

**CONFIDENTIAL PER PROTECTIVE ORDER IN DOCKET NO. UT-181051**

**Shaded Information is Designated as Exempt per WAC 480-07-160**

*UTC v. CenturyLink*, Docket UT-181051

TSYS Response to UTC Staff Data Requests 10-12

May 11, 2022

**UTC STAFF DATA REQUEST NO. 10:**

**Provide all documents, including but not limited to email, notes, diagrams, and any other documents that demonstrate TSYS believed its** [REDACTED]

**RESPONSE:**

TSYS objects to this data request as overly broad, unduly burdensome, calls for information that is irrelevant and disproportionate to the needs of this case, and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, TSYS provides the following response.

TSYS conducted a diligent review of its records and the archived emails of TSYS personnel subject to the parameters of this data request. Based on this search, TSYS found the correspondence attached hereto as **Exhibit 1.b.**, which includes scheduling for TSYS's meeting with TNS on [REDACTED]

[REDACTED] In addition, **Exhibit 1.a.** demonstrates that TSYS, TNS, West (Intrado), and CenturyLink met on October 2, 2017, to discuss SS7 orders and plans to communicate when such orders were complete. Based on conversations and the dearth of facilities-based providers offering SS7 connectivity, [REDACTED] including considerations of physical diversity, vendor diversity, and geo-diversity. Additionally, TSYS requested that the CenturyLink Emergency Services *Internet Protocol* Network (*emphasis added*) use [REDACTED] to transmit calls from ESInet 1 to ESInet 2 in January of 2017, in part, due to the general telecommunications industry trend to decommission TDM services.

Overall, the replacement of the Sprint SS7 circuits did not involve explicit *written* discussion of diversity and redundancy, because the original design was intended to account for these principles. In addition, TSYS had to act quickly to find replacements for the Sprint circuits.

TSYS further emphasizes that it also sought to obtain diversity through ordering [REDACTED]

TSYS also notes that, as CenturyLink previously cited<sup>1</sup> but failed to accurately explain, CSRIC recommends *physical diversity*, as follows: "Network Operators and Service Providers should

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<sup>1</sup> Response Testimony of Steven E. Turner Exhibit SET-1TR at 29.

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follow industry guidelines for validating SS7 link diversity, which should be performed at a minimum of twice a year, and at least one of those validations should include a physical validation of equipment compared to the recorded documentation of diversity.”<sup>2</sup> [REDACTED]

[REDACTED]. CenturyLink/Infinera created a “packet storm,” equivalent to a Denial of Service (“DOS”) attack against itself, that effected most or all of the nodes in the “Green” network, and for a several hours within the 37-hour window of the CenturyLink impairment, affected all “Green” network nodes utilized by the TSYS and TNS TDM circuits.

Further, the Emergency Communications Division (“ECD”) of the Cybersecurity & Infrastructure Security Agency (“CISA”) paraphrases physical diversity: “Communications resiliency means a network is able to withstand damages, thereby minimizing the likelihood of a service outage. Resiliency is the result of three key elements: route diversity, redundancy, and protective/restorative measures.”<sup>3</sup> The additions of supplier and vendor diversity are not mentioned by CISA. TSYS believes that it had adequate physical diversity for the SS7 links (two geo-diverse data centers, connecting over two diverse circuits and using two physical cards toward TNS’s similar configuration) but also believed that adding vendor diversity would have been better. [REDACTED]

**UTC STAFF DATA REQUEST NO. 11:**

**Provide all documents, including but not limited to email, notes, diagrams, and any other documents that demonstrate any and all steps TSYS took to ensure that [REDACTED]**

