



A Modern Foundation for All Your Applications

A secure, smart, and sustainable platform

Organizations everywhere are under pressure to quickly respond to new opportunities and deliver applications to support



FlexPod economic impact

- **\$132k** cost savings from reduced risk
- **\$2.54M** cost savings from increased flexibility
- **\$218k** cost savings from enhanced efficiency

Source: Forrester Research, [The Total Economic Impact™ of Cisco and NetApp's FlexPod](#), November 2021

the business. But increasing complexity and changing business conditions inhibit the ability to transform with their business. Applications are getting increasingly diverse and they need modern infrastructure and operational efficiency. Only then can they address the breadth of application requirements, more effectively repel security attacks, and achieve sustainability initiatives.

FlexPod for all your applications

FlexPod® solutions from Cisco and NetApp combine groundbreaking technology from Cisco and NetApp and is trusted by thousands of customers across the globe. FlexPod unites components including innovative Cisco UCS® servers, NetApp® storage, Cisco Nexus® and MDS

networking, Cisco Intersight™ and NetApp® ONTAP® storage management to accelerate the delivery of modern workloads, future-proof IT environments, and optimize resources to maximize efficiency. The result is a modern data center solution that is:

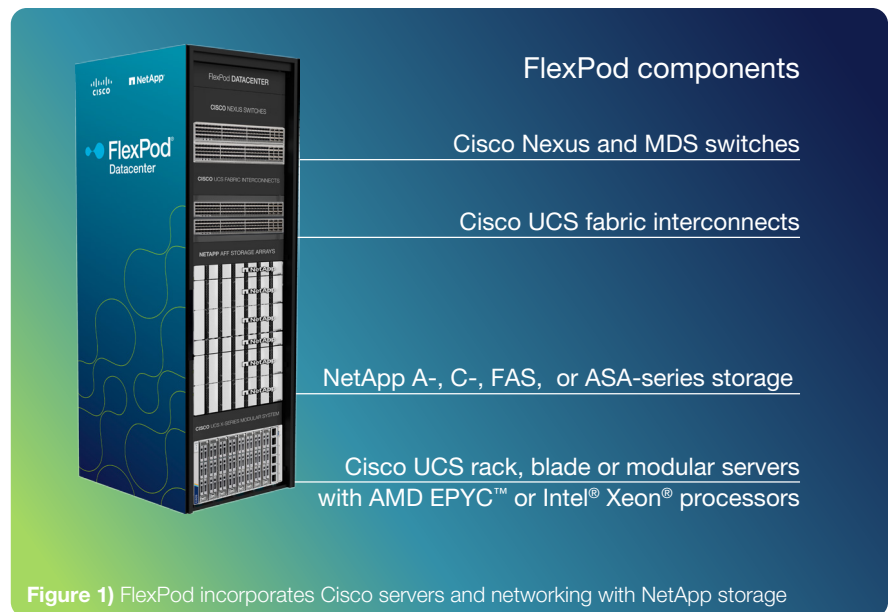
- **Secure** to protect against persistent threats
- **Smart** to support today's diverse modern and enterprise applications
- **Sustainable** to make a decisive move forward in your efforts to help protect the planet

Built on the Cisco UCS X-Series Modular System and NetApp ONTAP storage we bring more flexibility to adapt solutions to any workload, regardless of whether they are deployed at the core, edge, or hybrid cloud.

The Cisco UCS X-Series is designed to shape to any workload through a growing set of modules that can be integrated through software. Delivering data management across edge, core and hybrid cloud that spans flash, disk, and cloud-based storage with SAN, NAS, and object workloads, you can easily map NetApp ONTAP storage to workloads and business requirements. Options include the AFF-A Series with TLC Flash memory, the C-Series with budget-friendly QLC flash, NetApp FAS with hybrid storage, and ASA all-flash SAN arrays. All NetApp storage arrays deliver high availability and are backed by NetApp's [Storage Efficiency Guarantee](#). With these attributes, it's no wonder that all of the top hyperscalars offer NetApp storage natively or as a third-party service.

