BROADBAND PROPERTIES SUMMIT 2011

# Broadband: The Next Level

## Deployment is only the first step. At Summit 2011, speakers and attendees wrestled with taking broadband to the next level.

A BBC Staff Report

Like previous Broadband Properties Summits, Summit 2011, held in Dallas in April, was packed with information about how to build broadband networks and deliver and market services to communities. For the first time, however, much of the program dealt with what might be called the next level: What happens after the fiber is in the ground, the buildings are wired and the equipment is in place? How can broadband be used to build communities and change lives for the better? As Geoff Daily of FiberCorps put it, "Fiber may open the door, but how do we step through it?"

One reason for this next-level focus was Summit 2011's daylong program on broadband and economic development, chaired and organized by telecom attorney Jim Baller. Speakers looked at the issue from many different angles – among them how to allocate broadband subsidies, how to integrate broadband into economic development projects and how to promote broadband adoption and use by those on the wrong side of the digital divide.

The discussion was not limited to the economic development program, however. There are several good reasons for everyone in the broadband world to think more about broadband's uses and potential. First, a great deal of advanced broadband has now been deployed – enough for people to become aware that its transformative effects are real, to wonder why they are not universal, and to consider what additional effects might be possible.

Second, the proliferation of mobile devices and networks – along with the convergence of wired and wireless networks – has altered the way people interact with and even think about the Internet and opened up many new possibilities for broadband use.

Third, the FCC and the agencies that administer the broadband stimulus program have challenged providers and local governments to maximize broadband adoption and use and to integrate broadband into the delivery of government and social services. The conditions of stimulus grants call for tracking and measuring the benefits of broadband networks, training programs and other stimulus-funded projects.

Finally, those who have already invested in advanced broadband are thinking about how they can maximize their returns on those investments. As many articles in this magazine have pointed out, income from triple-play services – the original incentive for building these networks – may turn out to be only a small part of the benefit that both providers and property owners reap.

## FOUR PILLARS OF MULTIFAMILY TECHNOLOGY

### PILLAR 1: CUSTOMER ACQUISITION

Ashley Glover, executive vice president, multifamily solutions, RealPage: If you're not thinking about your virtual storefront as much as the physical one, you're behind the times. People are looking for you on the Web. How do you get people to your website? Internet listing services will cost you money, but you can grow your market in lower-cost ways by leveraging the power of search engines to take people there in a way that is more organic.

Cameron Etezadi, senior vice president and chief information officer, UDR: You can play a numbers game or a quality game – that is, take a lot of low-cost leads or a few high-quality leads. Optimize for whatever is important to your business.

A key issue we all face is poor-quality data feeds. You want people to come to your website, not to third-party affiliate marketing sites that scrape the Web and don't keep the availability data updated, fresh and current. We're looking to technology platforms to eliminate those guys from our website.

### Price Optimization

Glover: A lot of properties are priced by comparative shopping; technology has now enabled price aggregation at an unpredecented level. Our company leveraged the transactional data we see through property management systems to generate price recommendations. About 5 to 10 percent of the market is using pricing tools today – this technology has not yet reached critical mass.

## COMING SOON: THE IP CONNECTED HOME

Bob Bickerstaff, vice president, AT&T: Soon, we'll integrate not only the telephone, Internet and TV but many other devices in the home as well. This will be a whole new way of managing the home. Security cameras and door locks can be managed remotely – residents can see visitors and let them in, even if they're not at home. Power consumption, lighting and other home services can be centrally managed. The most revolutionary change in the coming years will be telemedicine – and the IP connected home enables this. More and more medical services can be delivered in the comfort of one's own home, and the result is a great improvement in lifestyle. We want to partner with property owners to bring these services forward.

Etezadi: The curse of "big data" is that it's hard to deal with, but the blessing is that you can get some good information and react faster and more effectively. We change our pricing daily! It's become more like airline pricing – we may never get quite that close to real-time data, but the closer we get, the better off we are.

### Screening Technology

Glover: One benefit of screening technology is that it lets you enforce the policies you want to enforce, and you can also get fair-housing reporting. We're using this technology to help fill occupancy-challenged properties. People used to drop their scoring models to accept more applicants, but the risk is that you suddenly accept a whole tranche at bottom. A little more risk in the applicant pool may mean a lot of people.

The alternative is to drop the scoring model, then close the box once the queue is filled up. You can ask for extra deposit or rent to mitigate the risk. It's like limiting frequent-flier seats on the airplane – you don't want to fill up the whole plane with frequent fliers.

## ONLY ONE PIECE OF THE PUZZLE

Adam Bruns, managing editor of Site Selection: Economic development is about who's getting the high-capital-investment, high-job-count prospects, especially with high wages. You can get caught up in your project being *the* project – you start to think that getting that fiber ring established is the project. But from an economic development point of view, it's getting the plant that's relocating. It's Ford investing in facilities.

