ICN Insider

Iowa Communications Network
March/April 2017 Newsletter

ICN's Vision:

ICN CERTIFIED
Broadband STRONG
STRONG FLEXIBLE FAST

SYBAC Students Meet with State Lawmakers and Lt. Governor

ICN's SYBAC students experienced the opportunity on February 14 to meet with elected officials at the State Capitol to discuss the importance of strong reliable broadband in their daily lives.

SYBAC members interacted with legislators at a forum where they shared perspectives relating to cybersecurity, encryption technology, two-factor authentication, and bandwidth in schools.

The ICN started the SYBAC program as a way to engage Iowa students on technology issues. The students are given the opportunity to learn about state initiatives and educational opportunities in addition to sharing their opinions. ICN Executive Director, Ric Lumbard told the students, "The technology that you are touching now isn't just 'gaming' from a trivial perspective, it is some of the most dynamic industry points with graphics and programming."

In addition to meeting with elected officials at the statehouse, SYBAC students had a special visitor to their monthly meeting at ICN headquarters. Lt. Governor Kim Reynolds participated in a table discussion with the students on a range of topics including cybersecurity, the Internet of Things (IoT), expanding broadband availability in rural areas, and future internship opportunities for students in Iowa. "If we are going to be successful as a State and keep our young people, [broadband] is critical. If you don't have the connectivity or bandwidth it isn't going to help." Reynolds said.

The video of the February 14 SYBAC meeting is available for the public to view online at the following url: https://youtu.be/ALJb2OdkzoY

Above: SYBAC students pose for a photo with Lt. Gov. Kim Reynolds and ICN Leadership.

Above: SYBAC students pose for a photo with elected officials and ICN Executive Director.

Right: SYBAC students interact with elected officials inside the State Capitol.

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Iowa Communications Network | Grimes State Office Building
400 East 14th Street | Des Moines, IA 50319
Phone: 515-725-4692 | Toll Free: 877-426-4692

Visit us on the web at www.icn.iowa.gov

Network Performance Strong and Flexible During Inauguration
An example of Strong, Flexible, and Fast Broadband in Action

The January 20, 2017 Presidential Inauguration may have been the largest single bandwidth pressure event placed upon the statewide network. Many of our customers took to the Internet to stream the Presidential Inauguration through several different content providers that already have an exchange relationship (peer) setup with the ICN.
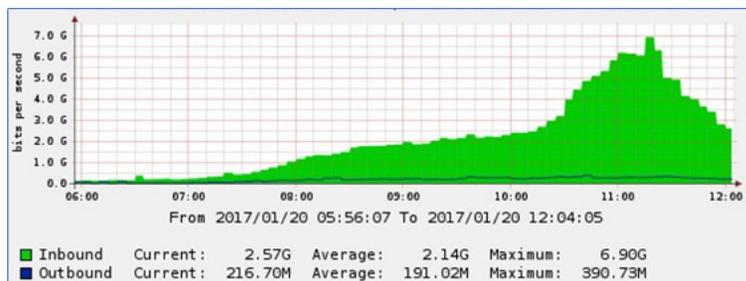
Peering is the exchange of traffic between two networks for mutual benefit. Networks use peering to increase the performance of their service and reduce their connectivity costs. A simple example of peering is a direct flight (a handoff), while transit is similar to a train ride (frequent stops).

Netflix and Google make up almost 50% of ICN's traffic. At any given time ICN has 10-15Gb of traffic being utilized from peering relationships established. If that same traffic would travel on the public Internet, it would financially cost ICN more to operate as a carrier. On a day-to-day basis, ICN routinely passes bandwidth traffic from network-to-network and it never touches the public Internet.

While the inauguration took place, ICN's peering feeds increased significantly. The graph displays the sudden increase in traffic at one peering location within the Network. By peering with major content providers (Amazon, Google, Apple, and Microsoft), the ICN was able to handle the event effectively, which kept most of the traffic off the public Internet. ICN's peering arrangements allowed K-12 and university users the ability to stream the inauguration.

