Modern hybrid-cloud infrastructure

The next generation of FlexPod with Cisco Intersight

Applications are the face of your company. Deploying them at the speed of your business is difficult with traditional siloed infrastructure and management. The best option is to simplify with greater observability and full lifecycle automation. This enables you to gain the scalability to support application and data growth.

We support your hybrid-cloud journey

- Full-stack observability
- End-to-end automation
- Hybrid-cloud services

You need to take bold steps to prepare your data center for the future and gain the agility to move at the pace of your business. You need modern infrastructure and operations to support a hybrid cloud future. You need operational infrastructure that can be deployed wherever your workloads and data need to reside.

Introducing the next-generation FlexPod solution

A next-generation FlexPod® infrastructure solution from Cisco and NetApp brings a new level of observability and automation that can help propel your journey to hybrid cloud. It's the anchor of your on-premises hybrid cloud infrastructure. The Cisco Intersight™ cloud operations platform with a data

fabric powered by NetApp® ONTAP® helps your workloads span on-premises and cloud deployments. You gain the operational model and seamless data experience required to meet the scale and agility that today's applications demand.
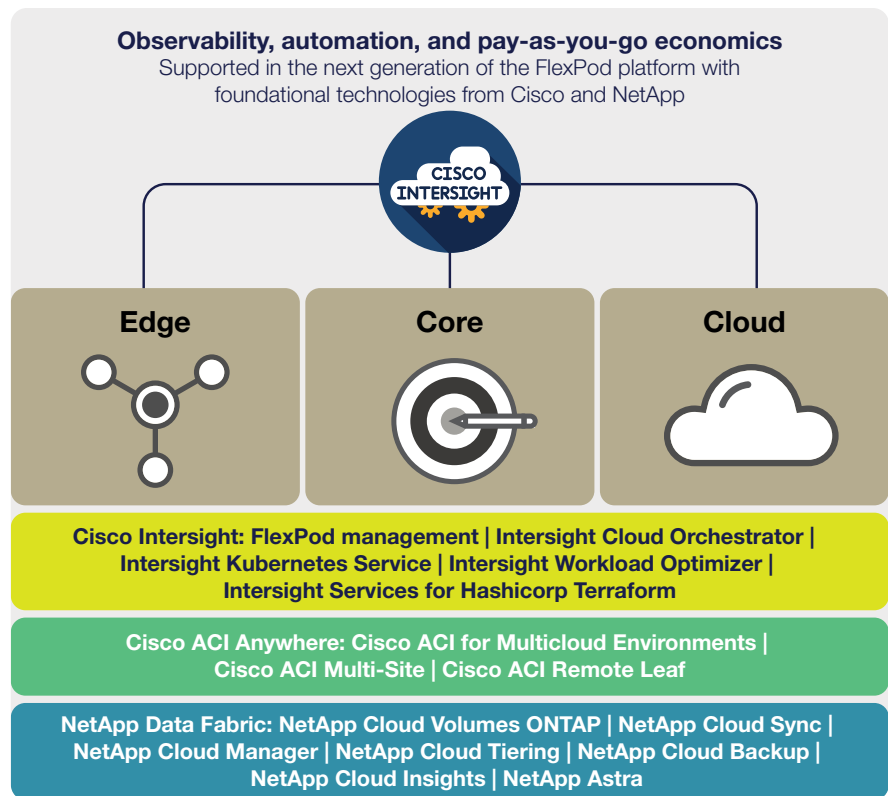
With this next generation of the FlexPod platform, Cisco and NetApp build on our respective operations and management capabilities to enhance full-stack observability. This observability gives you the insight that you need in order to optimize cost and performance, make intelligent deployment decisions, and maintain supported configurations across your FlexPod infrastructure. We further integrate compute, storage, network, and management to simplify day 0 through day N automation, key to responding quickly to the demands of your

business. The solution supports cloudlike consumption models that increase flexibility to choose the ones that best suit your business.

New operational model

At the core of the next-generation FlexPod solution is the Cisco Intersight™ platform with ONTAP software integration. This cloud-based, software-as-a-service lifecycle management platform integrates FlexPod components so that a single user interface can give you full visibility and operational control over your infrastructure.

With a set of innovative capabilities you gain consistent, policy-based automation across all of your FlexPod deployments. With FlexPod specific dashboards and workload optimization capabilities, you gain the observability you need to bridge applications and infrastructure. Better yet, you can gain the observability benefits of the next-generation FlexPod infrastructure for your existing FlexPod infrastructure just by adopting the Intersight platform. All of this helps you change the way you manage applications and

Observability, automation, and pay-as-you-go economics
Supported in the next generation of the FlexPod platform with foundational technologies from Cisco and NetApp

CISCO INTERSIGHT

Edge | **Core** | **Cloud**

Cisco Intersight: FlexPod management | Intersight Cloud Orchestrator | Intersight Kubernetes Service | Intersight Workload Optimizer | Intersight Services for Hashicorp Terraform

Cisco ACI Anywhere: Cisco ACI for Multicloud Environments | Cisco ACI Multi-Site | Cisco ACI Remote Leaf

NetApp Data Fabric: NetApp Cloud Volumes ONTAP | NetApp Cloud Sync | NetApp Cloud Manager | NetApp Cloud Tiering | NetApp Cloud Backup | NetApp Cloud Insights | NetApp Astra

infrastructure to reach the scale and velocity your stakeholders demand.

