



Advanced Engineering Task Force Meeting Agenda

March 18, 2016
10:00 a.m.

**ILLINOIS CENTURY NETWORK
JANUARY 15, 2016 ADVANCED ENGINEERING TASK FORCE (AET) MINUTES**

Submitted for: Action

Summary: Distribution of the January 15, 2016 minutes for review by the AET.

Action Requested: Adoption of the January 15, 2016 minutes.

Recommended Motion: *The AET adopts the January 15, 2016 minutes with any edits as noted.*

**ILLINOIS CENTURY NETWORK
JANUARY 15, 2016 ADVANCED ENGINEERING TASK FORCE (AET) MINUTES**

Introductions/Roll Call

At 10:12 a.m. the Advanced Engineering Task Force meeting was convened by Jim Flanagan, AET Chairman who welcomed everyone. Jim proceeded with roll call.

Members via Video Conference (Springfield & Chicago):

Jim Flanagan-Chair, Illini Cloud	Andrew Bullen, Illinois State Library
Mike Dickson	Robert Dulski

Members via Audio Bridge

Amin Kassem, ICCCA Technology Commission	*Tracy Keller, Bloomington SD #87
Rich Kulig, College of DuPage	Herb Kuryliw, Northern Illinois University
Joe Mambretti, Northwestern University	Brian Murphy, Eastern Illinois University
Alan Pfeifer, Sauk Valley Community College	Tracy Smith, University of Illinois

*Representative for Jim Peterson

Members absent:

Troy Brown, IL Heartland Library System	Brandon Gant, CARLI
RJ McGarry, Kishwaukee Community College	Anita Nikolich, National Science Foundation
Michael Shelton, Southern Illinois University	Raj Siddaraju, Spoon River College
Brian Tobin, DeKalb CUSD 428	Glen Trommels, City of Rockford

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 - Jim Flanagan, AET Chairman

Jim Flanagan introduced the first item on the agenda, approval of the January 15, 2016, meeting minutes. A motion was made by Alan Phiefer to accept the minutes. The motion was seconded by Andrew Bullen. The motion carried.

Old Business

Software Defined Network (SDN), Adam Ford, Central Management Services

Adam Ford reported that the SDN committee met and completed several proposals, specifically on establishing a statewide research network for SDN initiatives. The plan of action has been approved and the committee will collaborate universities to build out the network. Tracy Keller and Herb Kuryliw commented that they would like to be involved with plan. Joe Mambretti informed board members that AT&T recently converted half of their network and will soon convert the other half. Google has had SDN in production for the past three years and they have saved millions of dollars. Joe stated that he felt it was the perfect time for the ICN to move to SDN.

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

Essam El-Beik report that ICN/RTC staff is responding to the initial filings for Form 470. USAC recently announced that the filing window for the actual E-rate applications, FCC Form 471, will open "no earlier than January 20, 2016, and will close no close no earlier than March 21, 2016. The RFP for Category 2 (internal connections) deadline was January 11th.

We are currently reviewing and processing the responses. This RFP has been implemented as a vehicle/tool for schools and libraries to purchase products/services through a state contract and encourage them to take advantage of the expanded funding that is available through E-rate.

Network Update – Adam Ford, Central Management Services

Adam Ford referred members to page 7 of packet and provided an overview of the written report.

DDoS - Adam reported that Arbor Peakflow is operational and has been used to mitigate some recent attacks. Owning our own license allows us to quickly mitigate attacks, review actual bandwidth and subscribe rate, then make decisions based on analysis. Thus far, it has been very effective at stopping attacks including botnets and zombies. In November, we successfully mitigated a 9.7 gig attack. Robin Woodsome informed members that DDoS is offered to ICN customers at no cost.

Procurements & Contracts - Adam reported that the Cisco maintenance and Arbor purchase RFP is still in progress.

John Leonard stated that the Locate RFP contract is also in progress and informed members that locate costs are extremely expensive. The ICN reports two/three thousand monthly incidents to JULIE. This RFP will assist with driving down expenses. Herb Kuryliw commented that IFiber is going through the same type of evaluation/risk assessment and are considering other cable providers in their region.

John reported that we are in the process of issuing a new Construction RFP that would target vendors for smaller fiber builds.

Backbone & Related Projects - Adam informed members that the distribution consolidation project is still progressing. By consolidating the routers, we will reduce our footprint by merging state and educational entities onto the same routers. The majority of the Metro E circuits have already been moved and the 7600 ASR equipment is being used to terminate T1 customers. Eventually, the 7600 ASR equipment will be obsolete. Jim Flanagan asked about the disposal of the ASR equipment. Adam stated that CMS has strict rules regarding surplus of equipment. The equipment has reached the end of contractible maintenance and will be sent to property control. Jim asked for additional details regarding CMS surplus to share with committee at the next board meeting.

Adam stated the Router Reflector migration project is complete. Staff is preparing for the IPv6 project and working on a solution to provide IPv4 users access to IPv6 infrastructure.

Adam provided information regarding On Net vs. Off Net and stated that we are looking at offering VRF at a discounted cost to customers to build a Private Education Network.

John reported that the Macomb to Moline via Galesburg POP site build has started. Approximately 30% of the build has been completed. Due to weather constraints, workers have ceased construction and will resume after the weather warms up.

John provided information regarding the IDOT CTA Eisenhower build. We are waiting on a permit from IDOT, once received, we estimate that it will take approximately two weeks to complete. The link should be active in late February or early March. The McHenry build was completed in November. The SIU-E build consists of two different paths, one build to the campus and the second build contains a small lateral to connect the sports stadium. Weather permitting; the build should be complete by the end of January.

Fiber Builds - Essam El-Beik, Central Management Services

Essam reported that we have identified approximately 40 Illinois schools and libraries that are potential candidates for ICN fiber builds. The build of the fiber optic circuit would be managed by the ICN and subsidized by the Federal Communications Commission (FCC) through E-rate. Our E-rate bids responses will include a proposal for a fiber build only cases where it makes sense. The key E-rate rules relevant to the ICN fiber build program are: (1) The FCC has suspended the requirement to amortize over at least three years construction projects that cost over \$500,000. (2)The FCC allows the school or library to pay their portion of the construction cost in installments over up to 4 years. We will respond to approximately 40 customers with Internet service that includes a fiber build quote. After the closing of the E-rate form 471 window, we will know how many fiber build projects we have been awarded.

Jim Flanagan asked if we had an approximate cost for schools per mile/foot for installing fiber and connecting to the ICN. Essam stated that it varies by location and vicinity of the build. Some builds may require underground and/or aerial construction. Essam provided an estimate of \$50K-\$60K on the low end and \$150K-\$200K on the high end. If a school receives a 70% E-rate discount, the FCC will subsidize 70% of construction costs and school would be responsible for the remaining 30%. Further discussion held regarding state contribution discounts.

