



Advanced Engineering Task Force Meeting Agenda

January 19, 2018
10:00 a.m.



Advanced Engineering Task Force Meeting Agenda

Advanced Engineering Task Force (AET) Quarterly Meeting

Date, Time, Location: January 19, 2018 - 10:00 a.m.

Join WebEx Meeting

Meeting password: icn2018

Join by phone: **+1-415-655-0002** - Access Code: 800 890 278

US Toll [Global call-in numbers](#)

AET Members - "X" for Attendee "W" for WebEx "V" for Video Conference

Jim Flanagan, Chair	Robert Dukski	Joe Mambretti	Shannon Smith
Andrew Bullen, Co-Chair	Jim Edwards	RJ McGarry	Tracy Smith
David Antonacci	Mindy Fiscus	Matthew Pennell	Glenn Trommels
Troy Brown	Rick Kulig	Jim Serr	
Mike Dickson	Herb Kuryliw	Michael Shelton	
Tom Donovan	Glen R. Liljeberg	Raj Siddaraju	

AET Staff & Guests

Lori Sorenson	John Leonard	Robin Woodsome	Frank Walters
Andre Bouravnev	Essam El-Beik	Judy Zhu	Valerie Bolinger

AET House Keeping	Welcome & Roll Call Jim Flanagan 10:00 AM – 10:15 AM <ul style="list-style-type: none"> • AET Minutes Jim Flanagan • New AET Meeting Format Frank Walters
ICN Updates	Initiatives 10:15 AM – 10:45 AM <ul style="list-style-type: none"> • K-12 Broadband Essam El-Beik • Smart State Essam El-Beik • E-rate Robin Woodsome • Network Frank Walters
Focus Sessions	Customer/Client Needs Jim Flanagan 10:45 AM <ul style="list-style-type: none"> • Possible Service Offerings <ul style="list-style-type: none"> ◦ Follow-up & New Items ◦ Current Pain Points ICN Future Technology Frank Walters <ul style="list-style-type: none"> • New Technology Discussion
Open Member Discussion	<ul style="list-style-type: none"> • K-12 • Higher Education • Museum, Libraries • Municipalities As Time Allows
Presentation	<ul style="list-style-type: none"> • Archival Storage of Documents 11:40 AM – 12:00 PM
Q & A	

Next Meeting: March 16, 2018

ILLINOIS CENTURY NETWORK
December 8, 2017 ADVANCED ENGINEERING TASK FORCE (AET) MINUTES

Submitted for: Action

Summary: Distribution of the December 8, 2017 minutes for review by the AET

Action Requested: Adoption of the December 8, 2017 minutes

Recommended Motion: *The AET adopts the December 8, 2017 minutes with any edits as noted*

ILLINOIS CENTURY NETWORK
December 8, 2017 ADVANCED ENGINEERING TASK FORCE (AET) MINUTES

Introductions/Roll Call

At 10:05 a.m. the Advanced Engineering Task Force meeting was convened by Jim Flanagan, Chairman of the AET who welcomed everyone. Jim Flanagan proceeded with the roll call.

Members Present & via Audio Bridge/WebEx

Jim Flanagan, Chairman IlliniCloud	Brandon Gant, CARLI
David Antonacci, Associate IT Director	Rich Kulig, College of DuPage
Andrew Bullen, Co-Chair, Illinois State Library	Joe Mambretti, Northwestern University
Tom Donovan, Aptakisik-Trip SC #102	Raj Siddaraju, Spoon River College
Robert Dulski, Brookfield Zoo	Michael Shelton, Southern Illinois University
Mike Dickson	Shannon Smith, Technology Director
Jim Edwards, City of Decatur	
Mindy Fiscus, Learning Technology Center #6	

Members Absent:

Troy Brown, Illinois Heartland Library System	Jim Serr, ICCCA Technology Commission
Herb Kuryliw, Northern Illinois University	Tracy Smith, University of Illinois
RJ McGarry, Kishwaukee Community College	Glenn Trommels, City of Rockford
Matthew Pennell, ROE #20	

