

# How can Software-Defined Networking in a Wide Area Network Revolutionize the Modern Healthcare Network Infrastructure?



**H**ealthcare is a complex, broadly diverse industry that faces a number of unique challenges as the world economy evolves toward a digital services business model. At the same time, it is imperative that health-related companies, from hospitals and private practices to providers of specialty services like X-rays and lab testing, not to mention pharmacies, insurance companies, billing services, and the government agencies who regulate all of this, upgrade their aging data infrastructure quickly in order to meet the ever-increasing demands on the network.

Like other industries, healthcare is turning to virtualized cloud-based infrastructure connected via SD-WAN. With an abstract networking infrastructure at its disposal, healthcare can enjoy all the benefits of a fully virtualized data environment, such as high-speed resource provisioning, usage-based consumption models, virtually limitless scalability, and a layer of abstraction that makes it easy to connect with a wide variety of network and data environments.

By breaking the static relationship between network services and physical infrastructure, SD-WAN supports the healthcare industry's digital transformation in several key ways:

## Connectivity

Few health-related events these days involve a single service provider. Even a routine checkup typically involves a doctor, several nurses, lab work, and of course, an insurance company. All of these professionals must communicate with one another, most likely over significant distances and using a plethora of different technologies.

The healthcare industry is also highly active in terms of mergers and acquisitions, and it is exceedingly difficult to integrate one entity into another when the respective communications infrastructures are not compatible.

SD-WAN allows operators to easily create network overlays so that the modes of transport on the underlying layers no longer matter. This offers a great deal of flexibility when it comes to masking the incompatibilities of legacy networks and allows users a great deal of leeway to experiment with new technologies and integrate them into existing environments without major overhauls. Meanwhile, SD-WAN provides a means for disparate organizations such as mobile clinics or blood collection services to easily connect to provider networks regardless of location.

## Customer experience

Today's consumer is the most tech-savvy in the history of mankind, so it stands to reason that they would expect state-of-the-art medical care as well. This is compelling providers to build and maintain the most advanced, reliable network to support the latest medical technologies. This infrastructure should consist of both wired and local wireless (Wi-Fi) networking to allow patients broad access to information ranging from healthcare advice and general information to wait times and service fees.

By deploying SD-WAN, providers create an environment in which patients can interact on their terms. Examples include the ability to set up appointments through an open online portal that can be accessed from the device of their choice. Meanwhile, reliability is greatly enhanced because SD-WAN can dynamically scale to accommodate traffic loads and can reroute traffic through multiple modes of transport in case one aspect of the underlying network goes down.

## Cost

As many enterprises both within and outside the healthcare space can attest, the cost of MPLS is skyrocketing as data loads increase. Increasingly, healthcare systems are deploying SD-WAN for its ability to enable automated, even autonomous, connectivity, meaning that users will merely define their requirements and the network will configure the most optimal route on its own.

Like its counterparts in compute and storage, software-defined networking also enables a shift from the CapEx model of infrastructure deployment to an OpEx model. This means there are low or no upfront capital expenditures to create or expand a network and consumption of resources can be scaled directly to workloads rather than overprovisioned to accommodate peak loads. In this way, providers only pay for what they need, moving some of their networking costs to operational expenditures versus capital investments.

## Personnel

When you partner with a trusted SD-WAN managed service provider, you give your internal IT staff their nights and weekends back. With CBTS SD-WAN as a managed service, your healthcare network and mission critical applications are monitored, managed, and maintained by our expert engineers. Leveraging a trusted partner to proactively manage and monitor your SD-WAN solution empowers your healthcare organization's IT staff to shift their focus away from reactive maintenance tickets and towards proactive strategic initiatives.

SD-WAN can also lower costs by outsourcing management, monitoring, and other tasks to a managed service provider. Healthcare providers are in the business of providing healthcare, not building and maintaining data infrastructure. By turning to an outside management specialist like CBTS whose core business is data infrastructure, healthcare organizations gain around-the-clock access to highly certified engineers who are experts in deploying and managing the most cutting-edge technologies. Additionally, SD-WAN as a managed service removes the fear of not having internal IT personnel with the availability or required expertise needed in the event of a network outage as our expert support is available 24x7x365 to assist with any network issues.

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## The Cloud

Cloud services are becoming the norm across the entire world economy, and healthcare is conservatively adopting this trend. Healthcare providers that maintain media servers on-premises are realizing that cloud-delivered services and applications are less costly and provide a highly convenient means of sharing and exchanging data. For instance, rather than have multiple third-party providers connect to a hospital server room, it is much more convenient to license a given service from a cloud provider who then charges a small access fee to other practices.

Cloud technologies also provide minimal risk of downtime compared to local resources. As with managed service providers, competitive reasons compel cloud providers to employ the latest security and uptime technologies, including all-important back-up and recovery infrastructure that, for individual enterprises, has become exceedingly costly. The cloud has also proven to be highly effective at providing secure and reliable voice communications.

CBTS strives to deliver custom tailored business solutions and expert support to healthcare providers. Our aim is to provide comprehensive solutions because we understand the needs of healthcare organizations and we carry certified experts in-house who specialize in a wide range of technologies that are both cutting-edge and are widely familiar to health professionals. In this way, we are not just a reseller but a full-blown partner in digital transformation.

Our SD-WAN solutions, in particular, allow healthcare organizations to deliver quality care, improve operational efficiency, mitigate risk, and reduce costs. At the same time, our expertise allows us to create solutions that meet all operational and regulatory needs of modern healthcare, from the underlying infrastructure to higher level cloud architectures and managed services. Our aim is to build long-term relationships with our clients, which begins by developing a deep understanding of their technology needs and future expectations. We also provide a range of flexible delivery models that allow technology solutions to be consumed according to allowable budgets and the desired level of technical support.

Contact us today to learn how CBTS can transform your healthcare organization's network infrastructure.

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## About CBTS

CBTS is a wholly owned subsidiary of Cincinnati Bell (NYSE:CBB) that serves enterprise and midmarket clients in all industries across the United States and Canada. From Unified Communications to Cloud Services and beyond, CBTS combines deep technical expertise with a full suite of flexible technology solutions that drive business outcomes, improve operational efficiency, mitigate risk, and reduce costs for its clients.



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