



# UNCOMPROMISING BROADBAND CONNECTIVITY FOR FEDERAL AGENCIES

**RELIABLE CONNECTIVITY IS AT THE HEART OF EVERY MISSION AND ORGANIZATION. In the federal arena, information dominance is essential to making the right decisions and achieving desired outcomes. Yet information itself is of reduced value without the ability to move it. And you need to move it securely and reliably – for video surveillance, data transfer, interoperable voice communications. The transport system you choose needs to work now and keep working in harsh environments and under extreme conditions.**

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MOTOROLA'S  
WIRELESS LEADERSHIP

It's your job to provide that connectivity — rapidly, reliably, securely and cost-effectively. A job made even more challenging by a tough economic climate, rapidly diminishing funds and resources. What prevents you from having connectivity where and when you need it? Technology, security and budget limitations are frequently cited obstacles — obstacles that Motorola understands.

In the pursuit of building a better, more reliable connectivity solution, consider the following:

- Is the right technology in place to deliver the connectivity to achieve my organizational goals?
- Is the wireless network reliable? Does it work as intended and when it's needed most?
- Am I making the right investments to maximize budget allocations, increase efficiencies and streamline costs?

Motorola delivers rapidly deployable reliable wireless broadband solutions that operate in even the harshest outdoor environments. We have been securely transporting data, voice and video for decades. Field agents adopt these systems because they work and perform up to expectations. Information managers deploy them because they interoperate and easily integrate with existing systems. Business leaders select them because they deliver a lower Total Cost of Ownership (TCO).

Like many government leaders today, you need to find ways to do more with less. Budget cuts. Resource reductions. Long procurement cycles. Multiple network technologies to manage and maintain. These are the realities of the world we live in. Yet, advanced wireless technology and the infrastructure needed to support it, is evolving rapidly — as are the expectations of those who access the network connectivity you deliver.

Regardless of your agency’s mission, the communications infrastructure provides the means to protect people, data, resources and assets across all geographies and [borders](#). The network is a central nervous system connecting an organization’s eyes and ears — the lifeline of communication between the field and the command center. That lifeline must be reliable in harsh environments, be able to operate in variable terrain, and be interoperable with existing systems.

## EVOLVING NEEDS IN AN EVOLVING ENVIRONMENT

Compatibility is vital. Solutions that leverage legacy investments and add bandwidth to enable new applications like streaming video to provide an attractive return on investment. Evaluating different options as well as the vendors that support them can prove daunting, particularly with the long purchasing cycles that define government procurement processes. A proven track record can mean the difference between network integrity, reliability and scalability for the long-haul or ongoing and unnecessary IT investments and upgrades.

Whether the network must provide 24/7 monitoring and surveillance to protect thousands of acres of national park and [critical infrastructure](#), or deliver secure, real-time criminal records and photographs to agents responsible for keeping our borders safe, the implications of what it means to be “well-connected” are transforming the federal IT landscape.

PURPOSE	MOTOROLA SOLUTION	RESULTS
Protect Borders	Secure, long-range wireless broadband links	<ul style="list-style-type: none"> <li>• Rapid deployment</li> <li>• Cost effective</li> <li>• Centralized management</li> </ul>
Protect Critical Infrastructure	Secure multipoint near line of sight (nLOS) coverage for data and video in ~4 square mile open area	<ul style="list-style-type: none"> <li>• High speed data</li> <li>• Low latency video</li> <li>• Reliable nLOS coverage</li> </ul>
Connect Remote Locations	Secure connectivity for office campus, military bases and mobile tactical command centers	<ul style="list-style-type: none"> <li>• Indoor office coverage</li> <li>• Inter-building connectivity</li> <li>• Outdoor mobile coverage</li> <li>• Leverage network for video security</li> </ul>

More network capacity puts new robust applications at the fingertips of a larger pool of users, increasing worker productivity, decreasing costs and driving a faster Return on Investment (ROI).



### BETTER INFORMATION, FASTER

Advanced applications require more bandwidth. Video, video conferencing and pictures only begin to scratch the surface. Situational Awareness (SA) tools have also emerged as a mission critical requirement. The ability to alert field personnel of an event, evaluate the situation and command the appropriate action greatly impacts outcomes. To achieve success against these goals today requires rapid connectivity and the efficient multi-tasking of high bandwidth applications.

The advent of 802.11n technology has changed the game for indoor and outdoor wireless networks alike. Delivering spectacular improvements in reliability, capacity and range, 802.11n technology supports hundreds of megabits of throughput. More network capacity puts new robust applications at the fingertips of a larger pool of users, increasing worker productivity, decreasing costs and driving a faster Return on Investment (ROI).

