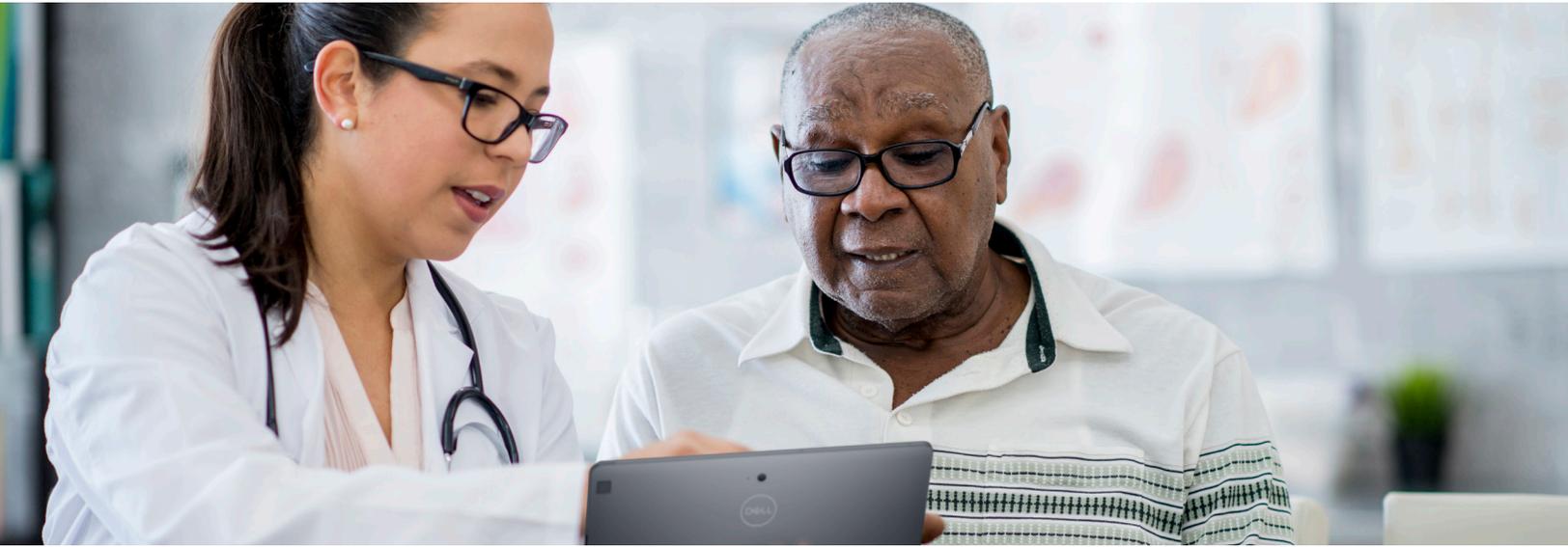


SOLUTION BRIEF: Optimize your network infrastructure for consistent, continuous access to vital patient data across your healthcare system.



## Uninterrupted access to your Epic environment for continuous patient care

According to the Centers for Disease Control, physicians in the United States today handle over one billion patient encounters a year in office, emergency room, hospital, urgent care, retail and other settings. To be effective, both physicians and all healthcare staff require immediate, seamless, and secure access to EHRs and other clinical and administrative data at all times of the day, every day.

A stable and reliable network can mean the difference in maintaining that access. It can also help to improve efficiencies, streamline workflows, and free up physicians to see more patients. Reducing network latency and providing access to vital information at the right time ultimately results in lower overall costs for healthcare organizations and better, safer care for patients.

### Modernize your network to maximize uptime

When networks are unstable and outages occur, it can impact an organization's ability to gain access to patient records—which can in turn affect patient care for hundreds if not thousands of patients at a time.

In healthcare, downtime is never an option especially when it comes to high-transaction, mission-critical workloads like your EHR. Take control of your network by keeping your environment up and running with a modern network infrastructure featuring:

- **Layers of redundancy:** Smooth functioning of network infrastructures requires redundancy at every level of the system. Unplanned network outages can be costly and delay patient care.
- **Visibility:** Track down root causes quickly by opting for a solution with a single, easy-to-manage interface. Network solutions that are highly complex and have multiple touch points across multiple operating systems can pose significant challenges for healthcare IT (HIT), making it difficult to pinpoint issues.
- **Automated change management:** Automate your critical network change-management workflows to validate changes and minimize human error, a leading cause of network outages. A seemingly minor error, like one involving a typo in a new switch configuration, can disable systems and disconnect users. Automation can help overcome these types of errors.

### Next-gen open networking from Dell Technologies

Dell Technologies and Big Switch Networks® have designed an innovative, simple, and reliable networking solution for the way healthcare works. Open software-defined networking (SDN) fabric software running on industry-leading open switches enable HIT to transform networking with full ecosystem integration and automation from the point of care to your data center to your multi-cloud environment. The result is consistent, secure access to your EHR and other mission-critical workloads for uninterrupted patient care.

According to ACG Research, open networking solutions deliver:<sup>1</sup>



faster application deployment—streamlining your Epic implementations.



TCO savings and up to 50 percent CapEx savings.



faster configuration upgrades and 12x faster troubleshooting and issue resolution to help keep your Epic environment up and running.

