

FlexPod Managed Private Cloud Solution

Partner-Delivered Private Cloud Experience

The Challenge

Enterprise IT administrators can be faced with difficult choices when moving their applications toward full-service clouds. Business-critical applications often require localized, low-latency platforms. Scaling infrastructure in core data centers and at multiple sites can stretch the resources of skilled IT staff. Moving to external full-service clouds can relieve operational burdens and deliver elastic capacity but can limit data sovereignty and location flexibility. IT administrators need to consider new ways to address data sovereignty, location flexibility, and scalable staff resources with options for around the clock support. With FlexPod Managed Private Cloud, they can:

- **Simplify deployment.** Accelerate deployment with partner-delivered, full-service installation and prevalidated designs.
- **Reduce operational overhead.** Get the benefits of owning your own cloud with managed operations from certified experts.
- **Maximize performance with best-in-class infrastructure.** Go with market-proven technology with thousands of deployments.

Key Benefits

Leverage market-leading FlexPod® converged infrastructure for a managed private cloud, so you can:

Advance your cloud journey:

- Choose from multiple consumption options for on-premises, off-premises, and colocated cloud platforms.
- Maintain data sovereignty and ownership for enterprise applications for compliance and policy requirements with managed clouds.

Reduce gaps in IT skills and resources:

- Leverage partner skillsets for network, compute, and storage optimization to better focus on application deployment and new services.
- Reduce operational hassle for software updates, installations, repairs, and support with managed operations.

Get high-performance infrastructure for hosted cloud:

- Drive superior performance for business-critical applications requiring a low-latency cloud.
- Facilitate service-level agreements with nondisruptive operations, resilient design, and scalable performance.

The Solution

FlexPod Managed Private Cloud

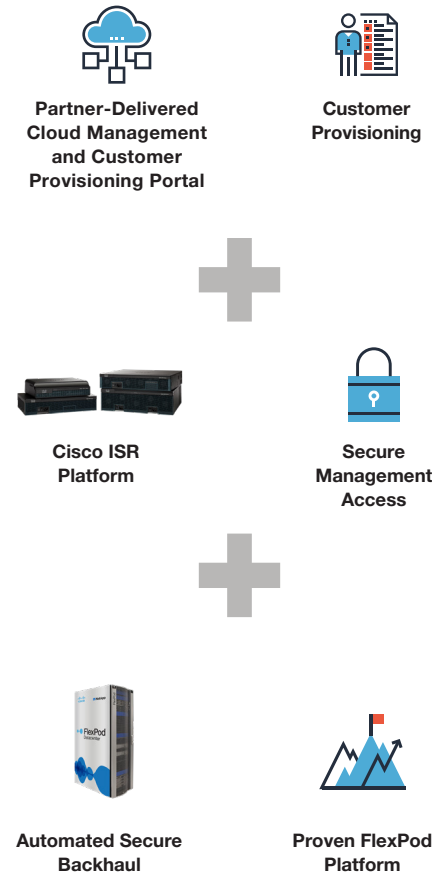
With FlexPod Managed Private Cloud, you get the advantage of traditional managed hosting, combined with all the benefits of cloud in a secure and dedicated environment, with data sovereignty. Automated self-service provisioning through role-based access and real-time usage dashboards enable you to control resources and utilization. While you maintain ownership, a FlexPod expert partner manages and operates the infrastructure.

As a fully managed offering, FlexPod Managed Private Cloud avoids many of the technical and organizational obstacles that can impede private cloud adoption while offering alternatives to some of the security and regulatory concerns that many organizations face with public cloud solutions. This solution offers the advantages of traditional managed hosting, including cost reduction, customization, and faster enablement, then enhances them with cloud's rapid provisioning, upfront capex avoidance, better flexibility, and self-service capability. It serves all of these benefits in a secure and dedicated environment, providing an attractive, lower risk path forward to the cloud.

