



**ILLINOIS
CENTURY
NETWORK™**
Central Management Services

Advanced Engineering Task Force Meeting Agenda

May 15, 2015
10:00 a.m.



1 Community Commons Building (CCB)

Academic Advising	Financial Aid
Admissions	Human Resources
Career Services	Next Step
Cashier	Student Records
Executive Offices	

2 Student Commons Building (SCB)

Adult Education	Library
Assessment Center	Disability Support
Bookstore	HALO
Café	Tutoring Services
Career Link	Security

3 Instructional Commons Building (ICB)

Academic Offices:
 Health & Human Services
 Liberal Arts & Social Sciences
 Math, Science & Engineering
McCaughey Gallery
The Writing Center

4 Instructional Commons North (ICN)

5 Physical Plant Building (PPB)

6 Receiving and Storage Building (RSB)

7 Workforce Development Center (WDC)

Academic Offices: Business & Technology Community Education Customized Training	Green Institute Pregracke Center Math Success Center Traffic Safety School
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8 Child Development Lab (CDL)

9 Fitness and Recreation Center (FRC)

10 Astroth Community Education Center (ACEC)

Auditorium	Challenger Learning Center
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11 Normal Readiness Center (IL National Guard)

12 Corn Crib Stadium



Advanced Engineering Task Force Meeting Agenda

Meeting Name: Advanced Engineering Task Force (AET) Quarterly Meeting

Meeting Date, Time, Location: May 15, 2015 - 10:00 a.m.
 Heartland Community College, Normal, IL
 Audio Bridge#: 888-494-4032 Access Code: 8940539699

AET Members

Jim Flanagan	Robert Dulski	Anita Nikolich	Glenn Trommels
Scott Armstrong	Brandon Gant	Jim Peterson	Ed Wagoner
Andrew Bullen	Rich Kulig	Alan Pfieler	Robert Zschernitz
Troy Brown	Herb Kuryliw	Michael Shelton	
Alex Cline	Joe Mambretti	Tracy Smith	
Mike Dickson	Brian Murphy	Brian Tobin	

AET Staff & Guests

Lori Sorenson	John Leonard	Robin Woodsome	Frank Walters
Adam Ford	Essam El-Beik	Michelle Medley	Valerie Bolinger

“X” for Attendee “A” for Audio Attendee “V” for Video Conference

Topic	Presenter
1. Introductions/Roll Call	Jim Flanagan
2. Review Agenda, Approval of Minutes <ul style="list-style-type: none"> • March 20, 2015 Minutes 	Jim Flanagan
3. Old Business <ul style="list-style-type: none"> • On-Net vs. Off-Net Testing • Software Defined Network (SDN) Committee 	ICN Staff
4. New Business <ul style="list-style-type: none"> • Customer Service Orders • 10GE Pricing Proposal • E-rate Update • Network Update • DLM Testing • Illini Cloud Update • AET Membership Reappointments 	ICN Staff Jim Flanagan
5. Other Items	Jim Flanagan

Next Meeting: October 15, 2015 – Heartland Community College, Normal, IL

ILLINOIS CENTURY NETWORK

March 20, 2015 Advanced Engineering Task Force (AET) Minutes

Submitted for: Action

Summary: Distribution of the March 20, 2015 minutes for review by the AET

Action Requested: Adoption of the March 20, 2015 minutes

Recommended Motion: The AET adopts the March 20, 2015 minutes with any edits as noted

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 10th. 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)

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 7th regarding the program solicitation. Proposals are due March 24th 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.

ILLINOIS CENTURY NETWORK

10GE Pricing Proposal

Submitted for: Action

Summary: This item proposes updated pricing for 10GE point to point service for anchor institutions and commercial service providers.

Action Requested: That the Advanced Engineering Task Force approve the adoption and implementation of the listed prices for 10GE point to point service.