The ICN has built redundancy with peering relationships by establishing carrier and route diversity, which is protecting the integrity and improving the statewide Network.

From 2017/01/20 05:56:07 To 2017/01/20 12:04:05

	Current:	Average:	Maximum:
■ Inbound	2.57G	2.14G	6.90G
■ Outbound	216.70M	191.02M	390.73M

This bandwidth pressure event was managed well with ICN's Broadband Information Center (BRIC). Operations staff were able to collaborate and make the needed changes to protect the Network. The video walls (Visual Presence Network) allowed the ICN the ability to visualize the Internet traffic and instantly manage the large traffic flows.

This is Strong, Flexible, and Fast Broadband in Action.

Valuable Time Saved with Strong Public Safety Partnership

With a closer broadband connection, participating Iowa State Patrol (ISP) troopers in the Wi-Fi Internet for School Emergencies (WISE) Pilot Project are saving time and resources.

During each troopers' shift, dash camera and in-vehicle video (data) are recorded when a troopers' lights and siren are activated. Once recorded, this data is required to be downloaded into the ISP's system.

Before the Wi-Fi pilot initiative, a trooper in Marshalltown was required to drive from Marshalltown to Post 1 (located in Des Moines) to download video data, which includes a 2 hour drive with the addition of 1 hour of upload time.

With Marshalltown High School's participation, the trooper drives 15 minutes to the high school and uploads the data in about 7 minutes by connecting to a dedicated, private, secure Wi-Fi connection. This pilot allows public safety to connect to a dedicated, private, secure Wi-Fi connection at a school location and access law enforcement's critical applications via ICN broadband services.

During Pilot

15 min Drive Time	+	7 min Upload Time	=	22 min via WISE

The WISE Pilot Project utilizes ICN's broadband connections at school locations. Participating schools receive the added benefit of increased security, while ISP benefits by adding capabilities that can save time, resources, and money while improving public safety in Iowa.

WISE is an Iowa Department of Public Safety led pilot initiative, in collaboration with local public safety agencies, Marshalltown HS, Norwalk HS, Martensdale HS, and the ICN. For information on the WISE Pilot Project contact the Iowa Statewide Interoperable Communications System Board at iowanet@iowa.gov.

FirstNet Update:
Strong Public Safety Broadband

FirstNet officials released a statement in the FirstNet Blog in late October 2016 stating that the acquisition process to select a Primary Vendor would continue beyond the previously set award target date of November 1, 2016. FirstNet stated that the acquisition process is highly complex and requires input and support from multiple agencies and entities. A selection date has not been announced at this time.

The FirstNet lab located in Boulder, Colorado, is a state-of-art facility where FirstNet and its future partner will test public safety functionality and features unique to FirstNet's mission critical broadband network. Testing includes key mission critical services such as quality of service, priority and preemption, as well as other future services and applications.

Above: FirstNet Innovation and Test Lab in Boulder, Colorado

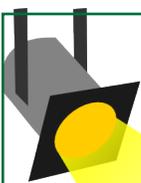**Iowa FirstNet Public Private Partnership Summit**

A discussion with public & private sector representatives regarding the current status of the FirstNet initiative.

THURSDAY, APRIL 6, 2017 • 1:00 - 3:00 PM

GRIMES STATE OFFICE BUILDING • CONFERENCE ROOM B100
400 E 14TH STREET, DES MOINES, IA

RSVP by March 30, 2017. Free and open to the public. Online streaming available.

FirstNet | Iowa Statewide Interoperable Communications System Board | ICN

RSVP for the Spring 2017 Summit

FirstNet's goal is to ensure that public safety doesn't only have the latest in broadband technologies, but also devices that are tested, reliable, and built to public safety's standards. Devices have to go through FCC regulatory approval, then commercial carrier acceptance and lastly, FirstNet carrier acceptance before deemed as an approved device for use. FirstNet is testing and qualifying rugged devices for Band 14 use, as well as in-vehicle routers that would be installed in public safety vehicles to create a Wi-Fi canopy around the vehicle that would reach several hundred feet.

