

WHITE PAPER

Applying Packet Technologies to Modern Healthcare's IT Networking Needs

Improve the quality of and access to care while reducing costs. This challenge is not unique to the healthcare sector, but is particularly acute given the critical role of the industry as well as its scope and scale. The sector makes up nearly 18 percent of the U.S. economy¹ and continues to grow.

Digital technologies play a fundamental role in ongoing efforts to streamline and automate the vital processes and information that drive healthcare efficiency and security. Connected-health solutions—including telemedicine and telehealth—enable providers to perform remote robotic surgeries, conduct virtual medical consultations, and offer preventive and educational services to remote patients. Electronic Health Records (EHRs) and enterprise imaging architectures streamline information sharing to expedite care and improve treatment accuracy while creating business process efficiencies that reduce operational costs. For many healthcare systems, however, digital services require modernizing the IT network to support more data traffic and extremely reliable transmission of high-bandwidth applications. IT modernization can be especially challenging for organizations that are merging and must converge disparate legacy platforms.

Packet networking technologies—both Ethernet- and IP-based—support healthcare's digital networking requirements to ensure bandwidth is always available for the most demanding applications. This paper summarizes the areas of healthcare requiring network modernization and describes how organizations can deploy packet networking solutions to support clinical and non-clinical IT needs across their ecosystems.

IT directly impacts healthcare quality, access, and costs

Healthcare organizations are applying digital technologies throughout their ecosystems to improve quality of care, expand access to providers, and reduce costs.

Improving quality of care and patient outcomes

Providers are using networked medical technologies to increase the accuracy of diagnoses and improve clinical and non-clinical care. For example:

- Genome sequencing, cognitive computing², and other resources available to hospitals via their networks or cloud applications enable specialists to analyze patient data, improve the accuracy of diagnoses, and use 'precision medicine' to craft life-saving treatments.
- New 3D medical imaging technologies, used in conjunction with virtual-reality tools, can expedite preparation and increase accuracy for surgical procedures to improve outcomes³.
- Remote robotic surgery makes it possible for specialists to perform procedures regardless of a patient's location.
- In-home telehealth solutions actively monitor patients 24/7 to improve care for the elderly and those with chronic diseases, while allowing the patients to stay where they are most comfortable—at home.

All of these tools are poised to revolutionize healthcare as we know it. And they all depend on high-speed, high-reliability networks to deliver on this promise.

¹ "CMS Projects U.S. Health Spending to Reach 19.9% of GDP by 2025," by Shannon Firth, in MedPageToday, Feb. 15, 2017.

² "How IBM Universal Quantum Computing Impacts HIT Infrastructure," in HIT Infrastructure, March 6, 2017.

³ "Virtual Reality is Coming to Medical Imaging," by Amy Westervelt, in The Wall St. Journal, Feb. 16, 2016.