Recommended Motion: *The Advanced Engineering Task Force approves the adoption and implementation of the listed prices for 10GE point to point service.*

Current Anchor Institution Pricing for 10GE point to point on wave based solution

For term less than 5 years including month to month:

- \$30,000 install fee
- \$7,925 per month

For term 5 years or greater:

- \$0 install fee
- \$8,000 per month

Proposed Anchor Institution Pricing

For a month to month term:

- \$30,000 install fee
- \$7,925 per month (ie. same as current pricing)

For term between 1 year and 5 years:

- \$30,000 install fee
- \$4,500 per month

For term 5 years or greater:

- \$0 install fee
- \$4,500 per month

Current Commercial Pricing for 10GE point to point on wave based solution

For term less than 5 years including month to month:

- \$30,000 install fee
- \$9,175 per month

For term 5 years or greater:

- \$0 install fee
- \$9,750 per month

Proposed Commercial Pricing

For term between 1 year and 5 years:

- \$30,000 install fee
- \$5,000 per month

For term 5 years or greater:

- \$0 install fee
- \$5,000 per month

ILLINOIS CENTURY NETWORK

ICN Network Update May 15, 2015

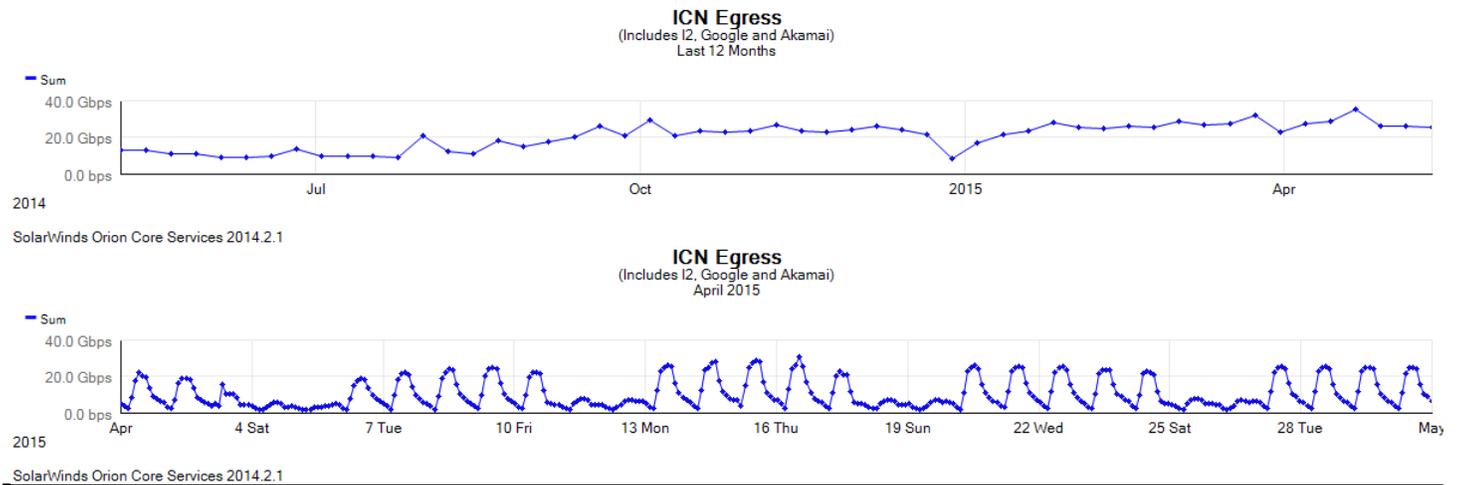
Submitted for: Information

Summary: This item provides an update on the ICN Network

Action Requested: None

Recommended Motion: *None*

ICN Network Update May, 2015



Egress

- Proceeding with procurement for internal DDoS protection. This will cover all providers.
- Working with providers to establish path to 40G and 100G burstable transport.

Backbone

- No changes.
- Outside of the planned maintenance window, the backbone has been 100% operational.