In the corporate site-selection world, the need for speed is how fast you can get the company up and operating. Utility infrastructure, which encompasses broadband availability, is tied for the fifth most important factor. All the different sectors, including specialists in broadband and transportation, need to get together and converse about how they can contribute to attracting projects.

### Using Technology to Attract Customers

Etezadi: We're still trying to figure out what's important to customers. Location is still important, but amenities are important, too. Talking to customers is the best way to find out. Social networking helps us get better understanding of likes and dislikes, but you have to be careful with fair housing issues.

David Cardwell, vice president, capital markets and technology, National Multi-Housing Council: The Council did a survey five years ago about voice, video and data systems. At the end, they asked, "How much does technology affect your decision to rent?" Less than 2 percent said that it had any influence. I think that if we did the survey again, there would be a different response.

Tom Nugent, national sales director, Verizon Enhanced Communities: It's time to redo that survey. I believe technology does make a difference. It might not be as important as location or price, but it is a differentiator. We're working with several property owners and managers to embed technology in mobile applications so they can be found via Android Market or iTunes. Customers can see floor plans, access cameras on sites, all the way through signing a lease. How much more powerful would it be if at the leasing office, instead of handing out brochures, you downloaded a mobile application that has all the same information? This could enhance leasing by attracting the right residents. I do a demo on an iPad, and gee whiz, I'm lucky if get the iPad back.

## DRIVING BROADBAND ADOPTION: MEET PEOPLE WHERE THEY ARE

Kelley Dunne, CEO, One Economy: One hundred million Americans do not have broadband at home. Broadband is no longer an option but an economic imperative – it enables more effective job hunting, it makes labor markets more efficient, it improves health and education, it allows new inventions, new goods and services and new processes. Driving broadband adoption drives the demand for broadband services.

What can we do to achieve the goal of 95 percent adoption? The good news is that we have an opportunity as a connected community to break those barriers down. It's easier to sit back and say that it's someone else's job, but it's not – it's everyone's job. We must all work together. One Economy and its partners are matching government BTOP funding with corporate funding.

Even before the BTOP project, we focused on measuring results and sustainability. In many One Economy projects, the carryover from free introductory Internet service to paid service exceeds 60 percent – that's one type of deliverable we can measure.

We try to meet people where they are. Right now, most people have cellphones. Applications such as reminders to take pills are great for reducing medical costs. Wireless technologies have a lower cost of entry. You can come online at a slower speed and graduate to higher-speed models. Safety, security and energy management are all parts of the ecosystem, too, and these applications also help sustainability.

Although we started in urban areas, we're now also working with our partners in rural areas of West Virginia and North Carolina, where new 4G wireless technologies running on 700 MHz are enabling enormous opportunities to cover rural Americans far more effectively than has ever been done before.

Steve Sadler, vice president, strategic business services, Post Apartment Homes: For the last two years, we've been trying to adopt online leasing as an option. Recently, we launched the Post Open Door website, where prospective customers can take virtual tours, fill out applications, go through screening and almost completely lease the apartment. There's also a mobile application. We don't want that to be the primary means of leasing, but we want people to do things in the way that's most comfortable to them. Technology is definitely a tool that's helping us generate more leases and higher-quality leases.

Glover: E-leasing is here. The technology is not even new. It's very stable, and we're not getting questions back from customers. But if there's high staff turnover on a property, how do you know new people are able to use this technology? That's why we're seeing increased adoption of online training and learning management systems. Managers can confirm their people did the training and took the test.

### Cellular Service

Sadler: Cell service is biggest issue we have to deal with today. We have prospects who look at the bars on their phones and say, "Show me something else." You'd think providers would be all over this because it's affecting their customers. It's very expensive to fix, and I can't charge for it.

Nugent: Cellular is very much a challenge. Affluent communities don't want cell towers; people there are looking to get away from work. In high-density networks, Verizon

## REFORM USF TO ENCOURAGE BROADBAND ADOPTION

Charles Benton, chairman and CEO, Benton Foundation: Cost is an issue in broadband adoption, but it's not the only one. Device literacy, search literacy, even basic word literacy can be barriers as well. Broadband pilot programs are leading the way to overcoming these barriers. For example, North Carolina has created a model pathway for reform of the USF Lifeline assistance program through NC LITE-UP. Eligible households receive equipment and a year of technical assistance with different levels of adoption support – 100 percent of their monthly service, 50 percent or none – and different levels of training. There's ongoing data gathering to see what works best. We're trying to adopt this excellent model in Illinois.

## THE COMMON VISION IS HUMAN ASPIRATION

Rey Ramsey, CEO of TechNet and founder of One Economy: I think we're asking the wrong questions and fighting the wrong fight. We're arguing about the size and scope of government, but the question should be, "What is required for America to be successful?"