In light of economic, political and budget pressures, resource constraints and a growing need for transparency and public accountability, IT investments have to be made with an eye on long-term goals.

### PERSPECTIVES ON THE CONNECTED ENVIRONMENT

**AGENCY DIRECTORS** need to proactively plan for unexpected or emergency events. Wireless solutions allow them to respond immediately, can be installed quickly and support tactical operations efficiently and appropriately.

**IT AND OPERATIONS DIRECTORS** demand reliable and secure connectivity in remote locations and solutions that are compatible and integrate easily with existing infrastructure. Their focus is to streamline costs while adding new IT capabilities

such as video security and remote access to desktop applications to enhance communications and safety and increase workforce productivity. High levels of security are required to ensure that connectivity is available when needed.

**FIELD AGENTS** need technology that works where they work. Equipment must be fast and easy to set up, work right the first time, and keep working reliably in everyday environments and under harsh conditions. Their lives often depend on the information that is transported by these systems.

**MILITARY LEADERS** require a solution that provides infrastructure for command and control so they can rapidly assess a situation and clearly coordinate the appropriate response actions. The system needs to be rapidly deployable, secure and reliable in challenging environments.

USER	GOALS	NEEDS	BUDGET
<b>Agency Directors</b>	<ul style="list-style-type: none"> <li>• Proactive Planning</li> <li>• Rapid Response</li> </ul>	<ul style="list-style-type: none"> <li>• Tactical support</li> <li>• Operational process efficiencies</li> </ul>	<ul style="list-style-type: none"> <li>• Control spending</li> <li>• ROI</li> <li>• Decrease costs</li> </ul>
<b>IT &amp; Operations</b>	<ul style="list-style-type: none"> <li>• Reliable connectivity</li> <li>• Performance</li> </ul>	<ul style="list-style-type: none"> <li>• Integrate with existing infrastructure</li> <li>• Improve workforce productivity</li> <li>• Enhance communications in dense user environments</li> <li>• Video conferencing</li> <li>• Video security</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce costs while adding IT capabilities</li> <li>• Lower Total Cost of Ownership by leveraging applications</li> </ul>
<b>Field Agents</b>	<ul style="list-style-type: none"> <li>• Reliable connectivity</li> <li>• Proven performance in harsh environments and remote areas</li> </ul>	<ul style="list-style-type: none"> <li>• Secure communications</li> <li>• Collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Investments in new technology</li> </ul>
<b>Military/National Guard Leaders</b>	<ul style="list-style-type: none"> <li>• Proactive planning</li> <li>• Rapid response</li> <li>• Secure and wireless</li> </ul>	<ul style="list-style-type: none"> <li>• Quick deployment</li> <li>• Tactical support</li> <li>• Flexible network mobility</li> <li>• Video</li> <li>• Remote sensors</li> <li>• Situational Awareness</li> <li>• Integration with Building Management/AMI/SCADA</li> <li>• Reliable connectivity</li> <li>• Rugged devices for sustainability</li> </ul>	<ul style="list-style-type: none"> <li>• Best use of communications budget</li> <li>• Base security</li> </ul>



As your organization's communications backbone, the network must connect users in diverse locations and support applications specific to their needs.

## TECHNOLOGY IMPLICATIONS

Information is power. Within the military and Federal agencies, achieving information dominance over enemy forces is of primary importance. More data, in and of itself, will not allow you to meet the needs of your many constituents. The right data, delivered in the right format to the right people at the right time, will.

Decision makers need to carefully identify the performance criteria that matter most to their users, influencers and leadership to effectively evaluate available solutions and suppliers. At its most basic level, technology should enable change and successfully and [positively impact operations](#). It should be adaptable and scalable, avoiding rip and replacement costs every few years with the addition of new applications and users.

Network technology should be extendable, with the capacity to support multiple applications as technology evolves while providing a stable, reliable core. The latest solutions leverage software to facilitate network updates and enhancements, delivering tremendous efficiencies and a dramatically lower Total Cost of Ownership (TCO). The solution selected should allow access to public networks as necessary, and gracefully and seamlessly support a multitude of devices, from Smartphones to laptops and Tactical Data Assistants (TDA), with ease. Careful consideration to the type and level of connectivity, security, management, compliance, interoperability and operational continuity must also be part of final investment decisions.

