

Managed Private Wireless Network

Mission-Critical Wireless Connectivity for Government Operations

Government agencies are under growing pressure to support secure, real-time operations, expansive sensor networks, and data-intensive applications with uncompromising reliability and performance. Traditional Wi-Fi networks, though prevalent, often lack the dedicated bandwidth, low latency, and hardened security needed for sensitive and high-stakes environments. Challenges such as spectrum congestion, signal interference, and limited mobility can obstruct modernization efforts, prompting agencies to seek more resilient, policy-compliant wireless solutions that offer greater control and operational assurance.



The Hughes Private Wireless Solution

Hughes Managed Private Wireless Network offers a robust, end-to-end solution that leverages the power of 4G/LTE and 5G technologies to establish a dedicated, secure, and high-performance wireless infrastructure for government operations. Unlike public cellular or unlicensed Wi-Fi networks, Hughes leverages licensed and shared spectrum options—such as CBRS—to ensure guaranteed quality of service (QoS), superior coverage, and seamless mobility across agency facilities and field environments.

Offered as a fully managed service, Hughes simplifies the complexity of planning, deploying, and operating private networks. This enables agencies to realize the full benefits of secure, scalable wireless connectivity without the need for specialized internal expertise or significant upfront investment while maintaining compliance with federal security and operational standards.

Private Network Architecture





Key Features and Benefits

- **Purpose-Built Performance:** Deliver consistent, high-bandwidth, and ultra-low-latency connectivity optimized for mission-critical government applications, from automated guided vehicles (AGVs) and real-time surveillance to AR/VR and secure voice communications.
- **Hardened Security:** Leverage the inherent protections of cellular technology, including SIM-based authentication and end-to-end encryption to ensure sensitive government data remains private and protected within agency-controlled environments.
- **Operational Control and Data Sovereignty:** Maintain full control over your network policies, traffic prioritization, and data to meet compliance mandates and preserve operational autonomy across departments and jurisdictions.
- **Flexible Deployment Architectures:** Choose from on-premises core deployments for maximum security and performance, or cloud-hosted configurations for rapid scalability—each tailored to meet the unique needs of federal, state, and local agencies.
- **Seamless Mobility Across Mission Zones:** Enable uninterrupted connectivity for mobile assets and personnel across expansive indoor and outdoor operational areas, with seamless handoffs between access points to support dynamic field operations.
- **Fully Managed Service Model:** From initial design and deployment to 24/7 monitoring, proactive maintenance, and technical support, Hughes delivers a complete managed service, freeing agencies to focus on their core mission objectives.
- **Scalable and Future-Ready Infrastructure:** Built to evolve with agency demands, the Hughes solution supports growing number of devices and increasing application demands, ensuring readiness for future of 5G advancements and beyond.

Architecture Overview

The Hughes Managed Private Wireless Network integrates seamlessly with existing government systems and infrastructure, supporting mission continuity and modernization efforts. Our solution typically comprises:

- **Access Points (APs):** Indoor and outdoor units delivering reliable radio coverage across government facilities, field sites, and operational zones—ensuring secure connectivity where it's needed most.
- **Private Cellular Core:** Deployed either on-premises or in the cloud, the core manages network functions, device authentication, and secure data routing in compliance with agency protocols.
- **Managed Services Platform:** Operated through the Hughes Network Operations Center (NOC), this platform provides continuous monitoring, performance optimization, and proactive management ensuring the network remains secure, resilient, and mission-ready 24/7.



Defense and Military Operations

- Secure base-wide communications
- Autonomous vehicle coordination
- Real-time video surveillance
- Cybersecurity-enhanced operations



Public Safety and Emergency Response

- Disaster zone connectivity
- Emergency services coordination
- Secure mobile command centers



Civilian Government Services

- Smart city infrastructure
- Real-time traffic and transit monitoring
- Secure access to public services



Public Health

- Mobile clinics and telehealth
- Secure health data exchange
- Real-time diagnostics and monitoring



Security and Compliance

Hughes prioritizes the security of your private network aligning with federal cybersecurity standards and agency-specific requirements. Our solution incorporates:

- **3GPP Standards-based Security:** Leveraging the robust authentication and encryption protocols inherent in 4G/LTE and 5G.
- **SIM-based Authentication:** Strong identity management for all connected devices.
- **Network Segmentation:** Isolating critical applications and data traffic for enhanced protection.
- **Proactive Monitoring and Threat Detection:** Our NOC delivers continuous security oversight, identifying and mitigating risks in real time to safeguard operational integrity.

Getting Started

Is a private wireless network the right for your agency? Consider these questions:

- Do your operations rely on applications that demand guaranteed low latency and high reliability that traditional Wi-Fi may struggle to deliver?
- Are there large indoor or outdoor environments where uninterrupted mobile connectivity is essential for critical personnel, vehicles, or equipment?
- Does your agency require enhanced wireless security and full control over network data?
- Is your agency deploying an increasing number of IoT devices that require scalable, resilient, and secure connectivity?

To learn more about how Hughes Managed Private Wireless Network can transform your operations and accelerate your digital initiatives, please contact your Hughes representative or [visit our website](#).



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