The most important card for us to play is the potential of what technology can mean for America. We're in a global competition, and China may catch up with the U.S. in terms of gross domestic product sooner than we anticipated. We used to count on the higher-wage jobs always being in the U.S., but that's no longer true. There's a shortage of engineers, and we don't have enough engineers graduating to fill the jobs we have. Why can't community colleges and historically black colleges turn out more engineers? Why aren't there more women engineers? How do you win a game when half the team sits on the bench?

Broadband is fundamentally important for our country. We have rural areas with no broadband, and we have urban areas where people don't use it. If we're going to take advantage of broadband, let's start with these questions: "What is our vision? What is the purpose of broadband?"

We shouldn't make the mistake of thinking we can just get things into people's hands and all the problems will be solved. The FCC has an adoption plan, and it's a good start, but it can't do it alone.

One Economy started in 2000 with four people in a basement. We thought that if we put technology in the hands of local people, they would do something special with it. People told us the computers would be stolen and not used, but we kept plugging away, and now the group operates in 14 countries and 35 states.

We focused on a common vision – one of human aspiration. I'll never forget the focus group in Los Angeles where we asked people why they were taking courses on how to use computers. The overwhelming answer was, "I know my kids need it, and I want to get it for them." Now, that's human aspiration. When we stop listening to the basics of human aspiration, we fail. In Egypt and Tunisia, aspirations were pushed down, but they rose again.

### USING TECHNOLOGY IN THE LEARNING ENVIRONMENT

TechNet has launched ConvergeUS, a new nonprofit. [ConvergeUS is co-chaired by Ramsey and Twitter founder Biz Stone.] We're converging energy and effort around social issues – we'll identify three issues and three organizations a year, rally around those causes, and bring intellectual capital and dollars. Our first goal is reading by grade 3. Studies show that low-income kids enter school at a disadvantage because they haven't been exposed to enough words. They fall behind each year, and by third grade they fall off the cliff.

"How much are we spending?" is the wrong question. The question we should ask is, "Where do we want to be?" We haven't yet figured out how to use technology smartly in the learning environment.

If you lend your expertise and help to a social issue, it's good business; today's early adopters are your next customers. But we're bound together by more than commerce – we're also bound by human aspirations.

If you look at life, everybody is born an artist. There's one overarching trick to life – you get only one canvas. In the fight for what the vision of America is, I believe fundamentally that we're in it together. That's what technology and broadband enable.

is looking at fixed wireless for voice and data services. It is extremely expensive, and a lot of green building materials make it more difficult.

### PILLAR 2: CUSTOMER RETENTION

Glover: Technology self-service is one way to retain residents. Not just placing service orders but paying online, seeing the bill, setting billing options, even driving renewals through the portal. The resident portal is a 24/7 service portal; it creates a better and cheaper customer service model.

Etezadi: If a resident makes six connections in a community, renewals increase – so give residents every channel to make more connections. Make it easy to request service or book amenities (reserve a barbecue, find a baby-sitter). Help make staff-to-resident or resident-to-resident connections.

Nugent: How do you develop connections without dictating them? Give residents a platform [such as Verizon Concierge], and allow connections to blossom. Let groups form for wine drinking or soccer playing. Let a resident use a mobile phone to place a ticket for a leaky sink and understand that it will be addressed in a convenient way. Help residents connect with local pizza shops and flower shops so when it comes time to renew their leases, they think of the community as home. Start layering on other types of amenities they can view by placing elevator cameras, pool cameras and more.

## WHERE DO WE NEED THE BEST BROADBAND?

Blair Levin, society fellow, Aspen Institute: Every great economic development initiative will be accomplished over broadband. The first thing holding us back is that we obsess about the wrong thing. Most Americans think, "How do we get a lot more broadband to rural American homes?" But the low-hanging fruit is in the use case – we could improve education and health care so much more by effectively using the broadband platform. We need to focus on how to use it better to do those things where the public sector dominates.

Second, we constantly think everyone should have broadband everywhere at the same price. This is holding back economic growth. The same was true for telephone and electricity. From an economic development perspective, it's a bad idea. A lot of critics say the National Broadband Plan isn't visionary enough because it doesn't call for 100 Mbps to all American homes or for 1 Gbps to all. What we really need is to understand the market segments. If you look at the opportunities for using gigabit networks, we want research hospitals to have more than that; we want libraries to have a gigabit. We should ask ourselves where we need the best networks.

### CONNECT PEOPLE, NOT REAL ESTATE

We spend the majority of our money connecting real estate instead of people. We spend way too much money connecting second-home communities. Eighty percent of the people below the poverty line contribute to the Universal Service Fund and get not a penny for it.

We have to be smart about the allocation of resources. Let's get rid of textbooks and replace them with e-books. It makes the educational experience more dynamic and more personalized. But how much speed is needed for an e-book? Less than 4 Mbps. So let's make sure the educational output is less unequal – we don't need to spend $300 billion to do that. But we're not going to be able to do that by spending outlandishly in areas that don't help education or economic development.

