

FlexPod®

Accelerate Time to Value with Streamlined FlexPod Deployment for Clinical Systems

The Challenge

Healthcare data continues to grow because of regulations, new technologies, the widespread adoption of electronic health records (EHRs), the ever-increasing fidelity of digital diagnostics, and the increased need for analytics for population management in the Accountable Care Organization reimbursement models.

As healthcare organizations struggle to keep pace with the upsurge in electronic patient data within existing IT budgets and hospital floor space, they need tested, documented, and supported infrastructure solutions that support both virtualized and nonvirtualized environments. These solutions need to leverage existing IT investments, be managed with existing frameworks and tools, and scale without disruption to meet future growth and compliance requirements.

The Solution

To get the most out of clinical applications and healthcare workloads, healthcare providers are increasingly running EHR and PACS systems from popular application vendors. They run systems from Epic, MEDITECH, Cerner, Agfa HealthCare, GE Healthcare, and Merge on the FlexPod® next-generation data center platform to improve patient care by using a fast, agile, highly scalable, and cost-effective solution.

Together, NetApp and Cisco offer a converged platform that's ready for virtualized environments yet is flexible enough to grow to a fully configured private cloud. The FlexPod unified architecture runs multiple workloads on all protocols and fits right into current infrastructures, leveraging existing resources to minimize or eliminate technology replacement costs.

Key Benefits

Speed Deployment

Improve IT agility and reduce deployment time from months to weeks with a flexible, prevalidated architecture that shortens the time needed to design, plan, and test.

Enhance Efficiency

Slash both administration time and TCO by up to 50% with a converged virtualized infrastructure that is easier to manage and more efficiently stores data than the alternatives.

Reduce Risk

Minimize business disruption with a prevalidated platform built on a defined architecture that eliminates deployment guesswork and accommodates ongoing workload optimization.



Jointly developed by NetApp and Cisco, the FlexPod family offers a portfolio of flexible, converged infrastructure platforms composed of prevalidated storage, networking, and server technologies:

- FlexPod Datacenter accelerates application deployment with flexible, prevalidated architectures.
- FlexPod Express reduces costs and complexity for midsize and remote facilities.
- FlexPod Select optimizes high-performance, big data workloads.

These solutions are designed to increase IT responsiveness to business needs while reducing the overall cost of computing with maximum uptime and minimal risk. With FlexPod powered by the NetApp® clustered Data ONTAP® operating system, hospital IT can manage a collection of purpose-designed FlexPod units under a single storage management fabric. The results are management efficiencies and nondisruptive operations for continuous availability to critical clinical data. FlexPod also supports encryption for compliance requirements and flash technology for additional operational efficiencies.

The FlexPod portfolio combines NetApp storage systems, Cisco Unified Computing System™ servers, and Cisco Nexus® fabric into a single, flexible architecture. FlexPod is also hypervisor-agnostic, supporting the industry-leading VMware ESXi™ virtualization server, Microsoft® Hyper V®, and Citrix XenServer.

Hospital data stored on FlexPod is protected, consolidated, and migrated based on policies to reduce the primary storage data footprint, all while preserving transparent data access to healthcare applications and clinicians.

“We wanted an easier-to-manage storage environment that could deliver greater long-term flexibility. FlexPod helped us enhance patient care and staff satisfaction, as well as contributes to more efficient business processes. All of these enhancements are vital in today’s healthcare world.”

David Stark
Chief technology officer, Group Health Cooperative of South Central Wisconsin

FlexPod Datacenter

Improve information sharing

Multihospital health systems require robust scalability and proven performance in some of the world’s largest data centers and most demanding workload environments. With access to data center capabilities that support information sharing within and between hospitals, healthcare organizations can significantly improve diagnosis, decision making, and coordination and management of patient care.

The FlexPod Datacenter converged infrastructure includes validated designs for enterprise private clouds, as well as software-defined data centers, unified scale-out storage, virtual desktop infrastructure, databases, secure multi-tenancy, business continuity, and data protection.

Group Health Cooperative Of South Central Wisconsin

The Solution

Migrate Epic EHR to FlexPod architecture for cost savings, consolidation, simplified administration, and improved application performance.

