

**Exh. JDW-19C
Docket UT-181051
Witness: James D. Webber
REDACTED VERSION**

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

**CENTURYLINK
COMMUNICATIONS, LLC.,**

Respondent.

DOCKET UT-181051

**EXHIBIT TO
TESTIMONY OF**

JAMES D. WEBBER

**ON BEHALF OF STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

TSYS Responses to Public Counsel Data Requests

December 15, 2021

CONFIDENTIAL PER PROTECTIVE ORDER – REDACTED VERSION

CONFIDENTIAL PER PROTECTIVE ORDER IN DOCKET NO. UT-181051

UTC v. CenturyLink, Docket UT-181051
TeleCommunication System, Inc.'s Response to PC Data Request Nos. 1-9 (REVISED)
September 16, 2021

PC1. Please provide an annotated diagram of the entire SS7 network starting at the CenturyLink STP and continuing to the gateway that sends calls to the Comtech ESInet as it was during the incident. Please indicate where redundant elements provided reliable service and where physically they were located. For communications links, and particularly the SS7 signaling links, please indicate who actually provided the connection, and what form (DS-0, DS-1, DS-3, etc) it was ordered.

RESPONSE:

TeleCommunication Systems, Inc. ("TSYS") has no visibility into the CenturyLink STP and relied on TNS to deliver SS7 messages from CenturyLink's ESInet ("ESInet 1") to TSYS's ESInet ("ESInet 2"). Since the CenturyLink STPs were reportedly unaffected, TSYS speculates that CenturyLink's STPs used TDM end-to-end, not pseudowire at any point (unlike the SS7 connectivity that TSYS now suspects that CenturyLink chose for [REDACTED])



A diagram showing TSYS's entire SS7 network is attached hereto as **Attachment A**.

**Respondents: Susan Ornstein, Senior Director, Legal & Regulatory Affairs
Todd Poremba, Vice President, Product Management**

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PC2. The system appears to have failed completely when two DS-3s failed. Normally, at least four signaling links are provisioned over geospatially diverse services.

RESPONSE:

TSYS's DS-3s did not fail during the CenturyLink outage.

a. Please explain what the intended redundancy was.

RESPONSE:

The intended redundancy was to have [REDACTED] which is most certain using a single vendor since different vendors will not share information with one another about the physical paths they use.

At the onset of the outage, [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

b. Please explain how the failure of two links caused all calls to fail.

RESPONSE:

[REDACTED]
[REDACTED]

**Respondents for PC2: Susan Ornstein, Senior Director, Legal & Regulatory Affairs
Todd Poremba, Vice President, Product Management**

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TeleCommunication System, Inc.'s Response to PC Data Request Nos. 1-9 (REVISED)

September 16, 2021

PC4. The design of the connection between the CenturyLink/Intrado ESInet and the Comtech ESInet was an SS7 interconnect despite both ESInets being IP based.

- a. Please supply copies of correspondence between Comtech and CenturyLink/Intrado as well as between Comtech and WMD about this interface.**

RESPONSE:

TSYS objects on the basis that this request is overly broad and unduly burdensome. Without waiving such objection, TSYS responds as follows:

Attachment B contains copies of correspondence between TSYS and CenturyLink/Intrado, as well between TSYS and WMD, that are responsive to this request. Although TSYS may not have been able to locate every communication with CenturyLink or WMD, TSYS conducted a good faith search of archived correspondence and produced responsive documents found during TSYS's review of such records. In an effort to streamline the materials in this proceeding, TSYS has generally not provided correspondence that other parties have already provided in response to data requests, such as CenturyLink in response to WMD DRs 1-3. Please note that most discussions with CenturyLink and WMD relating to use of IP or SS7 interconnections between ESInet 1 and ESInet 2 took place during in-person, unrecorded meetings in early 2017.

- b. Why was it an SS7 interconnect instead of an IP interconnect?**

RESPONSE:

TSYS initially planned on and sought to use IP interconnection (SIP) between ESInet 1 and ESInet 2. CenturyLink, however, would not interconnect with TSYS using SIP, forcing TSYS to interconnect to ESInet 1 using SS7.¹

- c. Was it initially proposed as IP? If so, why was the design changed?**

RESPONSE:

Yes, the interconnect was initially proposed as IP. The design was changed due to CenturyLink's refusal to interconnect using IP. CenturyLink also refused to interconnect directly, requiring TSYS to utilize a third-party for the SS7 interconnection.²

**Respondents for PC4: Susan Ornstein, Senior Director, Legal & Regulatory Affairs
Todd Poremba, Vice President, Product Management**

¹ See, e.g., Attachment B.1 (b) at 3-4.

² *Id.* at 4 (“ ”)

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September 16, 2021

PC8. Was the Comtech IP network providing 9-1-1 service in Washington fully operational throughout the incident, or was it also affected by the incident?

a. If the network was affected, was that communicated to CenturyLink?

RESPONSE:

[REDACTED]
[REDACTED]
[REDACTED] provider for 911
call delivery, [REDACTED]
[REDACTED]

b. Please describe how the outage was communicated to CenturyLink and supply copies of outage/trouble reports.

RESPONSE:

TSYS communicated the outage to CenturyLink by calling CenturyLink's network operations center ("NOC") and reporting that specific DS-1 circuits were going up and down or bouncing, a standard industry practice for reporting telecommunications outages. In response, CenturyLink only provided TSYS with a master trouble ticket number for CenturyLink's entire, nationwide outage.⁶ When TSYS saw significant changes to the impairment situation, such [REDACTED]

[REDACTED] TSYS called and updated the CenturyLink NOC to such changes, referencing CenturyLink's master trouble ticket number. Many of TSYS's calls to the CenturyLink NOC were not answered by CenturyLink, and TSYS did not receive updates from CenturyLink with standard levels of detail or regularity. On December 27, 2018, Ruobo Lu, the senior director of TSYS's NOC, called but was also unable to reach CenturyLink personnel, such as Danielle Mostacciolo (Client Service Manager), Jeff Blankenship (Manager, Customer Support), Susie Franke (Sr. Manager, Customer Support) and Carlton Schneider (Director, Sales Support), to obtain information on the status of CenturyLink's nationwide outage.

**Respondents for PC8: Susan Ornstein, Senior Director, Legal & Regulatory Affairs
Todd Poremba, Vice President, Product Management
Ruobo Lu, Senior Director, Network Operations Center**

⁶ Master Ticket No. MC790244. TSYS did not receive any outage/trouble reports from CenturyLink.

CONFIDENTIAL PER PROTECTIVE ORDER IN DOCKET NO. UT-181051

UTC v. CenturyLink, Docket UT-181051
TeleCommunication System, Inc.'s Response to PC Data Request Nos. 10-23
October 6, 2021

PC23. What agreements, formal or informal, did Comtech have with CenturyLink that define how responsibility for aspects of the 9-1-1 system transitioned from CenturyLink to Comtech?

TSYS entered into the Transition Service Agreement with CenturyLink, which defined how responsibilities for aspects of the Washington 9-1-1 system would transition from CenturyLink to TSYS. This agreement is attached hereto as **Attachment 2**.

**RESPONDENTS: Susan Ornstein, Senior Director, Legal & Regulatory Affairs
Todd Poremba, Vice President, Product Management**