It doesn't bother me that we won't have gigabit networks everywhere by next year. It bothers me that we won't have them almost anywhere.

Of course, there are compliance and privacy issues across the board. How do you make sure cameras aren't pointed at residents? How do you comply with CALEA? Everything has to be managed, so use providers that are reputable.

### Payment Technology

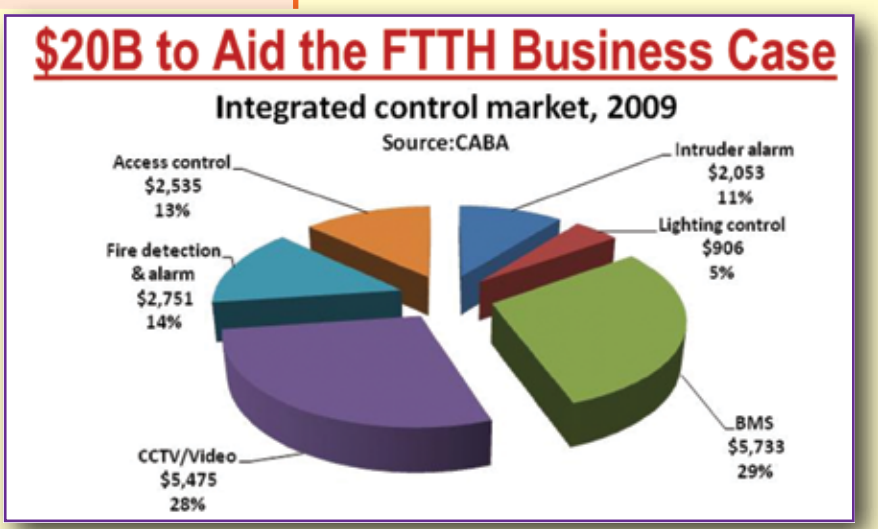
Sadler: Our bill payment system is online. Residents can see their statements and charges through the mobile application or portal. We also plan to add utility bill details.

Etezadi: Accepting electronic payments is better for your float and more convenient for residents, but giving residents the choice is important. People are all about choice.

Glover: At the point of lease, find out how residents want to be communicated with. Do they prefer social media or text messages or email? This makes the renewal conversation more sophisticated from an online perspective. UDR partnered with us on an online incentive-based renewal, where they upsell amenities and offer a discount for early renewal. It's a very personalized conversation, but all online.

### Starbucks vs. the Apple Store

Glover: One of our clients on the West Coast is transforming its leasing offices to a Starbucks model, with couches, lighting, dog bowls and music. The client wants residents to feel comfortable meeting a friend there, having a cup of coffee or having a business meeting. There are a couple of computers in the back of the room. A leasing agent hidden in the back behind the wall comes




BBC corporate editor Steve Ross: FTTH networks in MDUs could support many of the building management systems that now run on proprietary networks.

## GOOGLE THINKS BIG WITH A GIG

Megan Stull, telecom policy counsel, Google: We filed comments at the FCC outlining our vision: installing broadband fiber as part of every federal infrastructure project and deploying fiber to libraries, schools and public housing. Most significant was our proposal to create test beds to demonstrate the power of making ultra-high-speed broadband available to everyone.

[Google cofounder] Sergey Brin agreed that the test bed idea was fantastic. He asked, "If we think this is so important, why are we asking the government to do it instead of doing it ourselves?" In February 2010, we announced plans to "think big with a gig." We stated our intention to build an ultra-high-speed network to serve up to 500,000 people in the United States, offering speeds at a competitive price point.

We issued a request for information to communities, and the response was overwhelming. Nearly 1,100 communities reached out, and their enthusiasm went far beyond what we expected. Communities and citizens created websites, ran races, changed their names, made videos and engaged in other activities. All these efforts were noticed by us, and we took the review of all nominations very seriously. Last month we announced the selection of Kansas City, Kan.

### WHY WE CHOSE KCK

We chose Kansas City for three reasons: First, it was a location where we could build quickly and efficiently. Kansas City has great infrastructure, and it knew how to work at Google speed. Second, we wanted to make real impact on the community. Third, we wanted to develop strong relationships with the local government and the community, and we hope that Kansas City will be a model of how a community can benefit from next-generation infrastructure.

We could not be more delighted or excited to work with government and local institutions to help develop the gigabit applications of the future. Just as the shift from dial-up to broadband Internet access led to Netflix, Skype and YouTube, we think ultra-high-speed broadband will lead to new and unpredictable applications.

We are thrilled by the interest the inititative generated. We are happy that fiber became a front-and-center topic of conversations in communities. And we're thrilled that people now recognize the role of broadband in economic development.

out to greet people but goes away if he's not needed. The client wants to use the office to build community.

