10 TOP BENEFITS OF SWITCHING TO FLEXPOD

PeerPaper Report

REAL USERS TALK ABOUT THEIR
CONVERGED INFRASTRUCTURE SOLUTION

ABSTRACT

Converged Infrastructure (CI) gives organizations a single, optimized package of components to run core enterprise workloads like SAP, Oracle, and Microsoft SQL Server. Based on real user experiences from IT Central Station, this paper explores 10 benefits of switching from a traditional infrastructure stack to the FlexPod CI solution. FlexPod helps IT serve business clients through pre-validated storage, networking and server technologies.

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INTRODUCTION

Converged Infrastructure (CI) offer an array of benefits to organizations that want a single, optimized solution to run core enterprise workloads like SAP, Oracle and Microsoft SQL Server. Most organizations will not deploy these key workloads on Hyper Converged Infrastructure (HCI) because of the lack of optimization controls. The specific outcomes of CI, however, may vary. While there are many drivers of divergent CI results, the choice of tooling can result in better or worse efficiency of storage, administrative productivity, flexibility and so forth.

This paper explores why real users of CI chose the FlexPod CI solution for their data centers. Drawn from user experiences described on IT Central Station, it highlights 10 ways the FlexPod platform, which was developed by NetApp and Cisco, increases IT responsiveness to business demands. The paper looks at the ways FlexPod helps IT serve business clients through pre-validated storage, networking and server technologies.

TOP 10 REASONS TO USE FLEXPOD

1. Innovative, Reliable Technology
2. Integrated, Single SKU Solution
3. Robust Partner Ecosystem
4. Ability to Cut Across Storage Silos
5. Support for Multiple Protocols
6. Validated Designs
7. Storage Efficiency
8. High Availability
9. Performance
10. Flexibility

Converged Infrastructure

Converged infrastructure places multiple IT components into a single, optimized computing package. Typically, a CI solution might include servers, data storage devices, networking equipment and infrastructure management software.

In contrast, traditional infrastructure features silos of compute, storage and network. While a traditional approach has advantages in certain use cases, it can be inefficient and cumbersome to manage.

One of CI's main advantages is its ability to reduce operational risk through pre-integration and pre-validation of vendor components. This also reduces time to solution, as the customer does not need to perform the validation before they deploy systems. Converged Infrastructure offers IT managers pools of resources, such as compute and storage, that enable better utilization and lower costs. Figure 1 compares reference architectures for traditional infrastructure versus CI.

(UCS) servers with Fabric Interconnects, Cisco Nexus Switches and NetApp storage.

