CCCCO System-wide Architecture Committee (SAC)
Meeting Minutes
Thursday December 22, 2011
CCC Confer

The meeting was called to order by Tim Calhoon at 1:35 pm.

Attendees: Tim Calhoon, Micah Orloff, Glen Kuck, Andy Chang, and
Bruce Racheter (staff).

Call to Order and Approval of the Minutes:

Tim Calhoon called the meeting to order at 1:35 pm.

Tim called for approval of the minutes, they were approved.

Review Disaster Recovery and Backup Options:

Glen and Andy provided a review of a survey sent out to the CISO list serve members
about 1 ½ months ago. The survey had 32 responses, 83.9% felt that cloud backup would
be very useful and an additional 6.5% felt that it would be adequately useful. Andy felt
that the overall impression from the survey was that the majority of colleges would like
to have 25-30 terabytes of storage space per college, with a few that would be interested
in a higher number of terabytes of storage. Security issues were a big concern
highlighted in the survey as well.

Andy has been working with Dell to try to devise a centralized solution that might meet
the needs of the community colleges. The preliminary pricing that has been developed
with Dell, (along with two additional full time staff people to support it) would be about
one half of what Amazon is charging. An additional benefit is that a portion of the space
could be sold to other institutions. The downside is that Amazon is able to provide the
better SLAs because of their resources. Additionally, the Dell pricing is based around a
single location, so if multiple locations are used, the cost is probably going to mirror
Amazon's. Tim noted that although Amazon has a simple storage mechanism, backup
isn't really their primary business, and they don't have the levels of security that might be
needed. Glen agreed that additional security would be another benefit with Dell.

Andy confirmed that this solution would function with equipment in a datacenter run by
one of the community colleges with a 10 gig connection into the CENIC network. The
space needed will be an issue to be addressed, as well as big upfront costs. Those costs
can be spread out over five years for a 1.2 petabyte solution. The cost is about 750 per
terabyte. A comparable solution with Amazon would cost about twice as much.
However the total cost of the 1.2 petabyte solution with staff comes out to be about
$900,000 per year. It would be a lot more cost effective if all of the colleges are on
board, but it is unlikely that would happen immediately.

Tim asked whether the Dell solution covered an onsite client at the institution doing
encryption. Andy explained that part of the package includes a contract with

SecureWorks, a company that is in Gartner's upper right quadrant. They are a monitoring company that checks for data breaches in your existing firewalls.

Andy explained that the Dell service involves 4-5 stand alone servers with disc to disc backups that are then downloaded to tape during off-load times. The software they use is Symantec Backup Exec.

Review of Research into Important Considerations Regarding Cloud Backup:

Tim provided an overview of the research he has been doing in preparation for the meeting with Gartner on January 5th. He found it odd that Cloud Based Storage was rated "mature in its market," while Recovery in the Cloud is rated "new in the market." It seems odd because the services seem to be very similar and involve many of the same companies: i365, Savvis, and Sungard are some of these. He wants to be sure that the community colleges would be safe backing up into the cloud.

Additional important areas to investigate include:

1) Viability of the company, including how they do their own disaster recovery and backup; what is the plan if they go out of business or you want to change vendors, how easy will it be to move your data?

2) Compliance issues, especially with regard to whether or not data is encrypted in transit and at rest. This could be an important PCI issue if credit card data is stored.

3) How is pricing done? Generally companies charge for the amount of data stored, as well as dedicated hardware. Some also charge licensing fees. It is important to be aware of all of the aspects of how the pricing is done.

4) What kind of support is available? What is the level of ongoing maintenance of the machines and infrastructure, and any ongoing support?

5) What is the reputation of the provider? Gartner felt that it would be better to go with a larger company since there is likely to be some smaller companies that will be eliminated as the market matures.

6) Avoid vendors that use proprietary access methods for the data. It is important to be able to port your data if you change vendors.

7) What is the recovery time? What is the recovery point that you want to use?

8) What is the lead time required for server provisioning?

9) How is the network connectivity management? We want to have redundant circuits to the data center and so on.

10) What is the frequency that they can update server images or production data? Do they have continuous data protection capability?

11) Do they have streaming data protection?

12) Can you do recovery testing? Can you recover to the cloud, so that you don't overwhelm your own network and servers?

13) What are the breadth and depth of production management controls? Gartner recommends going with a SAP70 datacenter, and there is a new SSAE 16 audit that is also being developed. Encryption is available at rest and in transit.

14) Location is important. For the community colleges in California it makes sense to be able to connect in with CENIC.

15) Do they use de-duplication?

Preliminary Survey Discussion:

The committee members felt that determining what issues are most important to the colleges regarding backup and disaster recovery is critical to finding the best options for the community college system. What do the colleges need? What kind of data is being backed up; do they need encryption at rest or during backup? Are they backing up their student information system? Email? Critical business functions? This is an important issue, because encrypting before backup will take longer.

The committee needs to know what colleges consider important with regard to recovery time objectives. It would also be helpful to know what the costs are currently for doing tape or disc to disc backups; as well as, any licensing fees and so on. It is important to evaluate whether the cost savings benefit makes it worthwhile. Finally, do the colleges intend to use this as a substitute for tape, or as a backup for tape?

Tim proposed that the survey discussion be postponed until the next meeting when more members could provide input.

Next Meetings:

Gartner discussion with Dave Russell on Thursday January 5, 2012.

Next SAC meeting on Thursday January 26th, 1:30-3:30pm.

Adjournment:

The meeting was adjourned at 2:30 pm.