In the other model – the Apple Store model – the office has a bank of computers where the company wants you to lease online, transact online or even just use the computers. Leasing agents are out there but only to facilitate. They steer customers to terminals to enter their own information. People like doing that because they're more comfortable giving their information to a secure system than to an unknown person. These companies create an aura around technology.

Nugent: Technology in a leasing office is more than just a façade. It's selling a lifestyle for the whole community. Everything customers can access is just as simple and easy. The emotional purchase is certainly there, and the more you can humanize that through environmental or technological changes, the more likely you are to create a sense of home.

### Driving Traffic to the Portal

Nugent: The more relevant content you can put out, the better. Offering the ability to post classified ads or use a unified wallet to access flowers, pizza or table reservations drives traffic to the portal. It's not just a necessary evil to pay the bill. The leasing office can also drive traffic by changing its message from "You must sign up for this" to "This is a benefit of living here." When the usage of concierge services goes up, so do take rates for technology and for higher Internet speeds and prime TV channels.

## BROADBAND LESS AVAILABLE IN LOW-INCOME AREAS

Nicol Turner-Lee, Ph.D., VP and director, Media and Technology Institute, Joint Center for Political and Economic Studies: Our recent analysis of NTIA broadband data showed broadband availability by place, race and income. In South Carolina, access to broadband service is becoming much more ubiquitous, but there is less market competition and lower adoption in lower-income areas. The study did not find a nexus between race and broadband – in other words, there was no deliberate redlining. But many black areas still have no access, and in those areas the economic outcomes are poor.

## BROADBAND AVAILABILITY IS IMPORTANT, BUT UTILIZATION IS CRITICAL

Michael Curri, founder and CEO, Strategic Networks Group (from the SNG blog): Representatives from a majority of states gathered on April 28 for the Summit program dedicated to "Broadband and Economic Development: A Hard Look at Job Creation from all Angles."

Broadband stimulus dollars went mostly to unserved and underserved geographies. A very small portion of the stimulus funds had anything to do with actual broadband use – and in those cases, the programs were designed around basic training.

So the broadband stimulus program focused on spreading the wealth to achieve availability, with the result that most states are using coverage as their endgame. However, coverage does not necessarily beget adoption, and adoption does not beget utilization.

We all believe that broadband drives job creation, opportunities, etc., but we cannot necessarily assume that "build it and they will come" is a sound strategy. In fact, I think most of us would agree that, for many communities and regions, it isn't. So why is it that we leave that as the cornerstone to our economic development through broadband strategy?

### WHAT IS THE BROADBAND PROBLEM?

Building broadband networks is a necessary but not sufficient condition for economic impacts. It is the act of utilization – of leveraging broadband – that is at the heart of modern economic development. Whether the objective is retaining existing businesses and jobs, promoting business growth or improving the quality of jobs, e-solutions and online processes are the critical enablers that allow a community or region to successfully participate in the digital economy. Availability is important, but utilization is critical.

In Dallas, I heard numerous times that as broadband coverage is now increasing with ARRA projects, the question that often now gets asked is: "What is the broadband problem?"

This question should be reframed. Legislators, economic development officers and those working with broadband agencies should respond:

- Do you want local businesses to be more productive and able to compete in the global economy?
- Do you want to keep local jobs?
- Do you want youth to have the opportunity to have high-paying local employment?
- Do you want your region to be more resilient to shocks and enhance quality of life?

The answers are inevitably yes, but without broadband utilization, such desired outcomes are unlikely.

Although some regions and communities have the organic capacity to take advantage of broadband, most require planning, strategies and the promotion and utilization of e-solutions to leverage broadband infrastructure. This is a transition and a restructuring process. It is needed – in fact critical – to ensure that modern regions can compete in the global economy.

Economic development and broadband agencies as well as policymakers need data, strategy, actionable economic development plans, constituent and stakeholder buy-in, and ongoing monitoring and analysis to put their communities and regions in a position to compete in the global economy. Uncovering existing barriers to current utilization of e-solutions by households, businesses and civic organizations makes possible the development of a road map to accelerate and optimize measurable and sustainable socioeconomic gains at a regional level.

Etezadi: Some people don't want to interact with their neighbors, and others do. Encourage people to use the concierge product to find out what's going on in the community, such as offers from local businesses – you can find things that are reasonably appealing to a large swath of the community. In some properties, the average resident logs on a few times a day, in others, it's once or twice a month. It varies with demographics and region.

Nugent: Region and demographics are important, but if the portal is positioned as an amenity, usage rises regardless of age or region.

Sadler: If portals are well built and have good content, most people can go to them and get the information they need. This helps shift operational costs.

Cardwell: The efficiencies are there for both parties. There are a lot of things we as owners get out of technology for residents.

