

**Advanced Engineering Taskforce Meeting
March 15, 2013**

The meeting was called to order at 10:00.

Members Present

Name	Affiliation	Location
Jim Flanagan	Illinois Chief Technology Officers	J.R. Thompson Center, Chicago
Scott Armstrong	Kishwaukee Community College	Conference Bridge
John Bandy	Memorial Health System	CMS, Springfield
Troy Brown	Shawnee Library Systems	Heartland Library Sys Carterville
Ken Davis	Sangamon County ETSD	CMS, Springfield
Robert Dulski	Brookfield Zoo	J.R. Thompson Center, Chicago
Dennis Gallo	O'Fallon CCSD 90	CMS, Springfield
Scott Genung	Illinois State University	Conference Bridge
Rich Kulig	College of DuPage	Conference Bridge
Randy Ethridge(B Murphy)	Eastern Illinois University	Conference Bridge
Mike Shelton	Southern Illinois University	Conference Bridge
Tracy Smith	University of Illinois	Conference Bridge
Brian Tobin	DeKalb CUSD 428	Conference Bridge
Glen Trommels	City of Rockford	Conference Bridge
Rob Zschernitz	The Field Museum	Conference Bridge

Members Absent

Andrew Bullen	Illinois State Library	
Mike Dickson	Western Illinois University	
Sam Ferguson	City of Schaumburg	
Brandon Gant	CARLI	
Herb Kuryliw	NIU	
Joel Mambretti	Northwestern University	
Kevin Moran	City of Chicago	
Jim Peterson	Bloomington Schools/Illini Cloud	
Alan Pfeifer	Sauk Valley Community College	
Ed Wagner	Chicago Public Schools	

Guests

Cody Moses	Northern Illinois University	Northern Illinois University
Kevin Finley	Northern Illinois University	Northern Illinois University

Staff

Lori Sorenson	Central Management Services	CMS, Springfield
Kirk Mulvany	Central Management Services	CMS, Springfield
Frank Walters	Central Management Services	CMS, Springfield
Robin Woodsome	Central Management Services	J.R. Thompson Center, Chicago
Deb Kelley	Central Management Services	CMS, Springfield

January 18, 2012 Minutes

First thing on the agenda is the approval of the January 18, 2013 meeting minutes. Dennis Gallo made a motion to approve the minutes. Scott Armstrong seconded the motion. The motion carried.

Rates for Value Added ICN Services

A draft was provided listing new and revised services. We have received requests from constituents for backup bandwidth services. For example, IIT purchases most of their bandwidth from another provider, but have asked ICN to act as a backup so if the primary fails, we could provide them with 300 meg of service. In this case, they would pay \$1 per meg per month. They would get three instances up to 24 hours total at no additional charge. After the 24 hours, the standard rates would apply. The standard rate is \$9.50 per meg per month. This service requires no manpower after the initial set up unless the service is needed.

Expedited Service Requests

Periodically, we receive requests for extra bandwidth for special events. This service would be for a 1 month period at the standard rate. If a request comes in under 10 days, there would be an additional expedite fee of \$250. To get this service turned up, it could take 4 engineers and help desk staff time. Egress is also taken into account.

In the worst case scenario, a large number of schools could request the services in March and April. If we receive too many requests, we cannot guarantee that we could get them all done in 10 days. The requests need to be submitted 30 days in advance then we would approve or deny the request. Some egress contracts include burst options so it is possible that we could handle all the requests.

The schools may require 1 gig connections per every 1,000 students by 2017. Schools will co-locate the tests within the districts. Testing will start in 2014; however, the first required test is in the Spring of 2015. Many school districts are refusing to participate in the program because the state is not providing funding and is also cutting funding. ISBE doesn't have the bandwidth to collect the data. The Illini Cloud is building a data integration center for some of the other projects.

Monitoring circuit and equipment for management release customers where there is no bandwidth purchased

We have some network customers that are not purchasing bandwidth or are management release that have asked us to monitor their circuit. Most sites have multiple providers and are sharing the same device. If they are management release customers purchasing 20 meg, we would do it at no cost (mostly universities and larger customers).

Quality of Services

A new service ICN is providing is quality of service over the backbone – it is slightly different. The cost is \$25 for 4 classes. We would take 10% of the standard bandwidth rate per meg. That would ensure there was quality of service on that traffic across the entire backbone.

The remaining 3 are on the list, but we do not have a solution. This includes DNS Hosting for non-connected sites, IP address usage on other networks (multi-home) non-paying customers, and BGP configuration for multi-home non-paying customers. These three services will require

more research.

Shared Bandwidth Allocation Model

We have members that have agreed to share bandwidth. We will look at each allocation and calculate as if they were individuals and provide that level of bandwidth. The network needs to be exclusively community anchors or segregated because state funds can only be used by anchors. Second, we require every anchor to sign a release or acknowledgement form so they know their options. There will be limits on support and monitoring. We would not be able to ensure any of the organizations would get a certain level of bandwidth.

The allocation is made at the beginning of the fiscal year based on who is connected at the time. The thought is we will have a few that won't spend everything so we would be able to handle new customers. The advantage is they would have a larger dollar amount at a lower rate. Networks with many members and low student enrollment will still get the floor.

