Modernise wired and wireless network infrastructure to enable seamless mobility of people, devices and care across a 20-acre campus. Simplify network management to strengthen security yet allow collaboration with third-party innovators.
Shaare Zedek Medical Center is the largest hospital in Jerusalem. More babies are born there each year than in any other hospital in Israel. The hospital has doubled in size over the last five years.

“We've gone from boutique to enterprise,” says Rivka Rudensky, Chief Information Officer, Shaare Zedek Medical Center. “That's an enormous change and it presents major challenges. Our network needs to be 100% reliable - lives depend on it - and its performance is vital as we drive innovation in order provide world-class healthcare and a digital patient experience.”

**ENTERPRISE-GRADE CONNECTIVITY THROUGHOUT THE CAMPUS**

The Aruba Edge Services Platform was a guiding architecture through a year like no other. “2020 was like being on a battleship during a war,” says Rudensky. “We had to face the unknown and we had to move quickly.”

Shaare Zedek had to rapidly create quarantined zones throughout the hospital, with controlled access and limited non-essential staff onsite. Remote network management and the ability to quickly add new access points proved critical. Over one weekend the hospital converted its staff canteen to a 60-bed Covid-19 emergency ward.

“We've needed Wi-Fi in places we’d never considered before,” adds Rudensky. “The flexibility of the architecture means we’ve been able to rapidly ramp up our delivery of telemedicine, with doctors conducting Zoom consultations from rooms that were previously off the network. We had new access points in place within days. Covid-19 has forced us to complete projects in days that would usually have taken nine months.”

Today, medical teams take full advantage of mobility, digital tools and remote access throughout the 20-acre hospital campus.

**REQUIREMENTS**

- Simplify network architecture
- Provide high performance Wi-Fi coverage throughout the hospital
- Centralise network monitoring and management
- Ability to rapidly introduce new digital processes
- Provide a robust digital platform for new patient and staff experiences
- Intelligent and automated NAC to onboard users and devices on the network

**SOLUTION**

- Wi-Fi 6 Unified Access Points
- Mobility Controllers
- Mobility Conductor
- Aruba Campus Access Switches
- NetEdit
- AirWave Network Management

**OUTCOMES**

- Enables the hospital to set up connectivity in days, accelerating telemedicine and opening up new areas of the site
- Underpins Shaare Zedek’s response to Covid-19 through a granular track-and-trace and digital vaccination programme
- Establishes resilient, future-ready infrastructure with the intelligence, scalability and intuitive toolsets to meet emerging needs
- Empowers the IT organisation to underpin medical innovation and integration of new technologies
The flexibility of the Aruba solution means we’ve been able to rapidly ramp up our delivery of telemedicine, with doctors conducting Zoom consultations from rooms that were previously off the network. We had new access points in place within days. Covid-19 has forced us to complete projects in days that would usually have taken nine months.

RIVKA RUDENSKY
Chief Information Officer, Shaare Zedek Medical Center

Flexibility and traceability in the fight against Covid
The hospital has had to treat those affected by Covid-19 and has also been at the forefront of Israel’s fightback against this virus as the nation led the world in the vaccine roll-out. Shaare Zedek moved quickly to vaccinate its 4,500 staff, with end-to-end digital tracing of appointments, progress and vaccine shelf-life.

“Staff were able to book an appointment through an app we created, everything synced with our CRM,” explains Rudensky. “If there was an infection breakout we were able to track users by their device. We can check against patient records and appointments. We can see exactly who was in a certain room at a certain time. Let’s hope Covid-19 is soon behind us, but this is a use-case that has a future. It’s a tool that won’t go to waste.

For me, this is an example of how technology can serve the hospital.”

Securing a critical piece of national care infrastructure
The hospital also acted as a biobank for Covid-19 data, the first of its kind in Israel. As a centre of innovation and a critical piece of national infrastructure, this required Shaare Zedek to open up its data to government and third-party agencies.

“We aspire to work with the best research initiatives around the world and the thriving Israeli start-up community. There is a strong sense of open innovation. We want to work with the best minds in healthcare,” says Rudensky. “Obviously, as one of the largest hospitals in Israel, we are a target for cybercriminals. Our security has to be excellent.”

Shaare Zedek is also involved in accelerator programmes with several Israeli start-ups in the health sector, spanning AI and wearable technology. Again, these applications demand continuous connectivity and the ability to securely store, move or manipulate large sets of data.

Creating an open, yet secure network environment
As the initial priority, Aruba has delivered a highly scalable multi-gig Wi-Fi 6 environment with a consolidated management platform. The transformation journey will see the hospital upgrading the data centre and the entire campus network in order to implement end-to-end micro segmentation. With the hospital needing to operate throughout the upgrade, the roll-out will be phased.

The Aruba platform, overseen by AirWave Network Management, comprises AP-515 Unified Access Points throughout the hospital, managed via Aruba 7220 Controllers and Mobility Conductor. These enable the IT team to implement upgrades in an automated and remote manner, without any interruption to services. It also enables the simple addition of new access points.
as well as zero-touch provisioning of configurations to them.

To deliver a single, unified infrastructure approach, including the move from multiple vendors, Aruba 6300M and 2930F Campus Edge Switches have been deployed to power the Shaare Zedek Medical Centre campus.

This also lays the foundations for a modernised Network Access Control and role-based segmentation of the network which will allow all users and devices to be automatically discovered, authorised, onboarded and assigned to relevant VLANs. Anything or anyone unauthorised or unexpected is excluded from the network and quarantined, providing the hospital with an intelligent and automated NAC orchestration.

"Aruba's Dynamic Segmentation will allow us to create role-based access for devices and users," says Erez Shoshani, Network System Manager, Shaare Zedek Medical Center. "This will create a far more secure zero-trust network environment."

Rivka Rudensky says the new network architecture establishes the necessary oversight and security which allows Shaare Zedek to keep its network open: "We want technology that can make a positive difference to patients’ lives. We have to leave ourselves open to innovation. We now have a platform that enables us to securely integrate all types of technology."

ENSURING LONG-TERM STABILITY

Today, the network at Shaare Zedek enjoys scale and stability, says Erez Shoshani. "The deployment is easy, there are far fewer issues to address. It’s made our lives easier. Aruba’s management platform provides us with real-time visibility over the network."

The future, he continues, is likely to focus on further network architecture simplifications. Policy and AI-based orchestration and automation will help to reduce the time spent on NAC or infrastructure configuration, management or troubleshooting, and improve end-user experiences. These are both key priorities. Shoshani says the hospital will keep an open mind on the use of Aruba UXI Sensors and Aruba Central as a cloud-centric, data-driven, and AI-enabled service platform.

“As the hospital grows we recognise that we need to make big changes,” says Rivka Rudensky. “This network creates stability and a platform for us to continue driving healthcare innovation and improve our patients’ experience in a connected world.”