



March 5th, 2021

From: Kevin Furlong, IT Operation Manager

To: Board of County Commissioners

Re: Report - Internet Outage on 10/18/2022

The Incident:

Monday October 18th, 2021, at 10:15AM the county's internet services went down. We were notified by our provider that somewhere between Bend and Seattle a fiber optic cable had been severed. Several customers between Bend and Seattle lost internet communication services. We were informed the cause was a damaged cable located on a bridge near or in Tacoma, WA. With the location of the cable break identified, our internet traffic was temporarily rerouted to an alternate path. Our services were restored at approximately 8:45PM.

Impact of Outage on County Operations:

Within minutes, a network monitoring tool in IT showed an alarm status for internet service. IT helpdesk staff began receiving reports of internet dependent services going off-line. IT network operations staff quickly determined the outage sourced from beyond the connection to the internet service provider.

Approximately half of county departments are dependent on the internet for line-of-business applications. When cut-off from the internet these department's operations are severely impacted.

As part of the update of the county's phone system, two of four connections to the public telephone system network failed. This resulted in several departments not able to receive and make calls outside the county. *The Sheriff's Office and 9-1-1 telecommunications were not impacted.*

Approximately 350 county employees had been migrated to the Microsoft 365 cloud service. This meant these employees were not able to access their email from the county network.

County employees working remotely were not able to access county services.

Incident Response:

Contact to the internet services provider was made and maintained throughout the outage. The IT Department was kept up to date with critical information as the service provider learn of the cause and as their response progressed.



The county's connection to the internet is reliant on a single internet service provider. There were no actions for the IT Department to take to restore internet connectivity.

As part of the phone systems upgrade, the Sheriff's Office updated their telecommunications to use the internet, but with a separate connection to the internet. The Sheriff's outgoing and incoming telecommunications services were not impacted. However, the Sheriff uses the same telecommunications provider as the IT Department. This allowed IT and the Sheriff to coordinate with the telecommunications services provider to move all incoming and outgoing calls to the Sheriff's functioning telecommunications service. This allowed for incoming and outgoing calls to be restored to all county departments during the outage.

As part of long-range planning the IT Department had planned to implement stronger resilience in internet communications. In reaction to this incident, the IT Department has moved up the implementation schedule of a redesign of our connection to the internet. The redesign incorporates the services of two separate internet service providers and two independent connections to the internet with redundant equipment. This redesign is not simple and certainly not inexpensive. However, the IT Department sees this incident as justification for early implementation.

Lessons Learned:

Progress in the development of business software systems and business communications have moved services to the internet. This is called the "Software as a Service" delivery model. This change in how these services are delivered have over time made connectivity to the internet a critical aspect of our business systems.

Unplanned internet outages of this duration are rare. In fact, the IT Department can only recall the outage that was caused by a traffic accident cutting off all of Central Oregon from the internet and telecommunications. This was many years ago and Central Oregon's connectivity to the outside has been vastly improved. However, technology is not foolproof and there's no end in sight to our increasing dependency. Hindsight says the redesign of the county internet connection is overdue.

The incident does bring to light the need for departments to look at how their operations and dependency on the internet. A department should have contingency plans to address internet outages.

Cc: Nick Lelack, County Administrator
Whitney Hale, Deputy County Administrator
Erik Kropp, Deputy County Administrator