Proposed Pricing and Bandwidth of 1Gbps to 10Gbps - Robin Woodsome, Central Management Services

Robin referred members to page 11 of the agenda packet and informed members that we have developed a new pricing for bandwidth of 1Gbps to 10Gbps. Andrew Bullen made a motion to approve the new pricing. Bob Dulski seconded the motion. The motion carried.

2016 Meeting Schedule Revision – Valerie Bolinger, Central Management Services

Valerie Bolinger reported that the October 21st meeting will be changed to September 16th to align with Policy Committee 2016 schedule. Mike Dickson made a motion to approve the meeting schedule. Alan Pfeiffer seconded the motion. The motion carried.

Adjournment

Jim Flanagan moved to adjourn the meeting. Motion by Andrew Bullen and seconded by Mike Dickson. Motion passed and meeting adjourned at 11:15 a.m. The next meeting is scheduled March 18, 2016.

**ILLINOIS CENTURY NETWORK
CENTRAL MANAGEMENT SERVICES (CMS) SURPLUS PROPERTY PROGRAM**

Submitted for: Information

Summary: This item provides an update on the CMS Surplus Property program.

Action Requested: None

Recommended Motion: *None*

ILLINOIS CENTURY NETWORK
CENTRAL MANAGEMENT SERVICES (CMS) SURPLUS PROPERTY PROGRAM

Illinois Department of Central Management Services

CMS

Surplus Property

CMS Property Control is charged with the administration and disposal of all surplus personal property generated by state agencies, boards, commissions, universities, and constitutional office-holders, and excess and surplus property no longer needed by the U. S. Government.

State Surplus Property

STATE SURPLUS property is made available by priority to state government entities on a “first come, first serve” basis. A Virtual Warehouse of property available to Illinois state agencies is available [here](#). When property is no longer needed by state government, property is made available next to units of local government (cities, towns, counties, etc.) and non-profit organizations (501c, organizations providing assistance to homeless, food banks, etc.). State Surplus also administers recycling programs. [Our Recycling services](#) help state agencies to properly dispose of or recycle unusable items if they cannot be re-distributed by Surplus Property to other state entities. Local governments, qualifying not-for-profit organizations and the public may view the available State surplus equipment at central warehouse in Springfield Mondays thru Friday (except holidays) from 12:30 p.m. until 4 p.m. A nominal service charge is assessed depending on the age and condition of each item of property to cover overhead costs.

State Surplus Public Auctions (iBid)



Often called "the eBay[®] of Illinois," iBid is the State's online auction website. The iBid web site allows users to browse and bid for items currently available for sale at public auction. Auctions are held weekly at <http://ibid.illinois.gov> and interested bidders can find vehicles, office furniture, electronics, machine shop equipment...and much more each week!

Cities and other local governments in Illinois can apply to become a “Seller” of local government surplus and use the State's surplus property online auction website to dispose of their unneeded equipment. Interested Units of Local Government should call (217) 785-6903. iBid can help local governments reap the highest return to its taxpayers from thousands of interested bidders throughout Illinois and around the world, at significantly lower fees than most online auction services.

Federal Surplus Property



CMS Property Control also administers the distribution of **FEDERAL SURPLUS** property under rules promulgated by the U.S. General Services Administration. Federal Surplus generally includes equipment such as vehicles, electronics, food service equipment, hand-tools, outdoor equipment, etc. Organizations interested in enrollment are typically Units of Local government or provide community-based health or human services (non-profits, museums, libraries, etc.). Federal Property not transferred to eligible organizations, or no longer used or required by the U. S. Government may be sold at public online auction at: <http://gsaauctions.gov/gsaauctions/gsaauctions/>.



Law Enforcement Support Office (LESO)

Illinois law enforcement agencies are eligible for enrollment in a special equipment program administered by the Illinois Department of Central Management Services, **Law Enforcement Support Office Program**. The Secretary of Defense is authorized by Title 10 USC § 2576a, 1033 LESO Program, to transfer to Federal and State Agencies, personal property that is excess to the needs of the DOD and that the Secretary determines is suitable to be used by such agencies in law enforcement activities, with emphasis on counter-drug/counter-terrorism activities, under such terms prescribed by the Secretary. The Defense Logistics Agency (DLA) defines law enforcement activities as activities performed by government agencies whose primary function is the enforcement of applicable Federal, State, and local laws and whose compensated law enforcement officers have powers of arrest and apprehension.

For more information about CMS Property Control, please contact:

CMS Federal & State Surplus Property Division
1924 So. 10 1/2 Street
Springfield, IL 62703
email: Mark.E.Miller@illinois.gov
voice (State): 217.785.6903
voice (Federal): 217.785.6903
voice (LESO): 217.558.1425

**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

The ICN team continues to work hard responding to E-rate bids for school and library broadband connections (E-rate Form 470). The E-rate filing window closes April 29th 2016. The filing window is the final date for the school to submit their funding request to the FCC.

Thus far, ICN has responded to 417 bids. ICN reviews all sites for a possible ICN fiber build. Bandwidth requested is 2 – 3 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).

The RFP responses for Category 2 Internal Connections are undergoing evaluation. We expect award announcement 2nd quarter 2016.

ILLINOIS CENTURY NETWORK K12 BROADBAND INITIATIVE

As communicated in prior meetings, we have been working with Education SuperHighway (ESH) on understanding broadband connectivity in Illinois and planning next steps. ESH issued a draft Connectivity Report on 11th March 2016 which will first undergo internal review. Next steps include working to develop an action plan for Illinois.

In January the National Governors Association Center for Best Practices (NGA Center) in partnership with Education SuperHighway issued an RFP soliciting States to take part in the K-12 Broadband and Digital Learning Policy Academy.

The K-12 Broadband and Digital Learning Policy Academy is a project to assist participating states in expanding and connecting their K-12 broadband and digital learning efforts. The Policy Academy will help governors, and education and technology policy advisors pursue the following aims:

- Support and guide each participating governor's efforts to build vision, momentum and a plan to make broadband more affordable for school districts, bring fiber to schools that lack access, and provide Wi-Fi in every classroom;
- Provide assistance in making the most efficient use of federal and state funding, namely E-rate resources, to increase Internet access and make that access more affordable for schools;
- Assist states to align efforts to expand broadband and Wi-Fi access with efforts to ensure educators are prepared to better use technology resources to improve student learning; and
- Build and educate teams within participating states to strengthen planning and implementation efforts for K-12 broadband access and digital learning, as well as, to develop a learning community among participating states that captures and shares best practices to accelerate and improve the work in each individual state.

Illinois responded to the RFP and was selected to participate in the Policy Academy. A total of six to eight states are expected to participate.

We have the first Policy Academy scheduled for March 31st – April 1st 2016. A second Policy Academy Meeting will be held late summer/early fall with the Policy Academy concluding October 31st 2016.

