The State of Telecommunications: Wireless Gains Momentum

Examining the trends that businesses, municipalities and other institutions are watching as they plan their networks of the future

We live in the Internet Age.

That's a fact that shouldn't be astonishing. But the power of the Internet is leading to some interesting developments that are affecting how CIOs plan to transform their networks in order to deliver more value to their users and their bottom lines. The industry is seeing an explosion of data communications and content. As a result, the demand for high-speed broadband service is increasing dramatically. That, in turn, is driving the need for organizations to upgrade or transform their networks in what the Gartner Group calls "IT Modernization."

We're seeing the need to provide high-speed access to users and customers outside the traditional office setting, including mobile communications. It's no surprise then, that we're seeing wireless communications begin to carve out an increasingly crucial role in both business and residential usage. This trend is escalating, fueled in part by a new generation of users using a new generation of amazingly powerful and popular handheld devices not just to get information, but to interact with their friends and colleagues. As we approach the end of the first decade of the 21st Century, we're seeing a telecommunications industry that has perhaps never been quite so promising. The question is:

How do you prepare for that future?

Today's technology-savvy users are creating a brave new world of online communications: texting, blogs, podcasts, instant messaging and networking sites like FaceBook, MySpace, LinkedIn and Twitter. The lines between social and business environments are rapidly blurring. Next generation users want to use the Internet in business the way they use it everywhere else, and that is causing tremendous change in workplace communications.

Demand for Bandwidth

At the same time, virtually all business and personal users still use the Internet to download content of virtually every conceivable kind, from music files to graphics to photographs to streaming video. The truth is, an increasingly large part of Internet usage is for non-voice communication. This places a premium on bandwidth.

Perhaps the most crucial issue as organizations plan to transform their networks is the need for ever-increasing amounts of bandwidth driven by customer demand. Today's most bandwidth-hungry applications are led by video, including streaming video, video surveillance, video downloads, Blu-Ray HD-DVD players and HDTV. Other applications that demand high bandwidth include high-speed Internet access. In business, for example, it's not unusual for an organization to have hundreds or thousands of users logging on to the network simultaneously.
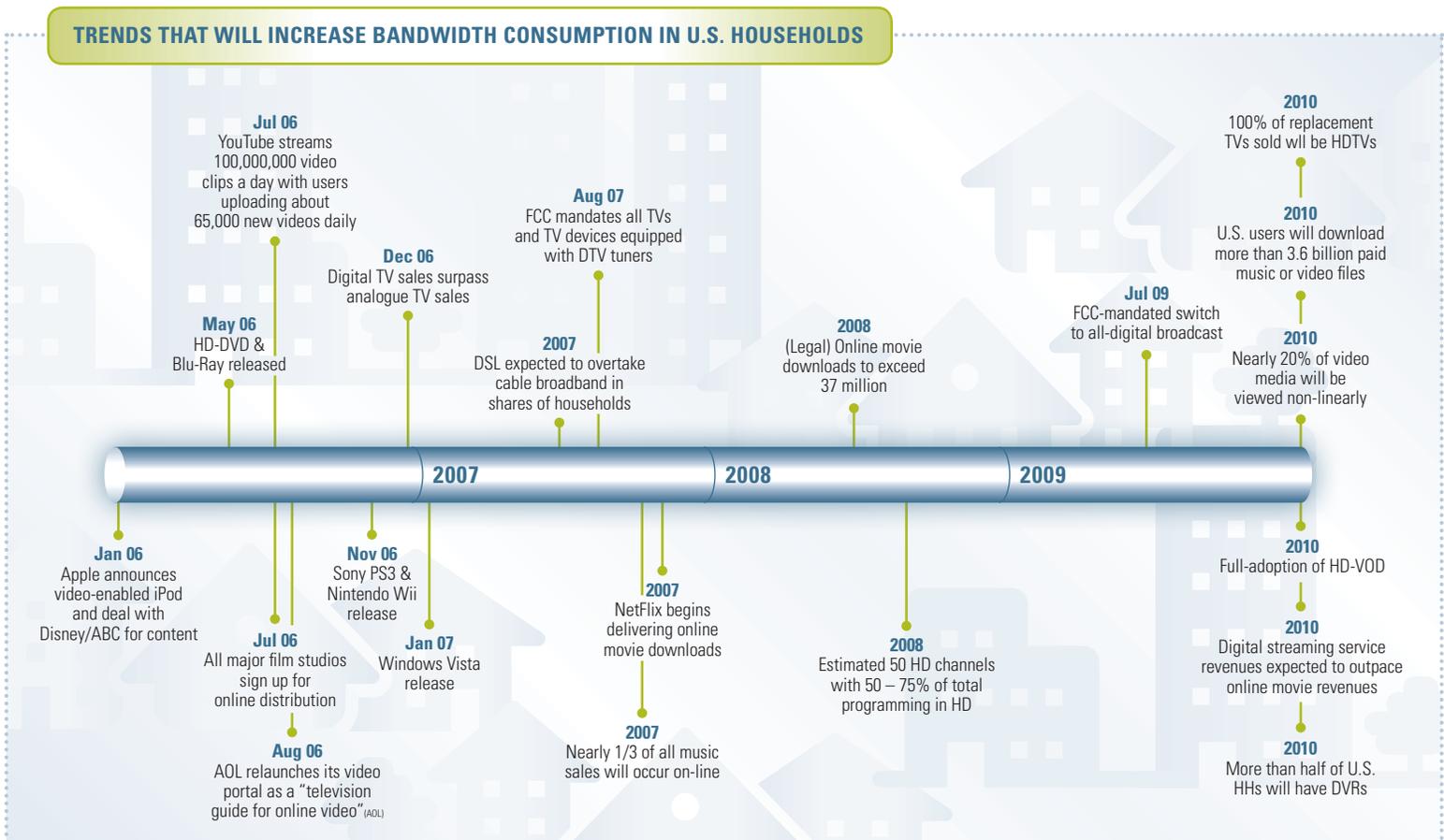
Other bandwidth-intensive personal applications include music downloads and multiplayer and HD online gaming. Additional business applications include video conferencing and remote video monitoring. And as we become more and more accustomed to multi-tasking, we are consuming more media, more content and more bandwidth at any given time, placing even more strain on network capabilities. Such trends are expected to continue within residential households, and in business environments as enterprises adapt consumer technologies for business applications.