Rugged Smart Devices Being Tested:

Radio Devices Being Tested:

In Vehicle Router Devices Being Tested:

Drafted State Plan

FirstNet will present a Draft Plan to each state and territory. The plan will propose FirstNet's approach to the Governor and provide the information needed to make an informed decision. The State and Governor will have the opportunity to review policy compliance, timeframe/cost and interoperability, as well as coverage, services, applications, features, devices and accessories. When the Draft State Plan is released to the Iowa State Point of Contact, the FirstNet Broadband Committee will convene to review the plan and provide feedback and recommendations.

BROADBAND STRONG: Delivering **FLEXIBLE** broadband and **FAST** experiences to meet the growing broadband needs of education, government, public safety, and healthcare in Iowa.

Employee Spotlight
Kareen Baccam

Kareen Baccam works as an Administrative Assistant within ICN's Security Bureau in the Public Safety Division. She has been with the ICN since March 2016. Kareen's duties include providing clerical support for the Iowa Statewide Interoperable Communications System Board's (ISICSB) Regional Interoperability Committees (RICs), Technology Committee, and User Group Committee (UGC). She says that the best part of her job is working with different people.

Kareen's educational background includes attending Des Moines Area Community College (DMACC) and focusing her curriculum in Medical Billing and Coding and Medical Transcription. Prior to the ICN her previous employers were Titan Tire and Home Health Care Provider.

Kareen's life motto is: Ask! All they can say is NO. A few favorites for Kareen are: Mexican food and eating at Marianna's. Also her favorite color is blue and favorite travel destination is the U.S. Virgin Islands. In her leisure time she enjoys: cooking, having family get-togethers, and watching sports.

A memorable life experience that Kareen explains is the time she went skydiving. "It was the very first time and I got to go solo! You first crawl onto the plane's wing then hang there until the instructor says you can let go! Most exhilarating thing I've ever done in my life!" If Kareen could meet one person in history she would want to meet Princess Diana, because of her wonderful lifestyle and her great humanitarian work.

Broadband News from Around the Web

Abraham Lincoln High School club fosters strong cybersecurity talent

Abraham Lincoln High School is hosting a cybersecurity competition team, founded after three of the members participated on a team at Kirn Middle School last year. The A.L. team first started competing last November and is now the top scoring team in the state of Iowa.

Improved cell service coming to Carver-Hawkeye Arena, Kinnick Stadium

University of Iowa fans will soon be able to share their favorite memories on a new wireless network. U.S. Cellular is introducing a Distributed Antenna System network that will improve signal quality and improve capacity at Carver-Hawkeye Arena.

1 in 5 Iowans lack access to high-speed internet

Roughly 1 in 5 Iowans does not have access to the broadband internet speed recommended by the federal government. In addition to the luxuries afforded by broadband internet — streaming movies and music and online video game — access to broadband is also important for education and health care.

Iowa families foregoing classroom for virtual school

A small but growing group of parents want flexibility in their children's schooling — and the ability to access it from anywhere, at any time. They are part of a movement to give more education options to Iowa families, and the controversial effort to allow public money to fund it.

Iowa City Public Library now offers mobile hotspot lending service

The Iowa City Public Library is letting people "check out" mobile hotspots. They're small portable electronic devices offering wireless internet access that can be paired with laptops, tablets, or smart phones. The library says it'll help people who don't have regular access to Wi-Fi.

Mediacom rolls out gigabit internet to 309 Iowa communities

Mediacom's gigabit service is now available to all customers (more than 1 million Iowa households) in the 309 Iowa communities the company serves. State leaders have begun to view broadband accessibility as a near necessity because of its inherent uses in education, entertainment and economic development.

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