ILLINOIS CENTURY NETWORK™

Illinois Department of Innovation & Technology

Advanced Engineering Task Force Meeting Agenda

September 16, 2016
10:00 a.m.

1 Community Commons Building (CCB)

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

2 Student Commons Building (SCB)

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

3 Instructional Commons Building (ICB)

Academic Offices:
- Health & Human Services
- Liberal Arts & Social Sciences
- Math, Science & Engineering

McCauley 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

8 Child Development Lab (CDL)

9 Fitness and Recreation Center (FRC)

10 Astroth Community Education Center (ACEC)

Auditorium
Challenger Learning Center

11 Normal Readiness Center (IL National Guard)

12 Corn Crib Stadium

Main Campus

1500 W. Raab Road • Normal, Illinois 61761
(309) 268-8000 • www.heartland.edu

HEARTLAND COMMUNITY COLLEGE

Advanced Engineering Task Force Meeting Agenda

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

Meeting Date, Time, Location: September 16, 2016 - 10:00 a.m.
Heartland Community College, ACEC Room 2210 or connect via WebEx

Join WebEx Meeting Access Code # 287 361 075
Meeting password: AET2016
Join by phone toll free #1-855-797-9485

AET Members

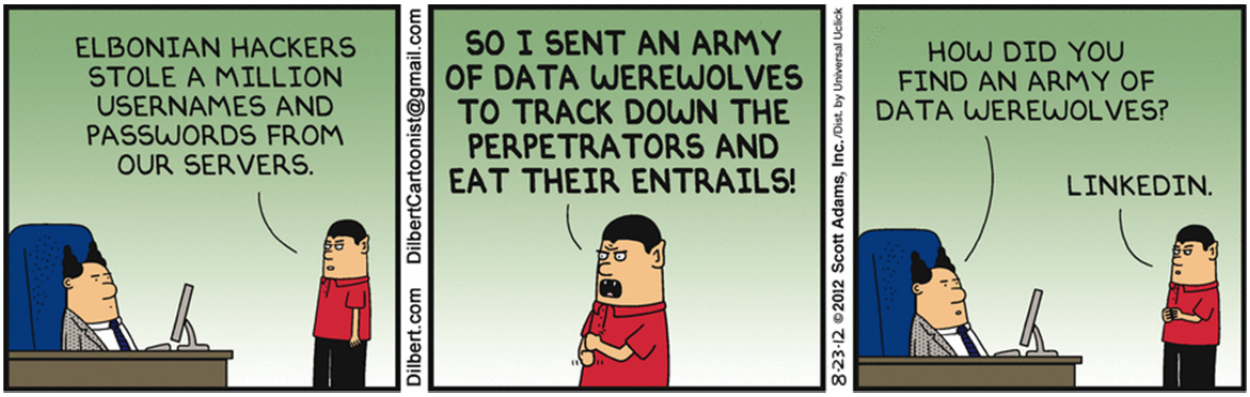
	Jim Flanagan, Chair		Amin Kassem		Anita Nikolich		**New Members**
	Andrew Bullen, Co-Chair		Rick Kulig		Michael Shelton		Tom Donovan
	Troy Brown		Herb Kuryliw		Raj Siddaraju		Mindy Fiscus
	Mike Dickson		Joe Mambretti		Tracy Smith		Matthew Pennell
	Robert Dulski		RJ McGarry		Glenn Trommels		Shannon Smith
	Brandon Gant		Brian Murphy				

AET Staff & Guests

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

"X" for Attendee "W" for WebEx "V" for Video Conference

Topic	Presenter
1. Introductions/Roll Call	Jim Flanagan/Andrew Bullen
2. Review Agenda, Approval of Minutes [Action] • May 20, 2016 Minutes	Jim Flanagan/Andrew Bullen
3. Old Business [Informational] • Software Defined Network (SDN)	Frank Walters
4. New Business • E-rate Update [Informational] • K-12 Broadband Initiative [Informational] • Network Update [Informational] • ICN Services • DoIT Security Services & Best Practices [Informational] • IlliniCloud • 2017 Meeting Schedule [Action]	 Essam El-Beik Essam El-Beik Frank Walters & Adam Ford Robin Woodsome Joe Anderson Jim Flanagan/Mindy Fiscus Jim Flanagan/Andrew Bullen
5. Other Items	Jim Flanagan/Andrew Bullen