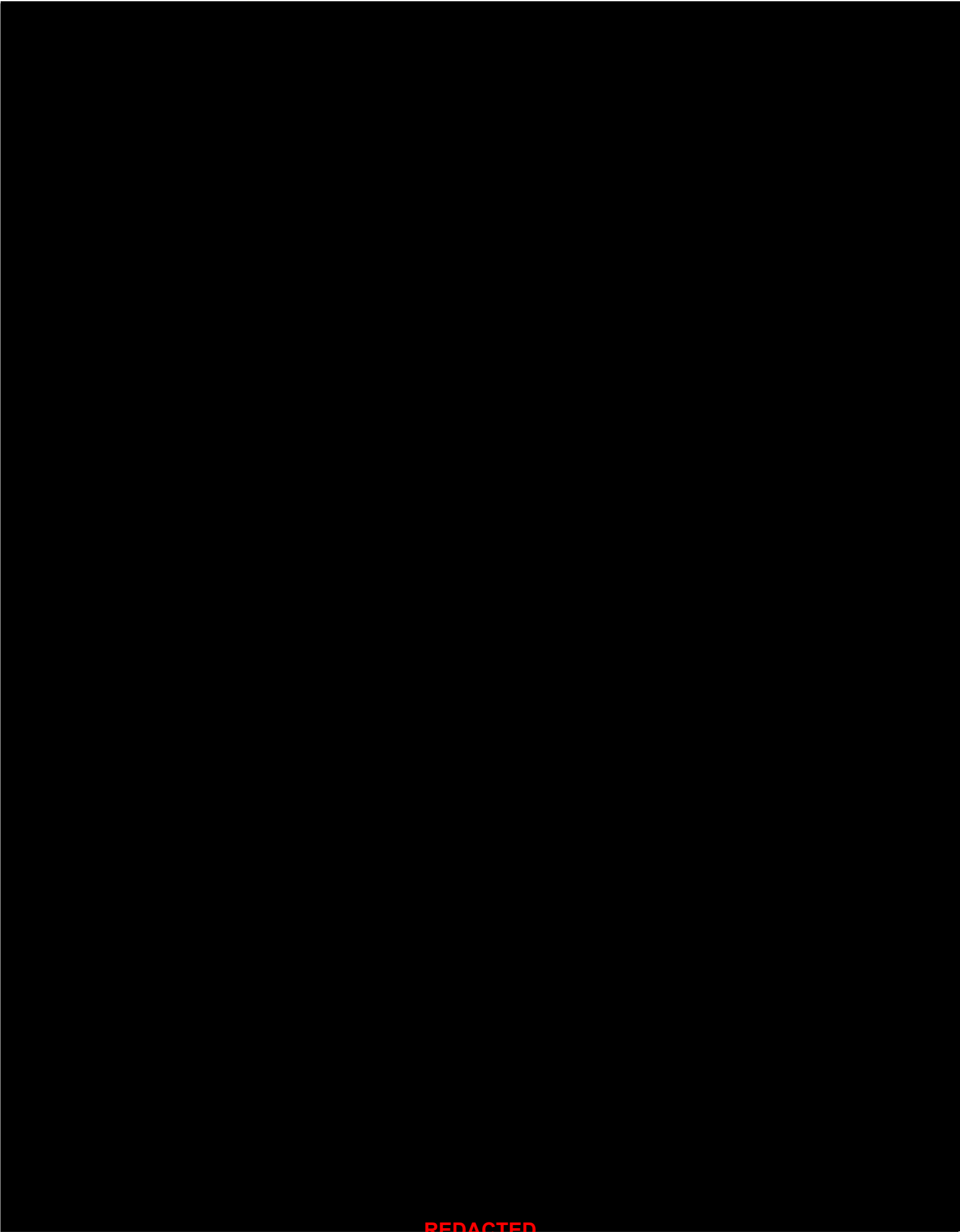
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<sup>2</sup> The Communications Security, Reliability and Interoperability Council IV, Working Group 7, Final Report (2014), <https://transition.fcc.gov/pshs/advisory/csric4/CSRIC%20IV%20WG7%20Legacy%20Best%20Practices%20Final.pdf>.

<sup>3</sup> Public Safety Communications Network Resiliency Self-Assessment Guidebook, Department of Homeland Security, Cybersecurity and Infrastructure Security Agency, Emergency Communications Division (2018), [https://www.cisa.gov/sites/default/files/publications/DHS%20ECD%20Public%20Safety%20Communications%20Network%20Resiliency%20Self-Assessment%20Guidebook\\_11.29.18%20-%20FINAL.pdf](https://www.cisa.gov/sites/default/files/publications/DHS%20ECD%20Public%20Safety%20Communications%20Network%20Resiliency%20Self-Assessment%20Guidebook_11.29.18%20-%20FINAL.pdf).