**ILLINOIS CENTURY NETWORK
NETWORK UPDATE**

Submitted for: Information

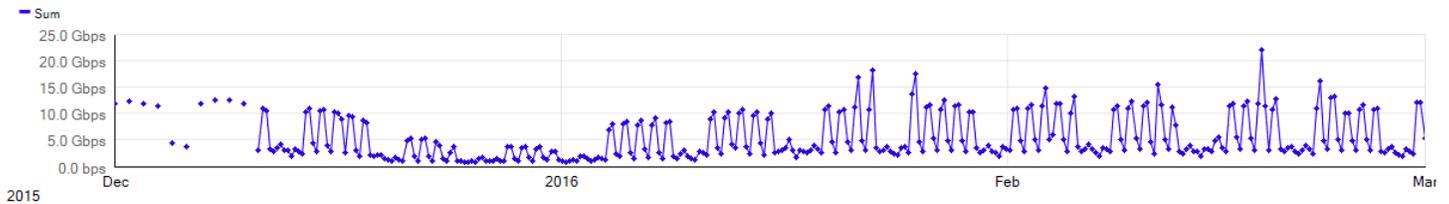
Summary: This item provides an update on the Network

Action Requested: None

Recommended Motion: *None*

ILLINOIS CENTURY NETWORK NETWORK UPDATE

Interface Aggregate Chart - Max bps In
12/1/2015 12:00:00 AM - 3/1/2016 12:00:00 AM



Egress

- Budget Issues
- Order placed for 10G burstable Cogent pipe. Pending Budget
- AT&T increase and Sprint Add due to budget issues

Procurements & Contracts

- Cisco Maintenance and Hardware – Finalized and moving to publish
- Locate RFP – Cost Savings,- in progress
- Construction RFP – more diverse vendors for competition,- in progress

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
- BGPless Core Est. Completion 8/1/2016
- IDOT/CTA Eisenhower Construction almost complete, pending splicing work

Services

- Multipoint Customer Network
 - ICN as a NAP
- CMS/State of Illinois moving to Equinix Cloud "bridge"

Other Notes/Projects:

- Macomb to Moline via Galesburg
- Galesburg ILA Site Move
- Moline POP Site move - permitting issues resolved, work delayed due to weather, restarting mid-March, target end of June
- FYI Significant Tollway intrusive work being done March through June

Fiber Work / Customer Adds

- SIUE Build – Splicing scheduled for April 3rd
- NIU 10G Internet Service – Ready for service
- Chicago REP Turnup is on schedule. Waiting on Eisenhower path to complete the ring
- Steady stream of splice and new customer work

**ILLINOIS CENTURY NETWORK
NEW SERVICE OFFERINGS**

Submitted for: Informational

Summary: This item provides information on new service offerings for community anchor institutions

Action Requested: None

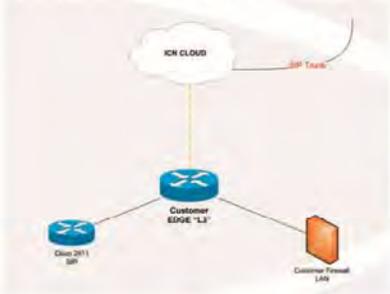
Recommended Motion: *None*

ILLINOIS CENTURY NETWORK NEW SERVICE OFFERINGS

SIP Service – BCCS offers full VoIP services to State Agencies and as such has the infrastructure and expertise to extend that service to all our Community Anchor Institutions. Initially ICN will begin by providing SIP trunking service. Over time, ICN will extend the service to include full IP voice call manager service and support.

By using the ICN SIP service, organizations may use their ICN connection to access the public switched network for both local and long distance services and eliminate the need to maintain a separate PRI service. The service is redundant out of Springfield and Chicago
ICN SIP Services

Smart & Simple Cloud-Based Connectivity For Better Communication!



ICN SIP Services

Monthly Price Per Concurrent Call Path	Monthly Price Per Phone Number	Monthly Price Long Distance Minutes	Monthly Price Unlimited Local Calls
\$28.00	\$0.36	\$0.06	\$0.00

Note: At installation, there will be a one-time charge of \$3,126.00 for a Cisco 2911 router purchase

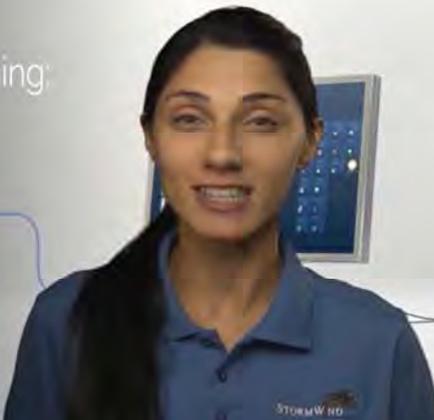
Ready to make the switch?
To receive a customized quote detailing the benefits of utilizing ICN SIP services, contact us today for a free consultation at 800-366-8768 Option 2.

FLEXIBILITY
AGILITY
SECURITY
EFFICIENCY

Discounts on Technical Training – Stormwind is the primary training provider for ICN staff with an extensive library of technical courses provided at significant discounts. ICN has negotiated with Stormwind to extend the ICN discounted pricing to ICN customers. That service is available now. Areas of study include Cisco, Microsoft, VMware, Project Management, Security, Microsoft Office 365, and more. Classes are live on line or self paced.

Why You'll Love Illinois Century Network (ICN) Training:

- ✓ Live Interactive Classes With Replays
- ✓ Complete 1 Year Access
- ✓ 2 Hour College-Style Classes
- ✓ 24x7 Hands-On Lab Access
- ✓ Elite Expert Instructors
- ✓ 94% Cisco Cert Pass Rates
- ✓ **Exclusive ICN Membership Discounts!!**



www.partners.stormwind.com/icn

**ILLINOIS CENTURY NETWORK
T1 CIRCUIT SUNSET DATE**

Submitted for: Informational

Summary: This item provides an update on sunset date for T1 circuits

Action Requested: None

Recommended Motion: *None*

**ILLINOIS CENTURY NETWORK
T1 CIRCUIT SUNSET DATE**

Sunset of T1 Service – ICN has begun the process of moving all our customer connections to MetroEthernet service with an objective of terminating T1 service by June 30, 2017.

For over 15 years, ICN has supported T1 service as a cost effective last mile option available in all parts of the state. Indeed, in past years, T1 service was the primary way the majority of our constituents connected to the ICN. However, with the development and widespread adoption of Metro Ethernet service over fiber, T1 connectivity has declined significantly since it no longer meets the demands for higher levels of broadband service. Further, the cost of maintaining a highly underutilized fixed capacity T1 infrastructure is now costing more than the revenue it is generating.

ILLINOIS CENTURY NETWORK MARKETING & OUTREACH

In 2016, the ICN will focus on several traditional marketing and outreach strategies. Our goal is to increase general knowledge and awareness about new services, value-add services and customer support.

Social Media - We plan to utilize social media opportunities (i.e. Twitter) to supplement and enhance existing relationships with our customers and reach new audiences. Twitter will be used to build interest and “buzz” around timely events, build connections with current and potential new customers and to disseminate prepared key messages.