Seismic Change in Vertical Markets

In the business world, it's clear that the way technology is being used has changed dramatically over the last few years, rapidly evolving from simple process automation to the quest for a technology-driven competitive edge. This objective is being facilitated by seismic changes in both technology and the proclivity and ability of people to utilize it. In its May, 2008 Report "IT Modernization: The Changing of the Guard," Gartner notes that "… organizations are now faced with generational shifts in technology, business pressures and IT skills at a scale never before seen in the computer age."[1]

Virtually every type of business or institutional environment faces the challenges of this technology transformation. Many if not most are using wireless

TRENDS THAT WILL INCREASE BANDWIDTH CONSUMPTION IN U.S. HOUSEHOLDS

Jul 06
YouTube streams 100,000,000 video clips a day with users uploading about 65,000 new videos daily

Aug 07
FCC mandates all TVs and TV devices equipped with DTV tuners

Dec 06
Digital TV sales surpass analogue TV sales

May 06
HD-DVD & Blu-Ray released

2007
DSL expected to overtake cable broadband in shares of households

2008
(Legal) Online movie downloads to exceed 37 million

Jul 09
FCC-mandated switch to all-digital broadcast

2010
100% of replacement TVs sold wll be HDTVs

2010
U.S. users will download more than 3.6 billion paid music or video files

2010
Nearly 20% of video media will be viewed non-linearly

2007 | **2008** | **2009**

Jan 06
Apple announces video-enabled iPod and deal with Disney/ABC for content

Nov 06
Sony PS3 & Nintendo Wii release

Jul 06
All major film studios sign up for online distribution

Jan 07
Windows Vista release

2007
NetFlix begins delivering online movie downloads

2008
Estimated 50 HD channels with 50 – 75% of total programming in HD

2010
Full-adoption of HD-VOD

2010
Digital streaming service revenues expected to outpace online movie revenues

Aug 06
AOL relaunches its video portal as a "television guide for online video" (AOL)

2007
Nearly 1/3 of all music sales will occur on-line

2010
More than half of U.S. HHs will have DVRs

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[1] "IT Modernization: The Changing of the Guard," Gartner Group Report, May, 2008

broadband to provide power and connectivity, introduce strategic applications and create a single network for voice, video and data.

