



C U S T O M E R S P O T L I G H T

Barnabas Health: End-to-End Security for Next Generation Distributed Health

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Introduction

Barnabas Health is New Jersey's largest integrated healthcare delivery system, with 10 hospitals, including 2 children's hospitals; 95 physician medical groups; an ambulatory care center; a statewide behavioral health network; and comprehensive home health and hospice services. With facilities from Bayonne to Whiting, the healthcare organization provides quality care to more than 2 million patients annually.

In such a widely dispersed healthcare system, technology plays a key role in providing doctors, nurses, and other caregivers with secure access to information and tools. To ensure sensitive data is secure, Barnabas Health's IT team takes a proactive security approach. Recently, the team sought to upgrade how remote facilities and medical devices connected to its datacenter in Oceanport, New Jersey.

Barnabas Health uses several different brands of firewall technology to protect its network environment. However, its network engineers were losing confidence in the incumbent vendors' products, so the IT organization conducted an extensive competitive review of the network security market. IT recognized that next generation firewalls were evolving and began to evaluate alternatives in the market.

Important considerations for evaluating vendors and their products included ease of use, flexibility, and the capacity to customize network configurations. Total cost of ownership (TCO) also played a big role, according to Barnabas Health Chief Information Security Officer Hussein Syed, who oversees information security, HIPAA compliance, and security governance.

Ultimately Barnabas Health selected Fortinet, a major player in the network security space that supplies network and other security appliances. Given the need to connect approximately 95 sites of varying sizes and IT resources, the healthcare organization appreciated Fortinet's extensive portfolio of firewall models that would meet the unique needs of the different physician practices based on

Solution Snapshot

Organization: With 5,200 physicians, 21,000 employees, and 10 hospitals, including 2 children's hospitals, Barnabas Health is New Jersey's largest integrated healthcare delivery system, serving 1.5 million outpatients, 220,000 inpatients, and 540,000 Emergency Department patients annually

Operational Challenge: Connect remote physician practices of varying size and with varying levels of IT resources to the Barnabas Health datacenter

Solutions: Fortinet Next Generation Firewall, Fortinet Internal Segmentation Firewall

Project Duration: Selection to implementation took 45–60 days

Benefit: Barnabas Health network engineers have more confidence in Fortinet's firewalls because of the quality and performance of the products

performance and scalability. The ability to segment the network, especially to protect FDA-approved devices using a hybrid model of physical and virtualized firewalls, was also an important consideration because security software could not be installed on these medical devices.

Implementation

Today's healthcare systems are more complex than ever, with multiple partners exchanging sensitive health information to improve care coordination and collaboration as required by new value-based reimbursement models. Mobile and cloud technologies improve access to information from anywhere and at any time. However, these technologies, along with interconnected medical devices, create more access points that need to be secured and managed by IT.

As a large healthcare delivery system, Barnabas Health faces the operational challenge of securely connecting remote sites and medical devices to its main datacenter. The organization currently uses several different brands of firewalls for different purposes, including network segmentation. However, Barnabas engineers lacked confidence in an existing solution after the vendor made a technology shift and the products became harder to manage. With the evolution of next generation firewalls, IT determined it was time to evaluate market alternatives. Other business drivers for change included:

- **The marketplace of the product:** Analysts rated Fortinet as an up-and-coming solution, and its Unified Threat Management functionality delivers a spectrum of solid security products.
- **Security:** Firewalls are just one piece of the puzzle. Myriad devices (collection and monitoring tools, network access control) are needed to build a security environment.

Barnabas Health began an in-depth competitive review of the network security market. It evaluated several different products — including those of the incumbent vendors — narrowing the field to a short list that included Fortinet. The health organization's network engineers defined network configurations to test using the vendors' products and discussed with the vendors' engineers whether their products could support these configurations. Then the engineers deployed the network configuration in a test environment to validate that the configuration worked as designed. Fortinet emerged as the best solution.

The IT team also spoke with industry analysts and a network security consultant, who reviewed Barnabas Health's network design and "validated that Fortinet would be the right choice," according to Syed.