The Top 10 Benefits of Switching to FlexPod

IT Central Station members who have switched from traditional infrastructure to FlexPod share the biggest benefits of their transitions. Highlights include the
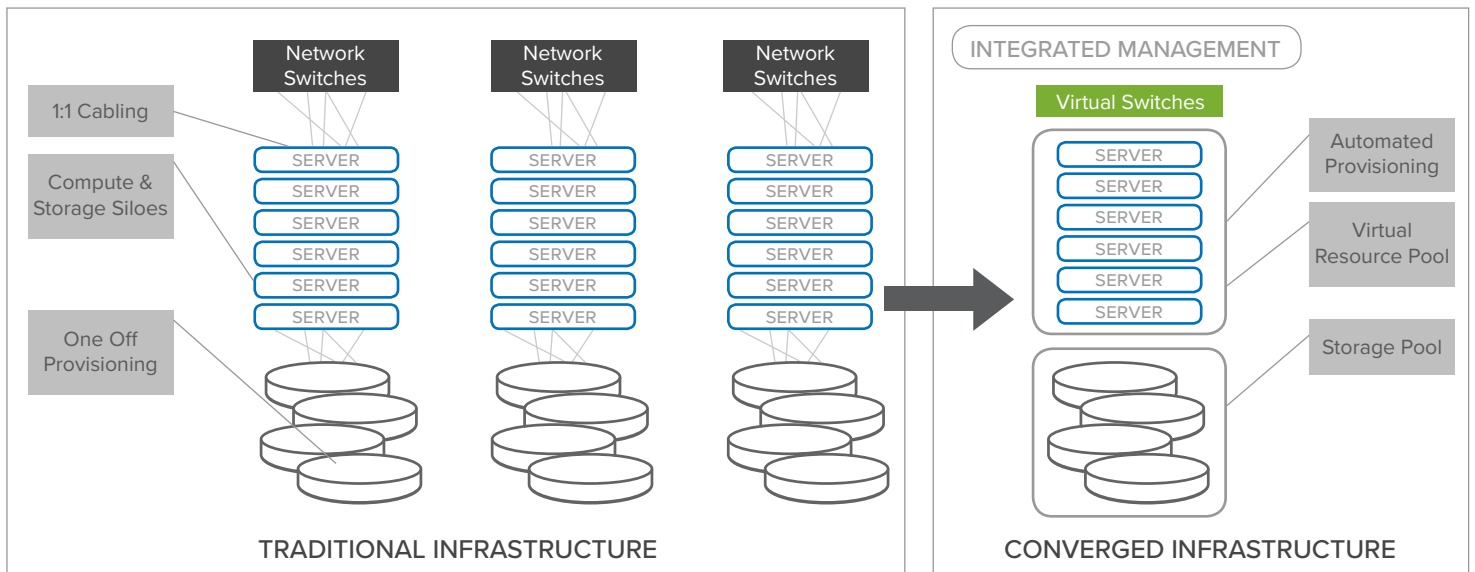

Figure 1 - Reference architecture comparison between traditional and Converged Infrastructure.

Workload consolidation is the primary CI use case. As a pre-validated solution, CI enables multiple applications to run on the same infrastructure in a multi-tenant environment. The applications share components and management. Other benefits of CI include decreased complexity, lower capital expense (CapEx) and greater IT agility.

The FlexPod Solution

FlexPod, which was jointly developed by Cisco and NetApp, integrates the compute, networking, and storage aspects of a data center. It is based on jointly engineered Cisco Validated Designs (CVDs) and NetApp Validated Architectures (NVAs). The validated solution comes with Deployment Guides and Design Guides, which offer insights into how a particular architecture was designed and tested. A FlexPod consists of Cisco Unified Computing System

use of innovative, reliable technology, an integrated, single SKU, validated designs and the ability to cut through siloes.

1. INNOVATIVE, RELIABLE TECHNOLOGY
Users of FlexPod praise the technology used in its architecture. A Principal Storage Engineer at an insurance company,[1] for example, valued "The vendor's new innovative technology." A Senior Systems Engineer at a manufacturing company explained, "I look for a vendor with an established history of innovation of stability." He then added, "That's one of the things with NetApp and Cisco. They're leaders in innovation in their fields. I'm entirely confident in the solutions I have with them today and the solutions they're going to provide tomorrow."

A Director of IT at a healthcare company concurred, saying, "The factors that made us go with FlexPod

[1] Except where noted, the organizations cited in this paper have more than 1,000 employees.

were the components that were in FlexPod, NetApp being a big one of those, and Cisco being the other big name. When you think about storage, you think NetApp. There are a few others out there. When you think about routing switching, you typically think Cisco."

An IT Systems Engineer, III at a pharma/biotech company put the issue in perspective by noting, "We didn't buy the actual FlexPod as a unit. We got it verified as a FlexPod. We actually kind of built it piecemeal. We bought the individual components and then had it verified for FlexPod. We've actually had no issues expanding that, growing any portion of it, whatsoever. We actually added 20 UCC blades; no issues. Since I've been there, in two years, we've gone from 1.5 PB to 3 PB; again, no issues, no worries."

