Executive Summary

Industry

- Healthcare

Environment

- 12 hospitals
- 13 nursing homes
- 2 mental health care centers
- 3 occupational therapy centers in the Community of Madrid
- Many of 16,800 professional users and more than 1,500,000 potential users (the patients assigned to these facilities)

Technology Needs

- State-of-the-art Wi-Fi network capable of supporting new technologies and advanced healthcare services (videoconferencing, Electronic Medical Records, devices for clinical use, etc.)
- Mobile device management and secure connection of IoT devices
- Secure access to patient information and communications

Extreme Solution Components

- ExtremeWireless™ APs
- ExtremeWireless™ Controllers
- ExtremeSwitching™
- Extreme NSight™

Results

- Fully redesigned infrastructure that can support cutting-edge technologies and services
- Reliable, high capacity and user-friendly network
- Improved efficiency and reduction of operating and maintenance costs

Extreme Networks Helps Madrid Digital Put Patient Care First

The Community of Madrid is one of the 17 autonomous communities of Spain and includes the country's capital. As a public administration, the Community of Madrid is committed to continuously improving the quality of its public services as well as the efficient use of its resources. Ultimately, it aims to offer its citizens a closer and more personalized service, while modernizing the administration of the public sector at the same time.

Within the Community of Madrid, the **Agency for Digital Administration (Madrid Digital)** is in charge of leveraging the latest technologies and initiating digital transformation projects to make all public services as accessible as possible to its citizens. Social and healthcare services in particular have always been a key priority for Madrid Digital, given most of its citizens use them, often on a regular basis.

The future of healthcare and social services is digital, and Madrid Digital needed a strong, reliable and advanced network that could support the move to a more accessible and virtual way to provide patients with the best possible care. To address this, Madrid Digital launched the MOVSS project aimed at rolling out virtual social and healthcare services to the Community of Madrid.

"MOVSS is a strategic project that is clearly illustrative of the digital transformation strategy that Madrid Digital has been promoting for the social-healthcare environment. The project has managed to meet all its objectives and has paved the way for the implementation of subsequent infrastructures and the creation of new applications in response to demand by citizens and social healthcare professionals."

Carlos Alonso Sanz,
Project Manager and Systems Engineer,
Madrid Digital

This ambitious plan for the modernization of these services aims to put the needs of the patient first. It is paramount that any user of Madrid's regional healthcare system is able to virtually access its wide range of services comfortably, efficiently and in a personalized way, by using their mobile devices. This was particularly important for the services provided by the **Madrid Health Service** (SERMAS) through its network of healthcare facilities, and the social services provided by the network of homes depending on the **Regional Social Welfare Agency of Madrid** (OAAMAS)

There is an ever-increasing demand for new digital services by medical and social-healthcare professionals as well as by private citizens. The only way to meet this demand is to deploy a new wireless network capable of providing the reliable, flexible and secure connectivity needed to deploy these state-of-the-art services and applications. The key requirements included:

- Access via WI-FI to the information systems of the SERMAS and OAAMAS facilities. It was essential that the network equipment supports the 802.11ac standard and could guarantee the security and, in turn, confidentiality of all communications and patient data. The new network infrastructure also had to be easy to manage and configurate, both during the implementation phase and beyond.
- A support and management system for mobile devices ("Mobile Device Management" or MDM) and compliance with the technical regulations and procedures for connected IoT devices in a clinical setting.
- Support for applications and services used by professionals working in the social-healthcare environment, including support for videoconferencing systems using the Wi-Fi network.

The planning, strategic analysis and development of both the technological framework for implementing the mobility system, and the specific mobile applications for the social and healthcare environment (specifically, the "Social and Healthcare Records of the Resident" application) were also part of the project.

A Network That Supports Excellent Patient Care

To create a network that was fit for purpose, Extreme Networks deployed 1,400 802.11ac Wi-Fi Access Points, as well as a number of Wi-Fi controllers, LAN equipment (switching/routing platforms) and security and management software. The new network is now in operation across 12 hospitals, 13 nursing homes, 2 mental health care facilities and 3 occupational therapy centers. Almost 17,000 users made up of healthcare and administrative staff working across these locations will utilize the new network, in addition to the over 1.5 million citizens that benefit from these facilities.

This new network supports many of the advanced healthcare services that the Community of Madrid is already offering, such as **Electronic Medical Records** (HP-HCIS and Selene). At the same time, each center has its own healthcare applications and systems. The AMAS center, for example, uses social healthcare records of the patients and video conferencing systems. Additionally, connected medical devices like sphygmomanometers and electrocardiograms are now able to rely on a strong Wi-Fi network to offer patients the best possible care.

"The future of healthcare and social services is digital and organizations like Madrid Digital are right to invest in a robust, reliable and resilient network infrastructure that powers the virtual and connected public services of the future. We are thrilled that we are able to help Madrid Digital provide even better patient care to an increasing number of citizens in an efficient, cost-effective and future-proof way."

Javier Jimenez, Country Manager Spain,
Extreme Networks

The considerable increase in the usage of the Wi-Fi network is the best proof that the new network infrastructure offers clear technological as well as business benefits. According to Carlos Alonso Sanz, Project Manager and Systems Engineer at **Madrid Digital**, “the fact that the technology we’ve deployed is working well and is well-received by both patients and professionals highlights the necessity behind this project. Wi-Fi usage across locations has significantly increased since the new network was deployed. The ease of operation, maintenance and support of the new network also stand out to us”

The Community of Madrid now has a completely redesigned network with state-of-the-art Wi-Fi (802.11ac) on a standardized architecture, ready to support the latest technologies and services. Additionally, the management of the network has seen dramatic improvements, with key service parameters like MTTR (“Mean Time To Repair”) and MTBF (“Mean Time Between Failures”) having been reduced.

From a management point of view, the reduction of costs - both operationally, due to reduced communications costs, and those associated with new mobility-based services and applications - have led to improved efficiency. Finally, the new network has also provided efficiencies well beyond the locations that immediately benefit from it. The health and social care services in the Community of Madrid were able to centralize their data management, particularly in relation to Electronic Medical Records, reducing the need to outsource the acquisition and management of servers in the process.

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