ILLINOIS CENTURY NETWORK
MAY 20, 2016 ADVANCED ENGINEERING TASK FORCE (AET) MINUTES

Submitted for:	Action
Summary:	Distribution of the May 20, 2016 minutes for review by the AET
Action Requested:	Adoption of the May 20, 2016 minutes
Recommended Motion:	*The AET adopts the May 20, 2016 minutes with any edits as noted*

ILLINOIS CENTURY NETWORK
May 20, 2016 ADVANCED ENGINEERING TASK FORCE (AET) MINUTES

Introductions/Roll Call
At 10:04 a.m. the Advanced Engineering Task Force meeting was convened by Andrew Bullen, Co- Chairman of the AET who welcomed everyone. Michelle Medley proceeded with the roll call.

Members at Heartland Community College

Andrew Bullen, Co-Chair, Illinois State Library	Rich Kulig, College of DuPage
Mike Dickson, Western Illinois University	Tracy Smith, University of Illinois
Robert Dulski, Brookfield Zoo	Glenn Trommels, City of Rockford
Brandon Gant, CARLI	

Members via Audio Bridge/WebEx

Jim Flanagan, Chair, Illini Cloud	Joe Mambretti, Northwestern University
Troy Brown, IL Heartland Library System	RJ McGarry, Kishwaukee Community College
Tom Donovan, Aptickisick (New Member)	Alan Pfeifer, Sauk Valley Community College
Mindy Fiscus, Area 6 S.E. IL (New Member)	Kenneth Sem, Chicago Zoological Society
Doug Brooks, ICCCA Technology Commission (Alternate for Amin Kassem)	Michael Shelton, Southern Illinois University

Members absent:

Herb Kuryliw, Northern Illinois University	Anita Nikolich, National Science Foundation
Brian Murphy, Eastern Illinois University	Raj Siddaraju, Spoon River College

Staff & Guests:

Valerie Bolinger, Central Management Services	Essam El-Beik, Central Management Services
Adam Ford, Central Management Services	John Leonard, Central Management Services
Michelle Medley, Central Management Services	Robin Woodsome, Central Management Services

Meeting Minutes - Andrew Bullen, Co-Chairman
Andrew Bullen introduced the first item on the agenda, approval of May 20, 2016, meeting minutes. A motion was made by Rich Kulig to accept the minutes. The motion was seconded by Glenn Trommels. The motion carried.

Old Business
Software Defined Network (SDN) - Frank Walters, Central Management Services
Frank Walters informed members that Tracy Smith prepared a written report. The SDN committee held a very productive meeting. Members in attendance included staff from the Department of Energy, UIUC Networking staff and various faculty. Each participant provided a unique perspective. Some of the items discussed included bandwidth management, centralized configuration, virtual tap, DDoS, virtualization, encryption and much more. The committee is researching options to create a lab/test environment to assess and evaluate SDN technology. The ICN could provide dedicated access for production traffic between SIUC, UIUC and Starlight. Additional discussion held regarding open source implementation, future brainstorming sessions and committee goals. Andrew Bullen made a motion to proceed with SDN research, seconded by Bob Dulski. Motion passed.

New Business

E-rate Update - Essam El-Beik, Illinois Century Network

Essam provided report and stated that the E-rate filing window has been extended for schools. The window has new closing date of May 26, 2016. The extension is due to unexpected complications with the implementation of USAC's new IT system. Consortia and libraries rely on discount rate information from their members/related school districts, hence, the reason for the second closing date. Application review has begun. USAC states there should be sufficient funding for all plausible demand scenarios for funding year 2016, so filers should not be worried about losing funding as a result of the second window.

The ICN team continues to work hard responding to E-rate bids. Thus far, ICN has responded to 597 bids. ICN reviews all sites for a possible ICN fiber build. Bandwidth requested is two to three times the level of last year.

As we are responding to E-rate Form 470's, the biggest issue found is how USAC lists the different service options. For example, when a bid request specifies only "Transport/Internet bundled" we contact the site requesting they issue another bid request specifying "Internet only". (When ICN provides a school or library Internet from an ICN POP, it can only respond to "Internet Only" bid requests). As of May 16, 2016, there are 226 filed E-rate applications with ICN listed as the service provider, with a total funding request of $2,268,772. The responses for Category 2 Internal Connections RFP are still undergoing evaluation. We expect award announcement 2nd quarter 2016.

