Municipal Deployments Gather Steam

Several municipal fiber deployments that have been in the works for a long time are getting under way.

By Masha Zager ◆ *Telecom Editor*

The mills of municipal government may grind slowly, but they get the job done. Municipalities, even those that already own their own utility companies, don't have the same flexibility private companies have when it comes to building telecom infrastructure. They have to jump through hoops and over hurdles that the private sector can't even imagine: approvals by multiple levels of officialdom, public referendums, legislative battles and lawsuits are not uncommon. Some projects fall by the wayside, and others take years to get started. But both in this country and Europe, localities have been persistent in their goal of bringing high-speed broadband to residents, and that persistence has paid off.

This month, we see substantial progress on municipal fiber projects ranging from the enormous Amsterdam CityNet, which is already under construction, to some small towns in Virginia that are just beginning their planning process. Also worth noting is that the Jackson Energy Authority – one of the earliest deployers of municipal fiber in the US – will be taking over from Cinergy as a retail provider of voice and Internet service to Jackson-area customers.

We also bring you the latest updates on Verizon's FiOS build, independent telcos, European and Asian projects, and more.

Municipal Fiber Projects in the US

The City of **Palo Alto, California,** which issued an RFP for a municipal broadband system nearly a year ago, has awarded a contract to 180 Connect Network Services to develop a FTTP network that covers all 31,000 homes and businesses in the city. The project is expected to begin in the first quarter of 2008 and take about five years to complete; 180 Connect is already working on the business plan. In the proposal process, 180 Connect was part of a consortium that included PacketFront for FTTP equipment and RBC for project financing. Dynamic City, which was recently acquired by PacketFront, was an unsuccessful bidder.

The **Truckee Donner Public Utility District** in Truckee, California, also awarded a contract to 180 Connect Network Services. 180 Connect will begin planning a new FTTH municipal fiber network that will provide high-speed broadband service to more than 15,000 homes and businesses. 180 Connect partnered with Quanta Services/North Sky Communications for installation services and Victor Capital for financing, and proposed PacketFront for FTTP equipment and muNet for utilities applications. SureWest, a Sacramento-area telco with a large FTTH network of its own, has proposed be the service provider.

EPB, a municipal utility in Chattanooga, Tennessee, approved a fiber-to-the-home initiative that it hopes will help generate new jobs, improve the electric power distribution system and provide other benefits for the Chattanooga area. Harold DePriest, EPB's President and CEO, cites a recent study by professors at the University of Tennessee at Chattanooga and Tennessee State University suggesting that FTTH's economic and social benefits for Chattanooga could top $600 million over ten years.

A second study, verified by the Electric Power Research Institute, indicates that fiber to the home will allow EPB to make significant improvements to its electric power distribution system by helping it locate problems earlier, restore outages more quickly and gain other efficiencies. It will also allow EPB to provide more tools to help customers reduce their power usage and cost. The value to electric power customers is estimated at roughly $300 million over ten years, bringing FTTH's total value to the community to nearly $1 billion over that time.

EPB plans to fund the construction of the infrastructure with income generated by the sale of triple play services throughout its service territory. The Chattanooga City Council must still approve the initiative, but EPB plans to begin building the infrastructure as soon as approvals are in place, with a goal of connecting the first customers in the fall of 2008.

Accelplus, a municipal provider owned by the city of **Crawfordsville, Indiana**, has started delivering high-speed Internet services (up to 10 Mbps) and digital video over its new fiber-to-

the-premises network. The second of three buildout phases was completed in August, and the final phase is scheduled for October.

The cities of **Buena Vista, Virginia** and **Lexington, Virginia,** along with **Rockbridge County**, have received a Rural Broadband Planning grant of $50,000 from the state government that they hope will help establish a business case for a fiber-to-the-premises network, among other broadband projects. The grant will be used to conduct a needs assessment, broadband education and application development strategies, "First Mile" connectivity solutions, preliminary engineering and construction cost estimates, organizational and operational recommendations for future network implementation projects, and funding strategies for potential projects.

Finally, **Jackson Energy Authority**, a pioneering municipal utility in Jackson, Tennessee, announced that it would begin offering Internet and telephone service in Jackson as early as October 1, 2007. JEA built a fiber-to-the-premises network in 2004 and has been retailing cable television services over the network, while Cinergy Communications and Aeneas Internet and Telephone provided voice and data services. Now Cinergy will become a wholesaler, providing certain core telephony and Internet back office functions, while JEA takes over the customer interface, providing phone and Internet services to Cinergy's 14,000 customers under its own brand name. Competitive providers, including Aeneas, can still offer phone and Internet services over JEA's network.

