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Is your hospital's IT infrastructure able to handle its current and upcoming connectivity and mobility needs?

A Four-Step Health Assessment of Your Hospital's Network

The challenges of the healthcare IT environment continue to grow in complexity as demands for advanced electronic health information increase. Health IT professionals are now tasked with being key decision makers and shaping the future of healthcare. While adaptation of various apps, data interfaces, and big data processing is at the forefront of the conversation, the bigger picture of an infrastructure to handle it all may not be. Luckily, the general assessment is easier than it seems. These four broad considerations will help you assess the type of fiber-based infrastructure you will need for your ever-evolving needs.

1 Assess the Environment

Healthcare environments have become complex, data-driven, and collaborative ecosystems. Within the next three to four years, larger healthcare providers are expected to exponentially increase the number of biomedical devices (wired and wireless monitors, sensors, and life-sustaining devices) on their networks. Consider the operating environment—your users, and the physical environment. How are your caregivers or machines transmitting data, and over which networks (LAN, Wi-Fi, cellular, telemetry, etc.)? How many devices are connected in your facility, in each room? How many connections are needed in each room, from clinical zones to administrative areas? What are your space constraints? Could the cabling architecture be simplified for operational efficiency?

2 Identify Your Users and Their Needs

A recent survey showed that 80 percent of physicians use mobile technology to facilitate patient healthcare.¹ Are you under pressure to transmit accurate and timely electronic health information to clinicians to improve their efficiency and patient care? Who currently utilizes networks inside your facility the most? Do patients have access to patient portals, or other bring-your-own-device (BYOD) interfacing programs? Could clinician satisfaction be improved with better accessibility and data throughput? Could better patient outcomes and operational efficiencies be realized from untethering current applications and enabling clinician mobility?

3 Consider Current and Future Needs

Compared to other medical records, medical images present a great challenge with regards to file size. For example, average file size for a standard mammography image and a 3-D tomography image are 19 MB and 392 MB, respectively. Austin Radiological Association (ARA) predicts that by 2024, annual data from its 3-D breast imaging files will reach 3 petabytes.² Do you have a dedicated and robust in-building connectivity solution? What are the coverage and capacity needs of critical care devices?

4 Consider Moves, Adds, and Changes (MACs)

The Office of the National Coordinator for Health Information Technology published a 10-year vision for health IT infrastructure to achieve interoperability by 2024, with one of the guiding principles aimed at designing and deploying systems with modularity in mind.³

Modularity creates flexibility that allows innovation and adoption of new, more efficient approaches over time without overhauling entire systems. Does your network infrastructure and architecture allow you to change or expand your facility to accommodate growth or adapt to physical plant needs? Was the network designed to address added capacity demands? Can changes or additions be made on a floor or room level, or do they affect the network all the way back to the main distribution facility? What aspects of the system can you anticipate changing, and what kind of system will be able to adapt to those changes best?

1. GreatCall, "Is Mobile Healthcare the Future?" <http://www.greatcall.com/greatcall/lp/is-mobile-healthcare-the-future-infographic.aspx>

2. InformationWeek, "Healthcare IT: Hot Trends For 2016, Part 2," <https://informationweek.com/healthcare/leadership/healthcare-it-hot-trends-for-2016-part-2/d/d-id/1323723>

3. HealthIT.gov, "Conceptualizing a Data Infrastructure for the Capture, Use, and Sharing of Patient-Generated Health Data in Care Delivery and Research through 2024," https://www.healthit.gov/sites/default/files/Draft_White_Paper_PGHD_Policy_Framework.pdf

After this basic analysis, you are ready to create a useful framework and context for your needs for a fiber-based infrastructure that best suits your facility or campus – one that will support more efficient and effective systems that will continuously improve your health environment.

Learn more by visiting: www.corning.com/health-assessment



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