



CASE STUDY

Achieving World-class Security Standards for Major Children’s Cancer Hospital



Renowned for its exceptional standard and range of cancer care capabilities, the Children’s Cancer Hospital Egypt, widely known as Hospital 57357, is one of the largest children’s hospitals in the world, with over 45 different treatment protocols and clinical practice guidelines for pediatric cancer and a 320-bed capacity. It was established in 2007, with the mission of building a sustainable foundation to prevent and combat cancer through research, smart education and quality healthcare, provided with passion and justice to alleviate the suffering of children with cancer and their families, free of charge. Hospital 57357 is currently serving over 55% of pediatric cancer patients of Egypt from its Cairo headquarters and Tanta City locations.

Diagnosis: Sluggish Performance, Siloed Operations

The existing network was in working order but was not able to keep pace with the hospital’s ambitions. With new sites being added to the hospital campus and changes to the way the hospital was managed, the network was beginning to show signs of strain. Slow throughput over the wide-area network (WAN) hampered connections between the hospital’s three sites and made it difficult to provide remote access for hospital staff.

Coordinating network operations between the sites also became a challenge as the organization grew. IT staff monitored the network at each site individually, an approach they realized would not scale beyond one or two buildings.

With a growing repository of confidential medical documents to protect, security was also paramount. At the same time, the hospital was aware of new threats and methods of gaining access to these private files and hoped to futureproof its security strategy and methods of protection.

Finally, 57357 was on a mission to acquire Health Insurance Portability and Accountability Act (HIPAA) certification. In particular, demonstrating compliance with HIPAA’s Security Rule in protecting their electronic health records (EHR) would put 57357 in the same league as the world’s best hospitals.

New Security Must Play Well with Legacy Systems

As a large-scale healthcare provider, the hospital needed a vendor with a strong understanding of healthcare’s unique landscape and challenges and the ability to provide the high level of security necessary for it to achieve the goal of HIPAA compliance. 57357 also intended to retain use of its data center and its legacy software-defined networking (SDN), so whomever it chose would need to be able and willing to integrate with the existing tools.

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– Ahmed Nabil, Security Manager, Children’s Cancer Hospital Egypt

Details

Customer: Children’s Cancer Hospital Egypt

Industry: Healthcare

Location: Egypt

Business Impact

- Improved system efficiency to cope with expansion
- Enabled future expansion and new endeavors
- Achieved goals of meeting numerous international standards of security and visibility

The hospital's IT team considered several different vendors, ultimately finding their ideal partner in Fortinet. They agreed on a network refresh with the goal of increasing performance, improving security capabilities, and supporting existing and future expansion.

A Cure for a Fragmented Network

In the same way that a doctor takes a holistic approach when treating a patient with multiple symptoms, the hospital took a holistic approach to security. Rather than a collection of disparate products, the hospital wanted an integrated cybersecurity platform that would meet their current challenges but could also evolve as the hospital continued to expand. The Fortinet Security Fabric met this requirement.

The hospital's first task was to upgrade the perimeter firewalls with FortiGate NGFWs. To consolidate the hospital's security operations, they leveraged the Fortinet Fabric Management Center (comprising FortiManager centralized management and FortiAnalyzer logging and reporting). Now, 57357 no longer has to deal with each site individually, saving time and ensuring that they spot abnormalities before they pose a problem. According to the hospital's security manager, Ahmed Nabil, "Following the deployment of the FortiGate next-generation firewalls [NGFWs], performance has never been higher, and our network security is much easier to manage."

In addition, they deployed the Fortinet Secure software-defined wide-area network (SD-WAN) solution to connect the hospital's three sites, improving application performance and providing end-to-end visibility. All of the Fortinet Security Fabric components integrated seamlessly with the hospital's existing data center and legacy systems. For example, the hospital made use of Fortinet Fabric Connector capability to enable single sign-on (SSO) to Security Fabric components from its existing Active Directory (AD) servers.

Application Security Enables HIPAA Compliance

Further improving its security operations capabilities, the hospital opted for FortiSIEM security information and event management (SIEM), which it used to enable Internet-of-Things (IoT) monitoring of its networked hospital equipment. Thus, FortiSIEM can help IT staff correlate hospital equipment outages and irregularities with other security events on the network, enabling them to provide better accountability for any adverse patient outcomes related to the hospital equipment.

With its network edges hardened, 57357 moved on to protect its applications and data. As part of its HIPAA compliance efforts, the hospital deployed FortiMail to deter targeted cyber threats and prevent exfiltration of its sensitive information.

As a result of the partnership with Fortinet, 57357 Children's Hospital successfully met its goal of achieving HIPAA compliance—but that is not all. The hospital is also now fully digitized and proudly paper-free. "Fortinet has enabled us to exceed our compliance goals, expand further, and provide a more efficient service to our patients, while maintaining data protection," says the hospital's deputy CEO for medical affairs and information technology, Mohamed Aggag.

A Full Recovery

57357 Hospital is now planning a further expansion, hoping to take staff from 3,600 to 5,000, and add new buildings to the campus. It also aims to improve the standards of support available for doctors and nurses working from home, and is looking into using FortiClient to enable safe and secure remote access.

The hospital looks forward to working with Fortinet again for the solutions it needs as it continues on its mission to provide outstanding cancer treatment and care. "We are delighted with the increases in uptime and improvements in data security that Fortinet was able to provide," says the chief executive officer 57357 group—Egypt, Dr. Sherif Abu El-Naga. "We are confident that our system is ready to take on whatever challenges lie ahead as we expand."

Solutions

- FortiGate
- Fortinet Secure SD-WAN
- FortiManager
- FortiAnalyzer
- FortiSIEM
- FortiMail

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