LEVERAGING PRIVATE BROADBAND FOR PANDEMIC RESPONSE

HOW NITRO WIRELESS BROADBAND CONNECTIVITY CAN BE DEPLOYED TO COMBAT COVID-19

PROBLEM

As responders across the United States prepare for the Covid-19 pandemic, one thing is clear: in the next few weeks, reliable communications and quick access to accurate information will be absolutely critical.

With new facilities being temporarily constructed or existing buildings repurposed for coronavirus response, there may not be time to deploy wireline networks, and WiFi solutions are likely to prove inadequate or complex to deploy. Yet having secure, fast, reliable information networks is vital, as responders rely on technology to provide monitoring, communications and critical information updates while minimizing exposure of personnel to contagious environments.

SOLUTION

Fortunately, thanks to the FCC's action to open up Citizens Broadband Radio Spectrum (CBRS) in 2019, there is now the opportunity to deploy private LTE broadband networks in the CBRS spectrum wherever coverage is needed.

Quick, portable and reliable, our Nitro private wireless broadband solutions can be set up quickly in challenging environments, to support a diverse range of applications like video, patient telemetry, live communications, access control and automated safety/ compliance monitoring.

This helps not only speed up construction of new facilities, but also allows responding personnel to maximize their effectiveness while staying safe.

MOTOROLA *SOLUTIONS*

NITRO OVERVIEW

Our Nitro private wireless broadband solution includes infrastructure and devices that operate in the CBRS spectrum, using proven LTE technology. Like WiFi, Nitro delivers fast wireless connectivity for a wide range of applications. But Nitro not only outperforms WiFi in coverage, network speed and capacity; it also offers several other important attributes:

SPEED OF DEPLOYMENT

Because it is a wireless network with larger coverage areas than WiFi, Nitro requires significantly less cabling than a WiFi network, and far less than wireline solutions like Ethernet or in-building fiber.

DEDICATED SPECTRUM WITHOUT LICENSING DELAYS

Nitro uses the CBRS Spectrum Access Service (SAS), an automated system that dynamically assigns frequencies for an agency's use. The agency won't have to share these frequencies with patients and civilians.

SECURE NETWORK ACCESS

Unlike WiFi, every Nitro device requires a SIM card for access. If a SIM card is missing or has been invalidated, the device will not be able to connect to the network, preventing unauthorized access to critical information.

FULL AGENCY CONTROL

The deploying agency retains full operational control. Agency personnel, not a third party, decide where to deploy coverage and who has access. All local network data remain local to the network. In addition, different traffic streams can be given different priorities on the network.

SEAMLESS PUSH-TO-TALK CONNECTIVITY & INTEROPERABILITY

Instant push-to-talk (PTT) is the cornerstone of emergency communications. Nitro not only offers native PTT devices, it can be quickly connected to larger public safety and commercial land-mobile radio networks, for fully coordinated, authenticated communications across responding agencies and commercial enterprises.

WITH NITRO DELIVERING PERVASIVE, RELIABLE AND SECURE BROADBAND CONNECTIVITY THROUGHOUT A RESPONSE FACILITY, **NEW AND INNOVATIVE APPLICATIONS ARE POSSIBLE.**

