

FlexPod SF with SolidFire Storage

Imagine having an infinitely flexible infrastructure to support your dynamic business environment.

The digital age is bringing to life a blossoming of our collective connectedness that is fundamentally reshaping everything we do and creating innumerable opportunities. Markets and customer purchasing behaviors are constantly changing in today's digital economy. Services and products are becoming available online, anytime, anywhere, and from any type of device. To meet changing customer expectations, enterprise IT organizations must respond quickly to changing business needs while managing mission-critical workloads that "keep the lights on."

Today's modern fast-paced cloud environments provide self-service resources and enable traditional client-server workloads to be transformed into agile, cloud-based applications. Although the factors that drive business and digital transformation are unique to each enterprise, they all aim at the same outcomes: secure and seamless delivery of workloads across cloud infrastructure cost effectively and at scale for both customers and internal stakeholders.

Add Value to Your Business

To add value back to the business, you need cloud infrastructure that easily scales out as application requirements rapidly change. It needs to run predictably, providing guaranteed performance with the benefit of reduced costs that accompany cloud solutions. It needs to work for everyone in the organization, with service levels that can adjust to meet the needs of specific clients and applications.

It should allow both business users and IT generalists to be effective not only at responding to changing business needs but also at facilitating the innovation of new products, solutions, and services for customers. It should enable anyone to access your business's data where and when its needed, while integrating the management frameworks you have in place today into one consolidated view.

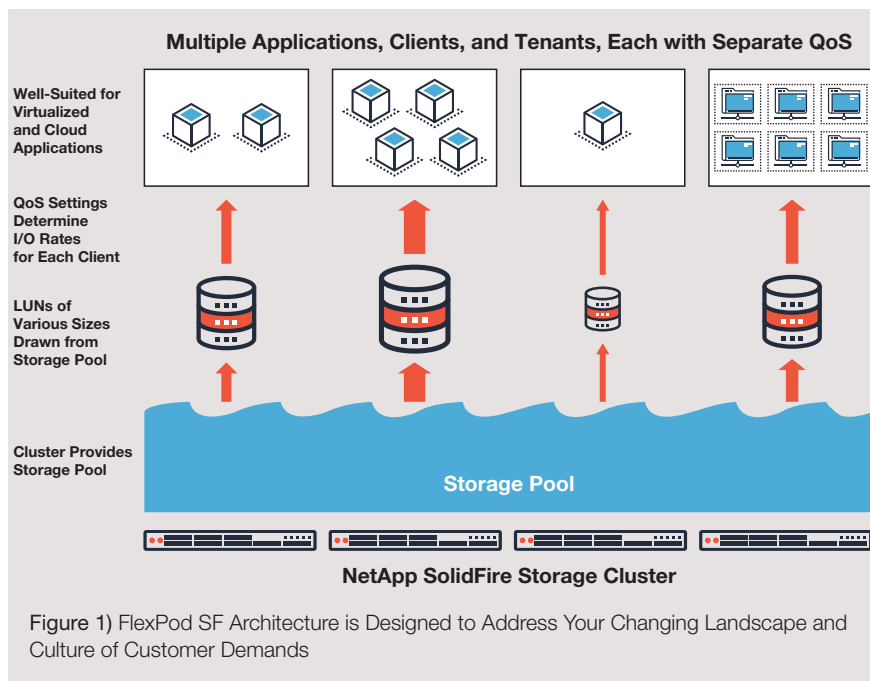
What Makes This Solution Different?

We've taken a number of steps to help make sure that our approach delivers value. We:

- Enable you to reliably run hundreds of applications on a single platform
- Help you easily meet business demands with simplified management and flexible scaling
- Empower you to optimize your IT environment with a trusted best-in-class solution
- Test, validate, and document the solution through a Cisco® Validated Design
- Reduce guesswork by providing a guidebook for implementation
- Offer a cooperative support program to quickly resolve issues

FlexPod with SolidFire Storage

FlexPod®, a Cisco® and NetApp® solution, reimagines converged infrastructure by changing the landscape and building for the future. Now, with NetApp SolidFire® storage, you can achieve the full business potential of an innovative storage architecture equipped and ready for a changing IT environment and set of customer demands (Figure 1).



FlexPod SF is an innovative cloud storage infrastructure solution with the proven performance, proven agility, and proven value required for today's enterprises. It provides all-flash, scale-out, block-based storage built using NetApp SolidFire Element® OS software, Cisco Unified Computing System™ (Cisco UCS®) servers, and Cisco Nexus® switching. It is designed to support multiple applications, clients, and tenants with the precise storage capacity and performance that each one needs. You can independently set capacity and minimum, maximum, and burst performance at the storage volume level to help guarantee service for scalable multitenant workloads. You can make economical use of resources with native replication and deduplication capabilities.

Integrated Infrastructure Leadership

FlexPod is an integrated infrastructure solution with thousands of customers worldwide. These solutions are optimized for the most popular infrastructure use cases, applications, and technology transition points in the industry, such as virtualized infrastructure, cloud computing, and enterprise applications. A Cisco Validated Design for FlexPod SF safely and securely addresses all your IT infrastructure needs.