### PILLAR 3: PROPERTY MANAGEMENT

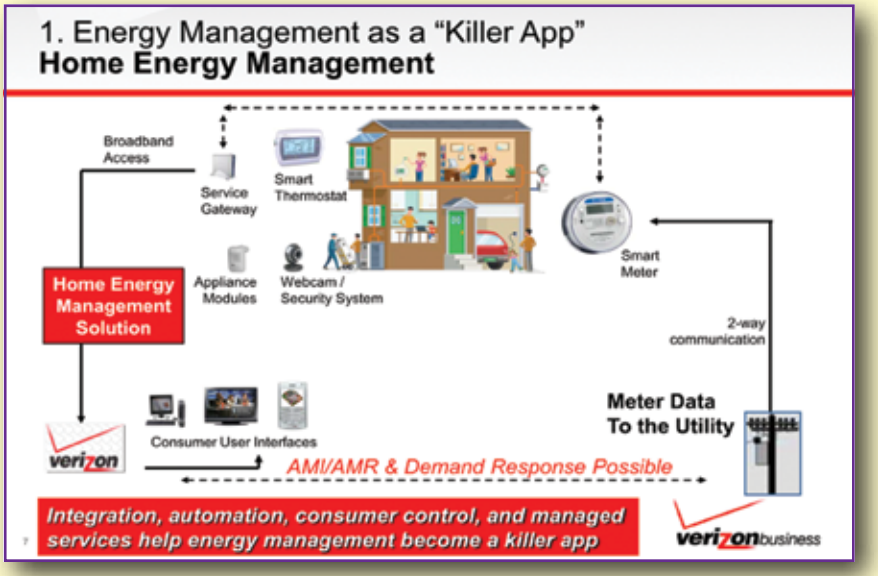
Etezadi: We use the RealPage end-to-end suite to manage the resident life cycle. We can slice and dice: How am I doing in the Pacific Northwest? How am I doing in Houston? We get a better perspective on how things are moving.

## MORE INVESTMENT IN BROADBAND IS NEEDED

Dr. Kenneth Peres, economist, Communications Workers of America: Previous measures of economic development focused on jobs, GDP, wealth and productivity. Today, we also need quality-of-life and sustainability metrics. Economic development involves not just income but also health, education, political voice and security.

This is the time for investment, not disinvestment. This discussion is taking place in the midst of the most significant jobs crisis since the 1930s. In 1938 and 1939, Britain instituted austerity measures, and the economy ground to stagnation. We should invest in infrastructure, including broadband infrastructure; we should invest in talent, including broadband skills; we should invest in innovation, including research and development in broadband. We need to make sure that prosperity is widely shared and not just concentrated in the top 1 percent of the population.

We should consider three types of broadband policies: Horizontal policies expand access to broadband, including high-capacity networks for universities and big businesses, and close the digital divide. Vertical policies focus on maximizing broadband's benefits to education, health care, public safety. Finally, diagonal policies cut across the silos – for example, creating emergency response systems that link first responders with traffic control and hospitals.




Kyle McNamara, Verizon global energy and utilities practice: Verizon envisions home energy management integrated with broadband and smart-grid networks.

## BUILD COMMUNITIES WITH BROADBAND

Robert Bell, cofounder, Intelligent Community Forum: The Pew Internet and American Life project did a three-year study about how young people actually use digital media. They discovered the vast majority are using it to connect to people they already know. These broadband tools are used to build communities, and that's important because how well the community works ultimately determines how economically successful it is. We're social animals, and we have to solve the challenges in front of us together.

The city of Nuenen in the Netherlands had an incumbent provider with no great incentive to invest; it wanted to milk its copper network. Then the government put up a pot of money for a Knowledge City and fiber-connected 1,500 homes, then a few thousand more – and suddenly there were multiple providers.

Nuenen's one big employer, Philips, moved to Amsterdam. So the city capitalized an organization called Brainport, which does open innovation. Brainport, which is a membership organization, asked its members what they needed and what they could offer. It matched up a private business, Paradigit, which had IT expertise, with a school district that lacked IT expertise, to support the one-laptop-per-child program. The private company gets a new line of business serving the school district, and the school district gets its problem solved. The money stays in the community and builds quality of life in the community. Multiply that by 70 or 80 and you'll begin to see the impact of Brainport. [Editor's note: Brainport produces more than half the patents in the Netherlands.]

## IT'S NOT ABOUT THE APPLICATIONS – IT'S ABOUT THE *APPLICATIONS*

Geoff Daily, executive director, FiberCorps: How do we close the gap between rhetoric and reality? Fiber may open the door, but how do we step through it? In Lafayette, La., we created a new nonprofit, FiberCorps. We have the resources, the desire and the fiber.

We found that it's not about the applications; it's about the *applications*. Too often we talk about software – how to use videoconferencing, for example. We need to talk more about how to apply this software to solve community problems.

FiberCorps facilitates demonstration projects that identify needs and solve them. For example, hundreds of kids are using 3D modeling programs in high school. Because their computers aren't powerful enough, they were stuck doing lower-level projects. We're building a render farm to offload jobs and access higher render levels so students can do advanced work.