Leveraging market-leading FlexPod converged infrastructure for a managed private cloud provides your organization with powerful options when advancing their cloud journey, can reduce gaps in IT skills and resources, and combines the benefits of a managed cloud with the high-performance advantage of FlexPod infrastructure. You can advance your cloud journey with multiple options for on-premises, off-premises, and colocated cloud platforms. Reduce gaps in skills and resources by leveraging partner skillsets and expertise, and reduce hassle with support for software updates, installations, and repair support. Drive superior performance for your business-critical applications with a trusted, high-performance converged infrastructure solution.

Advance Your Cloud Journey

Place cloud at the source of demand with a FlexPod Managed Private Cloud.



The new Managed Private Cloud solution will enable select delivery partners to offer a managed service solution through FlexPod. This new solution will enable channel partners to deploy business-critical applications and manage on-premises private clouds without the need for IT infrastructure administrators to adopt a new platform or learn new skills. With Managed Private Cloud, FlexPod can be located in your data center or in remote locations but managed remotely, advancing cloud-capabilities for both partners and their customers. Work with a partner of your choice for options with customer provisioning and deployment of applications onto your managed platform.

The Value of FlexPod

FlexPod converged infrastructure offers:

- **Proven performance.**

Get reliable delivery of secure business applications, with world-class speed and resilient design.

- **Proven agility.**

Securely and quickly respond to business demands with time-tested automation, accelerated deployments, and flexible scaling.

- **Proven economics.**

Save time and money with a trusted best-in-class solution that consolidates infrastructure.

Built on groundbreaking technology from NetApp and Cisco, the FlexPod converged infrastructure platform meets and exceeds the challenges of simplifying deployments for best-in-class data center infrastructure. FlexPod is trusted by thousands of customers across the globe. Composed of prevalidated storage, networking, and server technologies, FlexPod is designed to increase IT responsiveness to organizational needs and reduce the cost of computing with maximum uptime and minimal risk. Simplifying the delivery of data center platforms gives enterprises an advantage in delivering new services and applications. FlexPod provides these differentiators:

FlexPod provides these differentiators:

- Flexible design with a broad range of reference architectures and validated designs
- Elimination of costly, disruptive downtime through NetApp® ONTAP®
- Pervasive simplicity and agility with the software-driven architecture and high performance of Cisco UCS compute
- Cisco ACI for centralized, policy-driven automation that accelerates application deployments
- Multiprotocol NetApp FAS storage platform that unifies application silos, allowing NAS or SAN, file or block storage, on one converged platform
- Support for private, public, or hybrid cloud strategies with a consistent set of data management tools for edge, private, and public clouds
- Automation for rapid installation and delivery of new services

Best-in-Class Components for Enhanced Efficiency

FlexPod components are integrated in a standardized configuration that scales from entry-level designs for hundreds of users up to high-performance big data workloads for thousands of users. This integrated approach can significantly reduce your capital and operating expenses through end-to-end virtualization and higher efficiencies at each layer.

Cisco Unified Computing System

Cisco UCS offers a software-driven architecture that delivers pervasive simplicity and operational agility. It combines compute and network resources, storage access, and virtualization into a scalable, modular system that is easily managed as a single entity by Cisco UCS Manager. Cisco UCS servers simplify your data center architecture by reducing the number of devices to purchase, deploy, and maintain and improving speed and agility for application deployments.

The Cisco UCS system is versatile. It simultaneously supports unique performance and scale requirements of various applications using a common management and resource model. Service profile templates enable automatic, policy-based hardware configuration and deployment for large, stateless computing environments. The fifth-generation Cisco UCS server platforms support the new Intel Xeon scalable processors, delivering faster CPUs and memory with increased core counts. Producing six new industry standard world records, the Cisco UCS M5 server portfolio continues to perform and innovate with broad support for NVMe and industry-leading GPU density, particularly in blades, where Cisco offers the only half-width blade in the industry with dual GPU support. These innovations allow IT administrators to address general compute infrastructure as well as VDI, real-time analytics, deep learning, and machine learning with a common system-based approach: Cisco UCS.