K-12 Broadband Initiative - Essam El-Beik, Illinois Century Network

Essam El-Beik reported that Illinois was selected to participate in the National Governors Association (NGA) effort to expand K-12 broadband and digital learning. Illinois representative from ICN, Illinois State Board of Education (ISBE) and the Governor's office attended a 2 day policy academy with NGA and Education SuperHighway (ESH) on March 31 – April 1 2016. Short and long term action resulted from the policy academy. Key actions and milestones completed in the past three months include, presentations to key Illinois education stakeholders at multiple forums, including ISBE Board meeting, ISBE stakeholder meeting, Illinois CTO Conference, Large Unit District Association (LUDA) conference; press release issued by Illinois State Board of Education (ISBE) regarding expanding access to K-12 broadband and participation in the Digital Learning Policy Academy; ESH supported by the Learning Technology Centers (LTC) have created a target list of school districts for outreach. ESH are currently contacting the target school districts to provide fiber consultancy support (for example build versus buy for fiber) and bandwidth upgrade support (for those districts that appear to be fully fiber connected but not meeting the 100kbps per student goal); hosted two webinars with Illinois service providers describing the fiber consulting efforts and submitted comments to the FCC regarding proposed Eligible Services List for E-rate funding year 2017. We will continue to reach out to target school districts and provide fiber consulting and bandwidth upgrade support and plan to host 2 more E-rate Category 2 workshops. A second Policy Academy meeting will be held October 17–19, 2016.

Department of Innovation & Technology - Robin Woodsome, Central Management Services

Robin Woodsome provided report. The Department of Innovation & Technology (DoIT) is tasked with transforming the state's information technology functions into one agency and to provide better service to Illinois residents and businesses. DoIT will be responsible for delivering statewide, consolidated innovation, information technology and telecom services to

state agencies, boards and commissions, local governments and educational institutions. Their mission is to deliver best in class innovation and technology to client agencies, foster collaboration among client agencies, empower client agencies to provide better service to residents of Illinois, and to maximize the value of taxpayer resources. The Bureau of Communications and Computer Services (BCCS), currently within Central Management Services (CMS) will be consolidated into DoIT on July 1, 2016. The Illinois Century Network will be included in the consolidation and the agency will be led by Hardik Bhatt, the Illinois State CIO and Secretary Designate of the Department of Innovation and Technology.

Network Update - Frank Walters, Central Management Services
Frank referred members to page 11 of the meeting packet. An order has been placed for a 10GB burstable Cogent pipe and staff is working on a cross connect. Work has started on the RFP for Egress. We have experienced higher peaks on DDoS attacks and will be changing how we mitigate attacks. The Cisco Maintenance and Hardware contract has been finalized. The locate RFP is currently under review and the construction RFP is just will be posting shortly. He informed members that the Route Reflector Migration project is complete and stated that we are still working with Meade on IDOT Eisenhower build. The state is committed to moving some of our services out the Data Center and into the Microsoft Azure Cloud. Additional discussion held regarding ICN future services, how to encourage collaboration, how to leverage last mile and fiber builds.

AET Membership - Andrew Bullen, AET Co-Chairman
Andrew referred members to page 15 of the meeting packet. The AET is seeking approval on the appointment of a new member Mathew Pennell, Technology Coordinator, Regional Office of Education, District 20. Andrew asked for a motion for approval of the membership of Matthew Pennell. A motion was made by Glenn Trommels. The motion was seconded by Mike Dickson. The motion carried.

Other Items
Essam provided information on the Internet2 webinar scheduled June 1, 2016. The webinar will feature James Werle, National Internet2 K-20 Initiative Director and will provide an overview of the benefits of Internet2 and how to leverage this tremendous educational resource, Internet2 is an exceptional community of U.S. and international leaders in research, academia, industry and governments who create and collaborate via innovative technologies.

Andrew Bullen shared information regarding the Illinois Word War One (WW1) Centennial Commission. The Commission educates and provides awareness about WW1. A Centennial celebration will be held April 2017.