- **Education.** Educational campuses—from K-12 to universities—are using wireless broadband to connect students and faculty virtually everywhere on or off campus.

- **Government.** State and municipal Departments of Transportation use wireless connectivity to monitor traffic signals, road conditions, bridge and roadway safety and more.

- **Transportation.** Facilities such as ports, railway hubs and airports use wireless video surveillance to monitor remote facilities such as parking lots, storage yards, maintenance buildings and control towers.

- **Healthcare.** Healthcare environments use wireless broadband for building-to-building connectivity as well as for the latest patient care from bedside to laboratory and for transmitting electronic medical records. Future investments in health information technology are expected to substantially decrease health care costs and increase access to quality care.

- **Rural environments.** In rural communities, broadband wireless connectivity is of paramount importance in bringing urban communications opportunities to underserved areas.

What IT Executives Want

As they plan to update and upgrade their IT strategies and networks, IT managers have the option of adding additional lines to upgrade service; unfortunately, lease costs for these lines are expensive and recurring. There are also reliability issues. So it's no surprise that so many enterprises are turning to IP-based networks to solve their technology challenges and help them meet their business-critical objectives. For example, a 2008 study by IDC enumerated some of the reasons CIOs are deploying IP-based networks for telephony.[2]

Transforming Networks

Of course it all begins with infrastructure. Whether wired or wireless, broadband infrastructure is the great enabler of the Internet revolution. This places a premium on ensuring that the infrastructure is capable of supporting the increasing demand for broadband speed, power, scalability and functionality. This can lead to some hard decisions on the part of infrastructure providers.

One example involves providers of wireline services like traditional telephone companies. Because of increased demand for bandwidth and tougher competition, telcos are faced with the necessity of transforming their networks by rolling out higher and higher speed capabilities — voice *and* data — using their legacy circuit-switch infrastructures. That's causing a problem for their aging circuit switch infrastructures, a great many of which are nearing the end of their lifecycle and are in need of replacement. The question is, what to replace them with?