Cisco Data Center Switches

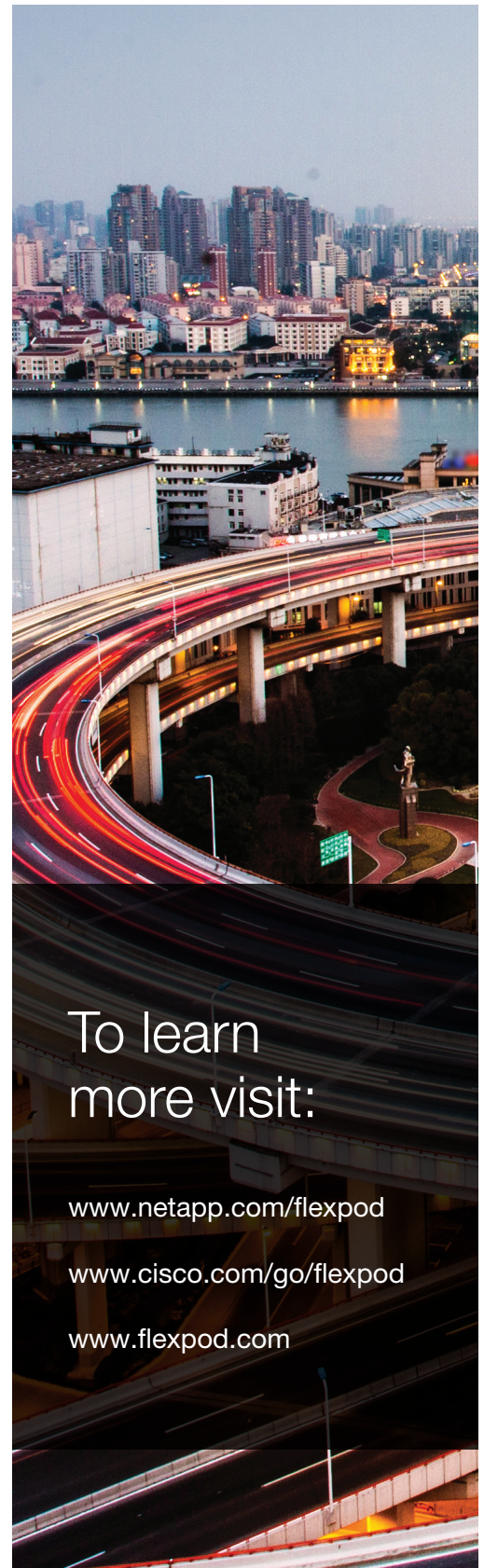
Cisco Nexus data center switches are built for scale, industry-leading automation, programmability, and real-time visibility. The Cisco Nexus 9000 series offers high performance, low density, low latency, and power efficiency that are taken to new levels with cloud-scale ASIC technology. Cisco Nexus 9000 switches also lay the foundation for software-defined innovations such as Cisco Application Centric Infrastructure (ACI), allowing intelligent software to automate hardware resources across next-generation data centers. Cisco Nexus switches also offer options for unified fabric technology to identify and consolidate all network traffic onto a single simplified, cost-effective architecture based on FC over Ethernet. Dedicated FC support is available through Cisco MDS switches, which offer high-performance SAN extensions and reliable integration into existing SAN environments.

NetApp Storage

NetApp AFF and FAS storage systems:

- **Reduce the cost and complexity** for virtualized infrastructures by meeting all of your storage requirements with a single, highly scalable solution.
- **Support all protocols**, so you no longer need to purchase separate systems to accommodate different storage needs.
- **Offer a guaranteed workload-specific effective capacity** with the NetApp all-flash guarantee.
- **Enhance operational efficiency** with automated storage management, data protection, and security.
- **Bring new levels of nondisruptive operations, scalability, and efficiency** to enterprise storage with the ONTAP operating system.

Performance is optimized with innovative flash technologies and 40GbE, FCoE, and FC support. At up to 7M IOPS per cluster with submillisecond latency, NetApp AFF systems are the fastest all-flash arrays built on a true unified scale-out architecture. With storage based on NetApp ONTAP storage, you can deploy the exact proportion of flash to spinning media for your particular environment and use a single storage operating system for flash, disk, and cloud storage.



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