

# MAKE MEDICAL-GRADE MOBILITY HAPPEN

CREATE THE FOUNDATION TO DRIVE YOUR  
DIGITAL TRANSFORMATION IN HEALTHCARE





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# Life-Critical Mobility

The digital transformation of healthcare is more than just wireless or cellular. It's a complex matrix of integrated systems designed to provide mission- and life-critical mobility. 100% anytime, anywhere access is the new norm. It's also changed experiential expectations for patients, caregivers, clinicians, and visitors at the intelligent digital edge—the place where people and devices meet.

The rapid proliferation of wireless users, personal mobile devices, IoMT (Internet of Medical Things) and their massive data requirements is challenging healthcare IT professionals with ever growing demands for seamless communications, patient security, clinical care, asset location, resource tracking, reliable workflows and absolute availability.

A new strategy needs to be adopted to address the demands placed on current systems and to anticipate the future evolution of technology. Successful healthcare IT departments are looking at wireless more holistically combining the strengths of multiple wireless systems, including Wi-Fi and 4G-capable Distributed Antenna System (DAS).

80%

of physicians use handheld devices and medical apps for patient care.

65%

of interactions with health care facilities will occur on mobile devices in 2018.

48%

The rate at which the number of mobile medical apps are growing each year. The apps provide data that can help physicians and patients in making healthcare decisions.

200  
million

Health and fitness mobile apps were downloaded last year by health care professionals, consumers and patients.

54%

Number of hospitals that update their wireless infrastructure every three years due to initial under investment.



# Unrestricted Mobility – Now & In The Future



Today, many people think mobility means simply having Wi-Fi coverage. However, healthcare IT departments, charged with providing comprehensive, 100% coverage, are rethinking their approach and looking at all wireless options. Today, wall-to-wall mobility in healthcare requires traffic-modeled, care-centric wireless prioritized for patient safety, patient/clinician/visitor satisfaction and hospital/clinic operations.

Unrestricted mobility at the intelligent digital edge in healthcare must provide maximized bandwidth for wireless today and a forward-looking foundation for tomorrow. It's based on a sophisticated assessment of hospital needs for location, collaboration, medical devices, smartphones and personal devices, paging, public safety and two-way radio.

- Provide mission-critical wireless
- Enable system-wide integration
- Create uniformity across all locations
- Manage mobility long term



# Everything Wireless

The key to a comprehensive medical-grade mobility strategy is an integrated system that combines the best of multiple technologies for seamless operation with maximum capacity and coverage. In healthcare, there is zero tolerance for dead spots and downtime.

Many applications at the medical digital edge are life critical with specific device compliances and network segmentations. These may be best suited to a Wi-Fi deployment. High-volume traffic, such as smart phone usage, may be better deployed over a DAS network. Specialized RF technologies are more capable of handling public safety, paging and two-way radio communications.

Count on Black Box to help you find the right solution. We know the industry, the technologies and how to integrate them in the complex world of healthcare networking. Solutions include:

- Wi-Fi
- DAS (4G/5G LTE)
- Medical telemetry (WMTS)
- Public safety
- Two-way radio
- Paging

Your goal is everything wireless. We'll help you achieve it with:

- Anytime, anywhere access
- Collaboration
- IoMT (Internet of Medical Things) support
- Real-time asset location
- Resource tracking
- Mobile clinic care
- Wayfinding



# Hospitals That Embraced Digital Transformation

A photograph of two healthcare professionals, a man and a woman, both wearing white lab coats. They are standing in a brightly lit hospital hallway with large windows in the background. The woman is holding a tablet computer, and both are looking at the screen. The man is pointing at the tablet with his right hand. The woman has a stethoscope around her neck and an identification badge on her chest.

"We selected Black Box because of their expertise and experience with in-building wireless infrastructures in complex hospital environments."

**Michael Zachary, Director, IT Enterprise Architecture Cook Children's Healthcare System**

"We reduced the need for multiple network engineers to support our hospital's wireless infrastructure, helping us continue to be efficient while advancing our wireless services."

