

December 27-28, 2018 – Multi-State Outage Summary

Incident Start: December 27, 2018 at 3:40 a.m. (ET)

Incident Stop: December 28, 2018 at 11:36 p.m. (ET)

Note - While most services restored on December 28, 2018 at 11:36 p.m. (ET), residual impact remained for a small subset of customers. Due to the nature of this event restoral times varied; however, all service restored by December 29.

Incident Summary:

- CenturyLink experienced a network event on one of our six transport networks beginning on December 27, 2018, that impacted voice, Internet Protocol (IP), and transport services for some of our customers.
- The event also impacted CenturyLink's element management system, impairing our ability to troubleshoot, which prolonged the duration of the outage.
- The outage was caused by a third-party equipment vendor's faulty network management card in Denver, CO that caused invalid traffic replication and increased processing utilization on devices across CenturyLink's network.
 - There is no evidence that this issue was caused by a source external to CenturyLink's network, such as a security incident.
- To restore services, the card in Denver was removed, the communication channels between specific devices were removed across the network, and a polling filter was applied to adjust the way the packets were received in the equipment.
- As repair actions were underway, it became apparent that additional restoration steps were required for certain nodes, which included either line card resets or field operations dispatches for local equipment login. Once these actions were completed, most services restored.

Impacts:

- Areas in several states experienced DSL outages or degraded service.
- The local voice (TDM) network was generally unaffected by the event.
- Areas in several states may have experienced some inbound/outbound long-distance failures.
- VoIP and transport services were also impacted in some areas.
- Where CenturyLink is an emergency 911 provider and voice services were functioning, 911 calls largely completed during the incident.
- Address location information (ALI) did not accompany 911 calls to a small number of PSAPs.
- Carriers that rely on CenturyLink's network to transport their traffic, including 911, may have been impacted by this event. Any additional information regarding the design and operation of their 911 systems would need to be provided by those carriers.

Post Event Actions:

- The management card was promptly sent to the equipment vendor for extensive forensic analysis.
- Steps have been taken to prevent reoccurrence with the placement of the polling filters and the strategic removal of the communication channels between all impacted nodes.
- The equipment vendor has developed and implemented a network monitoring plan for key parameters that can cause this type of outage.