1. [bigswitch.com/acg-report](https://bigswitch.com/acg-report)

# A complete, no-compromise networking solution for healthcare

The Dell Technologies networking portfolio provides the simplicity and reliability needed to help keep mission-critical healthcare workloads up and running. Make digital transformation a reality with practical and easy-to-use technology solutions for every aspect of your network from next-gen fabric to open switches to ready-stack appliances.

## Easy, scale-out Big Cloud Fabric™ for elasticity

Big Cloud Fabric (BCF) from Big Switch Networks® is a next-gen data center switching fabric that delivers network automation, operational agility, and visibility for software-defined data centers. With zero-touch provisioning, deploy applications in hours, not days or weeks. Additional operational efficiencies include:

- **A centralized controller:** The centralized controller reduces management consoles by more than sixty to one. Configuration, automation, and the bulk of troubleshooting tasks are performed by the BCF controller. By integrating with multiple private cloud platforms such as VMware, Kubernetes, and more, the BCF controller enables complete physical network automation and provides contextual visibility and analytics.
- **Automation:** Remove networking silos and simplify IT management with built-in orchestration support. The BCF controller natively supports integration with several cloud-management platforms through one single programmable interface. Data center administrators enjoy enhanced analytics, streamlined application-deployment workflows, and simplified troubleshooting across physical and virtual environments.
- **Troubleshooting:** Thanks to the BCF test-path capability, the mean time to resolution of issues becomes minutes instead of hours. BCF's test path enables workload-to-workload traffic visibility across the physical and virtual network to quickly determine whether an issue is compute-related or network-related and then to quickly identify where it resides.

- **Visibility:** The dashboard shows the real-time state of the system. Plus, with several prebuilt and customizable dashboards, BCF also includes an analytics module for the analysis of configuration changes and historical data. The integration with different orchestration systems provides contextual visibility and analytics to aid rapid troubleshooting.
- **Redundancy:** BCF is a fully redundant data center fabric comprised of redundant active/standby BCF controller appliances and redundant parallel pairs of leaf switches and spine switches. The redundant controllers and Clos switch fabric architecture eliminates single points of failure and can even run without the BCF controller.
- **Automatic upgrades:** Because the fabric is redundant, it's highly resilient, simplifying and hardening the software upgrade process. Instead of needing to perform upgrades box by box either manually or with custom scripts, the entire upgrade process is automatic. During the upgrade process, the application stays up as the network fabric continues to operate.

## Open networking for simplicity and reliability

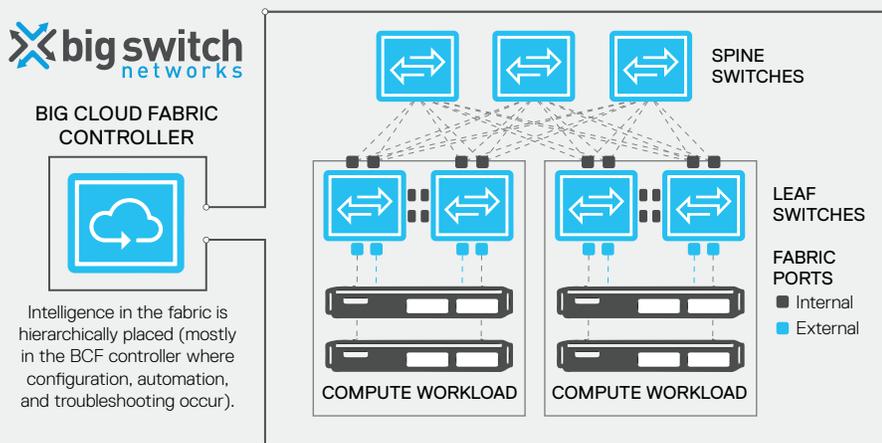
BCF running on Dell EMC networking flattens out the network system in order to provide the simplicity and stability healthcare organizations require to run software solutions without interruption to daily operations. Dell EMC data center switching solutions are cost-effective and easy to deploy at any scale, from 1 gigabit Ethernet (GbE) to multi-rate 100 GbE, for optimum connectivity within the rack or modular compute chassis, between racks, and between data centers.

Additionally, our networking solutions are designed to interoperate with leading virtualization environments, serving as a foundation for scale-out storage and hyperconverged infrastructures. This includes specialized capabilities optimized for VMware NSX, vSAN, and VxRail deployments.

## Dell EMC ready-stack solutions for optimal performance

For healthcare organizations that want the best possible performance from their networks, Dell EMC Ready Stack validated designs enable HIT teams to build their own converged infrastructure solutions in the data center and across multiple clouds, with a flexible choice of storage, server, networking, and data-protection options.

Figure 1. Eliminate manual steps and dramatically simplify networking with BCF's zero-touch operations and logical networking.



Eliminate box-by-box bring-up and provisioning, accelerate deployment, and reduce the potential for manually introducing errors.

### Three simple steps to install a fabric:

1. Mount physical switches and cable them.
2. Install the controller/s and add switches.
3. Power up switches.
  - The switches will download the correct image and configuration controller.
  - Monitor link status on the controller (a single point for the entire fabric).



Learn more about our solutions for healthcare



Contact one of our healthcare experts



Connect with us