

## Advanced Engineering Task Force Meeting Minutes March 20, 2015

### Introductions/Roll Call

At 10:08 a.m. the Advanced Engineering Task Force meeting was convened by Jim Flanagan, AET Chairman who welcomed everyone. Jim proceeded with roll call.

### Members Present:

Name	Affiliation	Location
Jim Flanagan-Chair	Illini Cloud	Video Conference
Scott Armstrong	Kishwaukee Community College	Audio Bridge
Andrew Bullen	Illinois State Library	Video Conference
Mike Dickson	Western Illinois University	Video Conference
Robert Dulski	Brookfield Zoo	Video Conference
Brandon Gant	CARLI	Video Conference
Rich Kulig	College of DuPage	Audio Bridge
Herb Kuryliw	Northern Illinois University	Audio Bridge
Joe Mambretti	Northwestern University	Audio Bridge
Brian Murphy	Eastern Illinois University	Audio Bridge
Alan Pfeifer	Sauk Valley Community College	Audio Bridge
Michael Shelton	Southern Illinois University	Audio Bridge
Brian Tobin	DeKalb CUSD 428	Audio Bridge
Glenn Trommels	City of Rockford	Audio Bridge

### Members Absent:

Name	Affiliation
Troy Brown	IL Heartland Library System
Alex Cline	President's Technical Counsel
Anita Nikolich	National Science Foundation
Jim Peterson	Bloomington S.D./Illini Cloud
Tracy Smith	University of Illinois
Ed Wagoner	Chicago Public Schools
Rob Zschernitz	The Field Museum

### Staff & Guests:

Name	Affiliation	Location
Robin Woodsome	Central Management Services	Video Conference
Frank Walters	Central Management Services	Video Conference
Adam Ford	Central Management Services	Video Conference
Essam El-Beik	Central Management Services	Video Conference
Valerie Bolinger	Central Management Services	Video Conference
Michelle Medley	Central Management Services	Video Conference

### **Meeting Minutes - Jim Flanagan, AET Chairman**

Jim Flanagan reported that we have a few new items to add to the agenda, under Old Business USAC High Cost Support and under New Business E-rate Update.

Jim called for approval of the October 3, 2014 meeting minutes. A motion was made by Alan Pfeifer to approve the minutes. The motion was seconded by Andrew Bullen. The minutes were approved. Jim called for approval of the January 16, 2015 meeting minutes. A motion was made by Scott Armstrong. The motion was seconded by Bob Dulski. The minutes were approved.

### **Old Business**

#### **Budget Update - Robin Woodsome, Central Management Services**

Robin reported that funding for the free bandwidth provided for schools, libraries and museums has been eliminated from the State's Fiscal Year 2016 budget.

#### **PARCC Update - Jim Flanagan, AET Chairman**

Jim stated the testing went well. There were a few DDoS attacks during the testing period, but nothing serious. The next stage of testing (DLM) is much more data intensive and the schools anticipate that there will be some problems with bandwidth usage.

#### **ON-Net vs Off-Net Testing - Adam Ford, Central Management Services**

Adam reported that we are still in the early stages of testing and there has been no disruption in traffic. Statistics have not been gathered at this point in time, but we should have test results available at the next AET meeting.

#### **USAC High Cost Support - Essam El-Beik, Central Management Services**

Essam provided an Illinois provider list reflecting vendors who currently receive USAC high cost support. The 61 providers listed are required to respond to E-rate Form 470 applicants. There are certain caveats that apply if the provider does not already have fiber in the area of the applicant. Specific rules must be followed in order to build out the fiber. Essam stated that he would be available to assist to ensure compliance with the USAC rules.

### **New Business**

#### **ICN Rates & Allocation Letter - Robin Woodsome, Central Management Services**

Robin reiterated that State funding for free bandwidth provided to schools, libraries and museums has been eliminated from the State's Fiscal Year 2016 budget. An email communication regarding the new bandwidth service pricing model was sent to ICN customers on March 10<sup>th</sup>. The lower broadband service rates will be effective July 1, 2015. Robin emphasized that E-rate funding and lower last mile costs, along with the new reduced ICN bandwidth pricing will help offset the loss of the State funded bandwidth. ICN staff will send a more detailed letter/site specific communication to customers in the near future.