FIG. 1

A single Nitro access point can easily cover the entire footprint of a testing site, with room to grow. Connectivity within the site is faster and more robust than WiFi, with far greater coverage. (Compare to orange WiFi coverage area.) Internet connectivity can be provided via the public cellular network, FirstNET or a connection to a nearby facility.
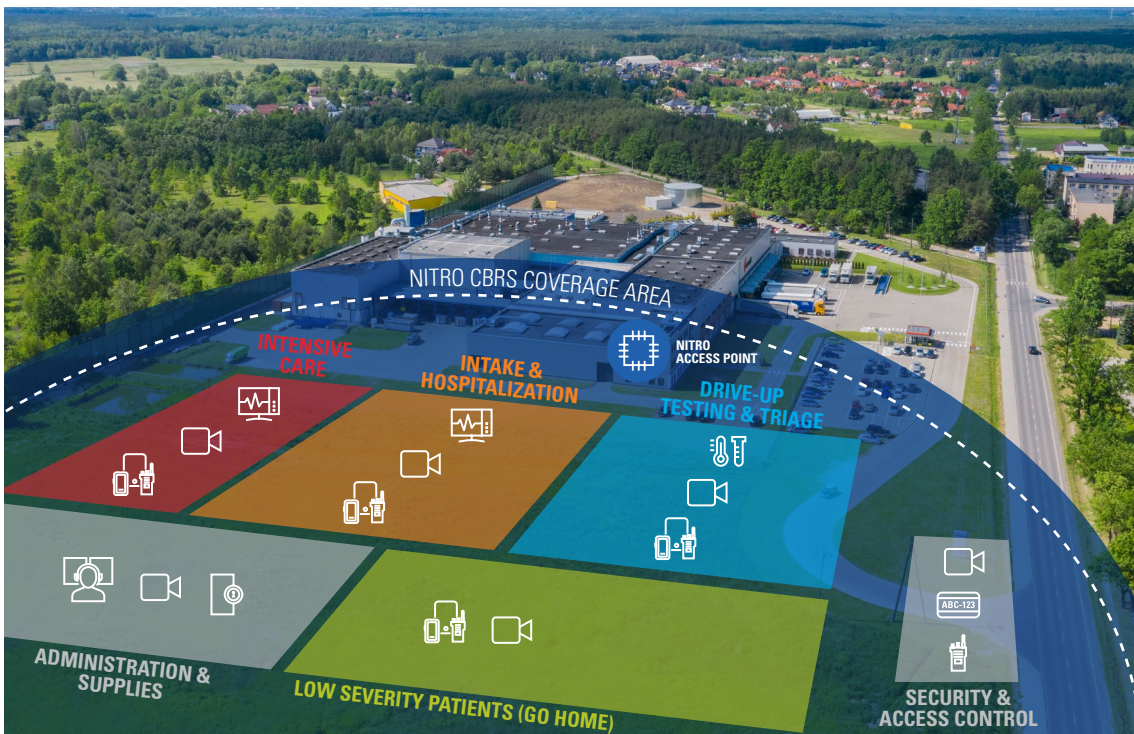
FIG. 2

If a remote testing site grows into a full treatment facility, a single Nitro site can provide sufficient coverage and bandwidth.

NITRO APPLICATIONS
FOR PANDEMIC RESPONSE

FAST WIRELESS NETWORK COVERAGE FOR TEMPORARY TESTING & TREATMENT LOCATIONS

Provide broadband data coverage for temporary testing locations without easy access to WiFi or fixed internet backhaul, without overwhelming local cellular connectivity.

Temporary testing sites may be deployed away from major buildings or population areas, both to make it easier for patients to access and to keep hospitals from being overcrowded.

These sites may lack permanent infrastructure, including wireline Internet service. They may rely on generator power and have limited weatherproofing, making it difficult to install WiFi access points. HIPPA rules and local laws will demand top-level security for private medical data used in these facilities. Access to limited supplies and critical equipment will need to be restricted, with limited security resources, requiring remote video monitoring and access control.

Deploying Nitro to cover these sites will provide them with fast, secure local broadband for applications like video and security, while leveraging cellular connectivity for connecting back to their data networks.

COMPONENTS

- Nitro access points
- Sierra Wireless LTE modem for cellular backhaul
- SLN1000 Nitro radios / portable WiFi hotspots
- Zebra L10 rugged tablets with CBRS
- Third-party CBRS end-user devices
- WiFi/CBRS routers or bridge devices
- Avigilon fixed cameras

DEDICATED HIGH-SPEED NETWORK FOR EXPANSION AREAS

Quickly deploy a fast, secure, reliable communications network within any critical enterprise: government, commercial, medical or industrial.

Nitro CBRS is a standards-compliant, proven technology that can complement most wireline, WiFi and cellular networks. It can reduce load on congested WiFi networks, complement existing cellular coverage and dramatically increase wireless capacity without waiting for carrier support. When a facility needs to be set up quickly, Nitro's large coverage range and reduced infrastructure footprint can be of immense help.

Any application that needs fast local wireless connectivity can be supported on Nitro. We stand ready to work with government agencies or other technology suppliers to help them take advantage of Nitro's advanced capabilities

COMPONENTS

- Nitro access points
- WiFi/CBRS modems or bridge devices
- WiFi and Ethernet routers

REMOTE WIFI BACKHAUL FOR TEMPORARY LOCATIONS

Connect remote network back to the nearby main facility.

