



How HIMSS Analytics INFRAM helps hospitals optimize their networks to meet strategic goals

As apps and devices become more ubiquitous, complex and bandwidth-intensive, health systems need a strategy to manage the quality and integrity of their network infrastructures.

"In the last 30 years, technology has flooded into the patient's room," said Robert Zemke, director of healthcare solutions at Extreme Networks, during a recent HIMSS20 Digital presentation.

From *"WiFi-connected infusion pumps to advanced telemetry systems to barcode scanners,"* he said, there's new and more innovative technology being deployed every day – but it's not always rolled out with proper attention paid to the network infrastructure it depends on.

"What's the strategy?" asked Zemke. Many new healthcare innovations have the potential to help improve safety and quality, and boost the clinician and patient experience, he said. But too often, hospitals deploy those new tools and devices in an ad hoc way, without considering how they'll behave once in use.

There are many challenges associated with delivery and deployment of different devices, he explained. They might "start to be in conflict for bandwidth on a network, or they chatter too much and cause disruption. Sometimes they go dark and stop working, and you have to go in and figure out what the cause is."

They can also "fight" with other connected tools due to duplicate IP addresses, said Zemke, or enable the spread of viruses and malware via IoT and medical devices.

"When we're adding these devices, which we've been doing for the past 20 to 30 years, we haven't given a lot of security concerns around this," he said. *"How do we manage and watch what's taking place?"*

The HIMSS Analytics Infrastructure Adoption Model, first unveiled in 2018, is an eight-stage ladder meant to help hospitals benchmark how their IT networks stack up – with a specific eye toward factors such as mobility, security, collaboration, transport and data warehousing.

Its eight stages, in ascending order:

Stage 0: No VPN, intrusion detection/prevention, security policy, data center or compute architecture

Stage 1: Static network configurations; fixed switch platform; active/standby failover; LWAP-only single wireless controller; ad-hoc local storage networking; no data center automation

Stage 2: Intrusion detection/prevention; informal security policy; disparate systems centrally managed by multiple network management systems

Stage 3: Advanced intrusion prevention system; rack/tower/blade server-based compute architecture; end-to-end QoS; defined public and private cloud strategy

Stage 4: Multiparty video capabilities; wireless coverage throughout most premises; active/active high availability; remote-access VPN

Stage 5: Video on mobile devices; location-based messaging; firewall with advanced malware protection; real-time scanning of hyperlinks in email messages

Stage 6: Software-defined network automated validation of experience; on-premise enterprise/hybrid cloud application and infrastructure automation

Stage 7: Adaptive and flexible network control with software defined networking; home-based tele-monitoring; internet/TV on demand

Using the model properly can help frame the right process for complex technology deployments and enable "situational awareness" and "data-driven intelligence" into how well these complex devices are working on the network to enable enterprise-wide goals, said Zemke in the presentation, *Build Your Case for a Modern Infrastructure Using INFRAM*.

Hospitals and health systems now depend on "orchestration of clinical and business activities," he said, and INFRAM can help "provide an architectural view" into how "people and technologies come together to shape clinical workflow and operations ... bidirectional flow of information to try to make things as efficient as possible."

Back in the day when hospitals were just running on "a flat data network, or maybe telemetry network," such an in-depth strategic-infrastructure model may not have been so necessary, he said – but now that IT systems have grown in complexity, a more well-considered approach is a must.

Networks are now built up with "applications, integrated medical devices, communication platforms," he said. "Now it seems that every hospital is a smart building as well. You even have hospitality and guest services ... all operating on a single infrastructure and being interacted with by patients, staff and regulatory agencies."

Collin Summers, director of network services at Peoria, Illinois-based OSF HealthCare, used INFRAM to help implement a simple automated network, capable of supporting an expanded ecosystem of apps and connected devices.

Too many hospitals don't think hard enough about the nuts and bolts of their network infrastructure, he explained. And too many clinical and operational leaders don't necessarily involve the pros with the know-how to do effective implementations of new tools early enough.

Once upon a time, as Zemke pointed out, the average hospital IT person might work an 8 to 5, Monday to Friday job. Nowadays, they're tasked with "ongoing support of all of these connected devices, 24/7."

But despite their importance to the organization, said Summers, "often, IT is last to come into these plays."

If a hospital has a problem that needs to be solved with a new tool or technology, oftentimes the answer is to simply procure and deploy it: "Put it on the network, put it into the room," he said.

"But without the proper IT input, you may end up with a mess, and you may not get to what you want," he added.

"On the back end, all of those things need to communicate through some sort of infrastructure," said Summers. "Servers, network and the myriad other technical connections that need to be there."

INFRAM, he said, can help hospitals conceptualize how their particular networks should be configured so all those connections work well in concert.

The model can help provider organizations more safely roll out the technologies needed to improve care delivery – and do so in a way that lowers cyber-risks and helps ensure infrastructure is properly configured to meet clinical and operational goals.

Source: Miliard, M. (2020, May 5). *How HIMSS Analytics INFRAM helps hospitals optimize their networks to meet strategic goals. Healthcare IT News.*



Ready to network better?
Contact us today.
222 3rd Ave SE, Suite 500
Cedar Rapids, IA 52401
(319) 364-3200
info@NetworkBetter.com