Motorola's Canopy™ Wireless Broadband Platform

The Secure, Flexible, Reliable Wireless Solution for Building or Extending Your Broadband Network

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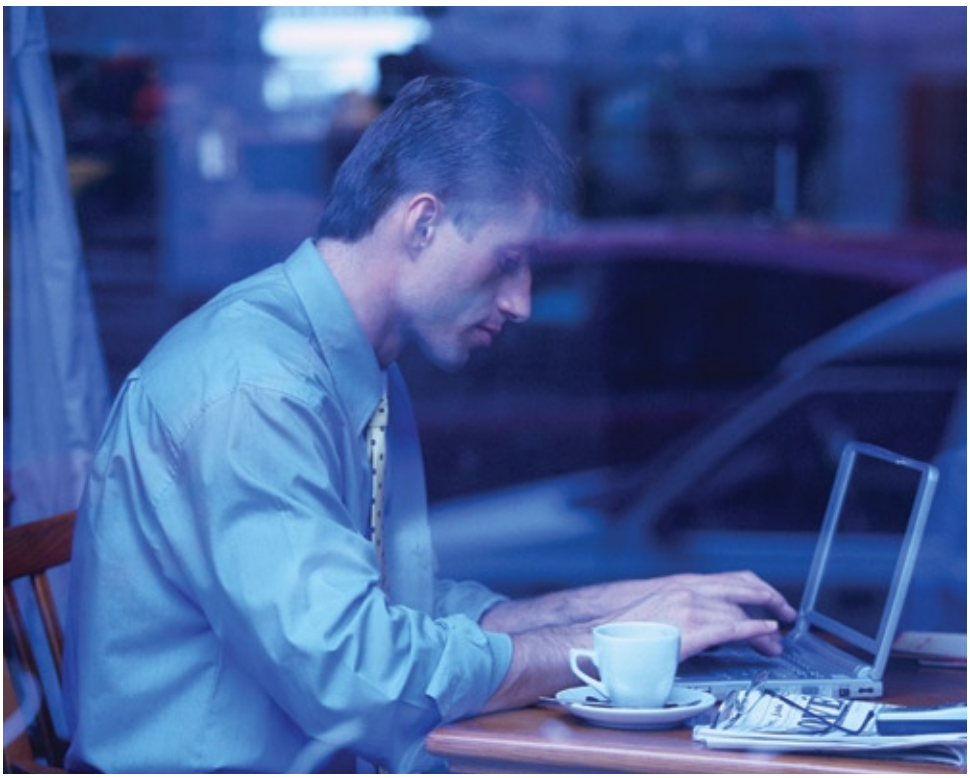


Extending Broadband Coverage To Hard-to-reach Customers

Carriers wishing to extend broadband coverage to new customers don't usually have a problem when the customers are located relatively close to the central office. All too often, however, that's not the case. Many times carriers that want to extend broadband coverage face some formidable obstacles, such as extreme climates, long distances and mountainous terrain. As many carriers have discovered, the Canopy system is the ideal solution for extending broadband coverage to hard-to-reach areas. By deploying Canopy wireless technology, carriers have been able to add to their customer base and revenues by providing affordable, interference-resistant broadband service to out-of-the-way locations where other extension options are cost-prohibitive.

The Canopy™ System's High-Performance Broadband Technology Makes the Wireless Business Case a Success

AN OUTREACH PROGRAM BRINGS TEACHERS TO STUDENTS IN NEED VIA CANOPY WIRELESS BROADBAND

Teacher shortages are a problem everywhere. In developing countries such as South Africa with booming populations, it's hard to find enough teachers to keep up with the soaring amounts of students. The Ulwazi E-Learning Partnership formed a tele-learning system using the Canopy wireless broadband network as its foundation and effectively linked five schools in the Tshwane metropolitan area. Students receive their lessons via a video transmission directly to their computer. If the student has a question, they simply go to the front of the classroom and speak into a microphone, which is transmitted to the instructor over the network. It really allows the teachers to reach a large number of students in various locations.

Broadband is today's communications gold standard. Virtually everybody wants it, but reaching users with a secure, reliable, cost-effective broadband service has been a considerable challenge. The process of designing, installing, integrating and maintaining complicated broadband networks has been expensive and time-consuming. Until now.

The Wireless Broadband Solution

The Canopy system, Motorola's innovative wireless broadband solution, is the ideal technology for developing, deploying, enhancing and extending the advanced broadband networks and services that help bridge the digital divide all around the world.