FlexPod management

You manage FlexPod through the Cisco Intersight IT-operations platform and NetApp ONTAP storage management software. These tools provide complementary features for comprehensive lifecycle management of your server, networking, and storage infrastructure. Basic storage



management and monitoring can be performed through Cisco Intersight with access to the complete set of storage features through Netapp ONTAP.

FlexPod management is software as a service (SaaS), so you never have to worry about your management software being out of date or having unpatched security vulnerabilities. Using a SaaS platform means that your software is always up to date.

You can access FlexPod management capabilities through intuitive GUIs, and APIs through scripting languages such as Ansible and PowerShell. For example, runbooks from our GitHub site can automate deployment of Cisco Validated Designs for fast, error, free

time-to-value. FlexPod management uses AIOps to simplify and automate proactive care and optimization through your entire infrastructure lifecycle. For FlexPod server infrastructure, Cisco Intersight takes note of irregular operations and its direct connection to the Cisco Technical Assistance Center (Cisco TAC) enables it to proactively detect and even resolve problems—it can initiate service requests even before you notice there is a problem.

In the white paper, [The Total Economic Impact of Cisco and NetApp's FlexPod](#), Forrester's survey of FlexPod customers reports that these management approaches help cut timelines in half.

Transform your IT infrastructure

Secure:

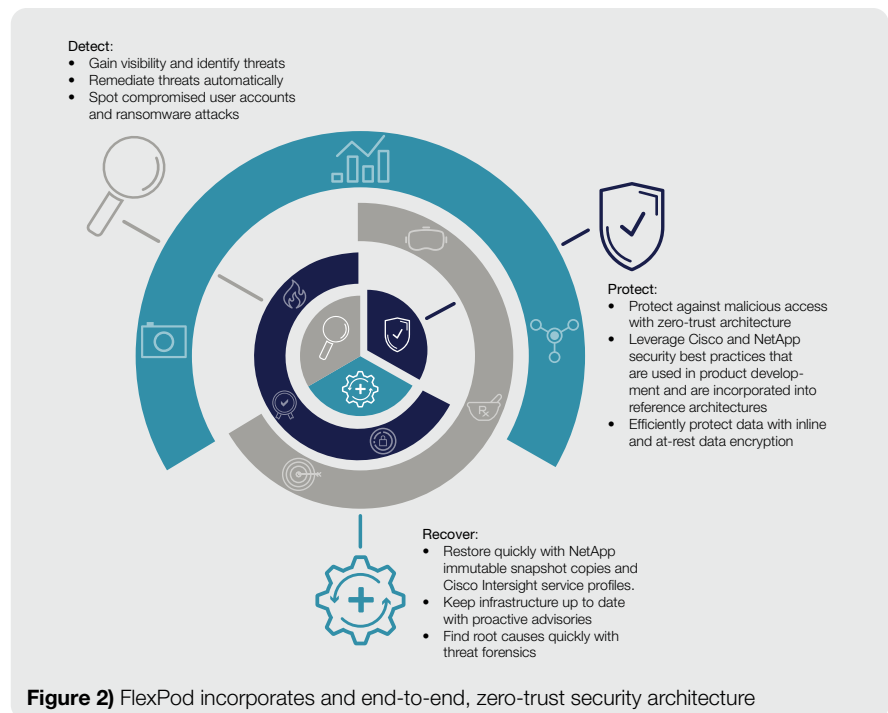
- Preemptively protect against unwanted intrusions with a zero-trust security solution
- Visualize threats across network, compute, and storage resources
- Mitigate risk with notification of potential vulnerabilities and security issues

Smart:

- Optimize resources to help increase performance and reduce costs
- Quickly design, scale, and deploy FlexPod with tested and documented solutions
- Enable new levels of predictable maintenance and proactive support through telemetry

Sustainable:

- Reduce waste, eliminate forklift upgrades, and seamlessly transition to future technologies
- Reduce resource consumption with continuous optimization
- Support sustainability goals with recycled materials, high-efficiency components, and product take-back and reuse programs



A platform you can trust

With NetApp ONTAP, you can distribute your data across edge, core, and cloud, and thus we engineered FlexPod with security at every layer of infrastructure and operations to protect you from intrusions, detect them if they occur, and speed recovery if any data is compromised.