Cisco Customer Premise Equipment Recommendations

In terms of hardware to accommodate higher bandwidth levels, there are 3 routers that are at end of sale, but they are good routers depending on the application. The price includes the negotiated discount of 42 ½ percent. We are working with AT&T and anticipate they will offer 55 percent off through August 31st. If there are a lot of sites that are interested in upgrading, they will try to get more than the 55% discount. We hope to have the information in the March newsletter.

Fiber Project

Most of the conduit and about 85 percent of the fiber has been installed. . There are a few remaining spots. Inside plant work has been completed at 50 percent of the sites. Of those, we have equipment installed in all but 3 or 4 sites.

There are hundreds of CAI sites. Of those sites, 19 sites are operational and capable of receiving service. We are making good progress.

Both the Springfield to Quincy and up to Macomb route and east of Charleston to Paris down to Lawrenceville and Olney route are underway. There is a significant amount of fiber already installed. The other packages are complete or will be in the next couple of weeks.

Since we could be as much as \$8 million under budget, we submitted two route changes to NTIA. We have been back and forth with NTIA and are currently waiting for the environmental team. If it is not approved quickly, we will be out of time. We only have a few laterals that we will actually build. Since the timing is short, we do not think we will be able to do anything that crosses a railroad.

We have been working for about two years to find a route in Chicago that didn't require a build. It is very hard to get cooperation from the City of Chicago, Chicago Transit Authority and IDOT. We finally found a solution that will get us from 95th Street to Equinex. It will cost a little more, but, we will have 144 stands of fiber from Champaign to Equinex. This is the number one requested route. We plan to ask NTIA for an extension until September 30th to complete the Chicago route and the expansions. The sites identified as possible expansions (laterals) have been kept up-to-date. We have had three that wanted to know what the cost would be so if

NTIA doesn't get the expansion request approved, they would like to do the build themselves.

Rates go into effect on July 1st. We are still waiting to find out how much state funding we will get. Many school district budgets are also being cut. If a school district is able to get funding for a last mile connection, we would still be able to handle the additional load. If they wait until right before opening, ICN may not have the staffing to handle a large number of districts. The RTC staff have been reaching out to the schools to explain the needs and requirements and to sign new customer forms. They are also looking at their equipment: LAN, routers, switches, and last mile. If a district has a metro Ethernet connection managed by ICN, they will automatically be bumped up.

All the required forms are on the ICN website and can be submitted. The Service Level Agreement (SLA), used only for our backbone, is very simple and straight forward. Outages must be on the backbone or our distribution router. No credit will be given unless the customer is paying above the credit. The Master Service Agreement (MSA) replaces the Participation Agreement and application. There are 2 MSA forms – one for the anchors and one for commercial customers. The restriction in the MSA for anchor institutions, and using the state credit or if you are purchasing bandwidth at the anchor rate, you cannot resell or share or give it to non-anchor institution. The Master Service Order (MSO) is where you define the services and costs. Any changes are completed on MSO.

Essam El-Beik has been reaching out to wholesale service providers. We have 10 providers that are looking to buy service. It took about 3 months to negotiate our first agreement. The RFI for a sales and marketing partner is due today. We will hold a vendor presentation and based on feedback, we will post the RFP in June or July.

ICN Appropriation and Budget

We have received \$4 of \$6 million dollars for this year. The \$2 million is to come from a fund that doesn't have the cash. We have not received our \$8 million in capital funds. The state will have a bond sale the first part of April so we hope to get it then.

We need people in the legislature that are working on our behalf. Governor Quinn and Ryan Croke are our biggest advocates.

Erate

This is our first year of being a service provider - erate is in place and ready to go. We sent out responses to Form 470s. We sent out 1,149 postings. We responded to 683. There are 118 schools and libraries that selected ICN as their provider. This totals about \$1 million dollars. The services are provided up front and then we are paid later. The revolving fund is big enough that we can wait for those funds.

Alternative Technology for Last Mile

The results we got back from some of the school districts and some of the discussions on Tech Geeks about last mile connectivity show that there are quite a few districts that use wireless options for last mile. Most seem to be using the Motorola Cambium or the Ubiquity Solutions. They seem to be happy with both solutions. They receive between 65 meg and 300 meg from up to 9 or 10 miles. We need to do a good job sharing the information. The districts have to talk individually with the community anchor institutions that are closest to find out if they

would be willing to place an antenna on the water towers. Intelligent Computing Services is a wireless provider that intends to buy service and has contacted most of the community colleges.

NIU has a number of CAIs that are using wireless connections via the DragonWave system. It has a minimum of 400 meg per second. There is a school in Boone County that NIU wasn't able to get to. A school district in Belvidere is willing to put a tower on their property to serve the Boone County school district.

ISU is also using Dragon Wave and are supporting up to 300 meg for 20 miles. It is based on new technology developed in the last year.

Appointments

We looked at the attendance for the last year and would like for those that participated to renew their appointments. The ICN Policy Committee meets in April and we would like to have the recommendations ready for that meeting. It would be nice to see if other institutions have membership recommendations. Since we have so many that are up for renewal, we could offer 1 or 2 year appointments.

With all the technical changes and handling different services, we could open the membership to ISPs. Members would like to hear from them, but not allow membership. Maybe we should have the new network up and running before we redirect our course.

If anyone has recommendations, please share.

The next meeting is on May 17th at Heartland Community College in Bloomington.

There were no other items for discussion. Andrew Gallo made a motion to adjourn the meeting, Scott Armstrong seconded the motion. The motion carried.