Kim Kersey, Senior Vice President of Telecom at JEA, says that JEA intended from the outset to become a retail service provider. "It actually works well for both companies, and our customers," he explains. "Cinergy stays in the market in a wholesale role, and JEA acquires a ready customer base without any disruption to our customers. JEA gains direct control over the content, pricing, and marketing of the products, and we also establish a direct relationship with those customers under our brand name. Cinergy is still providing back-office support to JEA through their switch and billing system."

Amsterdam CityNet Project on Target for 2008

One of Europe's most ambitious FTTH projects, the **Amsterdam CityNet**, is on target, with its first phase slated for completion in mid-2008, says the vendor in charge of construction. Karel Helsen, marketing director of Draka Comteq, comments that "European projects such as Amsterdam CityNet will revolutionize the broadcast and multimedia services industry as we know it today." Amsterdam CityNet will offer bandwidths up to 100 Mbps upstream and downstream – a significant speed advantage over the average European ADSL speed of 0.6 Mbps.

Amsterdam CityNet is a joint project of the Municipality of Amsterdam, five housing societies, ING Real Estate and fiber builder Reggefiber BV. Its first phase includes the Zeeburg, Oost/Watergraafsmeer and Osdorp districts of Amsterdam, which total about 40,000 buildings; by 2013 the network could reach 420,000 homes and businesses. Construction began in 2006, with Draka Comteq partnering with Van den Berg Infrastructuren for construction and Arcadis providing the project management.

Draka Comteq's plan for Amsterdam is now being used as a model in other European cities. Local governments in 32 European countries are considering widespread deployment of independent fiber optic networks, based on fiber's promise to boost local economic development and promote social inclusion.

FiOS and Connexion Keep on Rolling

Verizon Communications continued its rollout of fiber services, expanding its high-speed Internet access network to areas of New York City and Florida and its video services to towns in New York, Massachusetts and Delaware. Television franchises were granted in localities in New York, Massachusetts, Oregon and Pennsylvania. And Verizon's new interactive media guide was rolled out to locations in California, Maryland, Virginia and Massachusetts.

Connexion Technologies, the FTTH builder based in Cary, North Carolina, has been having a banner year. Recently it added to its list of new projects a partnership with residential community builder Mercury Development to design, build, install and manage the entire FTTH infrastructure for Wendell Falls, a new community being built just outside Raleigh. Wendell Falls, which will have 4,000 homes, will be one of the largest master-planned communities in the Triangle area. Along with its fiber-optic amenity, it will offer its own elementary school and a 125-acre county park. It is environmentally friendly and only 12 minutes from downtown Raleigh. Future plans include ball fields, expansive usable open space, miles of walking and fitness trails, and a major employment center. In addition, Wendell Falls will cater to a number of different buyer groups.

BT Dips a Toe in the FTTH Water; France Hits Some Snags

BT, the British incumbent provider, has said numerous times that fiber-to-the-premises is unnecessary. Now it is planning to launch an FTTP-based product for resale to competitive communications providers in greenfield sites. The new service, which will be provided through BT's **Openreach** subsidiary**,** is scheduled to launch in 2008. It will use a PON network to deliver video programming.

French competitive provider **Iliad** is launching FTTH services beginning in mid-September. Internet access will be available at speeds of 100 Mbps download/50 Mpbs upload, along with high-definition video service to two televisions and free landline phone service.

But France's plan to have multiple providers build out fiber networks in the same area has run into a few snags. ARCEP, the French regulatory agency, is negotiating a dispute among **Iliad, Neuf Cegetel** and **France Telecom** about access to fiber ducts. Because digging trenches and laying cables accounts for approximately two thirds of the cost of rolling out fiber, and because France Telecom has exclusive access to ducts laid by the former government monopoly, France Telecom has a major advantage over the other two providers. ARCEP is trying to allow all operators access to the infrastructure, achieve fair competition among them and still encourage investment in broadband.

ARCEP also wants to allow subscribers to choose among FTTH providers without requiring each provider to place dedicated cables and connectors in every building and apartment. The agency would like the three providers to share customer-premises equipment, but says this may require legal and regulatory changes. France Telecom, Free and Neuf Cegetel have all submitted proposals for access to the terminating segment of their fiber networks.

Asia-Pacific Deployments

In Malaysia, the Ministry of Energy, Water and Communications is in talks with **Telekom Malaysia** to provide FTTH links in selected urban areas. Minister Datuk Seri Dr. Lim Keng Yaik said that if the government bears the cost, it will enforce mandatory access with regulated prices, but that if Telekom wants to support the cost, it will get to decide on the areas of coverage. Dr. Lim pointed out that broadband penetration in Malaysia has increased from 4 percent to 14 percent since 2004, but says he regards this as low compared to neighboring countries like Singapore and South Korea.