Benefits

- Deliver “out-of-the-park” performance for clinicians who use Epic EHR software.
- Reduce storage administration by 50%.
- Reduce server and storage annual costs by more than 60% over two years.
- Reclaim up to 40% of data center space.
- Complete 30TB data migration in less than three months.

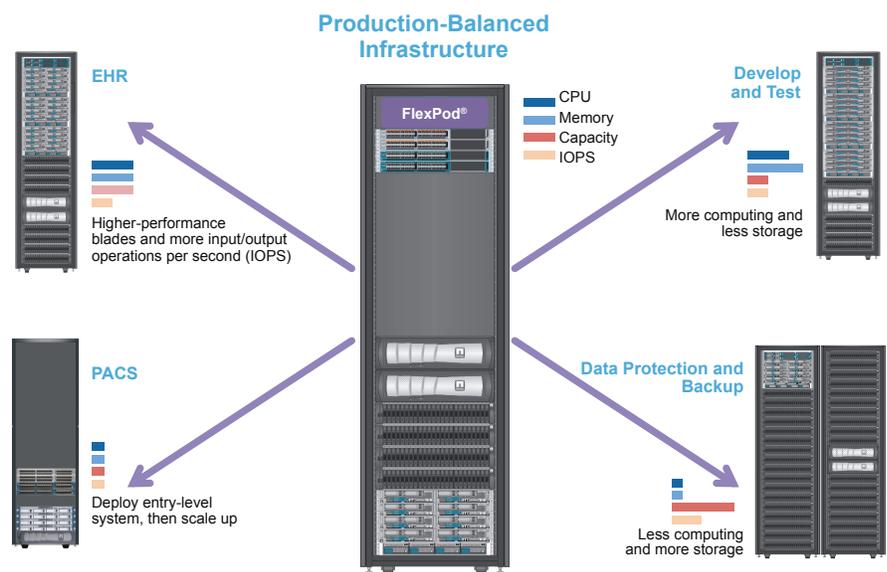


Figure 1) Optimize FlexPod Datacenter for any workload.

FlexPod Datacenter can be optimized for a variety of mixed workloads in both virtualized and nonvirtualized environments. Solution components include:

- NetApp clustered Data ONTAP and MetroCluster™ software
- NetApp traditional and All-Flash FAS unified scale-out storage systems
- Cisco Unified Computing System (Cisco UCS®) servers
- Cisco Nexus 5000, 6000, 7000, and 9000 Series Switches
- Cisco® Application Centric Infrastructure

FlexPod Express

Reduce cost and complexity

Hospitals with fewer than 50 beds are held to the same standards of meaningful use as larger hospitals. NetApp and Cisco have teamed up to deliver FlexPod Express—a single, convenient, converged platform to manage the entire infrastructure.

FlexPod Express helps providers improve outcomes while achieving meaningful use. They can also qualify for stimulus funds with cost-effective, easy-to-deploy solutions that consolidate application and data requirements.

The FlexPod Express solution leverages best-in-class components, including Cisco UCS servers, Cisco Nexus 3000 Series Switches, and NetApp FAS2500 series storage. Healthcare organizations can now:

- Reduce the number of servers and the storage capacity needed for clinical and business applications.
- Gain operational efficiencies by using virtualization, which allows your staff to manage more systems and storage in less time.
- Standardize your environment to more easily predict budgets and support growth.

“If there’s a hardware failure or we need to patch, we can roll our environment between nodes without downtime by using clustered Data ONTAP and avoid service interruption. That’s vital to enabling uninterrupted delivery of care.”

Tony Beard

Manager of Server, Storage, and IT Security Infrastructures, DuPage Medical Group

This affordable solution streamlines servers and storage to build a cost-effective IT infrastructure that reduces expenses, centralizes management, and automates operations. Hospitals that consolidate and standardize with FlexPod Express save money, simplify management, and enhance data protection by using innovative systems that they will not outgrow.