Most traditional telephone companies earn the bulk of their revenues from voice services, which are ably supported by circuit switch technology. But broadband data usage is growing exponentially and will continue to grow, becoming an ever more important profit center. Unfortunately, circuit switch networks are not ideal for supporting broadband service. One alternative is to keep their voice-centric circuit switch networks as long as possible. This enables them to keep their bread-and-butter voice service intact, but will lessen their ability to make money from broadband-based data communications. Another alternative is to transform their networks by replacing circuit switches with an IP-based packet switch distributed architecture capable of delivering the broadband needed for high-speed data communications. It's not an easy decision. Although the much anticipated circuit-to-packet changeover has not reached expectations as yet, the movement to IP-based networks is finally happening, as illustrated in the following chart from Technology Futures, Inc.
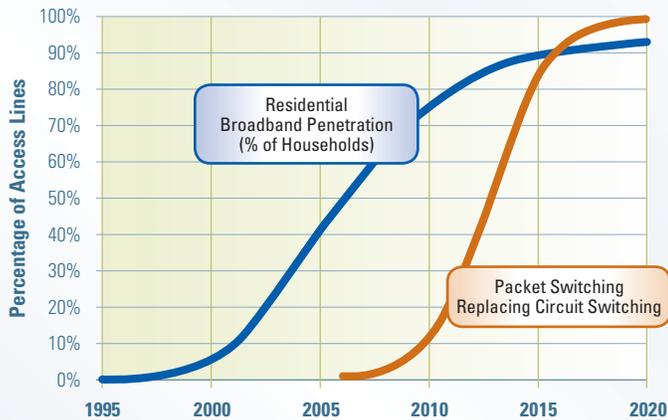
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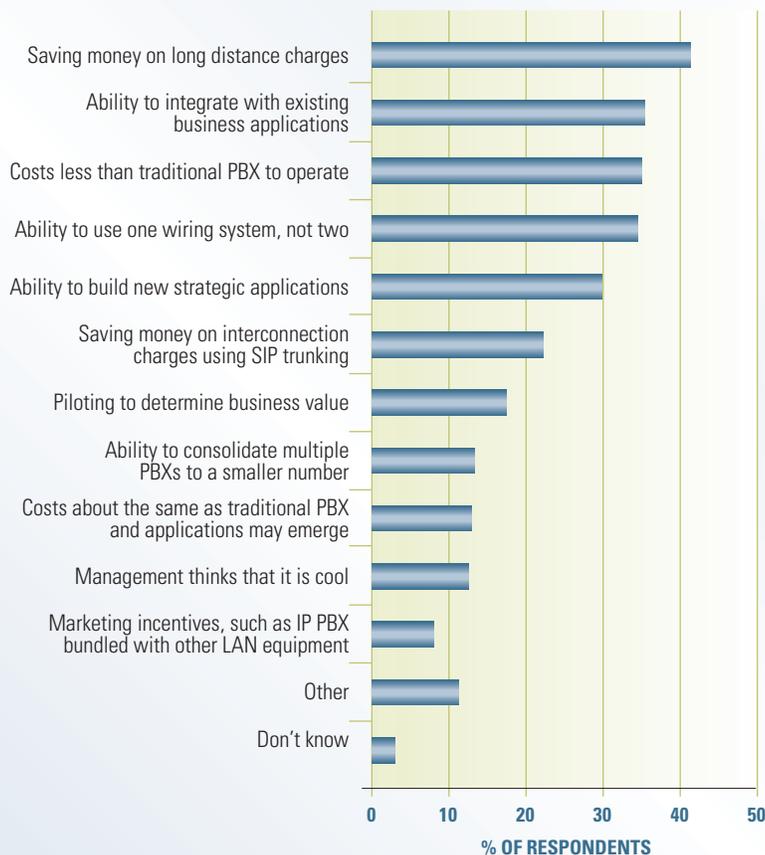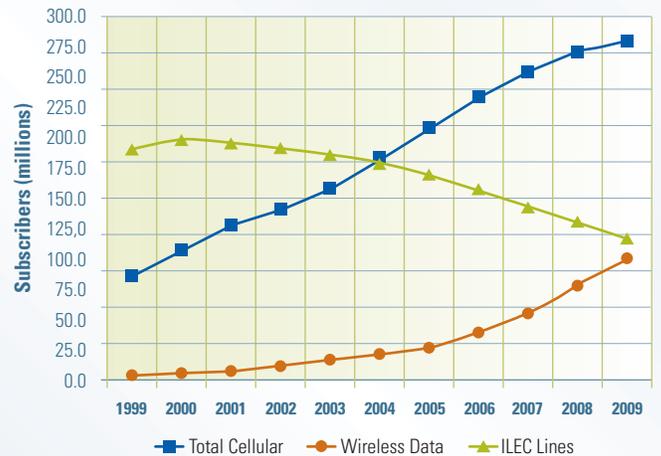

Source: IDC's *Key Trends in Enterprise VoIP 2008*

[2] "Key Trends in Enterprise VoIP 2008," IDC, 2008

PACKET SWITCHING REPLACING CIRCUIT SWITCHING

Residential Broadband Penetration (% of Households)

Packet Switching Replacing Circuit Switching

Source: Technology Futures, Inc.

U.S. WIRED TO WIRELESS USERS

Total Cellular • Wireless Data • ILEC Lines

Source: CTIA; FCC; Skyline est.

Wireless is Pervasive

One important factor in the switch replacement decision is the sky-rocketing growth of wireless communications enabled by IP-based networks. How significant is wireless growth? "We now have about twice as many wireless users in the United States as wired users," says industry analyst John Celentano of Skyline Marketing. "And the gap keeps on growing." The fact that personal and business users have embraced wireless so heartily is impossible to ignore. Celentano is already seeing dramatic changes in network infrastructures. "Networks are undergoing a tremendous transformation," he notes, "with many operators moving to all-broadband, all-mobile, all wireless environments." But it's not necessarily an either-or decision. Many other operators are deploying wireless in combined wired and wireless systems, for example, using wireless as extensions to wireline networks or as fully redundant backup networks.

