

SUMMARY FOR ARCHITECTURE & NEW TECHNOLOGY COMMITTEE

DATE: March 27, 2017

TIME: 10 a.m. – 12 p.m.

LOCATION: Dumke Room, Eccles Broadcast Center

IN ATTENDANCE:

Mark Beekhuizen	Joe Breen	Steven Dean	Tim Ebner
Jeff Folsom	Matt Irsik	Sylvia Jessen	Jim Livingston
Jim Logue	Chris Roberts	Steven Seal	Chris Stucker
Jon Thomas	Daniel Trentman	Rob White	Thomas Wolfe

COMMITTEE SUPPORT: Scott Sherman, Emily Rushton

UNABLE TO ATTEND:

Rebwar Baesmat	Derick Bingman	David Blackburn	Pieter Bowman
Dean Church	Demian Hanks	Matt Harting	Josna Kotturappa
Wes Tolman			

AGENDA ITEMS DISCUSSED:

- Network vision statement
- Private IP space allocation management
- Senate Bill 14 compliance proposal
- New UIT storage solutions and pricing
- Open floor

Network vision statement

Clayton Barlow, associate director for Enterprise Architecture, briefly reviewed the network vision statement written by the Network Architecture Community of Practice (CoP). ANTC members received this ahead of time and were expected to have already reviewed it. In short, the network vision states: “The University of Utah Campus network is an evolving global platform that physically and virtually connects a variety of endpoints to related services at a local campus level, a regional level, a national level, and a developing global level. This platform aims to facilitate insight, data accessibility and a consistent overall security posture regardless of physical, geographical, or virtual locations while delivering a consistent user experience.”

Barlow explained that UIT’s strategic goals, the U’s overall strategic goals, the Deloitte assessment, and the network connection agreement were all considered as the CoP wrote the vision statement. One of the challenges, he said, is to run enterprises services on top of a loosely affiliated and distributed network. The CoP hopes to make this easier by developing standards around the network that reduce network communication protocols, create a similar vocabulary set, define a process for dealing with exceptions, and so on. Barlow addressed the scientific community’s needs to have specialized architectures due to the nature of their work, and he explained that exceptions to the network

standards would need to meet clearly defined business, research, and legal requirements, as well as receive ANTC approval.

The ANTC was asked to adopt and ratify the 2017 network vision. The motion was seconded with no opposition, and the network vision statement was approved.

Private IP space allocation management

There were three documents associated with this agenda item, and committee members were expected to have reviewed them before the meeting.

Private IP address space strategy for 2017:

Barlow explained that there were three categories the strategy covers: 1) University-wide services that are routed everywhere; 2) space required by University entities, which can (but doesn't have to be) routed; and 3) non-allocated space for use by any University entity, which is non-routed. Barlow asked the ANTC to vote and ratify the strategy, and opened the floor for discussion.

Members discussed this and voiced some concerns that they would lose IP space that had already been allocated. Barlow said they were very aware of the challenges and concerns in the IT community, and that the first step would be to strategically determine the private IP space that's being used, discover whom it's assigned to, and look for collision points. He stressed that the IP address strategy would be constantly evolving based on use cases.

Chief Technology Officer Jim Livingston clarified that the CoP was asking for approval on the general IP address strategy, but they would come back to the committee at a later date to address the specific issues brought up and discussed at today's meeting. The motion was seconded and approved with no objections.

Use of IPv4 private address space:

Barlow then covered the three groups of IP address space that would be dedicated for 1) University-wide services; 2) University entities (this is space that must be registered before being allocated); and 3) Non-routed, non-allocated, private space for anyone to use.

The committee had a lively discussion on various topics, including how the non-routed space would be managed, how the current plan would work in 5-10 years, and how to consider IPv6 vs. IPv4 space in the future. Barlow also clarified that the committee was being asked to vote on the guidelines and standards in how the space would be managed, but not on divvying up the space and allocating to specific entities. The strategy was then voted on and approved with no objections.

Use of IPv6 ULA address space:

Barlow asked the committee to provide IPv6 use cases to the CoP in order to help define the strategy for IPv6 on campus. Barlow said the CoP is also looking more closely at static IP addresses and will consider ways to more intelligently configure those in the future. He said they would like to set standards and best practices around IPv6 private space so it can be determined how to best use it effectively. The committee had another brief discussion about IPv6 vs. IPv4, and Barlow ended by publicly thanking the entire CoP group for their hard work. This was an information-only item.