Our protection strategy includes a zero-trust architecture engineered to prevent malicious access, counterfeit firmware and hardware, and secure FlexPod management. The architecture leverages Cisco and NetApp security best practices to assure that systems are hardened to

prevent vulnerabilities. Features such as secure segmentation, inline and at-rest data encryption, replication, and immutable copies help protect your data across its entire lifecycle.

Protection starts when you deploy your infrastructure and continues through its operational lifecycle. Security advisories and hardware-compatibility list (HCL) checks warn you when your operations could be subject to known vulnerabilities, or when operations such as firmware updates could cause incompatibilities with your software or installed devices.

How FlexPod Benefits Your Organization—Quantified



20%
time saving in network management and maintenance



\$3 million
cost savings in hardware refresh and infrastructure costs



4x
reduction in downtime



13 month
payback on savings from reduced risk, increased flexibility, enhanced efficiency



\$132k
cost savings from reduced risk over 3 years



\$2.4 million
cost savings from increased flexibility



\$218k
cost savings from enhanced efficiency

Source: The Total Economic Impact of Cisco and NetApp's FlexPod, Forrester, 2021

FlexPod has integrated data protection that watches for user behavior anomalies and signs of ransomware through AI-based anomaly detection. Continuous risk assessments, predictive alerts, prescriptive guidance, and automated and guided actions help prevent problems before they occur, leading to improved system health, higher system availability, and improved security. We correlate data from multiple disparate detection mechanisms to give you a unified view across storage, network, cloud, and applications, helping guard against data loss.

In the extremely unlikely event of a successful compromise, FlexPod recovery features quickly restore data and servers using NetApp immutable snapshot copies and Cisco Intersight server profiles. We apply intelligent forensics to help identify and neutralize the source of a threat and determine which files need to be restored. Proactive advisories give you prescriptive recommendations to close security gaps and keep your infrastructure running smoothly.

Simplify with a flexible, intelligent platform

FlexPod is a long-term architectural investment that pays dividends far into the future. Telemetry and advanced algorithms enable new levels of predictable maintenance and proactive support through Cisco Intersight and NetApp ONTAP. Indeed, the quality of the architecture contributed to a four-fold reduction in downtime according to Forrester's Total Economic Impact study.

FlexPod solutions are the outcome of years of collaboration between Cisco and NetApp, with best practices validated and documented in a set of more than 240 reference architectures that cover nearly every data center, edge, and hybrid-cloud workload, and expanding into healthcare and artificial intelligence and machine learning. These reference architectures are provided in Cisco Validated Designs, which encapsulate best practices and designs into cookbook-like instructions that speed deployment time and reduce risk.

As Forrester Research points out in The Total Economic Impact of Cisco's and NetApp's FlexPod," these validated designs avoid

the cost of experimentation associated with picking and choosing the components for do-it-yourself solutions, eliminating guesswork and reducing time to value for your organization. In Forrester's analysis, these reference architectures contributed to a 20 percent savings in network management and maintenance costs.

Modernize today to protect tomorrow

You can reduce waste by eliminating forklift upgrades and seamlessly transitioning to future technologies with the Cisco UCS X-Series Modular System and with NetApp ONTAP storage. You even can scale with different storage systems in the same cluster. Forrester estimates that the solution's

flexibility, unified network, and reduction in standby racks of servers and storage helps reduce infrastructure costs by \$3 million after hardware refresh with FlexPod.

FlexPod further supports sustainability by using recycled materials, high-efficiency components, and the capability to automatically optimize workloads to maximize compute and storage utilization. Where you store your data can contribute to your overall sustainability. It can be more efficient to store your cold data in the cloud rather than on premises, and FlexPod gives you this choice with ONTAP software features. FlexPod is the only converged infrastructure solution available natively integrated into each hyperscaler and also as a third-party service.



Learn more

- netapp.com/flexpod
- cisco.com/go/flexpod

Choose FlexPod for All Your Applications

FlexPod is a secure, smart, sustainable, hybrid-ready platform that is ready to power all your applications with reference architectures to reduce deployment cost and risk.