Conferences & Speaking Opportunities - Conferences offers a rare opportunity to talk face-to-face with active and dedicated members from a specific customer group (i.e. education, local governments, healthcare, etc.). We will continue to actively leverage speaking opportunities, negotiate free or discounted booths, and partner with businesses/organizations.

Scheduled Conferences/Events thus far:

1. Illinois Computing Educators (ICE) Conference: 02/23 – 02/26 (K-12)
2. ICCCA Information Technology Commission Spring Meeting: 05/04 (Higher Education)
3. TECH 2016: 05/10 (K-12)
4. Illinois Law Enforcement Alarm System (ILEAS) Conference: 06/12 – 06/14 (Law Enforcement)
5. Illinois Municipal Leagues (IML) Conference: 09/22 – 09/22 (Local Governments)
6. Government Management Information Services (GMIS) GIANTS Conference: 11/6 – 11/9 (Local Governments)

Marketing Materials & Branding

Revitalization of our brand and identity to help enhance our reputation and strengthen customer loyalty.

1. Design and refresh templates, web content, brochures and materials to increase awareness and educate customers regarding our services (*see attached materials*)
2. Create consistency in our presentation, materials, services and support - so that customers know exactly what to expect every time they deal with the ICN
3. Rejuvenate and focus on value-add services as an antidote for customers opting out
4. Be "consistent"

Webinars

The ICN will host a series of live webinars to provide customers an opportunity to learn about current and future services, share information and provide feedback. Some of the webinars will be designed for a specific audience and will require registration to attend.

**ILLINOIS CENTURY NETWORK
ADVANCED ENGINEERING TASK FORCE MEMBERSHIP**

Submitted for:	Action
Summary:	This item seeks renewal of Advanced Engineering Task Force members whose terms expire June 30, 2016 and approval of new members and the AET vice- chair
Action Requested:	That the AET approves the renewal of those appointments that expire June 30, 2016, approval of new members and the AET vice-chair
Recommended Motion:	That the AET approves the renewal of those appointments that expire June 30, 2016, approval of new members and the AET co-chairman

**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 April Policy Committee meeting.

The AET is seeking reappointment for the following members whose terms expired in June 2016. The new three year term would extend through June 2019.

1. Mike Dickson, Western Illinois University
2. Tracy Smith, University of Illinois
3. Andrew Bullen, Illinois State Library

The AET is not seeking reappointment for the following members whose terms expire in June 2016.

1. Brian Tobin, DeKalb Community Unity SD #428
2. Jim Peterson, Bloomington SD #87

The AET is seeking approval on the appointment of the following new member:

1. Matthew Pennell - Technology Coordinator, Regional Office of Education #20

The AET is seeking approval on the appointment of Andrew Bullen to serve as co-chairman.

The staff recommends adoption of the following resolution:

The ICN Policy Committee approves the confirmation of new member and renewal of those appointments that expire in 2016.

**ILLINOIS CENTURY NETWORK
ADVANCED ENGINEERING TASK FORCE MEMBER MATRIX FY 2016**

K-12 Schools	Community Colleges	Universities	Libraries	Museums	Other Institutions	Units of Local Government
Jim Flanagan IL Chief Technology Officers (2018)	*Comm. College Pres. Tech. Counsel Amin Kassem	Michael Shelton SIU (2018)	Andrew Bullen Illinois State Library (2016)	Robert Dulski Brookfield Zoo (2017)	Anita Nikolich National Science Foundation (2017)	Glen Trommels City of Rockford (2018)
Brian Tobin DeKalb CUSD 428 (2016)	Alan Pfeifer Sauk Valley Comm. College (2017)	Mike Dickson (2016)	Brandon Gant CARLI (2018)			
Jim Peterson Bloomington Schools (2016)	Rich Kulig COD (2018)	Joe Mambretti Northwestern University (2018)	Troy Brown Illinois Heartland Library System (2017)			
Ed Wagner Chicago Public Schools (2016)	RJ McGarry Kishwaukee Comm. College (2018)	Tracy Smith UIUC (2016)				
	Raj Siddaraju Spoon River College (2018)	Brian Murphy EIU (2017)				
		Herb Kuryliw NIU (2018)				

*Standing Board Position

**ILLINOIS CENTURY NETWORK
ADVANCED ENGINEERING TASK FORCE MEMBERSHIP ATTENDANCE**

Member	1/16/2015	3/20/2015	5/15/2015	10/9/2015	1/15/2016
Jim Flanagan, Chair	X	X	X	X	X
Troy Brown			X		
Andrew Bullen	X	X			X
Mike Dickson	X	X	X	X	X
Robert Dulski	X	X	X	X	X
Brandon Gant		X	X	X	X
*Amin Kassem				X	X
Rich Kulig	X	X	X	X	X
Herb Kuryliw		X	X		X
Joe Mambretti	X	X	X	X	X
*RJ McGarry				X	X
Anita Nikolich	X			X	
Jim Peterson	X				X
Alan Pfeifer	X	X		X	X
Mike Shelton	X	X			
Raj Siddaraju			X		
Tracy Smith	X		X	X	X
Brian Tobin	X	X			
Glen Trommels	X	X		X	

*New Board Members, joined 10/9/2015

**ILLINOIS CENTURY NETWORK
ILLINI CLOUD UPDATE**

Submitted for: Informational

Summary: This item provides an update on Illini Cloud

Action Requested: None

Recommended Motion: *None*

IlliniCloud Update

- Another Districts Treasures (ADT)
 - Web resource for sharing and making resources available to K-12 education in Illinois. - <https://adt.illinicloud.org/home>
 - Focuses
 - The Treasure Chest
 - A tool for sharing technology that might be useful to schools
 - a school is donated 10 Cisco WAPs by a local business. But, they have standardized on Aerohive. They can make them available for a Cisco district to claim.
 - Another school is doing a complete upgrade of their network but some of their routers could be useful to a smaller school.
 - The Projects Incubator
 - A place for a school to propose a project with a list of needed items and donors can support this project
 - The Second Opinion Service (SOS)
 - A way to tap the communal wisdom of the EdTech Community. Here you can request and share information needed to support a colleagues project. The information exchange is kept private to encourage frankness. It is also a way for experts in various areas to share their expertise with their peers.
- The K-12 Federation
 - A collaboration between IlliniCloud and partners from Nebraska, Nevada and New York to share a range of tools that have been developed to support K-12 learning around the Federated Service Stack for K12.
 - These services primarily focus on how we are collectively taking a standards-based approach that aligns with district need for ownership and security of their identity, data and presentation and the policy implications for districts.
 - IlliniCloud is testing a collection of services based around:
 - the IlliniCloud Data Ingestion and Reporting Solution - by CPSI
 - Use of the IlliniCloud Operational Data Store
 - ISBE SIS Automation
 - IlliniCloud's Identity Solution - powered by Aegis Identity
 - IlliniCloud's Portal Solution - powered by UPortal
 - These services are currently available to schools from IlliniCloud - <http://www.illinicloud.org/services>



SIP Trunking Services

The Illinois Century Network (ICN) is now offering Session Initiation Protocol (SIP) services that will deliver a cost-effective way to consolidate voice and Internet traffic over a single broadband connection by using your existing IP PBX, TDM PBX or Key System. Customers reduce their overall spend by removing idle and un-used technologies. Pay for only what you use and decrease your costs!