FlexPod Select

Provides hospital data at the right time, at the right place

FlexPod Select offers preconfigured NetApp and Cisco components for dedicated high-performance analytics workloads to reduce risk, provide greater flexibility, and speed deployment. Solution components are validated with analytical applications, accelerating time to value for clinical

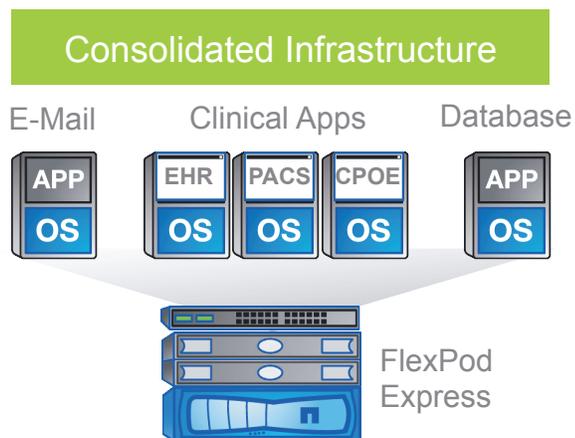
Dupage Medical Group

The Solution

With assistance from Meridian IT Inc., virtualize servers with VMware vSphere® on a FlexPod platform running NetApp clustered Data ONTAP.

Benefits

- Enhance patient care by avoiding systems downtime.
- Improve performance for Citrix XenApp and other critical workloads.
- Conserve data center space with intelligent caching.
- Reclaim storage capacity with deduplication.



Cisco and NetApp solution for shared, virtualized IT

Figure 2) FlexPod Express for infrastructure consolidation.

data. Solution components include NetApp E-Series, EF-Series, and FAS storage systems, Cisco Unified Computing System servers and fabric interconnect, and Cisco Nexus fabric extenders.

Working together, NetApp and BridgeHead have created a pre-validated, best-in-class foundation based on FlexPod Select for data management in hospitals. HealthStore™ for FlexPod combines storage hardware and healthcare-integrated software to lower costs for data management while making data available to those who need it.

BridgeHead Healthcare Data Management software provides the data management layer in HealthStore, allowing hospitals to identify and move content that could be better and more efficiently managed elsewhere onto more cost-effective technology. This extends the life of more expensive primary storage components and makes sure

that they are dedicated to serving clinical applications. The solution:

- Is prevalidated, fully integrated, and optimized for the complete data needs of a modern hospital
- Delivers enterprise-class infrastructure that meets the high performance and availability demands of clinical data
- Provides DICOM-aware management of image files created by PACS applications
- Offers a modern and fully integrated approach to backup and archiving to protect and preserve data in compliance with HIPAA requirements
- Is designed to grow with your hospital without reaching hard stops in storage capacity

Cooperative Support Model

FlexPod is covered by the Cooperative Support Model. This three-way partnership between Cisco, NetApp, and VMware allows



Figure 4) Investment protection with standardized, flexible IT platform.

engineers from each of these companies to collaborate directly with one another to resolve customer issues and expedite problem resolution, providing a single point of contact for customers. For other software vendors, including Microsoft, a similar structure addresses issues as necessary through TSANet. TSANet is an alliance that enables global technology organizations to work together to fast-track technical support cooperation between several partners.

Our Partners

NetApp, Cisco, our strategic partners, and authorized resellers can help you successfully make the move to a FlexPod solution. We can assist with the consolidation, optimization, and virtualization of IT environments. Together, we deliver solutions that increase utilization and reduce complexity and costs. With this joint solution, you can grow your business without having to grow your IT budget at the same pace.

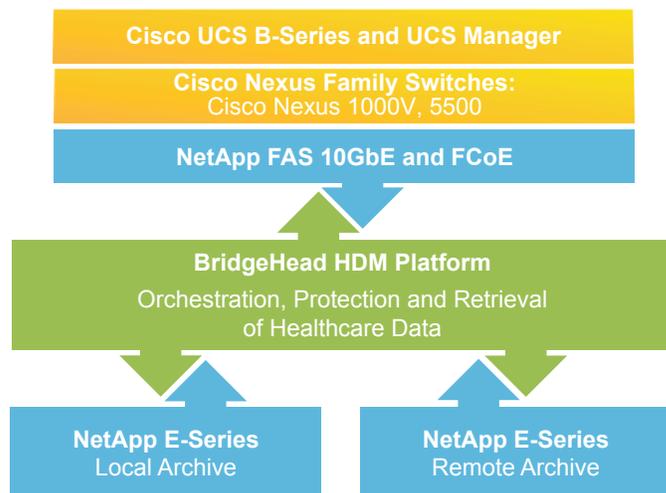


Figure 3) FlexPod Select provides a powerful foundation for HealthStore.