2. INTEGRATED, SINGLE SKU SOLUTION

Converged Infrastructure should theoretically simplify support, but this is not always the case with some multi-vendor CI stacks. FlexPod garnered positive reactions for its alignment of vendor support. A Storage Operator at an energy/utilities company with over 500 employees put it this way: "There's only one throat to choke when something goes wrong."

A Network Infrastructure Manager at a financial services firm continued with the throat imagery by noting, "It's an integrated system with a single throat to choke for support. It's one phone call and if we

believe it to be a Cisco problem, we call Cisco tech. If it turns out that it becomes a NetApp problem, then Cisco tech will engage the NetApp folks for support. It's a single phone call. We don't have to hang up and call the other and get into a finger pointing game. It is a time saver." Figure 2 visualizes this benefit.

A Director of Technology at a company with over 10,000 employees explained the benefits of FlexPod's singularity by saying, "We were looking at a new VM farm to start with, so we were looking at blade server solutions from HPE. What really did it was that FlexPod had all the components in one rack that we could basically turn on and forget."

To the IT Systems Engineer, III at the pharma/biotech company, the issue was quite clear. He said, "Obviously, the most valuable feature is the fact that it's one SKU. Basically, if we have an issue with any one of our features - whether it's VMware, Cisco, or NetApp they pull everybody together and they work together to solve the issue. It's a one-stop shop. Any issue we have, it's not a matter of that vendor, this vendor or the other vendor. We make one call, they all pull together and they fix it."

3. ROBUST PARTNER ECOSYSTEM

According to user reviews, FlexPod works with a sizable, worldwide partner organization. The scope of this ecosystem represents a value point to FlexPod users like a Director, Technology at a real estate/law
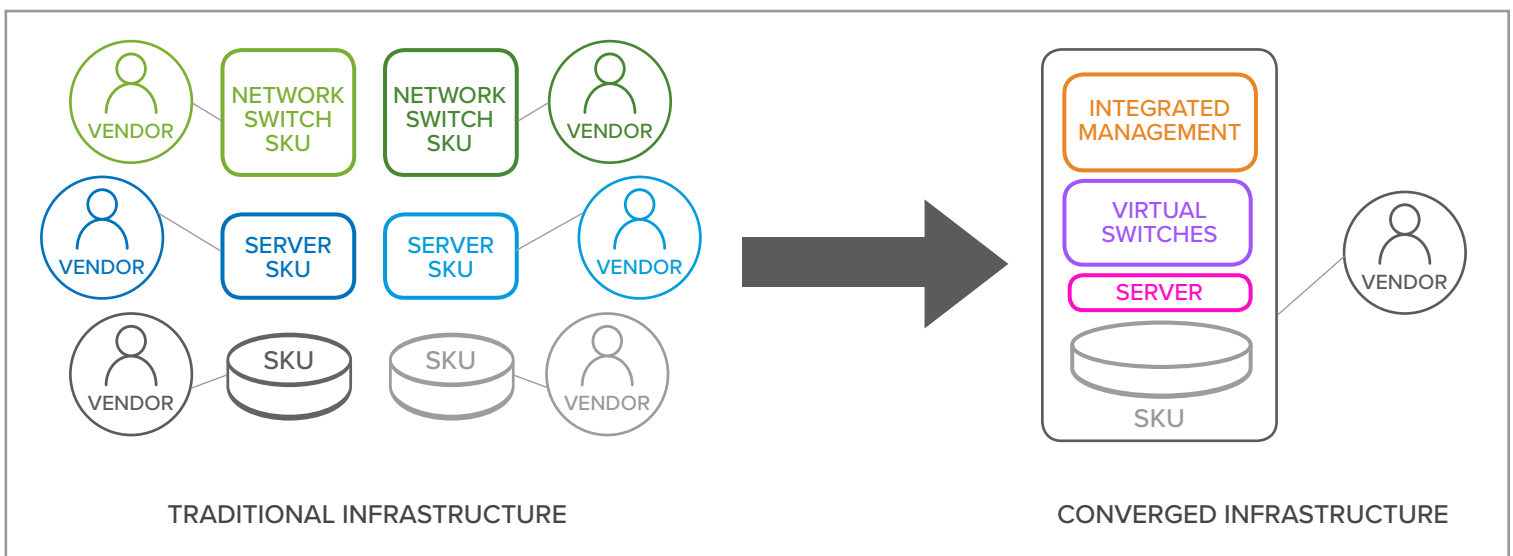
Figure 2 - Contrasting multiple SKUs and vendors in traditional infrastructure with the single SKU and "one throat to choke" vendor approach of converged infrastructure.

