May 1, 2012
Connectivity Committee Meeting
MINUTES

Network Services – Ed Anderson (SCS)

ITS Project

The ITS Project is moving forward. SCS and our partner NDOT are continuing to make progress. We are still on track for some work in the June timeframe and having the northern ITS backbone upgrades in place before the start of the fall semester.

Last Mile Connection Status

SCS has been talking to everyone we have identified who have circuits that we want to disconnect or transfer. We have commitments from everyone that they will be able to make a July 1 cutover date. We will have met our goals if everything goes as scheduled currently.

Strategic Network Opportunities

On May 30, SCS will be making a presentation to the EPSCoR funding group to discuss what we did for the Southern Metro Upgrade i.e. what improvements have been made and how these improvements benefit the NSHE institutions and the research community.

Last month, I had indicated that I was going to give a presentation this month on strategic network opportunities. Because of unexpected events and busier than normal schedule, the presentation will be delayed. I will try to have the presentation prepared by our June Connectivity meeting. The purpose of these presentations is to show how many of the independent initiatives i.e. EPSCoR, ITS, and Digital 395, will ultimately tie together to form the basis of an overall strategy that will benefit NSHE from a connectivity redundancy and capacity standpoint.

Cisco Maintenance Contract

I mentioned last month that we are in a Cisco maintenance contract that we are redoing. We found out from Purchasing that we don't have to go through a full RFP process but just need to give a quote from a list of preferred Cisco vendors who already have existing contracts with the system. We will still have to establish the specifications and do an analysis after we get the quote but the overall purchasing process will be more streamlined than originally thought.

Southern Commodity Internet Connection Contract Update

In our budgetary preparations for next year, we've discovered that what we thought was a 5 year contract with our 10 GB connection to the commodity Internet in Las Vegas is really a 3 year contract that will expire in November of this year. As a result, SCS will be going out for a new bid on the southern commodity Internet connection. There are numerous entities that could provide this service in Las Vegas so we should get pretty competitive pricing.

Project Queue

This month, SCS Network Services had 5 new projects come in. We've had 47 new projects year to date. We've completed 6 projects this month and 38 projects year to date. Sixteen projects are on hold, and overall we have 72 projects in the queue.

Digital 395

This project is a joint effort between EITS, NDOT, and NSHE. EITS is taking the lead on some parts of it where it's going through the capitol complex conduit system. NDOT is taking the lead on the north end of Carson where there will be a major meet-me point between two or three entities. NSHE will be involved in the operation and maintenance and the technical aspects of any dark fiber lighting requirements for the State.

Susan Schoeffler had some questions regarding a hand hold that is to be installed on the WNC campus in connection with the Digital 395 project. Greg Ebner responded that he met there with Songhai Liu and a representative of the Digital 395 contractor and talked with them about pricing for entrance fiber into the WNC campus. SCS did request as part of the process that a hand hold be placed in front of the WNC building. That is the only obligation that the Digital 395 people have – to place a hand hold near the campus. A 2" conduit exists from the WNC facility property line into the building so the only new construction will be fo bore under the street, place conduit from the hand hole location, across the street and connect to intercept the existing 2" conduit, that runs into the building, pull fiber from the handhole a termination point inside the building and splice the fiber into the fibers dedicated for NSHE use provided by the Digital 395 project. To get into the building, there will be a cost that WNC or the System will have to bear Greg Ebner is currently working to estimate that cost which should be fairly minimal. SCS agreed that Susan will be kept informed about all aspects of the project.

Systems Support Services

There was no representative of SSS available for the meeting today, but Pam Burns conveyed that SSS had no new information to share at this time.

System Security – Paul Mudgett (SCS)

The Grant Thornton auditors are on site in Las Vegas to conduct a financial audit. They are currently doing testing at UNLV, and they're also meeting with CSN. Next week, they'll be at UNR and SCS to talk about the technical side of the iNtegrate Shared Instance. This is the first real look they are taking at PeopleSoft so any of their recommendations or findings that they apply to CSN, will most likely apply to the entire Shared Instance. Grant Thornton reports to the Board of Regents and their report is expected to be finished by the end of the fiscal year.

Data Center Operations – Rich Ayala (SCS)

Last time I mentioned that DCO was working on some details and arranging funding for our HVC control system upgrade in Las Vegas. Before that could be completed, we had a power outage on April 21 that hit the UNLV campus and surrounding area pretty hard. All of our systems worked as they should, the backup generator started, and everything went as you would expect it to. The only casualty was that the main control panel we have now was damaged in the power outage, which impacted our ability to operate the backup cooling system in an automatic fashion. We've put a work around in place that performs the same function. The new panel is supposed to be installed by the end of May.

