

## **City of Alexandria and Comcast: Development of the Institutional Network Executive Summary**

The City of Alexandria's Institutional Network is a fiber optic network that connects approximately 98 public facilities, including schools, libraries, recreation centers and government offices, and is used for data, voice and video communications. The development of the City's I-Net dates back to 1994, and was made possible by a public-private partnership with Jones Communications, subsequently Comcast.

The I-Net has proven to be an essential and critical service for the Schools, libraries and City government, by providing direct high-speed connectivity between facilities that does not rely on the Internet.

Specifically, the I-Net:

- Allows staff from multiple physical locations around the City to access commonly used City applications, such as email and financial systems, without special connectivity requirements;
- Is used to enable video arraignments of inmates between the City's jail and Courthouse, eliminating the requirement to transport potentially dangerous inmates across the City;
- Provides the ability for City facilities to access the Internet without requiring every building to have its own expensive connection;
- Enables the use of centrally located firewalls to protect City facilities;
- Provides the capability to have video presentations between City buildings without requiring the Internet;

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- Provides two paths of communication (east ring and west ring) with redundancy in the event of a break in the connection of either ring;
- Provides the capability for all City buildings to maintain communications, even when Internet connectivity is interrupted; and
- Provides the capability for the City to do data file backups at remote locations.

The partnership reached a developmental milestone in July 2005, when the I-Net was connected to neighboring Arlington County's institutional network, thus completing the first step in creating a regional interconnection. The interconnection will initially be used for voice and video applications for public safety. The fiber link, which uses existing Comcast cable fiber, will be used to create a series of Northern Virginia regional interconnections. The United States Department of Homeland Security cited the inter-jurisdictional fiber connection as an innovation it would like to see replicated in the Washington, D.C., and other metropolitan areas.

Future applications for the fiber link include:

- connecting emergency operation centers in Alexandria and Arlington
- sharing live video and satellite programming;
- videoconferencing for inter-jurisdictional meetings; and
- back up connections to radio controllers in neighboring communities.