Procurements & Contracts

- Cisco Maintenance and Hardware – In Progress
- DDoS Protection for Internal customers.

Services

- On Net vs. Off Net Testing for Customers – Testing complete, the technology works

Other Notes/Projects:

- **Macomb to Moline via Galesburg.**
Moline POP Site move
Bid issued, Received/Reviewing bids now

Fiber Work / Customer Adds

- McHenry Build
Contractor is reporting that we should have test results by the week of 3/8. Several locations where the conduit was damaged, repaired by vendor.
- SIUE Build
Service orders signed and build and permitting work starting. Expected to be complete by the end of the fiscal year.
- Chicago REP Turnup. Waiting on Eisenhower path to complete the ring.
- Steady stream of splice and new customer work.

SDN

- Subgroup is beginning to meet and will update on progress. The goal is to make sure that we are ready, and have one or more pilot cases to work with over the next year or so. Members who expressed interest: Anita Nikolich, Tracy Smith, Joel Mambretti, Brandon Gant and Jim Flanagan.

ILLINOIS CENTURY NETWORK

Advanced Engineering Task Force (AET) Membership Renewals

Submitted for: Action

Summary: This item is a summary of the current Advanced Engineering Task Force membership including those individuals whose terms will expire June 30, 2015.

Action Requested: That the Policy Committee approves the confirmation of the new member and renewal of those appointments as requested, that expire in 2015

Recommended Motion: *The Policy Committee approves the confirmation of new members and renewal of those appointments that expire in 2015.*

ILLINOIS CENTURY NETWORK

ADVANCED ENGINEERING TASK FORCE MEMBERSHIP

The Advanced Engineering Task Force (AET) serves a critical role in shaping the services, rates and policies for the Illinois Century Network. Membership consists of technical staff representing the diverse community anchor institution categories connected to the network. AET members are appointed by the Policy Committee and serve staggered three year terms which begin on July 1st.

Attached is a chart of current members with the expiring terms highlighted. Reappointments and new members will be presented at the July Policy Committee meeting.

The AET is seeking reappointment for the following members whose terms expired in June 2015. The new three year term would extend through June 2018.

1. Jim Flanagan, IL Chief Technology Officer
2. Scott Armstrong, Kishwaukee College
3. Rich Kulig, COD
4. Joe Mambretti, Northwestern University
5. Herb Kuryliw, Northern Illinois University
6. Brandon Gant, CARLI
7. Michael Shelton, SIU-C
8. Rob Zschernitz, Field Museum of Natural History
9. Glen Trommels, City of Rockford

The staff recommends adoption of the following resolution:

The ICN Policy Committee approves the confirmation of the new member and renewal of those appointments as requested, that expire in 2015.

Advanced Engineering Task Force Member Matrix FY 2015

K-12 Schools	Community Colleges	Universities	Libraries	Museums	Other Institutions	Units of Local Government
Jim Flanagan II Chief Technology Officers (2015)	*Comm. College Pres. Tech. Counsel Alex Cline (2016)	Michael Shelton SIU (2015)	Andrew Bullen Illinois State Library (2016)	Robert Dulski Brookfield Zoo (2017)	Anita Nikolich National Science Foundation (2017)	Glen Trommels City of Rockford (2015)
Brian Tobin DeKalb CUSD 428 (2016)	Alan Pfeifer Sauk Valley Comm. College (2017)	Mike Dickson (2016)	Brandon Gant CARLI (2015)	Rob Zschernitz Field Museum of Natural History (2015)		
Jim Peterson Bloomington Schools (2016)	Rich Kulig COD (2015)	Joe Mambretti Northwestern University (2015)	Troy Brown Shawnee Library System (2017)			
Ed Wagner Chicago Public Schools (2016)	Scott Armstrong Kishwaukee Comm. College (2015)	Tracy Smith UIUC (2016)				
		Brian Murphy EIU (2017)				
		Herb Kuryliw NIU (2015)				