Staff & Guests:

Valerie Bolinger, DoIT/ICN	Essam El-Beik, DoIT/ICN
John Leonard, DoIT/ICN	Andre Bouravnev, DoIT/ICN
Robin Woodsome, DoIT/ICN	Judy Zhu, DoIT /ICN

Meeting Minutes

Jim Flanagan, AET Chairman

Jim Flanagan introduced the first item on the agenda, approval of May 19, 2017, meeting minutes. A motion was made by Andrew Bullen to accept the minutes. The motion was seconded by Raj Siddaraju. The motion carried.

AET Membership Report

Jim Flanagan, AET Chairman

The AET is seeking approval on the appointment of Glen R. Liljeberg, the Director of IT for Westmont Village. Jim asked for a motion for approval of the membership revisions. Motion was made by Mike Dickson to accept Glen R. Liljeberg as a new member with a term to expire in June 2020. The motion was seconded by Mindy Fiscus. The motion carried.

2018 AET Meeting Schedule

Jim Flanagan, AET Chairman

The 2018 meeting schedule is based on four meetings per year, occurring the third Friday of the months of January, March, May and September. The 2018 meeting schedule is as follows; January 19, March 16, May 18, and September 21. The first two meetings will be remote meeting, while the last two meetings are to be determined. Some members proposed to visit facilities of vendors or members, and turn meetings into learning opportunities. The motion was made by Andrew Bullen, and seconded by Mindy Fiscus. The motion carried.

ICN Updates

K-12 Broadband Initiative

Essam El-Beik, Department of Innovation & Technology/Illinois Century Network

Essam provided report. In the most recent State of the States Report released by Education Superhighway, (i) 89% of school districts representing 1,255,345 students meet the minimum connectivity goal of 100 kbps per student, (ii) 94% of schools have the fiber connections they need to keep up with the growing bandwidth demand and (iii) \$80.8M of E-rate funding is left to support Wi-Fi network upgrades. Goals for the K12 Broadband Initiative for 2017-2018 include: (i) ensure at least 95% of districts are fully connected via fiber and at least 95% of districts have 100kbps per student (ii) ensure districts have robust Wi-Fi and internal networks and (iii) make high cost upgrades more affordable. To reach these goals, we have updated collateral, general communication and ISBE website; outreached to 60 fiber target districts through various channels; engaged legislators and stakeholders about state matching fund; held informational and training webinars. In January 2018, there will be regional E-Rate workshops, and working teams will continue visiting fiber target districts.

Smart State Initiative

Essam El-Beik, Department of Innovation & Technology/Illinois Century Network

Essam reported that an RFP was issued in 1Q 2017 for Smart Street Lighting, to facilitate Illinois municipality upgrades of street lights to LED lights, including financing options and value add services. Street light upgrades result in significant energy savings typically greater than 50% and provides the foundation for Smart City applications and services. Vendor primary, secondary, and tertiary awards were awarded to Johnson Controls Inc., Globetrotters Engineering, and TEN Connected Solutions. The next steps include contract execution, smart street lighting workshop, web presence, task force meeting, and form municipality group 1. So far, we have over 40 municipalities that have indicated interest.

Software Defined Network(SDN)

Frank Walters, Department of Innovation & Technology/Illinois Century Network

Frank Walters reported that lab review of equipment and controller systems is in process. Three vendors provided equipment, with multiple vendors providing more than one solution. While most systems were heavily datacenter based, the last system evaluated is strongly based in the service provider environment and is by far the most interesting and applicable to our needs and requirements. There is one more vendor yet to be determined. Once the vendor responds and review is completed, the executive summary will be finalized and published. Based on the review and current understanding of the benefits available to the ICN and its customers, staff would like to move forward with the collaborative proof of concept discussed last year.