Temporary treatment and response locations may be set up in a hospital parking lot, high school football field or similar space a short distance away from a building. The remote WiFi access point(s) connect to a portable CBRS modem. The modem connects over CBRS to a Nitro access point installed on the wall of the main building, providing cost-effective network backhaul without requiring cable or fiber to be run to the temporary facility. This configuration relies on the main facility's existing Internet connection and does not require cellular service.

COMPONENTS

- Nitro access point
- WiFi/CBRS modems or bridge devices
- WiFi and Ethernet routers
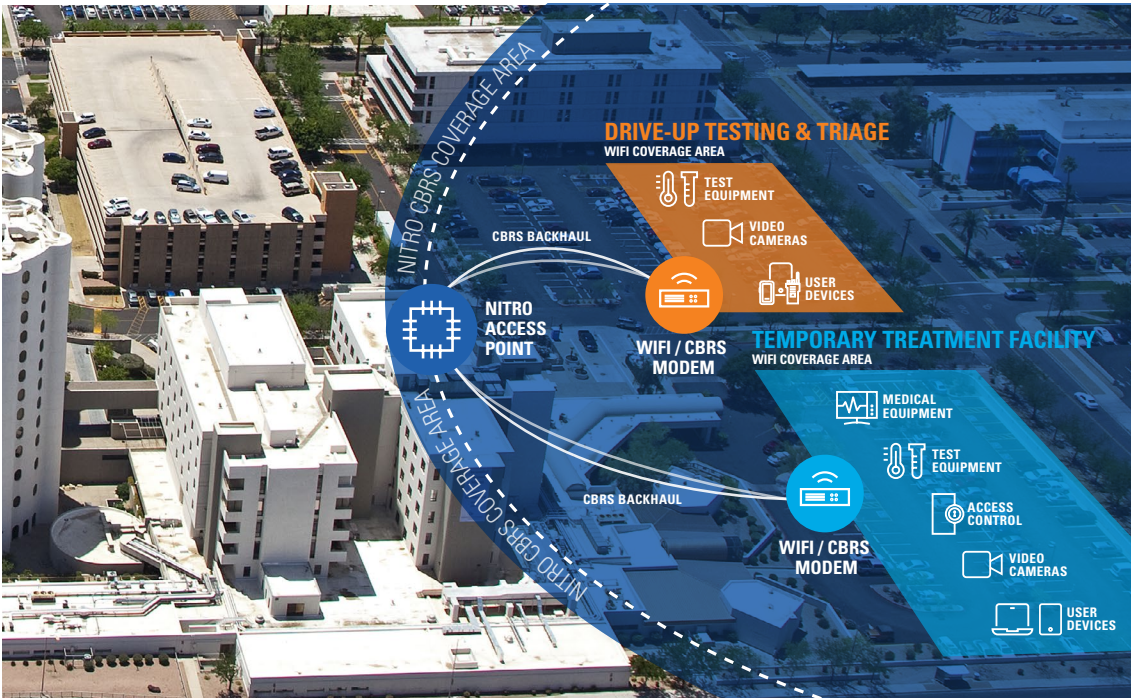
FIG. 3
A single Nitro access point can provide a wireless connection between several temporary sites around a particular building or facility. No cable or fiber needs to be run to the remote facilities. This example shows the hospital's network being extended to facilities in its parking lot, giving those facilities fast, high-bandwidth access to the hospital's information systems and internet connection.

Motorola Solutions proudly manufactures and deploys the sophisticated, cutting-edge communications, software, video security and analytics technologies that keep communities and nations safe. We have been on the frontlines with federal, state and local governments, including in times of crisis, for over 90 years. Today, our 17,000 innovators, engineers and manufacturing specialists are eager to help address critical gaps in the availability of medical and health management technology needed to fight the COVID-19 pandemic. We are pleased to offer hundreds of thousands of feet of secure, U.S.-based manufacturing, unrivaled operational agility and the capacity for rapid deployment.

MOTOROLA SOLUTIONS STANDS READY TO SERVE OUR COUNTRY **IN THIS MOMENT THAT MATTERS.**

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