Utah Telecommunication Open Infrastructure Agency (UTOPIA)

As one of the first open-access FTTH networks in the United States and one of the first networks to be built by a consortium of disparate cities, UTOPIA sailed into uncharted waters when it launched in 2005. It has faced many challenges over the years, but it is still growing, adding services and supporting economic development and quality of life for its member cities. Thanks to Julie Paulson, Robyn Geist and Gary Jones for providing the information for this profile.

– BBC Editors

BACKGROUND

Network operator: Utah Telecommunication Open Infrastructure Agency (UTOPIA)

Owner: UTOPIA, a consortium of Utah cities

FTTP service area: Member cities, including Brigham City, Cedar City, Cedar Hills, Centerville, Layton, Lindon, Midvale, Murray, Orem, Payson, Perry, Riverton, Tremonton, Vineyard, Washington City, West Valley City

Number of premises in FTTP service area: 61,614

Current number of subscribers: 9,596

Operator's prior history as a broadband provider: None

Competitive landscape: CenturyLink (DSL), Comcast (cable) and several wireless providers

The arts center in Centerville, the newest city added to the UTOPIA network.

NETWORK PROFILE

Year deployment started: 2005

Year services began: 2005

Years to complete buildout (planned): 10

Network architecture: Active Ethernet

Business model: UTOPIA operates an open-access infrastructure model, in which any third-party provider that meets fiduciary and service-level agreements can offer services on the network.

Current third-party retail service providers and services:

Brigham.net	Data, Voice, Video
ConnectedLyfe	Data, Video
Fibernet	Data
First Digital	Data
Infowest	Data, Voice, Video
Integra	Data
Spectrum Fiber	Data, Voice
Telesphere	Data
Utah Broadband	Data
Veracity	Data, Voice, Video
Voonami	Data
Windstream	Data, Voice
Xmission	Data, Voice, Video

Highest-tier Internet access: UTOPIA wholesales access to service providers with varying speeds and service-level agreements. Speeds range from 5 Mbps to 1 Gbps.

Residential subscriptions:

Data	45.3%
Data, Phone	25.7%
Data, Phone, Video	12.3%

Business subscriptions:

Data	82.4%
Data, Phone	15.8%
Phone	1.8%

ECONOMIC DEVELOPMENT IMPACT

UTOPIA's goal is to make life better for municipalities, residents and businesses.

MUNICIPAL FTTH DEPLOYMENT SNAPSHOT

UTOPIA is still extending its fiber optic network throughout Utah's Wasatch Front.

UTOPIA gives Utah cities a way to bring state-of-the-art fiber optic infrastructure to their communities to drive economic development and enhance quality of life.

Cities with access to UTOPIA tout the ability to do things other cities cannot do and have an economic advantage over those without access. City representatives from Murray, Midvale, Centerville and Layton have all reported that businesses are locating or expanding in their cities because they can offer this type of technology.

UTOPIA also improves quality of life for residents. Fiber optic networks give them the freedom they need to do what they want when they want, and has influenced them to choose to live in communities where this infrastructure is available.

DEPLOYMENT DETAILS

Design/Engineering: Mid-State Consultants Inc.
Construction, Installation and Integration: B. Jackson Construction and Engineering, Rocky Mountain West Telecom (RMWT), TCB Broadband Communications
Aerial or underground: Both
Method for underground installation: Direct burial, directional boring
Method for connecting fiber: Preterminated/field splicing
Splicing equipment: Fitel and Sumitomo

OPERATING EQUIPMENT AND SOFTWARE:

Central office electronics: Allied Telesis, Alcatel-Lucent
Fiber cables: Corning, OFS

MUNICIPAL FTTH DEPLOYMENT SNAPSHOT

Fiber distribution cabinets and other OSP: Pfannenberg, Thermo Bond
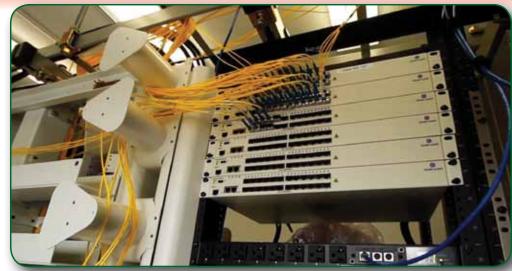
Testing equipment: EXFO

Optical network terminals: Allied Telesis 606, Alcatel-Lucent OS6250

Power supply: CyberPower CS24U12V

Set-top boxes: ADB

B/OSS: Proprietary

IPTV middleware: Minerva

Network management/ conditional access/ DPI: Proprietary

Equipment in a fiber aggregation hut.

NETWORK OPERATION

Number of central office personnel: 8
Number of OSP personnel: 8
Number of field service personnel: 5
Number of CSRs: 4
Installation trucks: 6
Pickup trucks: 8
Aerial truck: 1
Marketing vans: 3

CHALLENGES

From the beginning, UTOPIA has faced intense resistance from the incumbent telecom service providers, whose tactics to hinder the development of the network have included heavy lobbying, a PR campaign, restrictions on the usage of pole rights and even the development of legislation that restricts UTOPIA and similar community-owned networks from using standard marketing practices such as offering retail versions of its products to the public. Some of these efforts, such as the usage of pole rights, have been forestalled through legal action, but they have created delays in building out the network in certain areas. Monitoring and addressing efforts to stall the progress of the network requires constant vigilance.

Even in the face of these challenges, UTOPIA has extended invitations to incumbent telecom service providers to utilize the network; none have accepted. UTOPIA views its open-access network as supplying critical infrastructure for cities, much like roads, water, power and sewer, and offers the use of it to the private sector. Sixteen service providers now use the network to supply communications services to the communities in the network.

The sheer size of the UTOPIA network has presented other significant obstacles. Unlike most community-owned networks, which encompass a single city, UTOPIA has infrastructure installed in 10 cities at considerable distances from one another. Most of the cities are located along the Wasatch Front foothills, and the types of terrain vary greatly. Network builders have encountered everything from ancient lake bottoms to rocky ridges, rivers, streams and significant elevation changes.

The diverse nature of the network and the great distances between cities have also created challenges in estimating costs and timelines for construction and maintenance. However, with years of experience, the teams have become much more adept at estimating construction costs and at developing contingency plans for unforeseen issues.

SUCCESSES

Centerville has been a particularly bright spot this year in the deployment of the network. A section of that community was considered an "Internet dark zone" prior to the arrival of the UTOPIA network because of the extremely limited Internet options available there. Businesses in that area sometimes cobbled together their own very expensive and not-completely reliable wireless and satellite systems just so they could get Internet access.

Devon Dorrity of Hogan Construction states, "When we signed up for UTOPIA, we were able to cut our costs by more than half and yet we got double the bandwidth. We were able to do our business better, faster and more efficiently, and it made a direct impact to our bottom line. It was just a complete no-brainer."

The connections that have been installed in the area have opened up many growth options previously not thought possible. Centerville is planning for the future development of a high-tech business park that will create job opportunities for residents who currently have to commute to jobs outside this bedroom community. ❖

Contact Masha Zager at masha@bbcmag.com if you would like Broadband Communities to feature your municipal fiber deployment.