The Canopy platform combines high reliability with exceptional performance, security, ease-of-use and cost effectiveness. It seamlessly integrates with existing network systems and management tools to make extending existing service simpler and less cost-intensive. And it's proving its value in more than 100 countries around the world, for a wide range of customers, including:

- **Wireless DSL and Cable.** For telecommunications carriers and cable providers, broadband service represents both a significant opportunity and a major challenge. To increase market share, you have to bring high-speed access to as many business and residential customers as possible… with demonstrable competitive advantage. And you can't be slow about it. The high cost—in both time and money—of extending wireline and cable networks, however, can be a formidable barrier, often requiring significant upgrades to the network. The Canopy wireless broadband system can help reduce upgrade costs and time to market, complementing your efforts and enabling you to augment your plan with cost-effective wireless solutions that can extend virtually any network quickly, simply and powerfully.
- **Internet Service Provider.** The Canopy system reduces the cost and shortens the time ISPs need to deliver broadband wireless Internet service to consumers and businesses without access to ADSL or upgrading from dial-up. The Canopy system is an exceptionally affordable solution for starting a new network or extending an existing one, powerful enough to support small businesses, SOHOs, multi-tenant buildings and residences. It's faster to deploy and easier to operate and manage as well, allowing providers to create competitive advantage by delivering reliable, secure, high-quality broadband service to customers in a matter of days, not weeks or months.
- **Private Wireless Networks.** The Canopy system brings breakthrough wireless broadband performance to enterprise communications network applications. The platform makes deploying and delivering low-cost broadband access quicker and simpler than ever before. It enables enterprise environments—including community, corporate, utility, healthcare, education and more—to improve communication, productivity and return on investment (ROI). Canopy technology also excels in security-driven applications from bridging Ethernet networks across buildings and campus environments to installing and operating video surveillance cameras at remote locations. In addition, the system is ideal for temporary events or disaster recovery situations as well providing backhaul for data, video and CCTV.

With the Canopy system, Motorola brings powerful radio technology to a wide range of broadband access markets. Canopy system offers one of the lowest total costs of ownership in the industry, and can deliver proof of business case with ROIs in just six-to-twelve months.

The Canopy System Helps Accelerate Deployment without Accelerating Costs

The Canopy wireless platform combines superior broadband access performance with the flexibility to facilitate a wide range of commercial and private applications. Canopy's wireless technology is designed to speed deployment and time to market, while helping you control equipment, management and installation costs.

Configuration Flexibility. The Canopy system offers flexible configuration options for adaptation to meet the needs and expectations of different customer communities and enterprise environments. As a point-to-multipoint system, the Canopy platform is an exceptionally efficient and affordable community, small business or corporate application. As a point-to-point backhaul or bridging application, it is a powerful dedicated data link for enterprise environments of all kinds.

Spectrum Options. The Canopy solution provides wireless broadband access in a wide variety of spectrum choices, ensuring exceptional performance no matter which spectrum is best for your network.