Proven Performance

This FlexPod SF solution helps deliver guaranteed storage performance for every workload to make sure that consolidation is effective at scale.

FlexPod SF Reduces Risk

The FlexPod SF solution has been tested and validated with a Cisco Validated Design. It includes:

- Cisco UCS blade servers to support virtualized and nonvirtualized applications
- Cisco UCS fabric interconnects to provide a single point of management and connectivity for the computing domain
- Cisco Nexus® switches with support for 3.6 Tbps of bandwidth
- NetApp SolidFire storage cluster for flexible scale-out capacity and performance



Scale performance without disruption

Dynamic programmability and the capability to add storage components nondisruptively allow you to independently scale performance and capacity with no impact to your customers or their applications. You can thus respond quickly to changing business demands. This increases quality of service (QoS) and leads to greater user satisfaction, without the need to migrate data or interrupt I/O processing. FlexPod solutions deliver 89 percent less unplanned downtime because there is no single point of failure at any level of the infrastructure. The fully redundant and scalable fabric provides seamless, hardware-based failover should any component fail at the physical or virtual layer.

Enable larger-scale consolidation

With a high-performance infrastructure, you can consolidate more applications onto a single FlexPod SF solution. We give you a balance of precise control and flexibility to meet your changing business needs. The QoS capabilities inherent in SolidFire all-flash arrays eliminate 93 percent of storage performance issues and remove “noisy neighbors”: virtual machines that monopolize storage I/O, keeping other virtual machines from accessing their data and greatly slowing I/O performance. This solution also accelerates time to value and innovation with faster and more consistent response times across your applications. With faster time to value, you gain increased revenue opportunities.

Provide consistent and balanced delivery of applications

FlexPod SF enables you to adopt and integrate new data center technology without slowing your mission-critical applications. Because you can incrementally scale your storage cluster seamlessly, your current applications can continue to run even as your business grows. Now you can essentially guarantee service-level agreements (SLAs) for applications, workloads, and tenants across your infrastructure with confidence. You can set minimum, maximum, and burst performance and capacity at the volume level. If a larger workload is needed to meet business demands, it can easily be incorporated with resources assigned from the pool. Performance and capacity are treated as independent resources, so you can give each application or workload a customized performance and capacity profile.

Proven Agility

Yours can be the predictable IT organization that quickly responds to changing demands in real time without disrupting your business.

Simplify IT management with automation and orchestration

FlexPod SF with SolidFire can be managed through the VMware vCenter plug-in, Microsoft PowerShell, storage-policy-based management (SPBM), and VMware vRealize Suite. With these choices, you can manage and accelerate your deployments to reduce opportunities for human errors, which can cause delays or downtime. Additionally, you can use other management platforms through the open API to reduce management complexity within your environment.

Enable your DevOps team

Your DevOps team needs agile support and infrastructure to bring new applications and services to your customers quickly. FlexPod is programmable infrastructure that can increase your developers’ productivity. It allows your entire organization to work more efficiently and effectively to create innovation that differentiates your business from the rest.

Proven Value

This solution offers proven value.

Start where you are and grow as needed

This highly flexible solution enables you to align your business expenses with business growth by reducing your initial capital expenditures. It delivers controlled performance at reduced, cloudlike operating costs. When you need to scale with your business, you can do so quickly and easily and without disruption.

Deploy quickly and reliably

Cisco Validated Designs accelerate deployment regardless of how unique your operating environment is. You can get your solution up and running in less than 60 minutes with infrastructure automation. And you can reduce application deployment time from months to weeks with integrated and standardized components. NetApp Verified Architectures standardize performance and shorten deployment time.

Focus IT resources

The simplicity of this solution reduces the need for specialized skills, saving time and helping reduce administrative overhead costs. The solution's management improves operation efficiency to provide the best support possible for your unpredictable environments. Your skilled staff can focus on more strategic initiatives and business outcomes rather than on configuring and reconfiguring infrastructure.

Worldwide Support

Cisco and NetApp support FlexPod through the FlexPod Cooperative Support Model. You receive a best-in-class experience from NetApp, Cisco, and our ecosystem partners delivered through collaborative and coordinated support services. The cooperative support model takes advantage of the combined experience, resources, and technical support expertise of NetApp and Cisco to provide a simplified process for identifying and resolving a customer's FlexPod support problem, regardless of where the problem resides.

Support Your Exploratory, Unpredictable Environments

FlexPod SF with SolidFire storage delivers proven performance, proven agility, and proven value. Now you can simplify your traditional data center applications and your unpredictable environments by standardizing on this solution. With your choice of single-interface management and automation for all your deployments, you can be assured that this solution will be up and running quickly and will remain running with the solution's Cisco Validated Design and our Cooperative Support Model. Now you can truly fuel your digital transformation.

For More Information

- Read about [FlexPod](#)

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