What is SIP Trunking?

SIP Trunking is the standard communication protocol for voice and video solution across a data network. A SIP trunk replaces the need for a traditional analog line and basically provides a "virtual" phone line connecting your campus voice services to a cloud-based solution.

Do More With SIP!

- Support for 911 and E911 calling
- Built in redundancy on the ICN network
- Pay only for what you need with simple monthly pricing
- Decrease your monthly costs by removing old analog phone lines
- Use existing telecom infrastructure and combine voice and data on one circuit
- Dynamically allocate bandwidth to allow for variations in call volume and data usage

Schedule a free one-on-one consultation for a personalized assessment of your telecom infrastructure. We will provide advice, suggestions and solutions for your individual installation needs. Contact the ICN today to get CONNECTED!

COST EFFICIENT

Combine your voice and data on one circuit and realize significant cost savings for your schools and school districts.



OPTIMIZE BANDWIDTH

The ICN can adjust the amount of bandwidth dedicated to voice and data, allowing it to remain available for data when not used for voice.



FLEXIBILITY

AGILITY

SECURITY

EFFICIENCY



Contact Us Today!

For more information, contact your local Regional Technology Center or visit www.illinois.net.
General Inquiries: 800-366-8768 Option 2 | cms.bccs.icn@illinois.gov



BENEFITS AT A GLANCE:

FLEXIBILITY:

Compatible with IP PBX, TDM PBX or Key System

RELIABILITY:

Voice traffic resides on the ICN backbone and never touches the public Internet

SCALEABLE:

Easily and quickly add or remove users and applications as needed

OPTIMIZE BANDWIDTH:

The ICN can adjust the amount of bandwidth dedicated to voice and data, allowing it to remain available for data when not used for voice

SECURITY:

Maintain integrity and privacy by using a secure enterprise cloud architecture

QUALITY OF SERVICE (QoS):

Guaranteed QoS for clear call quality and reliable voice calls

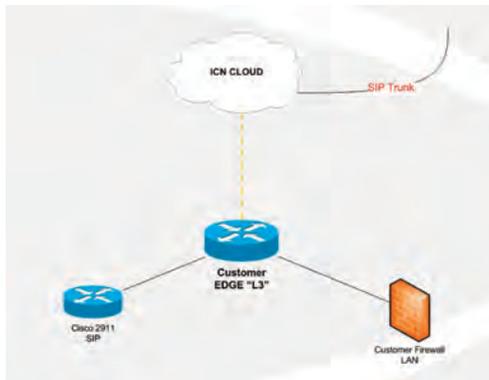
COST SAVINGS:

Use existing telecom infrastructure and combine voice and data on one circuit

24/7 SUPPORT:

Experienced support technicians are available around the clock to answer questions

Smart & Simple Cloud-Based Connectivity For Better Communication!



ICN SIP Services

Monthly Price Per Concurrent Call Path	Monthly Price Per Phone Number	Monthly Price Long Distance Minutes	Monthly Price Unlimited Local Calls
\$28.00	\$0.36	\$0.06	\$0.00

Note: At installation, there will be a one-time charge of \$3,126.00 for a Cisco 2911 router purchase

Ready to make the switch?

To receive a customized quote detailing the benefits of utilizing ICN SIP services, contact us today for a free consultation at 800-366-8768 Option 2.

FLEXIBILITY

AGILITY

SECURITY

EFFICIENCY

ICN Staff & Support

Your Trusted Advisors for Technology Excellence

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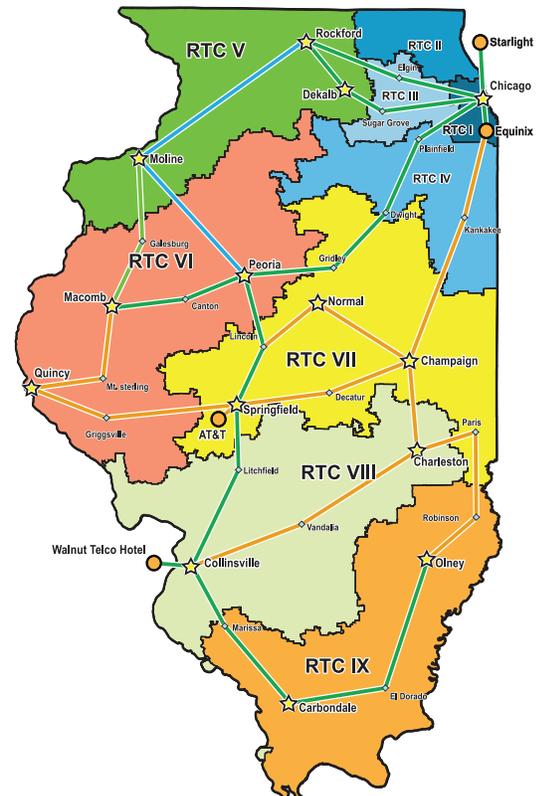
Your Next Step!

Contact your local Regional Technology Center today to get CONNECTED! Find your local RTC office contact details at www.illinois.net and don't hesitate to call us at 800-366-8768 Option 2.

Your Feedback is Important to Us!

Connect with us! Your feedback is important to us and we would appreciate your input on ways to service you better. Our goal is to deliver high-quality and efficient services. Please tell us how we are doing by sending your comments to cms.bccs.icn@illinois.gov.

ICN Network Backbone





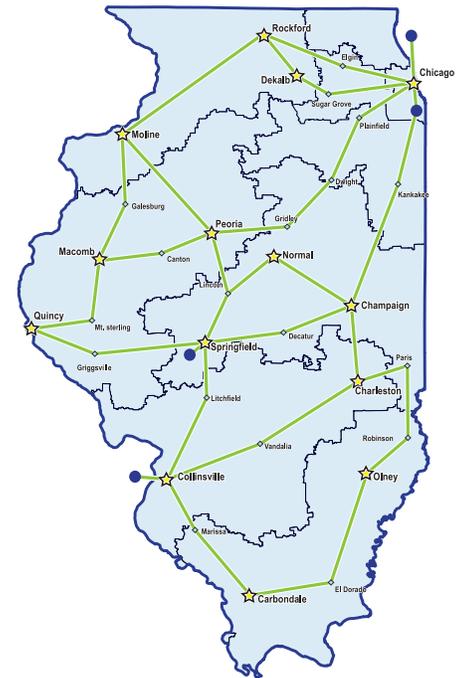
ICN Fiber Services

To improve statewide broadband access, the Illinois Century Network (ICN) completed a three year effort to migrate our statewide backbone to a fiber optic network capable of 1.6 terabits per second (Tbps). In conjunction with ICN's goal to ensure all Illinois schools and libraries have affordable and scalable broadband connectivity, there are currently over 400 Community Anchor Institutions now directly connected with cost-effective fiber capable of speeds of 100 megabits (Mbps) to 10 gigabits per second (Gbps).