Adjournment
Andrew Bullen moved to adjourn the meeting. Motion by Brandon Gant and seconded by Glen Trommels. Motion passed. Meeting adjourned at 11:55 a.m. The next meeting is scheduled September 16, 2016.

ILLINOIS CENTURY NETWORK
E-RATE UPDATE

Submitted for:	Information
Summary:	This item provides an update on the E-rate program
Action Requested:	None
Recommended Motion:	*None*

ILLINOIS CENTURY NETWORK
E-RATE UPDATE HERE

In preparation for the upcoming E-rate season the DoIT legal and ICN teams are finalizing contracts with the awarded vendors for the Category 2 RFP issued late last year. The awarded vendors are CDW for WLAN/WiFi equipment, Ficek for cabling and Education Networks of America (ENA) for managed broadband services.

The ICN team is also investigating potential fiber builds to E-rate applicants. Locations are identified based on E-rate data and the knowledge base of RTC staff. Within the next two weeks we will begin outreach to identified E-rate applicants to explain more about the ICN fiber build program and how to take advantage of the new E-rate rules.

ILLINOIS CENTURY NETWORK
K-12 BROADBAND INITIATIVE

Submitted for:	Information
Summary:	This item provides an update on the K-12 Initiative
Action Requested:	None
Recommended Motion:	*None*

ILLINOIS CENTURY NETWORK
K12 BROADBAND INITIATIVE HERE

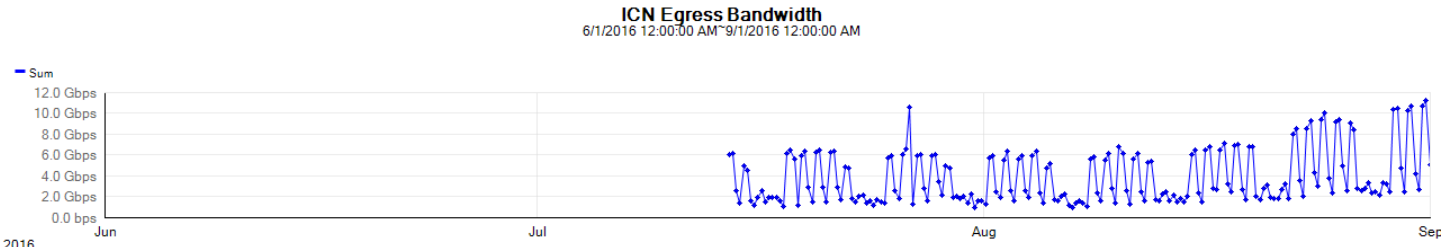
As communicated in prior meetings, the State of Illinois is working with the National Governors Association (NGA) and Education SuperHighway (ESH) to expand K-12 Broadband and Digital Learning throughout Illinois. Key activities of the working group include:

- Following outreach and conference calls with school districts, ESH have a target list of school districts requiring broadband upgrade. This list has been communicated to Illinois service providers (including ICN) to solicit interest in providing the school locations with broadband connectivity. ICN has responded for those school districts close to ICN fiber.
- Mailings have been sent and a webinar scheduled for September on the "Illinois Classroom Connectivity Initiative", the external branding for this work.
- The 2nd NGA/ESH policy academy is planned for October 17-19th in Denver, Colorado. There will be representation from ICN, Illinois State Board of Education (ISBE), the Governors Office and the Learning Technology Centers (LTC). NGA, ESH and other state representatives will be present.

ILLINOIS CENTURY NETWORK
NETWORK UPDATE

Submitted for:	Information
Summary:	This item provides an update on the Network.
Action Requested:	None
Recommended Motion:	*None*

ILLINOIS CENTURY NETWORK
NEWORK UPDATE HERE



Egress

- Cogent Completed.
- Egress RFP in progress.
- Higher peaks due to DDoS Attacks on constituents.