Wireless Myth Busting

Why has wireless taken off so dramatically? One reason is that network operators and users alike have realized that many of the myths about wireless are simply not true. In the past, there were concerns about wireless reliability because of the over-the-air interfaces. The reality is, as thousands and thousands of wireless networks are now proving every day, wireless can deliver highly reliable service even in the most difficult environments in the world. Similarly, many users and operators once considered wireless networks a security risk because they were perceived as vulnerable to intrusion. With the advent of superior security applications, such as Motorola's AirDefense Intrusion Protection System and other advanced security protocols, wireless networks are providing security comparable to wireline systems. Wireless networks are also proving capable of deliv-

ering exceptionally high performance at broadband speeds, and at supporting the most sophisticated applications available. The pervasiveness of wireless is evolving into the all-wireless enterprise.

Anyone doubting the importance and value of wireless technology should note the results of the recent auction of the 700 MHz spectrum conducted by the U.S. Federal Communications Commission (FCC). Because the 700 MHz band is capable of traveling long distances and excels at penetrating obstacles, the auction attracted a large number of bidders. During 261 rounds of bidding, 101 bidders secured spectrum, which proved much more valuable than most experts imagined. The $19 billion the auction raised was twice what Congress expected, and turned out to be the equivalent of the total amount of dollars the FCC raised over the past 15 years of spectrum auctions. The bottom line? It's virtually impossible to overestimate the importance of wireless technology in network transformation and planning for the future.

Wireless Versatility

As more and more enterprise, government and other organizations embrace wireless technology, they are utilizing wireless networks in a variety of ways that help reduce costs, simplify network expansion, ensure uninterrupted service and help enhance revenues. Among the most successful uses for wireless technology are:

Outdoor Fixed Wireless

A growing number of organizations that have relied on leased T1/E1 and T3 lines for high-speed connectivity are dissatisfied with paying recurring lease costs every month as well as with the quality of service and support. Public safety in particular is becoming increasingly disenchanted with leased line

reliability as more demands are being placed on their networks due to increasing populations and crime rates. Because of the ramifications of a network going down due to weather or other reasons, many departments are paying extra to build in redundancy, adding to their overall lease line maintenance costs. This increasing demand for bandwidth is making total connectivity costs a much larger part of the overall IT spend. This makes finding more cost-effective alternatives to leased lines a key part of today's IT strategies.

A great many organizations are taking advantage of the benefits of replacing leased lines — where the cost of running a cable between two buildings on a corporate campus can be enormous — with wireless broadband connectivity. Results are proving to be excellent, with overall network performance and reliability being upgraded while recurring costs are being eliminated.

- **Fiber extension.** Organizations of all types — from network providers to businesses, municipalities, government offices and institutions such as schools and medical centers — want to extend their wired networks to remote sites ranging from other buildings on campuses to outlying locations such as warehouses and other facilities. These organizations are discovering the advantages of extending their networks via wireless solutions that not only meet demands for high-speed voice,

video and data but can be deployed in a fraction of the time and at a fraction of the cost of wireline extension.

- **Backup/Redundant networks.** In today's global environment, communications networks are too crucial to be at the mercy of either natural or man-made disasters that can cause service interruptions. Whether a network goes down due to human error or to natural disasters such as hurricanes, earthquakes or wildfires, lives are endangered and business processes are stopped in their tracks. Business continuity solutions have become crucial components of any organization's plans. The fact is, redundancy is no longer considered an option or luxury; it is quickly becoming a necessary budgeted expense. Wireless backup networks are proving to be exceptionally reliable and cost-effective ways of ensuring high-speed connectivity during times when wired networks are incapacitated.

- **6 GHz Licensed Network Expansion.** Many enterprises — from transportation companies to utilities and more — rely on licensed microwave networks now in need of digital upgrades and incremental capacity to meet increasing demand for services and higher performance. Motorola fixed Point-to-Point wireless broadband solutions provide an efficient and cost-effective unlicensed alternative to expensive 6 GHz links. Point-to-Point radios can be deployed in parallel with existing microwave radios. They can be placed on the same towers and use the same antennas and cabling, providing additional capacity using existing infrastructure. Performance is upgraded substantially with little or no downtime to interrupt service and at substantial savings.

Indoor Wireless

- **WLAN Networks.** More and more organizations are moving to high-speed wireless LANs. In addition to typical wireless benefits such as ease and speed of deployment, WLANs tend to be exceptionally cost-effective. The truth is, wired LANs can be very expensive, often costing around $250 to wire a single Ethernet port. A totally wireless LAN eliminates these high cabling costs during initial set-up… and also during the inevitable reconfiguring of the LAN as business needs change and walls, offices, cubicles and desks are moved to accommodate new goals. Wireless LANs also enable employees to move about freely when and where they are needed, without being tethered to their desks by wired phones and networks.