We're working on a health information exchange initiative. Because social infrastructure matters most, the most important task is to get the hospitals and doctors and testing facilities to agree to share data. Businesses located in Lafayette will have lower health care costs because of this initiative.

We're also working on new social architectures for organizing assets – Appsquad is a database of people that should lower the cost of innovations. We're holding events to pull together cross-sector groups. Finally, the goal is to make Lafayette an innovation hub and a test bed for new applications. We've moved from "we need fiber" to "we need fiber to do what's happening in Lafayette." We're reorganizing the community to take full advantage of the potential of fiber.

There's a tremendous cost savings if we don't have to deposit checks. We can put all the accounts payable clerks in one location and take advantage of efficiencies of scale and specialized people. We're keeping our books in a centralized ERP system. Specialization is a tremendous source of savings.

Glover: The resident manager used to be mostly a bookkeeper. If you move those functions off the property, you can repurpose site personnel away from administration to customer-service functions. You can regionalize peak demands and maintenance and have people go around to properties instead of calling contractors in.

## FIBER-POWERED SCHOOL PROJECT RAISES GRADUATION RATE

Scot Rourke, CEO, OneCommunity: We had the naïve vision of leveraging technology to transform the Cleveland region. Completely unaware of the challenges of the telecom industry, we thought we could transform it overnight. Everyone will embrace information technology, and all our problems will be solved! We found it to be challenging, culturally and otherwise.

After seven years, we have 2,000 sites. There are schools, libraries and governments in our fiber network. We have a strong earned-income stream and innovative technology that targets the digital divide. We offer ad-supported public Wi-Fi, which we're trying to make sustainable. We operate an open-access network in partnership with private-sector phone and cable companies.

We've attracted $150 million in the last several years for big projects that include rural telemedicine, broadband training, adoption and use, and access for 30,000 households.

We don't worry a lot about providers; we worry more about the demand side and adoption – how to remove all the barriers and accelerate the benefits of broadband. Government is woefully behind in the adoption of technology. If you provide talents and tools, governments become rewarding broadband customers, and we can reinvest the revenues back into other areas that need help.

We raised private funds and built fiber to the schools, trained the teachers, refurbished computers for schools, brought in software for student assessment and learning systems, and created internships for kids. As a result, graduation rates rose more than 10 percent. We brought doctors into classrooms virtually, and 500 kids graduated and can now fill gaps in health care.

## TV EVERYWHERE BENEFITS MDUS

Brian Venable, director of domestic network distribution, HBO: Though 92 percent of viewers use TV as their main source of video content, they also use desktops, laptops, DVDs, mobile phones and tablets. For the month of March 2011, 144 million Americans watched 4.5 million online video streams, or 14.8 hours each. At same time, they watched 35.6 hours per week on regular TV.

Because of content rights issues, TV Everywhere is moving slowly from the consumer's perspective, but there are already many choices for consumers. We are looking to address this for our customers as well. HBO GO is a streaming service with 1,400 hours of the best and latest shows, plus bonus features. It's available on the Mac and the PC (and, as of May, on the iPad, iPhone and Android platforms) and offers parental controls, season passes and social aspects. Interactive TV is becoming a reality – you'll have the ability to click and learn more about the show. We're currently working with our distributors to make sure all our customers have access to GO.

Bill Revell, vice president, national MDU sales and services operations, Comcast: There's nothing to indicate that massive cord cutting is taking place. The kind of experience you want to have watching entertainment programming generally means the big screen. When researchers took traditional linear subscription TV away from a bunch of families for 60 days and gave them access to HULU and other over-the-top services, the results were unbelievably supportive of the current model. It's very challenging to find the content you want, when you want it, through the over-the-top model. Over the next two to five years, we're not going to see an abandonment of the traditional way of watching video content.

Still, access to video content [on other screens] is also something consumers want. Our Xfinity iPhone application was downloaded 1 million times within the first two months. The major benefit for owners and property managers is that residents are happy because they can get content when they want it.

### PROPERTY OWNERS LOOK TECH-SAVVY

Michael Lee, director of commercial sales and marketing, DISH Network: In an MDU, offering TV Everywhere affects residents' perceptions of how technically capable the property owner or manager is. In addition, as more adopters take TV Everywhere, we can begin removing monitors in public venues. I'm not sure I'd want to sit and watch what someone is forcing me to watch in the laundry room or pool area. I'd prefer to watch my own content on my iPad or iPhone.

As more customers seek online content, whether linear or stored, we do have to be concerned about bandwidth utilization. DISH's approach is technology-based: We acquired Move Networks, whose technology allows us to adapt IP streams to to select the best possible compression and delivery mechanism, regardless of the pipe. Silverlight, Adobe and other adaptive streaming technologies are also available.