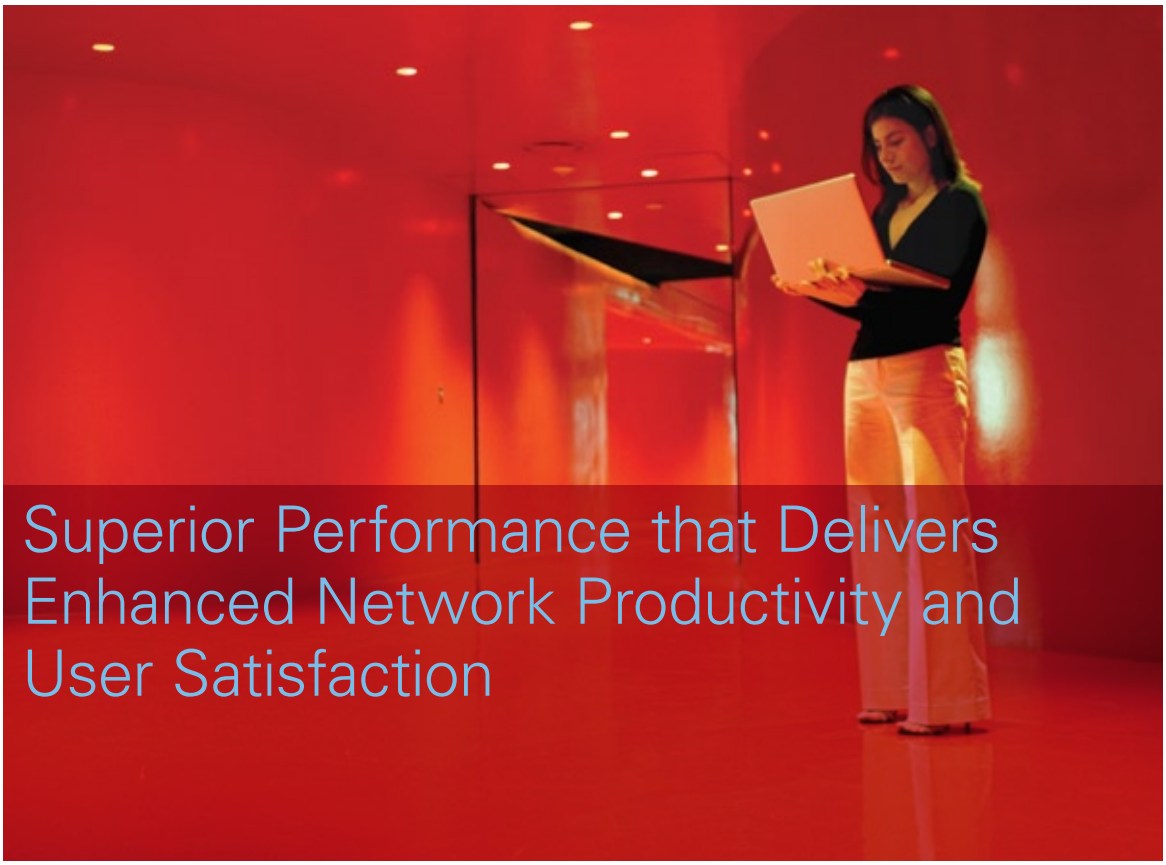
Fast Installation. Its simple but elegant network design makes the Canopy system easier to install than most other systems. The Canopy solution's small cells eliminate the need for coordination, and built-in installation and deployment assistance simplifies every step of the process.

Lower Costs. The Canopy system makes broadband access extremely cost-effective. There are no major investments in equipment or software. The platform's exceptionally low acquisition, installation, operation and maintenance costs result in substantially lower cost of ownership.

The Canopy wireless broadband platform leverages Motorola's more than 75 years of radio knowledge and experience. But Motorola offers much more than mere technical expertise. Motorola's dedication to creating and maintaining trusted relationships over the long-term means Canopy system users are assured of high levels of worldwide support as their networks grow over the years.

CANOPY WIRELESS SYSTEM HELPS AMOCOM DELIVER BROADBAND TO IRELAND'S SECOND LARGEST CITY

Amocom Technologies needed a reliable solution that could be deployed quickly to bring high-speed data connectivity to the small and medium size enterprises in Cork, Ireland. After experimenting with several technologies, Amocom selected Motorola's Canopy wireless broadband products in the 5.7 GHz band. Amocom wanted a product that was competitively priced, rapidly deployable, scalable and above all else reliable. Motorola's Canopy product met all of these criteria and Amocom became the first company to deploy Motorola Canopy in Europe using the 5.7 GHz frequency band. Today, Amocom has far greater coverage in the city and surrounding area than ADSL and serves the SME, corporate, educational and residential markets.



Superior Performance that Delivers Enhanced Network Productivity and User Satisfaction

INCREASING SECURITY AND DECREASING COSTS AT NEWARK INTERNATIONAL AIRPORT

When Continental Airlines employees at Newark International Airport in New Jersey voiced concern about their personal safety, the company and OMNI Security needed to help people feel safer, while reducing the increasing costs of security and surveillance of Continental's employee parking lots. They deployed a unique surveillance system based on Canopy point-to-point wireless broadband technology. Canopy equipment interfaced easily with 60 full-motion cameras that monitor the four employee parking lots. Full-motion video and sound are now relayed to a command center, where security officers monitor activity and control cameras, phones and gates. The new system has increased security, has employees feeling safer and the airport authority has eliminated recurring costs.

In the burgeoning but demanding broadband marketplace, the Canopy platform offers state-of-the-art WiMAX services today and significant benefits that enhance the broadband experience for a wide range of providers and end users. The system's performance and extremely low latency of 5 to 7 milliseconds (point-to-multipoint) makes high-demand technologies like voice over IP (VoIP), gaming, video services, security surveillance, E1/T1 extension, broadband Internet access and more both efficient and cost-effective.