REDACTED

REDACTED



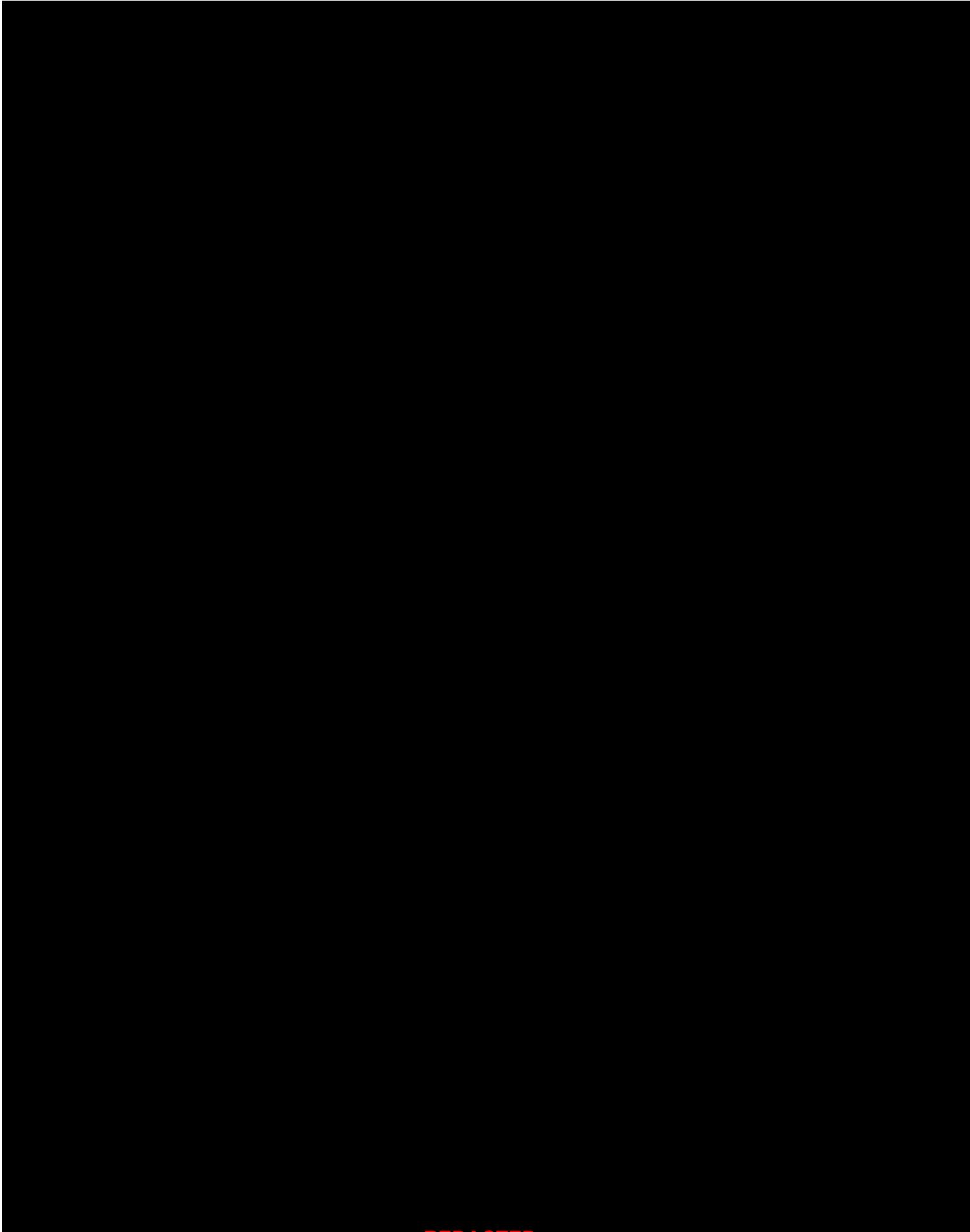
REDACTED

REDACTED

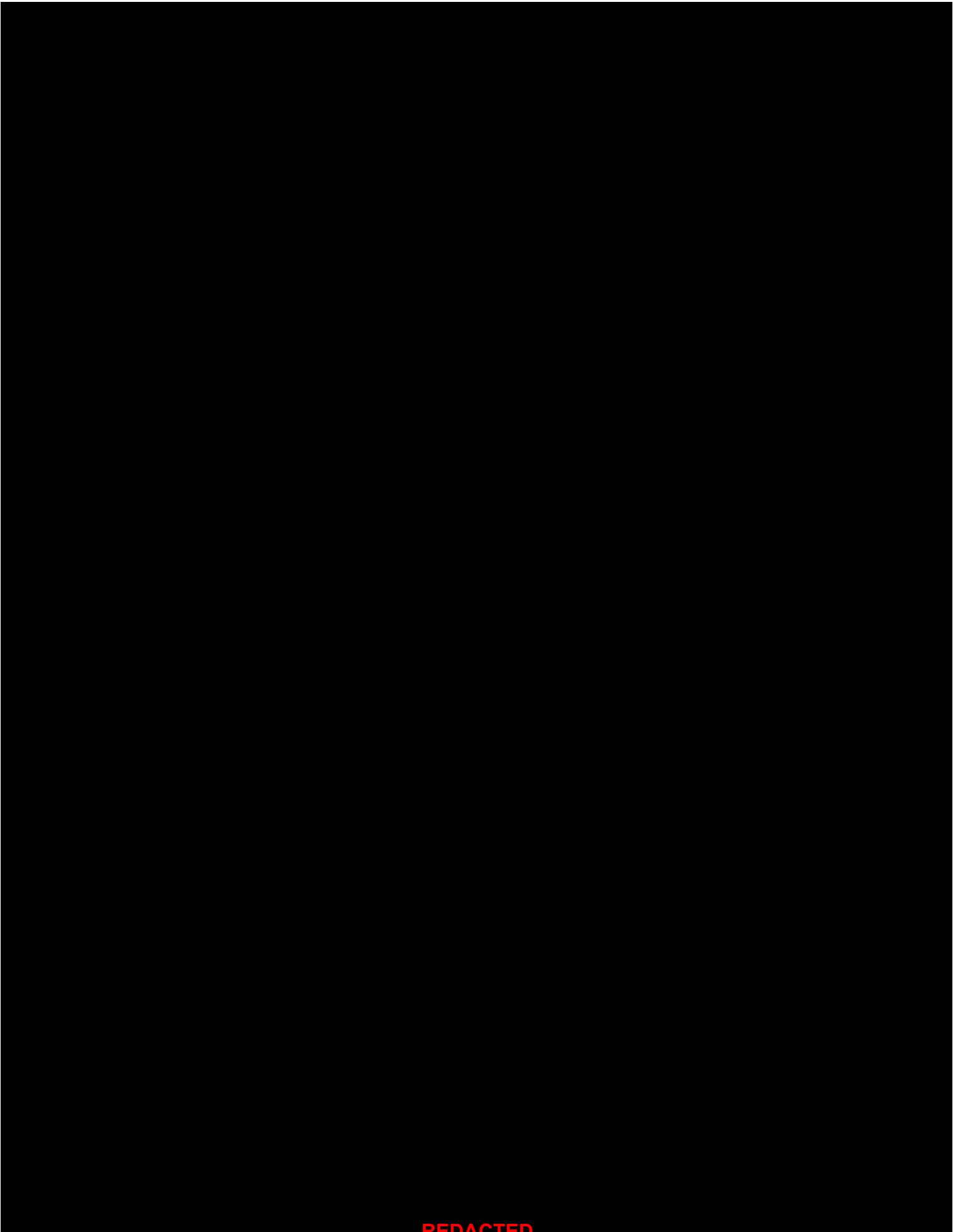
REDACTED

REDACTED





REDACTED



REDACTED

REDACTED

REDACTED

**EXHIBIT 1.b.**

**From:** [Loree Parker](#)  
**To:** [Hobelmann, Gary](#); [Clements, Robert](#); [Panos, Kristina](#)  
**Cc:** [SST - Transport](#); [Agastya Kohli](#); [Aaron Demorow](#); [Honghai Liu](#); [Brian Nixon](#)  
**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech  
**Date:** Wednesday, September 13, 2017 12:31:39 PM

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Gary,

I am not available until 4pm Eastern on Thursday. All times I listed below are in the Pacific timezone.

Thanks,

Loree

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**From:** Hobelmann, Gary [mailto:ghobelmann@tnsi.com]  
**Sent:** Wednesday, September 13, 2017 8:57 AM  
**To:** Loree Parker <Loree.Parker@comtechtel.com>; Clements, Robert <rclements@tnsi.com>; Panos, Kristina <kpanos@tnsi.com>  
**Cc:** SST-Transport <SST-Transport@comtechtel.com>; Agastya Kohli <Agastya.Kohli@comtechtel.com>; Aaron Demorow <Aaron.Demorow@comtechtel.com>; Honghai Liu <Honghai.Liu@comtechtel.com>; Brian Nixon <Brian.Nixon@comtechtel.com>  
**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech

Good morning Loree,

Let's shoot for 1 PM EDT on Thursday. I will send out a calendar appointment shortly.