Taiwan's **Chunghwa Telecom** reported that FTTB subscriptions have showed strong growth recently, with net additions of 72,000 subscribers during the second quarter of 2007 bringing the total number of FTTB subscribers to 310,000 – a significant increase from 30,000 a year earlier.

In the tiny Indian Ocean island nation of Mauritius, which has a population of about 1 million, **United Communications Limited** plans to deploy a fiber-to-the-home network to all homes beginning in 2008. Mauritian ICT minister Etienne Sinatambou called the Mauritius FiberNet an ambitious project that will make Mauritius a pioneer among island states. The network will give Mauritians 1 Gbps access to the Internet.

We reported recently that Australian carrier **TransACT Capital Communications** will roll out fiber to the home in Forde, a new Canberra suburb. Additional details on this project have now been made available: The network, based on GPON equipment from Alcatel-Lucent, will cover 1,000 premises and an anticipated population of 2,500 by 2013. In addition to high-speed Internet access, residents will also receive unlimited free local calls to other TransACT phone customers, as well as capped national and international call rates. Most significantly, TransACT says it will be working with Alcatel-Lucent on future FTTH bids in the Canberra area.

Independents Deploy Cutting-Edge Technology

For more news about independent telcos and FTTH, see our special feature in this issue

Gardonville Cooperative Telephone Association, a rural Minnesota ILEC, has chosen Procera's PacketLogic platform for CALEA compliance, bandwidth management and service level assurance. Gardonville provides triple play services in its ILEC region and wireless broadband in a CLEC territory, and expects to have fiber to the home throughout its entire service area in the near future.

Goldfield Telephone Company and its subsidiaries **Goldfield Access Network** and **Goldfield Communications,** which serve five rural communities in Iowa, have received Rural Development funding of $15.9 million from the USDA to build FTTH systems. They will be replacing existing copper plant in their ILEC and CLEC territories and providing triple play services to about 4,000 residents.

Competitive provider **Greenfield Communications** has selected a VoIP system from GlobalTouch Telecom to deliver voice services over its FTTH networks. Greenfield Communications works with developers to provide FTTH solutions for master-planned residential communities in California and Arizona. It is already operating 10 FTTH networks with more than 5,000 customers, is actively designing and constructing 11 additional projects with more than 75,000 homes, and says that it has secured 22 more FTTH projects representing over 200,000 homes. Greenfield was the Network Infrastructure Winner in this summer's NXTcomm Eos Awards.

Mornington Communications Co-operative Ltd., a Canadian telco, selected the Calix C7 multiservice access platform with a four-port 2.5 Gbps GPON service interface module and the Calix Management System to enable an array of new services, including high-definition IPTV. The Calix equipment is being deployed throughout Mornington's ILEC and CLEC operating areas in southwestern Ontario, where the company will provide services using a mixture of GPON and ADSL2+. The company's general manager, Richard Banks, says the new equipment will let Mornington Communications "do everything the national carriers can do."

VENDOR SPOTLIGHT

180 Connect	www.180connect.net
Alcatel-Lucent	www.alcatel-lucent.com
Arcadis	www.arcadis-us.com
Calix	www.calix.com
Draka Comteq	www.drakacomteq.com
GlobalTouch Telecom	www.globaltouchtelecom.com
PacketFront	www.packetfront.com
Procera	www.proceranetworks.com
Quanta Services/North Sky Communications	www.quantaservices.com
Van den Berg Infrastructuren	www.vandenberg.nl

DEPLOYER SPOTLIGHT

Accelplus	www.accelplus.net
Amsterdam CityNet	www.citynet.nl
BT Openreach	www.openreach.co.uk
Chunghwa Telecom	www.cht.com.tw/CHTFinalE/Web/
City of Buena Vista	www.buenavistavirginia.org
City of Palo Alto	www.city.palo-alto.ca.us
Connexion Technologies	www.cnxntech.com
EPB	www.epb.net
France Telecom	www.francetelecom.com/en
Gardonville Cooperative Telephone Association	www.gctel.com
Goldfield	www.goldfieldaccess.net
Greenfield Communications	www.egreenfield.com
Iliad	www.iliad.fr/en
Jackson Energy Authority	www.jaxenergy.com
Mornington Communications Co-operative	www.mornington.ca
Neuf Cegetel	www.neufcegetel.fr
Telekom Malaysia	www.tm.com.my
TransACT Capital Communications	www.transact.com.au
Truckee Donner Public Utility District	www.tdpud.org
United Communications Ltd.	www.unitedcommunications.co.uk
Verizon Communications	www.verizon.com