNet Corp. v. Pennsylvania Pub. Util. Comm’n, No. 990 C.D. 2008, 2009 WL 9104922 (Pa. Commw. Ct. Apr. 30, 2009) (complaint dismissed because the “the PUC does not have jurisdiction over interstate telecommunications services.”). CenturyLink further objects to this data request on the basis that it is overly broad and unduly burdensome. Without waiving its objections, CLC responds as follows.

CLC has been attempting to coordinate with Infinera to address this data request, and will supplement this response.
SUPPLEMENTAL RESPONSE (05/27/22):

a. CLC is unaware if Mr. McNealy has any documents in his possession, custody, or control related to Docket UT-181051. Mr. McNealy can be reached via Infinera’s outside counsel:

   Heather Curlee  
   Senior Counsel  
   Wilson Sonsini Goodrich & Rosati, P.C.  
   701 Fifth Ave, Suite 5100  
   Seattle, WA 98104  
   (206) 883-2522

b. Mr. McNealy’s resume is attached as Confidential Attachment Staff 52 (Bates Nos. CLC-007123-007125)

Respondent(s): CenturyLink Legal