E-Rate Update

Robin Woodsome, Department of Innovation & Technology/Illinois Century Network

Robin reported that 319 unique Form 470 bids posted for Internet access or Telecommunication services for the service year starting July 1, 2018. ICN staff are responding to bid requests for Internet service via the option of Internet Access/ISP Service Only or Leased Lit Fiber. The Internet Access/ISP Service Only option is our traditional service and requires the customer to secure a transport circuit from a last mile provider. For bid requests listing the option Leased Lit Fiber, ICN will suggest our bundled service of ISP service and transport circuit. USAC has clarified their service options (functions) this year.

ICN Marketing Update

Val Bolinger, Department of Innovation & Technology/Illinois Century Network

Val Bolinger provided report and referred members to pages 19-21 of the meeting packet. From September 2017 to November 2017, ICN participated in 2017 Illinois Municipal League(IML) Conference, Government Technology's Annual Digital Summit, and Government Management Information Science (GMIS) GIANTS Conference. As an exhibitor, the ICN presented information on various services and provided information on

Smart Street Lighting. During the events, Kirk Lonbom, Acting Secretary, and Mike Wons, Chief Technology Officer, reviewed progress to date and introduced central themes that resonated in breakout sessions and panel discussions. Lori Sorenson, Network Operations Manager, discussed services available for local government entities through state master contracts. Starting December 12th continuing through 2018, the ICN will be hosting a series of free webinars “Hacker Hour” focusing on cybersecurity topics. The first webinar will discuss the key steps to prepare and defend against Ransomware. Jeff Thompson, a Security Analyst and Certified Ethical Hacker with DoIT Information Security team will host. Jeff is responsible for preventing, monitoring and reacting to security incidents in State of Illinois agencies. Val also provided fliers of the ICN monthly e-communications. The ICN Connection provides an opportunity to increase awareness of the ICN and our services with customers. The communication provides information on current initiatives, product and service updates and event news.

Network Report Update

Frank Walter, Department of Innovation & Technology/Illinois Century Network

Frank Walters provided reported and referred member to page 18 of the meeting packet. Frank mentioned that Bandwidth needs increasing as customers begin purchasing large quantities, and the progress of Backbone related projects. The Cloud Service up (Office 365/Azure access for customers) is still pending.

Focus Sessions

AET Members

In focus sessions, members discussed customer needs, possible service offerings, ICN future technologies, and AET future business.

Round Table/Member Discussion

AET Members

In round table session, AET members focused on customers from K-12, higher education, museums, libraries and municipalities. Discussion held, topics included current customer stories, business opportunities and future services.

AET Business Discussion

AET Members

AET members discussed future meeting plans, site learning opportunities, vendor presentations, and WebEx opportunities. ICN staff indicated ICN presentation will be available and prepared as requested by AET members.

Adjournment

Jim Flanagan moved to adjourn the meeting. Motion by Andrew Bullen and seconded by Raj Siddaraju. Motion passed. Meeting adjourned at 1:30 p.m. The next meeting is scheduled January 19, 2018.

**ILLINOIS CENTURY NETWORK
NEW AET MEETING FORMAT**

Submitted for: Informational

Summary: This item provides an update on the new AET meeting format.

Action Requested: None

Recommended Motion: *None*

**ILLINOIS CENTURY NETWORK
NEW AET MEETING FORMAT**

AET Meeting Schedule:

Fall	Face to Face	Full AET meeting, discussion and possible internal presentation or Vendor Q&A.
November	Conference Call (2 hours) ?	AET session with emphasis on Focus Sessions, Open Member Discussions and Annual Recommendations.
January	Conference Call (2 hours) ?	AET session with emphasis on Focus Sessions, Open Member Discussions and Annual Recommendations.
March	Face to Face	Full AET meeting, discussion and possible internal presentation or Vendor Q&A.
May	Face to Face	Full AET meeting, discussion and possible internal presentation or Vendor Q&A.