Let the ICN Bring Fiber to You!

ICN has the experience and technical expertise to deliver cost-effective solutions to address your current and future bandwidth needs. We offer a turnkey solution for customers looking for long term connectivity options. Large or small, the ICN will manage your fiber installation project by taking care of design, construction, ongoing maintenance, locates, moves and 24/7 repair. Fiber builds are E-rate eligible and schools and libraries may apply individually or as a consortium to significantly reduce the cost of the build (see fiber build example below). The ICN is an E-rate authorized service provider and our staff will assist you with every step of the process. Once the cost for the fiber build is recovered, ongoing costs will be reduced to only the maintenance cost. Contact the ICN today to get CONNECTED!

ICN BACKBONE



Fiber Build Example With 80% E-rate Discount:

Build Cost	\$65,000.00	100Mbps Bandwidth + 1Gbps Transport	Total	Monthly Cost
Amortized 36 months	\$1,805.56	\$850.00	\$2,655.56	\$531.11
Amortized 60 months	\$1,083.33	\$850.00	\$1,933.33	\$386.67
After build cost is recovered	-	\$850.00	\$850.00	\$170.00

SCALEABLE	HIGH-BANDWIDTH	E-RATE ELIGIBLE	24/7 SUPPORT
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Contact Us Today!

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General Inquiries: 800-366-8768 Option 2 | cms.bccs.icn@illinois.gov



BENEFITS AT A GLANCE:

SCALABLE:

Long term broadband solutions scalable from 100Mbps to 10Gbps

STABILITY:

The ICN backbone is fully redundant and we will manage your fiber connection end to end

FAST & RELIABLE:

Our network was designed for optimal performance and will deliver high speed and reliable services

FULLY E-RATE ELIGIBLE:

Interconnect your local campus fiber network to the ICN and realize cost savings through the E-rate process

SECURITY:

Your connection is secure and protected using state-of-the-art tools to defend against DDoS attacks and malicious activity

SYMMETRICAL & GUARANTEED:

Guaranteed symmetrical connections, upload and download files at the same speeds

ACCESSIBILITY:

Access to cloud services, advanced Internet applications on Internet2 and HD streaming

24/7 SUPPORT:

The ICN will monitor your connection 24/7 and engage the proper teams to restore service quickly

Smart Communities - ICN Fiber Builds



FAST & RELIABLE

SYMMETRICAL

SECURE

ACCESSIBILITY

ICN Staff & Support

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Your Next Step!

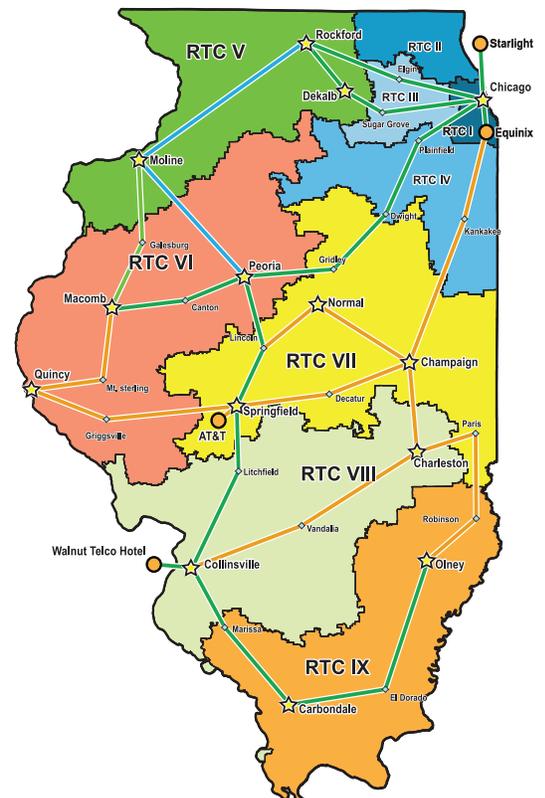
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What Our Customers Say!

Mark Latham, City Manager, City of Highland

"The more businesses we get on the network, the more we will all benefit. It used to be location, location, location. Now it is location but communication and communication."

ICN Network Backbone





DDoS Attack: Who is at risk? Simply Put: Everyone



What is DDoS?

A distributed denial-of-service (DDoS) attack is an attempt to make an online service, website or network unavailable by overwhelming it with traffic, stopping even legitimate traffic. In some cases, an attack can be used as a diversion for other malicious activities such as taking down security appliances (e.g. web application firewalls). Launching an assault no longer requires specialized technical skill, allowing even a novice to generate a DDoS attack. DDoS attacks vary in length from a few minutes to several days. DDoS threats have matured in both volume and sophistication. Unfortunately, the chance of being attacked has never been higher.

What sets ICN DDoS protection apart from other service providers?

Many service providers withhold mitigation until the customer agrees to purchase their DDoS service. Unlike those providers, performance and maintaining the integrity of our customers' data and network is our highest priority. As a value-added service, we provide both on and off-net mitigation services and deliver the best in class DDoS protection for ICN customers at no additional cost.

DDoS Mitigation

A DDoS attack requires a proactive approach, one that identifies the malicious activity and mitigates the attack immediately to protect business continuity and ensure resource availability. Our DDoS detection tools identify attacks based upon unexpected traffic patterns. During mitigation, we will redirect attack packets and allow legitimate data to be routed to the proper destination. We have the capacity to mitigate large attacks and stop harmful traffic before it reaches our customers. If your site is the target of a DDoS attack, ICN engineers are available 24/7 to provide DDoS protection and quickly block attacks to restore your services.

MONITOR & DETECT 
Our state-of-the-art DDoS monitoring and detection tools are designed to specifically identify and defeat attacks.



MITIGATE & PROTECT 
Protection of the network and customer connections is our priority. The ICN monitors connections 24/7 mitigating DDoS attacks and other threats quickly and effectively.



MONITOR	DETECT	MITIGATE	PROTECT
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Contact Us Today!