Thank you,

Gary

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**From:** Loree Parker [mailto:Loree.Parker@comtechtel.com]  
**Sent:** Tuesday, September 12, 2017 5:48 PM  
**To:** Hobelmann, Gary; Clements, Robert; Panos, Kristina  
**Cc:** SST-Transport; Agastya Kohli; Aaron Demorow; Honghai Liu; Brian Nixon  
**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech  
 I will let others speak for themselves, but I currently have no scheduled conflicts during the following windows this week (all times Pacific):  
 Wednesday 2-5pm  
 Thursday 1-3:30pm  
 Friday 1-2:30pm, 3:30-5pm

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**From:** Hobelmann, Gary [mailto:ghobelmann@tnsi.com]  
**Sent:** Tuesday, September 12, 2017 3:37 PM  
**To:** Loree Parker <Loree.Parker@comtechtel.com>; Clements, Robert <rclements@tnsi.com>; Panos, Kristina <kpanos@tnsi.com>  
**Cc:** SST-Transport <SST-Transport@comtechtel.com>; Agastya Kohli <Agastya.Kohli@comtechtel.com>; Aaron Demorow <Aaron.Demorow@comtechtel.com>; Honghai Liu <Honghai.Liu@comtechtel.com>; Brian Nixon <Brian.Nixon@comtechtel.com>  
**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech

Hi Loree,

Sorry for the delay. It looks like Kristina Panos (copied here) is leading the project from our Facilities Engineering team. She has been handling several similar situations.

I will need to coordinate with Kristina on getting a call going, but do you have some times that work for you and the team already in mind. I can try to match to one of those times.

Thank you,

Gary

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**REDACTED**

**From:** Loree Parker [<mailto:Loree.Parker@comtechtel.com>]  
**Sent:** Tuesday, September 12, 2017 4:46 PM  
**To:** Hobelmann, Gary; Clements, Robert  
**Cc:** SST-Transport; Agastya Kohli; Aaron Demorow; Honghai Liu; Brian Nixon  
**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech

Hello Gary,

Did you have any questions and/or do you have a date and time when you would like to schedule this meeting? My calendar for this week is filling up rapidly, and it's quite urgent that we come up with a plan sooner rather than later.

Thanks again,

Loree

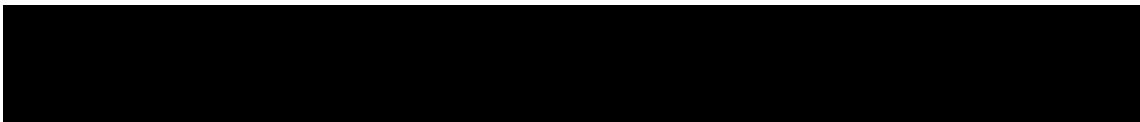
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**From:** Loree Parker  
**Sent:** Monday, September 11, 2017 4:32 PM  
**To:** 'Hobelmann, Gary' <[ghobelmann@tnsi.com](mailto:ghobelmann@tnsi.com)>; Clements, Robert <[rclements@tnsi.com](mailto:rclements@tnsi.com)>  
**Cc:** SST-Transport <[SST-Transport@comtechtel.com](mailto:SST-Transport@comtechtel.com)>; Agastya Kohli <[Agastya.Kohli@comtechtel.com](mailto:Agastya.Kohli@comtechtel.com)>; Aaron Demorow <[Aaron.Demorow@comtechtel.com](mailto:Aaron.Demorow@comtechtel.com)>; Honghai Liu <[Honghai.Liu@comtechtel.com](mailto:Honghai.Liu@comtechtel.com)>

**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech

Gary,

That would work – we can forward the invite as needed if we need to add more folks to the conversation.



Thanks for the quick reply,

Loree

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**From:** Hobelmann, Gary [<mailto:ghobelmann@tnsi.com>]  
**Sent:** Monday, September 11, 2017 3:47 PM  
**To:** Loree Parker <[Loree.Parker@comtechtel.com](mailto:Loree.Parker@comtechtel.com)>; Clements, Robert <[rclements@tnsi.com](mailto:rclements@tnsi.com)>  
**Cc:** SST-Transport <[SST-Transport@comtechtel.com](mailto:SST-Transport@comtechtel.com)>; Agastya Kohli <[Agastya.Kohli@comtechtel.com](mailto:Agastya.Kohli@comtechtel.com)>; Aaron Demorow <[Aaron.Demorow@comtechtel.com](mailto:Aaron.Demorow@comtechtel.com)>; Honghai Liu <[Honghai.Liu@comtechtel.com](mailto:Honghai.Liu@comtechtel.com)>

**Subject:** RE: Urgent: Pending disconnect impacting TNS DSO circuits to Comtech

Hi Loree,

I know there has been a lot of talk about Sprint making these changes. But I haven't heard specifically about how it relates to Comtech. I will forward your note to our Facilities Engineering team and get some information.