#### **Network Update – Frank Walters, Central Management Services**

Frank asked Taskforce members to review the Network Update sheet provided.

- **Egress** - Frank reported that the AT&T DDoS service is operational and we are currently providing protection for our customer's. Several schools have already benefited from this

service. We are proceeding with the procurement for internal DDoS protection to handle attacks that start on our network.

- **Backbone** - Frank stated that there are no changes to the backbone outside of our regular planned maintenance window. The network was 100% operational last month.
- **Procurements & Contracts** - Frank reported that there are a couple of procurements and contracts currently in process. The Cisco maintenance and hardware contract renewal is in queue. For internal customer DDoS protection, we are going with the same package that our current provider AT&T uses. It is the Arbor Networks package which does a very good job. Last month DDoS attacks were at an all-time high with the primary target being State infrastructure.
- **Projects** - Frank stated that the Moline POP site move is proceeding.
- **Fiber Work** - Frank informed members that the McHenry build has been completed. The DOT road widening caused some delays; however, the fiber should be turned up within a week. The Greenville Community College agreement was signed and no build work was required. Greenville is operational and a REP customer. The SIUE build is moving forward and will be a fairly large fiber build. The service order has been signed and build/permit has started. Work should be completed by the end of the Fiscal Year. The Chicago REP turn up is on schedule. We are waiting on the Eisenhower path to be completed which will support this project.

#### **Technology Explanation: DDoS Mitigation - Frank Walters, Central Management Services**

Frank provided members with handouts and explained that DDoS attacks have grown exponentially over the last few years due to the simplicity of launching an attack. Attackers from all over the world can be leveraged to target the ICN and its customers.

#### **Update on ICN/Illini Cloud - Jim Flanagan, AET Chairman**

Jim stated that he did not have much to report and they have been waiting for news regarding the state budget. They hope the budget can be renegotiated and that the ICN will receive their funding back.

#### **Software Defined Network (SDN) - Joe Mambretti, Northwestern University**

Joe provided information regarding SDN and the benefits of this type network. This technique is highly used by cloud providers such as Google. A recent report indicated that Google has saved millions of dollars because of the incredible high efficiency.

#### Drivers include:

- High granularity of visualization into individual flows
- Customized traffic flows
- Single Domain oriented
- Programmable versus static
- End to end services
- Virtual overlays (do not have to install their own fiber)

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Joe reported that SDN technology will be showcased in Washington DC at a major conference next week.

Joe stated that it is important that the ICN distinguish itself and with the current trends. One of the big advantages for the ICN would be to provide end to end service for our customers. For example data could be transferred on the ICN backbone rather than transporting via a dedicated fiber link.

Frank stated we have been looking towards this technology for the past year and a half. After the grant, we felt well positioned to move into providing SDN to our customers. The ICN would be interested in identifying some pilot sites, form a small group to review and come up with options of how we might test it in the next couple quarters. Joe Mambretti, Brandon Gant and Jim Flannagan expressed interest in forming a group to discuss how to move forward with SDN. Jim stated we should send a communication to the mailing list.

**Campus Cyber Infrastructure Data Networking & Innovation Program - Anita Nikolich, NSF**

Anita Nikolich was not present. Val Bolinger reminded members that Anita sent a follow up email on March 7<sup>th</sup> regarding the program solicitation. Proposals are due March 24<sup>th</sup> and categories 3, 5 and 6 might be of particular interest to the AET members.

**E-rate Update - Essam El-Beik, Central Management Services**

Essam reported that he is currently working on a state master contract/Request for Proposal for E-rate Category 2. Category 2 allows schools and libraries to receive equipment (for example, routers, switches, access points, i.e. all the equipment they may need in a school or library to support broadband). A school or library would not be required to go through the E-rate 470 competitive bidding process, but may instead order equipment from a preferred master contract, and file form 471. Target date for completion is July 2015.

**Other Items**

The next AET meeting is scheduled for May 15, 2015. Jim Flanagan called for a motion to adjourn the meeting. Scott Armstrong made a motion for adjournment. Alan Pfeifer seconded the motion. The meeting was adjourned at 11:08 a.m. The motion carried.