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General Inquiries: 800-366-8768 Option 2 | cms.bccs.icn@illinois.gov



BENEFITS AT A GLANCE:

MONITORING:

24/7 monitoring and mitigation of DDoS attacks

DETECTION:

Traffic is observed and baselined continuously to quickly detect and identify traffic anomalies

MITIGATION:

State-of-the-art tools and advanced mitigation techniques

PROTECTION:

Protection against various types of DDoS attacks including encrypted traffic (and botnets)

UPTIME:

ICN protection will keep your network up and available while the attack is occurring

CAPACITY:

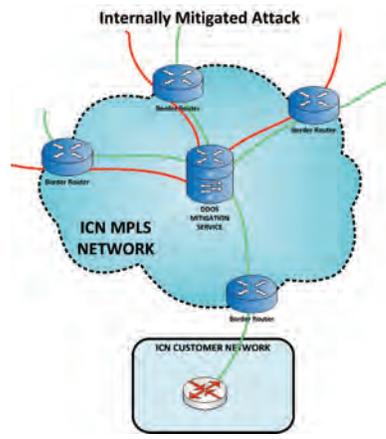
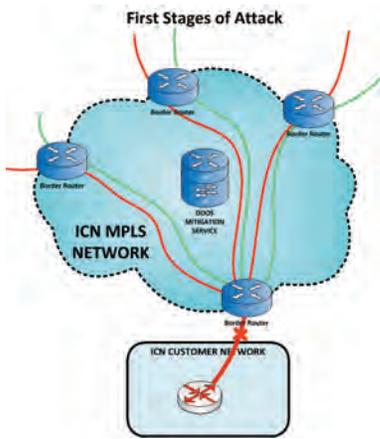
Ability to mitigate attacks from a few mb/s to multiple gb/s

VALUE-ADDED SERVICE:

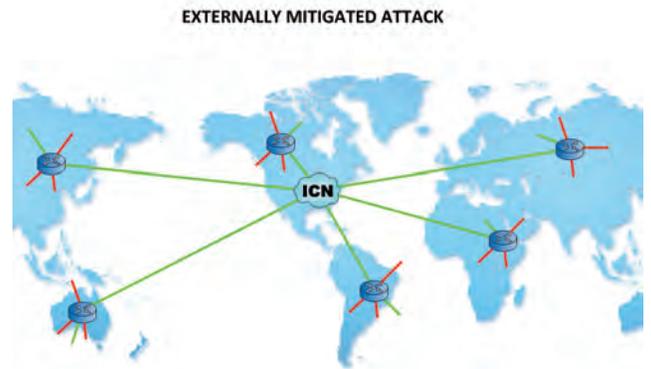
DDoS protection is provided for all ICN customers at no additional cost

24/7 SUPPORT:

ICN staff is experienced in dealing with DDoS attacks and will detect and mitigate threats quickly and effectively



ICN DDoS Mitigation Types



MONITOR

DETECT

MITIGATE

PROTECT

ICN Staff & Support

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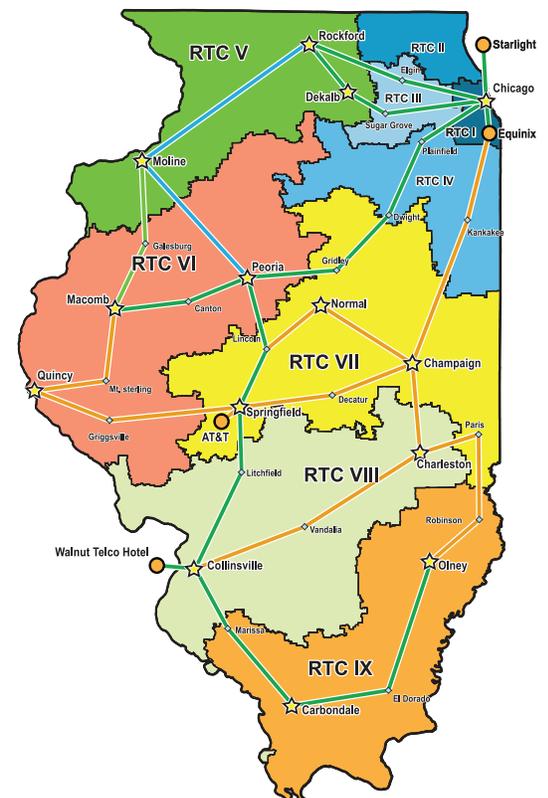
Contact your local Regional Technology Center today to get CONNECTED! Find your local RTC office contact details at www.illinois.net and don't hesitate to call us at 800-366-8768 Option 2.

What Our Customers Say!

ICN Higher Education Customer

"The ICN successfully mitigated a recent attack on our campus network. The ICN resolved the issue immediately and protected us from DDoS attacks ever since. They have always been proactive in letting us know when there might be a potential issue."

ICN Network Backbone





A Network Built For Education

The Illinois Century Network (ICN) understands networking and the importance of high-speed fiber optic broadband for Illinois schools!

The ICN combines cutting edge technology and unsurpassed customer support to provide a secure, dependable and scalable network that delivers fast Internet service for Illinois schools statewide.

Services Tailored For Illinois Schools

The ICN offers a broad portfolio of services catering to the unique requirements of the education community and is designed to meet future demand for the next decade. ICN manages Quality of Service (QoS) based on customer requirements to ensure critical applications have the right of way over the last mile and ICN network. We offer a number of value-added services which include backup and special events bandwidth (including PARCC testing), DNS hosting, collocation and distributed denial-of-service (DDoS) protection. We connect to multiple peering points as well as research and education networks such as Internet2 and many more. The ICN is an E-rate authorized service provider and our staff will assist you with every step of the process.

The ICN ensures both world-class technology and service for Illinois schools!

CONNECTIVITY TO INTERNET2 
Direct connectivity to Internet2! A private worldwide site designed exclusively for the education and research community.



24/7 SUPPORT

ICN services are supported by highly trained staff who monitor the backbone, ensuring availability for all our customers.



- QUALITY OF SERVICE
- INTERNET2
- SYNCHRONOUS BANDWIDTH
- 24/7 SUPPORT



Contact Us Today!

For more information, contact your local Regional Technology Center or visit www.illinois.net.
General Inquiries: 800-366-8768 Option 2 | cms.bccs.icn@illinois.gov



BENEFITS AT A GLANCE:

QUALITY OF SERVICE (QOS):

You tell us your priority traffic and we will ensure it has the right of way

HIGH-AVAILABILITY:

The ICN will keep you connected! Our redundant statewide backbone ensures high network uptime

GUARANTEED & SYNCHRONOUS BANDWIDTH:

You get exactly what you subscribe to with the same upload and download speeds to access educational resources rapidly

POINT TO POINT & MULTIPOINT TRANSPORT:

Configure your own private network between campus locations

CACHING SERVICES:

ICN has both Google and Akamai caching servers delivering efficient content locally

RESILIENCY & REDUNDANCY:

Built-in resiliency through redundant and diverse routing, with multiple Tier 1 providers and peering with numerous public and private networks

FULLY MULTICAST ENABLED:

Broadcast quality video from CSPAN, PBS, NASA and hundreds of other bandwidth intensive Internet sites without delays or buffering

CONNECTION TO INTERNET2:

Direct connectivity to www.Internet2.edu designed exclusively for our research and education community

FIBER BUILDS:

Interconnect your local campus fiber network to the ICN and realize cost savings for your community schools, libraries, municipalities, and healthcare providers

How Does ICN Compare?