Also as a result of that outage, we had lower than normal voltage levels coming into the building. Apparently, NV Energy may have had to reroute some customers to be able to work on some of the electrical problems. But as of two days ago, we've had the original voltage level restored.

Client Services – Rich Ayala (SCS)

Last month, Brian Anzalone mentioned that some people had archives set up in Lotus Notes and that we were working on transferring these archives to Gmail. We have now identified and recovered archives for those who wanted to migrate them. (Some opted out because they didn't want to use the space against their quota allotment, but I don't think that is an issue now.) We've partially migrated the archives and will complete it this week. Next week, we'll be able to identify the un-migrated mail, including the un-migrated mail from the archives. They are going to be able to patch and deliver it electronically to each user. This will take a couple of weeks.

The only thing left to do as far as the migration for System Admin is a little more training for a few folks, and they expect the full switch to Gmail to occur by the 18th of May.

System Licensing and Contracts – Chris Gaub (SCS)

Chris Gaub was not able to attend today but conveyed that there was nothing new to report this month.

Support Desk – Rich Ayals (SCS)

KACE Service Desk went live this morning. All the new tickets are now being created in KACE. All the tickets from the Service Desk Express, which is what we were using before, were transferred to KACE over the last couple of days. SDE remains available for reference until the data is archived and the server shut down. There is no date set for that yet. KACE has far more automation built into it – more business rules, automatic ticket assignment generating emails, and reports. We have completed a web page for customers to create their own ticket. We are going to beta test it within our own ranks for now, but hope to roll it out to our customers outside of SCS within the next couple of months. This new service will speed up our ticket processing over using email, which typically takes another step. When we first started using KACE, we were more focused on the aspects of helping our tech support group and security. Now we are starting to see additional upgrades that are going to help us with our incident management process.

New Technologies

None offered.

Operational Issues/Events

Core Router Issue – Ed Anderson/Kirk Fitzgerald (SCS)

(Ed Anderson)
As you know, we have had some network difficulties recently related to a core router issue. We've had some exciting times with the vendor trying to identify and locate the problem. I will turn it over to Kirk Fitzgerald to give you some of the details and a broad overview of what happened and how we got back to a normal operating state. We are going to be following up with Brocade and with our other affected entities to make sure that the lessons learned are well documented and that we can apply them to future operations.

(Kirk Fitzgerald)
The failure we had was with a backbone router in Las Vegas. Unfortunately, two things made this failure really bad. One, it is the busiest router in the entire network. It processes about 75% of all the packets through the state of Nevada. Two, the way it failed was also really bad. It never had a link failure, and it never had a router adjacency failure. So all the other routers in the network thought it was a good. When packets got to it, it simply dropped them or black holed them. To get around that problem, we had to manually fail links and adjacencies so that traffic would take a different route. At the same time, the flow gate needed to get to the router to try to figure out what was wrong with it. So we had to keep it on line and in production so they could get to it. That's why we were bouncing now and again as we attempted to bring traffic back on and allow Brocade to get to it to troubleshoot it. Unfortunately, it took Brocade a week to find the actual card failures. They ended up replacing about 6 out of 8 cards on the box. And it was the sixth one that was bad, and it finally died completely, which is the how they ultimately found it.

(Ed Anderson)

The problem was intermittent which made it difficult to quantify when it started to happen. Secondly, as it turned out, this was an 8 x 10 Gig line card in the box. Even though that card was failing, the alarm indications made it look like other cards were failing as well. There was no definitive indication of any specific card or source of the problem. It was very difficult to quantify until it finally did fail and there was enough valid information regarding what was not working to make a more quantitative analysis of what the problem was. When the bad card failed badly enough, it finally gave some diagnostic information that led to a more definitive remedy.

SCS is following up with Brocade to find out how this could happen. With the redundancy that we buy these boxes with, how can it possibly fail or appear to fail and not fail over to redundant resources or at least give a definitive alarm indication? Brocade is going to have to explain how this can possibly happen with their products. We did have some redundant cards that could be used for testing. We had another whole box ready to go – diagnostically tested and validated that every card and component was okay. We were ready to forklift the old one out and put the new one in when the final root cause was identified as a 8X10 Gbps line card in slot #7.

When the analysis of the failed component is complete, we will share the information with this group and meet with those entities affected to understand how SCS might have done things better in handling this

Other

New Positions – Ed Anderson (SCS)

SCS/Network Services has posted three new positions in Las Vegas, in an effort to maintain support levels after losing several folks. Two positions are for classified IT Professional III's and one is for a professional Senior Network Analyst position. All three are currently posted.