**ILLINOIS CENTURY NETWORK
K-12 BROADBAND INITIATIVE**

Submitted for: Informational

Summary: This item provides an update on the K-12 Broadband Initiative program.

Action Requested: None

Recommended Motion: *None*

ILLINOIS CENTURY NETWORK K12 BROADBAND INITIATIVE

State of Illinois continues to work with the non-profit Education Superhighway for the K-12 Broadband Initiative to ensure all schools have access to scalable and affordable broadband. The goals of the initiative and data recently reported in the State of the States report is given below:

Ensuring all schools are connected to the minimum recommended bandwidth goal

- 631,948 students in 97 school districts still need to be connected to the minimum recommended bandwidth goal of 100kb/s per student
- 1,255,345 students in 756 school districts meet the minimum recommended bandwidth goal

Ensuring all schools have scalable broadband

- 188 schools still need fiber with 70% in rural and small-town communities
- 3,171 schools have fiber infrastructure

Ensuring all schools meet benchmark prices for broadband services

- 202 school districts do not meet national benchmark prices for broadband services
- 482 districts meet benchmark prices for broadband services

Ensuring all schools have upgraded Wi-Fi

- \$80.8 million in Wi-Fi funds still available for 790 school districts
- \$291.5 million was made available for Wi-Fi upgrades in all districts

Action items to address the goals include:

- School district site visits planned for January 8th- January 19th.
- E-rate workshops held by Learning Technology Centers (LTC) with support by Education Superhighway
- Release of Notice of Funding Opportunity in December 2017 by Illinois State Board of Education (ISBE). ISBE intends to include a request for \$6.3 million in its FY 2019 budget recommendation to the General Assembly in January for state matching funds to capture additional federal funds available with a state match.
- 2 service provider meetings to be held on January 16th & 18th – to update service providers on the K-12 Broadband Initiative and to facilitate service provider deployment of broadband
- Education Superhighway support to target fiber districts
- Webinars covering Category 1 and Category 2 services and Compare and Connect K-12 tool

**ILLINOIS CENTURY NETWORK
SMART STATE INITIATIVE**

Submitted for: Informational

Summary: This item provides an update on the Smart State Initiative.

Action Requested: None

Recommended Motion: *None*

ILLINOIS CENTURY NETWORK SMART STATE INITIATIVE

An RFP was issued in 1Q 2017 for Smart Street Lighting, to facilitate Illinois municipality upgrades of street lights to LED lights, including financing options and value add services. Street light upgrades result in significant energy savings typically greater than 50% and provides the foundation for Smart City applications and services. Vendor award was announced on Tuesday 5th December. Awards are:

- Primary – Johnson Controls Inc.
- Secondary – Globetrotters Engineering
- Tertiary – TEN Connected Solutions

Next steps include:

- Contract execution
- Smart street lighting workshop
- Web presence
- Task force meeting
- Form Municipality Group 1 – first municipality group that will utilize the state master contract
 - Over 40 municipalities have indicated interest in this Smart Street Lighting project

**ILLINOIS CENTURY NETWORK
E-RATE UPDATE**

Submitted for: Informational

Summary: This item provides an update on E-Rate.

Action Requested: None

Recommended Motion: *None*

**ILLINOIS CENTURY NETWORK
E-RATE UPDATE**

ICN staff is responding to K12 school and Library E-rate Form 470 bid requests. To date there are 594 unique 470s posted for Internet and transport related services. ICN will response to requests for Internet Access, Fiber based transport with Internet, and fiber builds.