If we were to want to have a quick call to discuss options should we invite the folks on this email string?

I will get back with you as soon as I can.

Thank you,

Gary

**Gary W. Hobelmann** | [Sales Account Executive](#)

Transaction Network Services

7311 West 132<sup>nd</sup> Street | Suite 300 | Overland Park | KS | 66213 | USA

**O:** +1 913 814 6241 | **M:** +1 913 515 1238

**REDACTED**

E: [ghobelmann@tnsi.com](mailto:ghobelmann@tnsi.com) | <http://www.tnsi.com/products-services/telecom>

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cid:image014.png@01D29C9C.CA47A590



cid:image021.png@01D2F5A2.4A6F2230



**From:** Loree Parker [<mailto:Loree.Parker@comtechtel.com>]

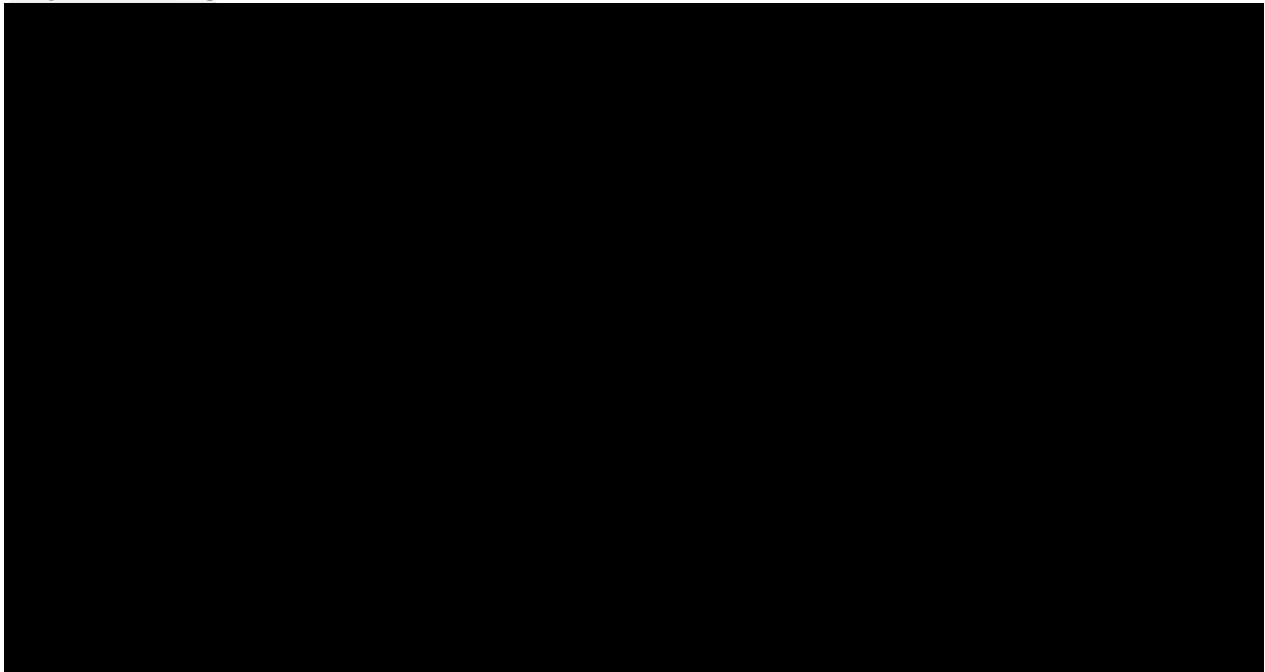
**Sent:** Monday, September 11, 2017 5:30 PM

**To:** Clements, Robert; Hobelmann, Gary

**Cc:** SST-Transport; Agastya Kohli; Aaron Demorow; Honghai Liu

**Subject:** Urgent: Pending disconnect impacting TNS DS0 circuits to Comtech

**Importance:** High



Regards,

**Loree Parker** | Transport Engineer | Comtech Telecommunications Corp. | O: 206-792-2450 - M: 206-437-0664 - F: 206-792-2451 | [loree.parker@comtechtel.com](mailto:loree.parker@comtechtel.com) | [SST-Transport@comtechtel.com](mailto:SST-Transport@comtechtel.com)

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