Procurements & Contracts

- Cisco Maintenance and Hardware – Awarded CDW
- Locate RFP – Cost Savings - in progress
- Construction RFP – more diverse vendors for competition - almost ready

Backbone and related projects

- Distribution Consolidation In Progress
- Dekalb POP Site Completed
- Route Reflector Migration Complete
- IPv6 project: supporting IPv4 only and IPv6 only customers
- ASR Deployment – 7600 sunset, Adam is placing last order now
- IDOT/CTA Eisenhower Construction complete

Services

- Multipoint Customer Network
    - (ICN as a NAP)
- CMS/State of Illinois moving to Equinix Cloud "bridge." Access to Azure (and others) Order being processed now
- Cloud Exchange Spinning up (Office 365 – Azure access for customers/agencies)

Other Notes/Projects:

- Macomb to Moline via Galesburg operational
- Galesburg ILA Site Move Completed
- Moline POP Site move completed, now migrating customers
- Erate work spinning back up

Fiber Work / Customer Adds

- SIUE Build, Department of Corrections Builds (4), Vandalia completed
- NIU 10G Internet Service – Service turned Up

ILLINOIS CENTURY NETWORK
ICN SERVICES

Submitted for:	Information
Summary:	This item provides an update on ICN Services
Action Requested:	None
Recommended Motion:	*None*

ILLINOIS CENTURY NETWORK
ICN SERVICES

Over the past three months, an ICN Services team has been working on updating our service offering and pricing with the objective of having a refreshed service and pricing model in place in time for the start of the E-rate bid response season.

The Services Team will address the following:

Service Grouping

- Standard Internet Access Package – services which are available to all ICN customers and bundled as part of the standard ICN Internet Access service. Examples include IP Addressing, DNS, and Internet2
- Services Individually Priced – services which may be purchased in addition to those services within the Standard Internet Access Package. Examples include SIP, Colocation, and Content Filtering

Service Costs

- Reduce bandwidth pricing
- Simplify the pricing model
- Identify "go live" date for new model

Add or Remove Services

- Identify new services available July 1, 2017
- Identify new services available July 1, 2018
- Identify any services to discontinue

Service Catalog

- Develop a full service catalog to include pricing, service description, and examples of application
- Establish an agreed upon service name for each service

The recommendations of the Services Team will be presented to ICN leadership by the end of September 2016.

ILLINOIS CENTURY NETWORK
DOIT SECURITY SERVICES & BEST PRACTICES UPDATE

Submitted for:	Information
Summary:	This item provides an update on Department of Innovation & Technology security services and best practices
Action Requested:	None
Recommended Motion:	*None*

ILLINOIS CENTURY NETWORK
DOIT SECURITY SERVICES & BEST PRACTICES

Passwords

- Strong passwords (12 or more characters, mix letters, numbers, special characters)
- Discourage dictionary words, names, etc.
- Consider using passphrases and password safes
- Consider multifactor authentication

Ransomware

- Use least privileged accounts
- Establish patching cycle
    - Especially for adobe, Java and web browsers
- Backup data
- Turn on intrusion prevention
- Educate employees/students/customers
    - Security awareness training
    - Proactively phish
- Ensure you can identify ransomware infections quickly
- Assemble a ransomware remediation team
- Ensure infected machines are isolated quickly to stop spread to shared drives, etc.

Vulnerability Assessments

- Consider a tool that you can use for hardware and application scanning
- Scan applications prior to promoting to production

Education/Information Sharing

- Newsletters, emails, posters, phishing, videos, etc.
- Consider agencies that share data, like MS-ISAC, FBI, Federal Trade Commission, US-CERT, Homeland Security

Best Practice Guidelines Create a solid secure SDLC

- No production data in test/dev
- Identity and encrypt sensitive data
- Stringent patching cycle
- Phish employees
- Password complexity enforcement
- Use multi-factor authentication
- Document breach procedures
- Put your attorneys on speed dial

ILLINOIS CENTURY NETWORK
2017 ADVANCED ENGINEERING TASK FORCE MEETING SCHEDULE

The 2017 meeting schedule is based on four meetings per year, occurring the third Friday of the month of January, March, May and September.

The schedule for 2017 is as follows:

- January 6, 2017
- March 17, 2017
- May 19, 2017
- September TBD

The January and March meetings will be held in Springfield at the Department of Innovation & Technology (DoIT) 120 W. Jefferson Building, second floor video conference room, and at the James R. Thompson Center (JRTC) in Chicago. The May and September meetings will be held in Bloomington at Heartland CC. A WebEx will be available for those members who are unable to attend in person.