Interference Resistance. The Canopy solution's unique and powerful modulation scheme significantly improves the quality of data delivery and effectively mitigates interference from other systems of virtually every shape and spectrum. Canopy avoids self-interference by synchronizing all transmit and receive signals in the network via the Global Positioning System or GPS. The platform's wireless signals are highly effective in penetrating obstacles and avoiding obstructions, making it as efficient in dense urban environments as it is in suburban areas or rural locations.

Data Rates. The Canopy system offers upload and download speeds as fast as or faster than virtually every other service available today. The point-to-multipoint system offers up to 14 Mbps (aggregate data rates) and the point-to-point system delivers 33 Mbps (aggregate data rates) to network end users. Of course, speeds on any network are affected by several factors so actual upload/download speeds may vary, but the potential to offer an incredible broadband experience is inherent in the Motorola Canopy system.

Operating Ranges. The Canopy platform offers broadband access for networks of various sizes and coverage areas. Many of the Canopy products support adjustable power to meet specific network and regulatory requirements. The operating range is highly dependent on power. Detailed performance specifications can be found at www.motorola.com/canopy.

Scalability. The Canopy solution is a build-as-you-grow system. Its advanced scalability allows you to quickly accommodate changing needs, wider geographical areas, larger populations and higher traffic volumes. In addition, its high tolerance for interference and its directional antennas ensure that adding additional transmitters increases capacity without degradation of performance.

Security. The Canopy system enhances security with over-the-air DES (Data Encryption Standard) encryption. For the highest grade security, the platform is also available in some areas with AES (Advanced Encryption Standard) that provides 128-bit encryption to ensure secure data delivery and exceptional reliability. AES makes it virtually impossible to crack a code (it's estimated that it would take about 149 trillion years, a time period older than the Earth itself).

The Canopy System's Intelligent Building Blocks Reduce the Cost of Advanced Infrastructure

The high performance and cost-effectiveness of the Canopy system are driven by the powerful simplicity of its technology. The equipment is streamlined, with built-in installation and deployment assistance, making it faster and easier to get up and running. Canopy system components include:

- **Access Point (AP) Module.** The Canopy AP seamlessly interfaces with an existing Local Area Network (LAN) via standard Ethernet connection. Compact and flexible, AP modules are built to be mounted outdoors, eliminating the need for overhead and in-ground wire or microwave.
- **AP Cluster.** The foundation of the Canopy system is the AP cluster, a powerful system that includes six APs plus a Cluster Management Module (CMM). The CMM provides power for the Canopy modules and includes an Ethernet switch and a GPS receiver.
- **Backhaul (BH) Module.** Whenever necessary, the Canopy Backhaul Module can be used to deliver a broadband connection to the AP Cluster from a remote location. The unit is also used to provide backhaul to hot spots and metro Wi-Fi networks.
- **Subscriber Module (SM).** Canopy SMs are compact and unobtrusive access receivers that are easy to install at a user's or customer's site. Subscriber Modules can be mounted outside, and need no additional software installation. Each AP module can serve up to 200 SMs.
- **Bandwidth and Authentication Manager (BAM).** The Canopy system offers the BAM to serve two basic functions. First, the BAM authenticates all users before allowing them access to the Canopy network. Second, the BAM enables you to vary the bandwidth for individual users, providing burst rates beyond many other wireless broadband access solutions while still controlling average bandwidth allocation.
- **Prizm Element Management System (PrizmEMS™).** The Canopy PrizmEMS is a concentrator or aggregator of Canopy element information and provides auto discovery, network monitoring, fault management, and element management capabilities on the Canopy network. Designed to keep the Canopy network operating at maximum efficiency, PrizmEMS can operate as a stand-alone system or integrate seamlessly with other Network Management Systems (NMS).

CANOPY TECHNOLOGY BRINGS WIRELESS BROADBAND ACCESS TO NANJING, CHINA

CETC-China Communication Company (CETC-CHINACOMM), one of China's largest ISPs, is relying on Canopy technology to deploy the 5.7 GHz commercial wireless broadband network in the city of Nanjing. The more than five million citizens of the city will soon have access to affordable high-speed data and Internet connectivity services. CETC-CHINACOMM is using the Canopy platform because it is a breakthrough in wireless broadband products that are exceptionally cost-effective, and that offer both convenient installation options and highly reliable performance. The company plans to use Canopy equipment to provide broadband Internet access to customers along highways, railways and rivers, as well as in difficult-to-reach mountainous and rural areas.

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For more information and detailed specifications about the MOTOwi4 Canopy Backhaul Solutions, call 866-515-5825 in the U.S., 800-795-1530 internationally, visit us online at www.motorola.com/canopy or contact your Authorized Canopy Solution Provider.

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