TYPE	ICN	CABLE MODEM	DSL	METRO E
Symmetrical	Yes	No	No	Yes
Oversubscription	7:1	50:1	50:1	10:1
Availability	Guaranteed	Best Effort	Best Effort	Guaranteed
Latency	10ms	Not Measured	Not Measured	40ms

VALUE-ADDED SERVICES

GUARANTEED AVAILABILITY

MULTICAST ENABLED

PEERING PARTNERSHIPS

ICN Staff & Support

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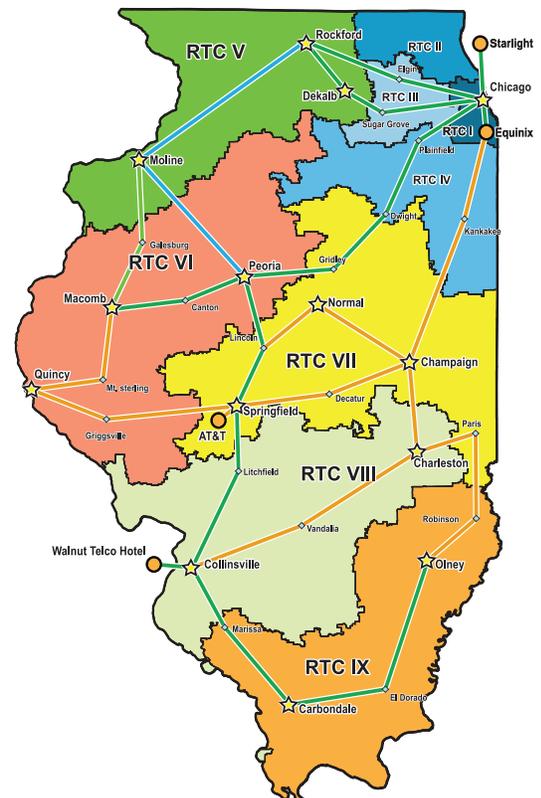
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What Our Customers Say!

Jeff Williams, Computer & Network Service, Danville Area Community College
"The new connection is outstanding, and our users (both students and employees) are benefiting greatly from it. We now have bandwidth to spare even during the middle of the day, which is a wonderful thing to have. Thank you!"

ICN Network Backbone





A Network Built For State & Local Governments

The Illinois Century Network (ICN) understands networking and the importance of high-speed fiber-optic broadband for state and local governments!

We provide a 2000 mile fiber-optic communications network connecting over 1500 government sites. The ICN offers the capacity, dependability, security and scalability required to support shared service partnerships, video, audio and first responder applications. Our network is designed to meet the ever-growing needs of state and local governments.

Services Tailored For Illinois Government

The ICN offers a broad portfolio of services catering to the unique requirements of state and local governments. The ICN architecture, personnel and services are focused on supporting government. Examples of this include: collocation services which eliminate the need for municipalities to establish their own data centers, Quality of Service (QoS) which ensures quality and throughput for high priority video and voice communications, and the ability for local governmental entities to quickly interact with State Agencies as part of the State of Illinois' data network.

The ICN ensures both world class technology and service for the State of Illinois and local governmental entities!

SPEED & RELIABILITY

The ICN 100Gbps core is fully redundant connecting to multiple Tier 1 providers and peers with presence at 350 East Cermak in Chicago and 900 Walnut in St. Louis. Service is available from 10Mbps to 10Gbps with the ability to scale higher.



NETWORK MONITORING

Protection of the network and customer connections is our priority. The ICN Communications Management Center (CMC) monitors the network and customer connections 24x7, mitigating DDoS attacks and other threats quickly and effectively.



SPEED & RELIABILITY

HIGH-AVAILABILITY

GUARANTEED AVAILABILITY

24/7 SUPPORT



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BENEFITS AT A GLANCE:

HIGH-AVAILABILITY

The ICN will keep you connected! Our redundant statewide backbone ensures network uptime

SPEED & RELIABILITY

Fast reliable and scalable service with low latency and ability to control Quality of Service (QoS)

GUARANTEED & SYNCHRONOUS BANDWIDTH:

You get exactly what you subscribe to with the same upload and download speeds

POINT TO POINT & MULTIPOINT TRANSPORT:

Configure your own private network between locations across the state

CACHING SERVICES:

ICN has both Google and Akamai caching servers delivering efficient content locally

RESILIENCY & REDUNDANCY:

Built-in resiliency through redundant and diverse routing, with multiple Tier 1 providers, physically diverse backbone and Internet egress points

FULLY MULTICAST ENABLED:

Broadcast quality video from CSPAN, PBS, NASA and hundreds of other bandwidth intensive Internet sites without delays or buffering

COLLOCATION FACILITIES:

Place large applications at the network core freeing up your last mile bandwidth and improving availability

FIBER BUILDS:

Interconnect your local municipal fiber network to the ICN and realize cost savings for your community government offices, libraries, schools, and healthcare providers

How Does ICN Compare?

TYPE	ICN	CABLE	MODEM	DSL
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Oversubscription	7:1	50:1	50:1	10:1
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VALUE-ADDED SERVICES

SECURE CONNECTION

MULTICAST ENABLED

PEERING PARTNERSHIPS

ICN Staff & Support

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Your Next Step!

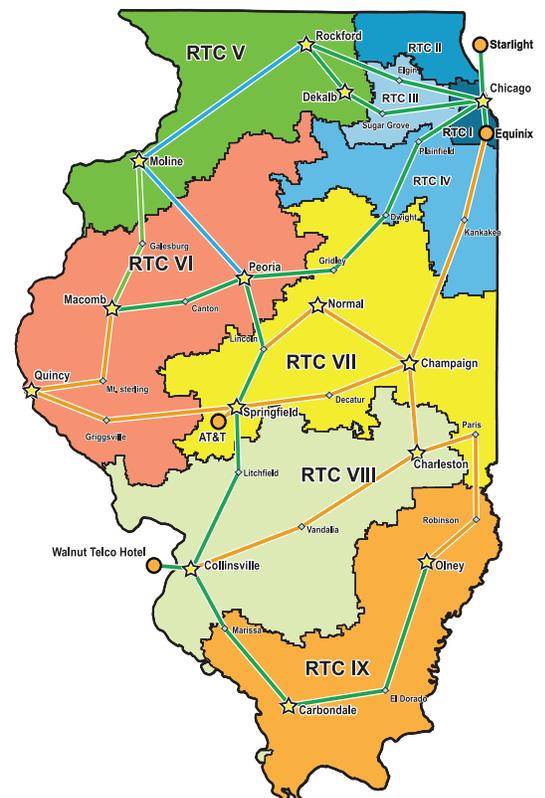
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Mark Latham, City Manager, City of Highland

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ICN Network Backbone





Illinois Century Network Connecting Illinois

Why You'll Love Illinois Century Network (ICN) Training:

- ✓ Live Interactive Classes With Replays
- ✓ Complete 1 Year Access
- ✓ 2 Hour College-Style Classes
- ✓ 24x7 Hands-On Lab Access
- ✓ Elite Expert Instructors
- ✓ 94% Cisco Cert Pass Rates
- ✓ **Exclusive ICN Membership Discounts!!**



Register For Your **FREE** Training Consultation Today!

www.partners.stormwind.com/icn

Contact Curtis Frank: (o) 480-339-2987 (e) curtis.frank@stormwind.com