As the telecommunications industry moves into the 21st century, wireless technology is proving itself to be one of the highest-performing, least costly and most successful solutions for delivering the ubiquitous broadband connectivity today's new generation of users — from business people to first responders to students to residential customers — demand. Wireless is not only gaining momentum, it's on the verge of becoming *the* communications technology for the new millennium.

MOTOROLA POINT-TO-MULTIPOINT CAPABILITIES

	PMP 100 SERIES	PMP 400 SERIES
APPLICATION	Line-of-Sight Between Locations	Line-of-Sight & Near Line-of-Sight Between Locations
RANGE	Up to 2 Miles to Furthest Location	Up to 15 Miles Line-of-Sight
THROUGHPUT	Up to 14 Mbps Equivalent to More than 4 T1 Leased Lines	Up to 21 Mbps Equivalent to More Than 6 T1 Leased Lines
CAPEX	Access Point (1): $1,895 Subscriber Modules (4) @595/module: $2,380 TOTAL $4,275	Access Point (1): $3,495 Subscriber Modules (4) @1,195/module: $3,585 TOTAL $7,080
FREQUENCIES	2.4, 5.2, 5.4 & 5.7 GHz	4.9 & 5.4 GHz

MOTOROLA POINT-TO-POINT CAPABILITIES

	PTP 200 SERIES	PTP 300 SERIES
APPLICATION	Reliable Connectivity Alternative for Leased Line or Fiber Line-of-Sight or Near-Line-of-Sight Between 2 Locations	Cost-Effective Alternative to Leased Line or Fiber Line-of-Sight, Near Line-of-Sight & Non Line-of-Sight Between Locations 99.999 % Reliability
RANGE	Up to 5 Miles	Up to 155 Miles
THROUGHPUT	Up to 21 Mbps Equivalent to More than 13 T1 Leased Lines	Up to 25 Mbps Equivalent to More Than 16 T1 Leased Lines
CAPEX	$3,595 Complete Link	$5,995 Complete Link
FREQUENCIES	5.4 & 4.9 GHz	5.4 & 5.8 GHz

Motorola's Global Wireless Leadership and Innovation

Motorola is the telecommunications industry's premier provider of streamlined, seamless indoor/outdoor wireless broadband connectivity. Our products and solutions are designed to meet the requirements and challenges of organizations striving to transform their networks to maximize connectivity, coverage and capacity while dealing with demanding customers, reduced budgets and the need for accelerated ROI.

The Motorola Wireless Broadband Portfolio

Motorola's comprehensive portfolio of reliable and cost-effective wireless broadband solutions together with our industry leading WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed network solutions that support data, voice and video communications, enabling a broad range of applications for public and private systems. With Motorola's innovative software solutions, customers can design, deploy and manage broadband networks, maximizing uptime and reliability while lowering installation costs.

- **Motorola Point-to-Point Wireless Ethernet Bridges.** Motorola Point-to-Point solutions provide maximum reliability and performance in a wide range of environments in which other technologies often experience difficulties. The PTP solutions operate in both licensed and unlicensed spectrums to include the 2.4, 2.5, 4.5, 4.8, 4.9, 5.2, 5.4, 5.8 and 5.9 GHz frequency bands, and are proven to deliver fully digital communications with availability up to 99.999 percent. Motorola PTP solutions deliver data rates of up to 300 Mbps in high-interference, long-distance line of sight (LOS) and non-line-of-sight (NLOS) applications.

- **Motorola Point-to-Multipoint Wireless Broadband Access Networks.** Motorola Point-to-Multipoint solutions deliver scalable, interference-resistant, high-speed connectivity to multiple business, institutional or municipal locations. Using frequencies in the 900 MHz, 2.4, 3.5 and 5 GHz bands including 5.2, 5.4 and 5.8, point-to-multipoint solutions provide exceptionally reliable performance as well as high power, range and bandwidth, increasing user satisfaction and optimizing ROI.