Some workloads must be deployed in your own physical infrastructure, whether in the core data center or at the network edge. These include:

- **Performance-sensitive workloads** that may need to be placed close to users at the network edge, or placed in the data center to deliver predictable performance to users.
- **Data-sensitive workloads** that have large amounts of data colocated with applications,

or data that must be under your control to manage data sovereignty requirements.

The scope of this generation of FlexPod extends beyond your core and edge, helping you reach into hybrid cloud with the level of automation, observability, and data services that you have with your on-premises infrastructure. The Intersight Kubernetes Service can deploy cloud-native applications locally or in the cloud. Cisco® Application Centric Infrastructure (Cisco ACI®) can extend your data center networks into the cloud with secure, Layer 2 connectivity as though all of your infrastructure

FlexPod®

CISCO   **NetApp**

were colocated. Features such as a data fabric powered by NetApp make data available on your premises or in the cloud by moving it to where it's needed and making sure that your data is at the right location. Capabilities provided by NetApp Cloud Volumes ONTAP, Cloud Manager, Cloud Sync, Cloud Tiering, and Cloud Backup all help you manage and protect your data seamlessly between your cloud, data center, and edge locations.

Observability for infrastructure optimization

You need to deliver the best experience to every one of your customers. That requires being able to observe everything from infrastructure alerts and alarms to application performance. Intersight is your single point of observability for your compute, network, storage, hypervisor, and container environments. It supports:

- **FlexPod specific views** provide operational status of your existing and new FlexPod units, including inventory, health status, alerts, and lifecycle advisories. Direct connectivity to Cisco Technical Assistance Center (Cisco TAC)

proactively supports problem resolution. Recommendations are given based on Cisco and NetApp configuration compatibility matrices, and you are advised if you need to upgrade component firmware to maintain compliance with supported configurations.
- **Correlated insights** into the relationship between application and infrastructure components help you to optimize your workloads so that infrastructure never stands in the way of application performance.

Automation puts agility in reach

With the staff you have today, it's almost impossible to embrace the future without automation. Responding to daily demands with manual processes can put agility out of reach when you need to deploy a Kubernetes cluster or host a new enterprise application. With a next-generation FlexPod solution, you can automate your day 0 to day N processes, making it straightforward to evolve your infrastructure with scale and simplicity.

For hybrid-cloud operations, FlexPod with Intersight:

FlexPod with Intersight Benefits

- Day 0 to day N automation
- Full-stack lifecycle management for increased efficiency
- Consistent operations with visibility and control for next-generation applications
- Common policy abstraction, governance, and compliance
- Server, network, and storage resource elasticity
- Hybrid cloud workload migration
- Business continuity and disaster recovery
- Unified data experience

- **Provides** day 0 automation through configuration of server, storage, and network infrastructure
- **Automates** day 1 (day-to-day) operations through predefined operations such as configuring storage for use by virtual machines or custom workflows.
- **Evolves** your infrastructure with day 2 operations to add and remove servers and

storage; and day N lifecycle management.

- **Deploys** containers as a service on bare metal servers, in virtualized clusters, or in the cloud through a 100% upstream Kubernetes environment. Gain the advantages of Cisco-curated enhanced services including persistent storage on NetApp storage volumes through the container storage interface. Deploy virtualization clusters with automated compatibility checks for server, firmware, and hypervisor version compatibility.
- **Speeds** iterative DevOps processes. Deploy infrastructure as code through Intersight Service for HashiCorp Terraform, the Cisco Intersight API, Kubernetes pod files, and bindings to a variety of preferred scripting languages for DevOps practitioners.
- **Supports** Cisco Validated Designs and corresponding Ansible playbooks to automate while reducing cost and risk.

Ready for the future

While your new and existing FlexPod infrastructure can take advantage of cloud-based management, the next-generation FlexPod solution with the Cisco UCS X-Series Modular System is exclusively cloud managed and delivers a unified data experience.

Equipped with the latest NetApp storage solutions and the Cisco UCS X-Series Modular System with Intersight, this FlexPod solution enables you to define servers and their I/O configuration at a granular level. A single platform can support and optimize a wider range of workloads, reducing the cost of having a large number of server types in your data center. With this even more flexible and adaptable converged infrastructure solution, you can:

- **Simplify** your data center environment with cloud-based management as a service

Prepare for the future

- **Take Intersight for a test drive**—visit cisco.com/go/intersight
- **Incorporate** the next generation of FlexPod with Intersight into your plans

- **Adapt** to the unpredictable needs of hybrid cloud applications
- **Provide** for traditional scale-out infrastructure and enterprise applications

FlexPod® ||||||| **CISCO** ■ **NetApp**