In addition to next generation firewalls, which contain multiple layers of defense, Fortinet offers internal segmentation firewalls (ISFWs). ISFWs are a new category of firewall that protect the network from the inside out. ISFWs enable a healthcare organization to segment the network to protect valuable assets while ensuring optimal internal network performance.

For healthcare organizations, cost is always a big factor. Fortinet is considered to provide good value at a reasonable cost from a TCO perspective. Fortinet also has a broad client base that ranges from small environments to large environments, which mirrors Barnabas Health's need to connect with diverse entities that range in size with varying levels of local IT expertise. Fortinet's healthcare expertise is a plus.

Deployment

Barnabas Health currently connects with 95 physician practice sites, many of them smaller facilities with limited IT resources. Deploying Fortinet firewalls, IT began connecting the remote sites to the main datacenter using a virtual private network (VPN) connection.

Although not initially pursuing a "rip and replace" strategy, Barnabas Health plans to move more remote sites to Fortinet's next generation firewall over the next 12 months. IT will deploy different Fortinet firewall models out into the practices based on their unique needs. "We have two or three

different models that we're deploying depending on the size, throughput requirements, and the location," said Syed. "For example, with a cardiology practice, we need a bigger appliance because the throughput requirements [for cardiac imaging] are a lot greater. "

Once the network configuration is done and a remote site is connected to the datacenter, the network engineers let the network run a few days to see if any changes are required. Barnabas Health anticipates that as its network engineers become more proficient in deploying Fortinet's products, they will be less reliant on Fortinet engineers and able to do the rollout themselves and with greater efficiency.

As the incumbent vendors' products reach the end of their life cycle and need to be upgraded, they will be replaced with Fortinet products. Standardizing on the Fortinet platform will provide ease of management and synergy of configuration as well as enable the collection of network traffic data in one format that can be normalized and analyzed more carefully.

Challenges

For Barnabas Health, the first challenge was deciding that an alternative solution was needed and determining the direction that network and security engineers wanted to pursue. However, once those discussions took place, IT moved ahead quickly with evaluating both the marketplace and competing solutions.

A number of practices have limited to no IT expertise available to help them connect to the Barnabas Health datacenter. The practices have different needs with regard to performance, capacity, and scalability. Fortinet's product portfolio has different models to tackle that challenge and allow the practices to connect back to the datacenter for all services.

Best Practices

One of the first things that should be considered is how the firewalls will be maintained, managed, backed up, and patched. Fortinet has a product, FortiManager, that is needed for large enterprise deployments to ensure that management is conducted in a central location. This product gives Barnabas Health the ability to standardize and template deployments so that the delivery teams can easily deploy and administer the appliances.

Next Steps

The first two steps have been to roll out Fortinet's next generation and internal segmentation firewalls. In the next phase, Barnabas Health will deploy Fortinet's egress firewalls.

Benefits

While it's too early in the process to quantify benefits such as man-hours or dollars saved, one benefit of the new Fortinet network technology is that Barnabas Health network engineers have regained confidence in the network.

Another big benefit is the quality of the Fortinet products, which perform well and are cost effective. Indeed, Syed is confident that the IT organization can use Fortinet products in areas where it could not have used the incumbent vendors' products. For example, Fortinet's solution offers a larger spectrum of virtual firewalls, more than the incumbents' products provided.

Improved performance and network uptime mean that Barnabas Health network and security engineers can dedicate more time to monitoring and analyzing the data that Fortinet products collect.

Fortinet is an established company that has been around for 15 years. Based on that track record and how the company is developing its products, Syed foresees a fruitful collaboration emerging between Barnabas Health and Fortinet: "It seems that they will be our partner for the longer term."

Methodology

The project and company information contained in this document was obtained from multiple sources, including information supplied by Barnabas Health, questions posed by IDC directly to Barnabas Health employees, Barnabas Health's corporate Web site, and IDC research.

A B O U T T H I S P U B L I C A T I O N

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