David Schwehm, senior director of national sales, Time Warner Cable: Our iPad application is designed to stream live video. For two weeks, we were the number one downloaded application from the App Store. The application must be used within the customer's home, within range of the Wi-Fi router. Our expectation is to grow this offering. It's been received well; 300,000 copies have been downloaded, and people are clamoring for it.

TV Everywhere benefits a property manager because it provides mobility within apartments. Handling authentication in a bulk situation is klugy, though – because the owner is the customer, residents don't know the account number. Our new way to authenticate customers will be address-based.

Sadler: Leasing people are not accountants. They should be doing what they're good at – taking care of customers. We pay bills internally and don't let properties touch any of that stuff. The data we collect is better, and we're analyzing it better.

Etezadi: Centralizing also leads to savings in compliance and purchasing. You can get bulk rates on faucets and door hinges. We're becoming better operators by using supply chain management and asset tracking with QR codes [2-D bar codes]. Technologies that enable centralized purchasing and compliance can minimize inventory (how many spare refrigerators do I need to keep on site?) and make a bottom-line impact.

## CUSTOMERS DEMAND BROADBAND FROM MUNICIPAL UTILITIES

Desmarie Waterhouse, telecommunications representative, American Public Power Association: We're a trade association representing 2,000 municipal utilities. An increasing number of our members are entering the broadband space. There are two categories – broadband for internal services (SCADA, AMR, municipal data networks) and external retail services via FTTH, HFC and wireless.

Because businesses are ready to pull up and leave unless broadband is available, a lot of customers – local chambers of commerce, businesses and residents – are now demanding that their utilities enter the broadband space. Our members don't just wake up one day and say, "Let's do broadband." Rather, the utilities are approached to consider looking at this possibility to support education, make their communities more competitive and improve the quality of life.

There are parallels between electrification and broadband deployment. A hundred years ago, people said electricity was not really required. Private-sector companies were providing it to urban areas, and the rest of the country was left behind. Communities decided to enter the space – they had a choice of being left behind or providing themselves with an essential service.

Broadband access has many of same characteristics as electricity. Businesses need it to compete, folks need to be proficient at it, and where it's not available, businesses will leave. Employment opportunities and access to health care depend on it. But obtaining access to connectivity poses challenges.

### TWO EXAMPLES

Bristol Virginia Utilities was one of the first municipal utilities to provide broadband. Today, it serves 65 percent of the population and is planning to expand. It has attracted two major employers with 1,500 jobs that pay twice the local average wage, as well as maintaining businesses that were already there. It has created new revenue streams and income taxes. It's been a big boon for Bristol.

Lafayette Utilities System serves a larger community of 120,000. After a series of impediments and lawsuits, it built FTTH and attracted a call center.

Businesses won't magically come because of broadband, but broadband can help keep businesses where they are. Utilities are using their systems for utility purposes, and schools and hospitals serve as anchor tenants. They also work closely with commercial customers, who are glad they are in the space. It's very important that they are not precluded from doing so.

### PILLAR 4: GREEN LIVING

Sadler: To begin to have a reasonably good green initiative, you have to collect data. What's the energy consumption on house accounts or on vacant units? There's tremendous opportunity in deregulated markets to really effect serious cost savings and budget control, but you have to know what you're working with. The second problem is that everybody and his brother has a better mousetrap. There's a ton of smoke and mirrors. You have to collect data and evaluate products. We did the low-hanging fruit early; now we're finding things that save residents money but don't save us money – such as water-saving devices for toilets.

Etezadi: We sell those and make the residents pay for them. One package that's hugely popular for us is a green package, which includes compact


Lawrence Brickman, managing partner, CloverLeaf Digital: Because it helps build community, local content is an important differentiator for a communications service provider.

fluorescent lights, an automatic thermostat and water-flow reducers. It's very inexpensive, at $15 per month, and residents see immediate cost savings on their utility bills.

Glover: You can offer a green package at the time of lease – it doesn't have to wait for renewal. We'll install electricity and water-saving devices for $10 to $15 extra per month. It's a way of shifting the cost to the person who experiences the benefit and to market ourselves as a green community.

**Car Chargers**

Sadler: We designed car chargers for electric cars in our new communities, and it's more complicated than one might think. You need to start seriously thinking about it, or you will soon have orange extension cords all around your property. What kind of station do you use? Are there reserved spaces? What's the ROI on investment? The stations can be networkable with the greater GE network, so residents can see where to charge their cars while they're shopping. It's $4,000 to $5,000 for the device, plus electricity. Managing resident expectations is interesting.

Etezadi: We are also doing this in new communities. It's worth points for LEED certification, and it's good thing to do, but there's not a lot of demand yet. It's more of a showcase than an amenity for now.

Sadler: Several plug-in hybrids are coming out in 2012. Go through your property and see how many Priuses there are, and that's a good indication of the demand for plug-ins.

Etezadi: Putting a car charger in a greenfield property is cheaper than retrofitting it later. Plan for infrastructure upgrades ahead of time. ❖