Senate Bill 14 compliance proposal

Mike Ekstrom, director for UIT Network and Communications Infrastructure, reviewed a proposal to meet the requirements of Senate Bill 14, which he discussed in the February ANTC meeting. The bill will require the U to meet three conditions by July 1:

1. Users must be able to make an emergency phone call by dialing 911 without a prefix.
2. The system must be able to forward the building address and room number from which a 911 call was made to emergency responders.
3. The U must ensure the accuracy of the location database, including updating any changes to the location of a telephone within one business day of completion.

There are two issues to be addressed. Currently, all CenturyLink phones on campus require users to dial 9-9-1-1, which is in violation of the new legislation. CenturyLink has agreed to support 911 direct dialing by or before the July 1 implementation date, which will address the first issue.

The second issue is determining exact locations of phones on campus and making sure the 911 database is updated accordingly. UIT's Voice Systems team keeps track of all VoIP phones they deploy on campus, but VoIP can be moved at any time after the fact, and the team is not always made aware of when a phone has been moved. To address this issue, Ekstrom suggested two possible processes: 1) disable any phone that is disconnected from its registered network port and plugged in to a different network port; or 2) leave the phone functional, but contact the user the next business day and ask where the phone has moved to.

CTO Jim Livingston said disabling a phone may not be the most prudent option (e.g. if someone tried to call 911 from a disabled phone, that would defeat the purpose) and suggested going with the second option of notifying the end user the following business day. Ekstrom agreed and asked the committee for approval to move forward with this proposal.

One member asked about soft phones, and Ekstrom said the legislation does not specifically talk about wireless and soft phones. Due to the time constraints of meeting the July 1 deadline, they are being left out of scope for now (but will be addressed eventually).

The committee also briefly discussed the costs incurred to move phones, and Ekstrom said as of right now, they had not worked through the broader finance process to change the cost models.

Finally, members of the committee asked how to be proactive and help with this process. Ekstrom said they will be coming back to ANTC with proposals to manage this long-term, but with the July 1 implementation date, this current proposal is the best compromise to meet the legislation requirements with minimal impact on the IT Professionals community.

There was general agreement from the committee that this item didn't require an official vote, and Ekstrom's proposal could move forward as planned.

New UIT storage solutions and pricing

Jim Livingston presented updated pricing for UIT storage options, and said after reviewing the original cost model to remove sunk costs, they were able to reduce storage costs by about 40%. Livingston showed a chart with four tiers of storage and reviewed their associated uses/costs, clarifying that the cost covers change of infrastructure but not backups. There are too many variables to list a flat cost for backups, he said. He also said UIT is trying to be competitive with the market (e.g. Amazon).

Livingston then talked about object storage. UIT has bought a solution for this and is currently in the process of implementation. Object storage will allow the local storage environment to be linked to the public cloud (e.g. Azure, Google Cloud, Amazon, etc.). It will allow data to move back and forth as needed and provides additional security, compression, deduplication, scalability, and more, all for a much lower cost than previously possible.

One member asked if UIT would allow price lock-in for this storage, and Livingston said that the more people utilize this environment, the cheaper the storage will be (i.e. the prices may go down, but they won't go up). When the storage solution has been implemented, it will be added to the service catalog.

There was a brief discussion on tracking the impact on the national backbones, hybrid cloud technologies, and managing the data that gets moved. The committee had no further questions.

Open floor

One member asked if there were any plans to upgrade or enlarge the size of email inboxes for faculty. Ekstrom said the standing process at the help desk has been that anyone can call and request an

upgrade to their inbox storage size, but that the UMail team has advised there will be performance risks as the size of an inbox increases. Some said their requests to the help desk for inbox increases had been denied, and Ekstrom said he would come back to the committee to discuss this at a later date.

Action summary			
Action	Topic	Person/Group	Next step
Approved	2017 network vision statement	Portfolio	The CoP will develop the standards and best practices around the network based on use cases and the newly approved vision statement.
Approved	2017 private IP space strategy	Portfolio	The CoP will develop principles and standards around private IP space.
Approved	Use of IPv4 private address space	Portfolio	The CoP will develop guidelines and standards re: how UIT will manage and allocate this space.