- **MOTOMESH™ Solutions.** Bringing exceptional interference resistance and mobility, Motorola's wireless broadband mesh network solutions further extend fixed wireless networks. The portfolio includes MOTOMESH Duo, a meshed WiFi solution available in either a single radio configuration with a 2.4 GHz WiFi radio (802.11b/.g) or in a two radio configuration with an additional 5.8, 5.4 or 4.9 GHz (802.11a) radio. MOTOMESH Solo is a single radio solution operating in the 2.4 GHz frequency band that offers Motorola's breakthrough Mobility Enabled Access (MEA) technology. Finally, MOTOMESH Quattro is a four-radio solution containing two standards-compliant WiFi radios and two Motorola MEA radios. One set of WiFi and MEA radios operates in the unlicensed, 2.4 GHz band and the other set operates in the licensed, 4.9 GHz public safety band.

- **Enterprise Wireless LAN.** In addition to outdoor wireless broadband solutions, Motorola offers a comprehensive portfolio of wireless LAN (WLAN) infrastructure solutions designed to enable the truly wireless enterprise, including the latest 802.11n technology and meshing access points that eliminate the need for cables.

One Point Wireless Suite. The Motorola One Point Wireless Suite is a powerful set of software tools that take the guesswork out of designing networks for optimal coverage, capacity and performance, and manage the network for maximum security and uptime. The suite includes six elements — PTP LINKPlanner, MeshPlanner, LANPlanner, Wireless Manager, RF Management System and the Motorola AirDefense solutions — that allow for the streamlined design, deployment and management of Motorola wireless networks from their inception through ongoing operations.

A Portfolio of Motorola Deployments

Motorola's wireless broadband solutions are proving their high performance and reliability in many of the world's toughest environments. Motorola is an acknowledged industry leader with deployments in more than 10,000 networks in 120+ countries, a few of which are summarized here.

GOVERNMENT

Upgraded Citywide T1 Network

The City of Santa Barbara, California, wanted to upgrade its T1 network for a number of reasons: to provide VoIP applications, to overcome significant interference, to enhance connectivity with city facilities around hilly terrain and tall buildings and to provide business continuity in the event of a natural disaster. The city deployed eight 5.8 GHz Motorola PTP 400 Ethernet bridges which upgraded performance to 22 Mbps throughput in six fire stations and 45 Mbps at the airport and other facilities. The city estimates annual savings of over $100,000.

Restoring Broadband Connectivity after Hurricane Katrina

After Hurricane Katrina devastated the city of New Orleans in September, 2005, one of the biggest obstacles to relief and rebuilding operations was a lack of communications capabilities. Logistix, a third party consultant who recently built a 130-camera wireless video surveillance network for the city, was able to leverage this existing WiFi network to get a robust wireless communications network up and running much faster than trying to rebuild the city's wired system. Based on Motorola's Point-to-Multipoint wireless broadband technology, the network was able to support thousands of residents as their primary means of high-speed Internet access and voice communications. Today, the network is still serving hundreds of individuals on a daily basis, while it also supports many of New Orleans' video surveillance needs. The Motorola network now has 26 video surveillance cameras in a 50-square-mile area, and plans are proceeding for installation of an additional 250 cameras within 18 months.

Public Safety in Providence

Responding to the crucial need for intelligent, real-time first responder communications in the wake of 9-11, the City of Providence, Rhode Island launched a system called MeshNet, based on a Motorola MEA network. The system serves a population of more than 173,000 by creating a network that provides high-speed mobile communications for more than 300 police, fire and other first responders. Offering technology that delivers instant access to building plans, video surveillance cameras, criminal data bases, Amber alerts and other crucial intelligence information, the MeshNet system is helping to make response to situations faster, better and more safely.

Improving Life in Remote Chinese Village

China's mountainous Xinjiang Autonomous Region is one of the most remote locations in the country, an area known for its harsh climate, vast stretches of desert and poor economic conditions. The Chinese Government's Village Telephone Project was formed to bring high-speed communications to remote locations like Aqiang village in the Bazhou region. To provide high-speed access to the people of Aiang, a Motorola Point-to-Point solution featuring connectorized PTP 400 Ethernet bridges with external antennas was deployed. The solution was chosen for its superior anti-fading and long-distance transmission capabilities. Now, with a maximum net speed of the PTP 400 Series bridge reaching 43 Mbps, the Motorola network is enabling residents of the village to connect to the world for the very first time.