**Ed Lowell, Director of IT Infrastructure, Lucile Packard Children's Hospital**

"The level of wireless performance of Wi-Fi enabled by Black Box has tremendous implications for an organization like UMCSN, enabling us to explore any number of wireless point of care opportunities that otherwise would have been beyond our reach."

**M. J. Ernie McKinley, CIO, University Medical Center of Southern Nevada**

# Managing Performance Is Life Critical

A vital component of building out a successful medical-grade mobility strategy is taking into account all the wireless solutions and technologies to be sure they function in harmony. As the leading global provider of healthcare wireless, you can leverage our experience and expertise to help you achieve seamless wireless integration and operations through a combination of technologies, solutions and partners.

Your goal is everything wireless. We'll help you achieve it with:

- Ensure that non-critical applications don't adversely affect mission-critical performance
- Ideal for collaboration, IoMT and life-critical devices utilizing Wi-Fi

Optimize accuracy & accommodate density

- Supplement Wi-Fi with BLE beacons
- Maximize the value and functionality of location-oriented applications

Support capacity with Wi-Fi & DAS/Small Cells

- Use a separate DAS/Small Cell solution for smart phones to alleviate unnecessary burden on the Wi-Fi network
- Provide equal support for all carriers to enhance the user experience

Use DAS/Small Cells exclusively

- Ideal for demands of 2-way radio and public safety



# Create Uniformity



Wireless requirements vary from location to location.

For example, large hospitals have higher density demands. Highly distributed facilities, such as medical office buildings or clinics, tend to require a low-touch approach to deployment and management. Yet providing consistency across all your locations is imperative to improving user satisfaction and operational efficiency.

Black Box can help by supporting every wireless technology in every building with a solution optimized to the need. Matching different solutions to building types enables you to meet all wireless technology requirements in a strategic way. While these solutions may appear unique, common monitoring and management, analytics and security tie all of the solutions together at an enterprise level.

Our solutions include cloud and on premise networking infrastructure with Day 2 Managed Services, periodic revalidation, maintenance and upgrades, secure connectivity to the internet and WAN services, and can meet the security needs required by law.



# Hospitals That Embraced Digital Transformation



"As we anticipated, the need for wireless connectivity is now a fundamental expectation within our hospitals. Our ubiquitous wireless solution is not only meeting our current needs, but should continue to do so well into the future."

- **Kendall White, Senior Director IT, Carilion Clinic**

"The DAS system delivers full medical-grade support for Wi-Fi, WMTS, cellular, and two-way radios."

- **Greg Walton, CIO, El Camino Hospital**

"I was very happy with the speed at which Black Box was able to get this solution quoted, ordered, and installed, and felt they did a wonderful job of working around all the hospital and clinic activity during the install."

- **Chris Weeks, IT Manager, Oneida County Hospital**

# Comprehensive Communications

## Mission-critical connectivity

- Wired and wireless
- 100% coverage and capacity

## Unrestricted mobility

- Maximum capacity (dual- to quad-layered wireless)
- All wireless carriers
- 100% compliant
- Complete IoT enablement

## Effective networking

- Common structured cabling
- Robust backbones
- Intelligent networks and switching
- Advanced, intelligent WANs
- Cloud and internet connectivity
- Network management



# The Right Partner To Make Medical-Grade Mobility Happen

With Black Box, you'll get one trusted partner to guide you through the entire mobility process through a robust design, deploy and manage methodology. We'll be there after deployment to make sure your mobility solution continues to operate at optimal performance even as your number of apps and devices continues to grow.



## Design

We analyze your current and anticipated wireless needs to make sure you get the right mix of solutions for your requirements.

- Coverage/Capacity/ Network Assessments
- Active & Predictive Designs
- Per-Building Solution Identification



## Deploy

Performing thousands of implementations each year, our team has the experience to get your implementation done right – the first time.

- Configuration & Staging
- Multi-Site Project Management/Deployment
- Acceptance Testing



## Manage

We provide the ongoing support and expertise to ensure your solution evolve with your ever-changing mobility needs.

- Monitoring & Maintenance
- Long-Term Assessments/Reporting