## CONNECTIVITY

As your organization's communications backbone, the network must connect users in diverse locations and support applications specific to their needs. Consider the following requirements when evaluating alternative solutions:

- Connect a wide variety of network devices (agent radios, laptops, Smartphones, TDAs, video surveillance cameras and systems)
- Secure communications to all necessary locations, indoors and out
- Support fixed and mobile users
- Perform in harsh environments and variable terrain
- Support user applications (data, voice, video)

## SECURITY

Cybersecurity has moved to the top of many Federal agencies' and departments' priority lists — and with good reason. A recent survey of Federal CIOs by TechAmerica reveals that there are millions of malicious attempts per day to access their networks — from recreational hackers to sophisticated cyber-criminals.<sup>1</sup>

<sup>1</sup>"Transparency and Transformation Through Technology," TechAmerica and the Grant Thornton accounting organization, March 23, 2010.

The safety and security of the network, data, assets and agents remains paramount to all IT investments and operations. Key attributes to evaluate across network solutions include situational awareness, intrusion protection, loss prevention and operations continuity. Other key capabilities include:

- **Network Security**
  - Over-the-Air (OTA) information protection
  - Intrusion protection of entire network, particularly wireless components
  - Access control of network and data
  - Vendor agnostic capabilities, so any wireless infrastructure can be monitored effectively
  - Federal specific features – FIPS 197, FIPS 140-2 and JITIC certifications
- **Physical Security of Assets**
  - Video Security as a force multiplier – preemptive and incident awareness and assessment ensures an appropriate response
  - Alarm gathering and reporting from remote locations

## **INTEROPERABILITY AND OPERATIONAL CONTINUITY**

Communications need to be always available. As new applications and coverage areas are added, the network needs to gracefully add capacity and coverage so that agencies can continue operations.

Network infrastructure needs to be extendable to add new functionality and additional capacity as technology evolves, adaptable to meet specific goals, provide role-based access to critical applications, and deliver a common operating view to ensure optimal performance, remote management and tracking of all network assets.

The integrity of your network must be trusted by all users. And as their job requires, the network must provide rapid access to the information they need to accomplish their work. The network should make each user's job easier so that they can focus on their core objectives, rather than accommodating the technology.

## **MOTOROLA MEANS CONNECTIVITY**

We have decades of industry-specific experience in providing cost-effective technology that works. We understand the constraints of technology, security, standards and budget. We provide solutions that have proven their value in the field.



Motorola means connectivity. We understand the constraints of technology, security, standards and budget.

As the demand for broadband continues to grow, Motorola continues to invest in research and development. Today, we have the broadest wireless solutions portfolio in the industry, spanning wireless broadband indoors to outdoors, handheld devices to infrastructure backbone, and network design and management tools to make sure that the network is designed right and working properly.

We lead the market in unlicensed wireless broadband and Point-to-Point deployments and have more than three million Point-to-Multipoint modules installed worldwide. We offer wireless broadband technology solutions in licensed Federal/Public Safety frequency bands as well as unlicensed bands. We also have achieved many noteworthy industry “firsts”; including the first Windows Mobile® VoWLAN Smartphone, WiFi-based spectral analysis, distributed VoWLAN IPS, 100,000 device scalability, compliance management and wireless policy enforcement, and numerous industry awards and commendations.

We understand the continued pressures you face to do more with less. Our Wireless Network Solutions lower your TCO by allowing you to replace leased communications lines with fixed and mobile wireless technology. Mesh, Point-to-Point and Point-to-Multipoint technologies can be installed rapidly — within hours in some cases — and deliver an equally rapid Return on Investment (ROI). Most installations report seeing returns within four to six months, and several Federal applications have achieved measurable returns within weeks.

Federal agencies need data, voice and video connectivity that is reliable and secure. Motorola delivers with solutions that allow them to achieve their missions and operational goals with innovative technology proven to perform in extreme conditions and the harshest environments.

## WELL-CONNECTED

*What does connectivity really mean to your organization?* That answer is the first step to ensuring you have the right network technology to achieve your mission today and well into the future.

This article is one of a series examining the challenges, opportunities and realities of how technological innovation is affecting the markets that most influence and affect the global community.

### ABOUT MOTOROLA WIRELESS NETWORK SOLUTIONS

Motorola delivers seamless connectivity that puts real-time information in the hands of users, giving customers the agility they need to grow their business or better protect and serve the public. Working seamlessly together with its world-class devices, Motorola's unrivaled wireless network solutions include indoor WLAN, outdoor wireless mesh, point-to-multipoint, point-to-point networks and voice over WLAN solutions. Combined with powerful software for wireless network design, security, management and troubleshooting, Motorola's solutions deliver trusted networking and anywhere access to organizations across the globe.



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