



## MAJOR PROJECTS

### NETWORK CONNECTIVITY & REDUNDANCY

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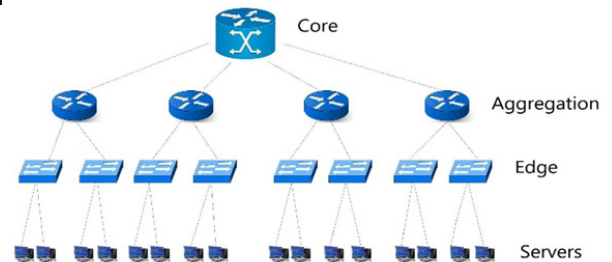
Efforts continue to increase redundancy for the protection of critical users and uses, as well as provide disaster recovery functionality that will benefit all authorized users.

#### Core Network

100GB native core with all counties currently connected with a 10GB capable backbone.

#### Aggregation

With the completion of the 100GB Core, an upgrade of the 10Gb converged aggregation network will follow. This segment operates between the Core and Edge. It allows Ethernet and IP services to pass through the network on a redundant and more resilient infrastructure.



By delivering a seamless user experience that enables our customers the ability to access their information on-demand, the ICN's aggregation layer plays an important role in addressing the challenges of our customers by providing an efficient, diverse network with greater capacity.

### SIP MIGRATION

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Session Initiation Protocol

The ICN recognizes the need to migrate from the legacy Public Switched Telephone Network (PSTN) infrastructure to a SIP Trunking architecture. This allows the ICN to develop new services that provide our customers access to additional Unified Communications (UC) applications. ICN's next steps are the removal and network cleanup of all TDM facilities and the expansion of universal gateways out of the various LATAs to allow the ICN and its customers the ability to migrate off all legacy voice technologies.

### PUBLIC SAFETY AND 9-1-1 (WIRELESS & WIRELINE)

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Partnership with Iowa Department of Homeland Security & Emergency Management (HSEMD)

- **ICN, FirstNet, and AT&T:** ICN is partnering with FirstNet on behalf of the Iowa HSEMD to use FirstNet/AT&T as the backup connection for Iowa-based Public Safety Answering Points (PSAPs) providing 9-1-1 services to Iowans.
- Providing a closed secure network for 9-1-1 wireless calls.
- Providing infrastructure and services for merging the existing wireline carrier network.
- Providing colocation facilities and transport services for a hosted PSAP solution.



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### ICN VIRTUALIZATION

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ICN's network virtualization enables the ability to deploy in real-time, at preferred locations, new telecommunications offerings which improves cybersecurity posture, optimizes available resources, reduces operational costs, and enables a faster delivery of services. This agility within a decentralized environment allows the ICN to push services to the edge, while tailoring applications based on the needs of our customers.

### SECURITY / FIREWALL UPDATES

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#### Current Initiatives

- Decentralize State Firewall using virtualization.
- Build network efficiencies to further increase IP security.

#### DDoS Mitigation Service

Distributed Denial of Service

Our mitigation solution allows user Internet traffic to be "cleaned" and returned to user with little impact on the service.

During the last 12 months on the State's Network:

Detected **12,760** DDoS attacks.

Longest DDoS attack: **11 hrs, 59 mins, 35 secs**

Largest DDoS attack: **2.23TB (Terabyte)**

#### Firewall Services

- Hosted and managed by the ICN. Includes the State Firewall.
- Service: application control, intrusion prevention, web filtering, and anti-malware.
- **Firewall & DDoS Mitigation Appropriation:** ICN received a \$2,071,794 appropriation in FY 2021 from the Governor's original budget request for Firewall & DDoS Protection. This appropriation will ensure the continuation of critical cyber protection for State government agencies currently receiving these services at no cost.

### RURAL BROADBAND CONNECTIVITY PROOF OF CONCEPT

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ICN and the Iowa Department of Transportation are partnering with Iowa State University (ISU) on a proof of concept project involving wireless technology in areas of Story, Boone and Marshall counties. ISU received a \$16M National Science Foundation Research grant for this project.