**ILLINOIS CENTURY NETWORK
NETWORK UPDATE**

Submitted for: Informational

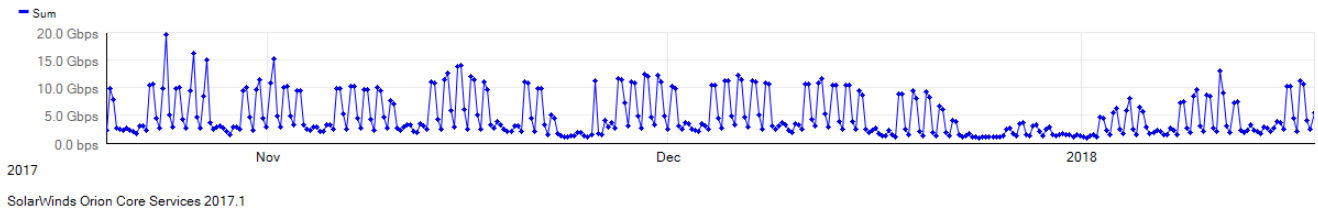
Summary: This item provides an update on ICN Events and Marketing.

Action Requested: None

Recommended Motion: *None*

ILLINOIS CENTURY NETWORK NETWORK UPDATE

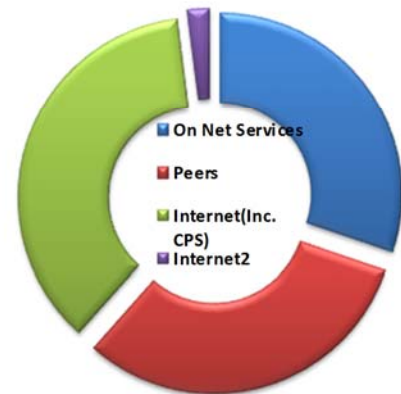
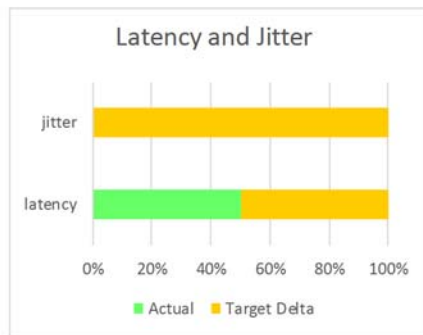
Interface Aggregate Chart - Max bps In
Last 3 Months



Availability Statistics - December 2017

The ICN transmitted an estimated 28.74 Petabytes for customers in December, 2017
 Network Availability for December was 100% with availability for the last year being 99.958%.
 December Network Latency was 10 ms. The ICN Target Latency is 20 ms.
 Network Jitter for that same period was 0 ms while the target Jitter is 5 ms.*

Traffic Levels (Gb)	29.23 Gb
Peak Traffic (Gb)	34.36 Gb
Transmitted Bandwidth	28.74 Pb



**Jitter is reported in ms and when reported as zero generally indicates an average jitter greater than 0 but less than 1ms.*

Egress

- Bandwidth needs increasing as customers begin purchasing large quantities

Fiber

- Decatur Fiber Project awaiting acceptance; Dan Ryan Accident and other fiber related incidents

Backbone and related projects

- New Solarwinds Initiative enterprise wide single platform. New Logging System
- IPv6 project: supporting IPv4 only and IPv6 only customers.
- IDOT/CTA Eisenhower Construction complete, move to new path for backbone.

Other

- MoreNet/Great Plains Network discussion regarding access to Kansas City and Starlight GigaPOPs.

Services

New Services Still Pending

- Cloud Service up (Office 365 – Azure access for customers/agencies)
 - NetMon, AWS and IBM cloud on the horizon.
 - JJC moving to cloud services
- New Services – Robin to update

**ILLINOIS CENTURY NETWORK
FOCUS SESSIONS DISCUSSION**

- Customer / Client Needs
- Possible Service Offerings
- ICN Future Technologies
- AET Business

**ILLINOIS CENTURY NETWORK
ROUND TABLE/MEMBER DISCUSSION**

- K-12
- Higher Education
- Museums, Libraries
- Municipalities

**ILLINOIS CENTURY NETWORK
AET BUSINESS DISCUSSION**

- Future Meeting Planning
- Site Visits – UIUC
- Vendor Presentations
- WebEx Opportunities
- ICN Staff presentations as requested