

Network Outage Post Mortem and Root Cause Analysis

July 30, 2009 Lindsay Coyle

Summary

On Tuesday, July 28, 2009 at 12:35 AM, we experienced a network outage that affected Lamson, Boyd, Highland Hall, Holmes House, Hall, Pemigewasset and Belknap. Initially, the outage appeared to be intermittent, but was confirmed to be a lasting event at approximately 7:00 AM.

The outage was remedied and service was restored at approximately 10:00 AM that same day.

Root Cause

The outage was caused by a line card (module) failure in a Nortel 8600 distribution switch in Lamson.

Details of Event

At 12:35 AM on July 28th, the IMS-4000 initiated a telephone alert of a down status for the Lamson distribution switch. After an initial investigation, I acknowledged the IMS-400 notification and looked at the Nagios monitors to see the status of the system in question.

From what I could see, it seemed this was an intermittent outage, and was stable at about 2:20 AM based on the current Nagios alerts and access to systems served by the switch.

I received a call at about 7:00 AM from Norm on the help desk that the outage was lasting.

Upon my arrival on campus, I confirmed that a line card carrying connections to all locations served by the distribution switch was offline and inoperative. Logging into the switch directly showed the card was detected by the switch chassis, but it would not initialize. All efforts to recover the line card failed.

During this time, I informed Jo-Ann Guilmett of the outage status and told her the options we were exploring to provide a resolution, which she communicated to others on campus. Jo-Ann was kept informed of progress during and after resolution.

Solution

We brought unused ports on a Nortel 1600 switch online with the proper fiber transceivers and ported over the connections from the 8600. The 1600 was reconfigured to handle traffic that was previously handled by the 8600.