School District Saves $1.7 million

Thompson School District, the sixth largest in Colorado, needed to provide enhanced bandwidth and access to more than 15,000 students and teachers in 33 locations that posed significant line-of-sight challenges. With a network that used 27 Motorola 400 and 600 Series PTP Ethernet bridges, the district was able to provide more bandwidth than planned — data rates of 10 to 30 Mbps — while saving $1.7 million over the installation of a comparable fiber network. Deployment was a full year ahead of schedule, and the district expects ROI within two years.

6 GHz Underbuild Solution Upgrades Performance

Kansas City Power and Light needed to upgrade performance in its 6 GHz licensed microwave network to provide new functionalities at an affordable cost. The utility deployed an underbuild network utilizing 33 Motorola PTP unlicensed 5.8 GHz hops providing highly reliable service over a 200-mile network. The system now delivers VoIP service, video surveillance capabilities and redundancy for the utility's existing fiber and licensed microwave network at the same time it is delivering substantial savings.

Remote Alpine Ski Area Gets High-Speed Service

Located in the Valtourneche valley in the Italian Alps, the village of Cervina is a high-altitude ski resort at the foot of the Matterhorn. Although a favorite vacation spot for hundreds of thousands of skiers from around the world, the resort's remote location and high altitude kept it from being able to offer easily available broadband Internet access. The challenge was formidable: taking the broadband connection from the nearest fiber-enabled point across the Alps to the town of Cervina. Working with a third-party provider, the town chose Motorola's PTP 54400 Wireless Ethernet bridges and Point-to-Multipoint fixed wireless access equipment for their ability to sustain long distance connectivity while minimizing the interference and fading common in mountainous terrain. The solution is now delivering a reliable link over 35 kilometers with an aggregate throughput of 14.8 Mbps, more than enough to serve the areas hotels and ski facilities.

Helping David Compete with Goliath

Ferris Manufacturing is a successful $15 million company located in just outside of Chicago, Illinois. Ferris manufactures high-quality wound-care bandage products that are distributed worldwide, serving markets as diverse as large medical centers, the military and sports organizations like the Olympics and the NBA. As a relatively small company competing with huge international corporations, Ferris relies on e-commerce and Internet communications to compete successfully. The company was experiencing localized leased line outages and inconsistent bandwidth in an environment in which a single service problem can make the company appear less viable. Working with Business Only Broadband, Ferris now uses BOB's powerful Motorola Point-to-Multipoint wireless broadband network to deliver automatic fail over in less than a millisecond in case of wireline outages. The result is world-class service that enables David to compete successfully with multinationals.

Reliable, Secure Non-Line-of-Sight (NLOS) Service

In Shanghai, China, Guomai Communications, a subsidiary of China Satcom, Inc., needed to provide a customer with a solution that could backhaul T1 traffic from Xu Jing to Feng Xi, a distance of 7.8 kilometers (4.8 miles). Leased line connectivity was both time- and cost-prohibitive. Wireless broadband connectivity was also problematic due to numerous tall buildings that prevented a clear line-of-sight path. In addition, a nearby airport presented significant RF interference issues. After testing a number of solutions that could not deliver a reliable NLOS link, Guomai and the customer selected the Motorola PTP 400 Series wireless Ethernet bridge solution because it was the only platform able to achieve a carrier-grade connection in the challenging NLOS, high-interference environment. Since the installation, the link has been running error-free with no interference at an average of 10.5 Mbps throughput, even adjacent to the airport.

MOTOROLA INNOVATION

Motorola's Wireless Broadband and our WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point, Point-to-Multipoint, Mesh, WiFi and WiMAX networks that support data, voice and video communications, enabling fixed and mobile applications for public and private systems.

Wireless Transformation

In summary, CIOs and IT managers realize that status quo networks may not support their crucial business objectives. As IT technology continually improves in power and functionality, an organization must transform its network to take maximum advantage of these improvements or risk significant loss in competitive edge. More and more organizations are taking advantage of the power, efficiency and flexibility of wireless broadband networks from the wireless industry leader, Motorola. IT professionals the world over are relying on Motorola's wireless expertise and innovation to enable them to invest in a single network for voice, video and data, and help them introduce strategic applications, connect underserved areas and capture significant savings.

MOTOROLA