firm. He said, "We've got a good team I guess and some good PS [professional services] partners. We sat down, we went through the design so we knew what we were getting. The equipment showed up, they implemented it and because it's a validated design and everything's already there, it's just, power it up and go. Then we just move our workload on to it and off we went. We had no issues."

He added, "For us, the big incentive would be the support that you get out of NetApp and the partners that we have in our town. There are a lot of strong FlexPod people. There are a lot of FlexPods out where we are. If you're looking for a solution that you know is going to work and that you're going to get some solid support and backing from the vendor throughout your process from start to finish, it's going to be the NetApp guys." The Director of IT at the healthcare company explained Cisco's approach to partnering on FlexPod, noting, "Cisco has done a great job coming into the server environment, and I believe in developing partnerships with companies and putting their weight behind it."

> 66 I love that we're not having to add new ports and stuff every time we add a new server; we already have everything connected.

4. ABILITY TO CUT ACROSS STORAGE SILOS
The NetApp Data Fabric, which is part of FlexPod, potentially eliminates storage siloes, a capability beyond the reach of most Hyper Converged Infrastructure (HCI) solutions. A Cloud Engineer at a financial services firm explained the value of this by stating, "We switched because we needed a converged infrastructure. We didn't have it. We had bunch of siloed environments across the board."

A Principal Architect at a tech services company offered a similar insight, saying, "We're also a pretty siloed environment. I love that we're not having to add new ports and stuff every time we add a new server; we already have everything connected. Worst case, if we're adding a new VLAN, networking adds that

VLAN to the trunks to the fabric interconnects, and we're up and running without a long process. It used to be, we would have new builds run up to weeks, whereas now I roll out a new VM in 15 minutes; if I have to add new network connectivity, it might be an hour or two but that's it."

5. SUPPORT FOR MULTIPLE PROTOCOLS ON A SINGLE PLATFORM
Storage management grows increasingly complex when it is necessary to manage multiple protocols on different platforms. FlexPod offers a solution to this challenge by supporting multiple protocols on a single platform. As with the storage silo issue, HCI solutions typically cannot offer this functionality. An IT Architect explained, "We went through a process recently and we probably looked at six or seven vendors and this solution kept coming back to us. We are a smaller shop, and the flexibility of the FlexPod system, in particular the FAS2650 for us, and all the different protocols that we're running on an all-in-one system, was a no-brainer for us."

He then commented on his selection process, saying, "We looked at Pure Storage, [HPE] Nimble and Tintri. They all have great feature sets and things like that. However, the assortment of protocols for us was a huge feature set, and not being locked into just doing the block level protocol. We really wanted to keep our systems in place. It's really nice to have just that one pane of glass for our storage system."

An Architect at a tech services company with over 500 employees concurred, saying, "There is a common platform with both file level protocols, as well as block level protocols for a common storage infrastructure." He then noted, "Most customers had to look at doing that in a couple different approaches. Being able to have a truly consolidated system that provides all the different types of storage protocol has been a benefit."

6. VALIDATED DESIGNS
IT Central Station members speak highly of FlexPod's validated designs, with one user, a System Engineer II at a hospitality company, saying that FlexPod's value stems from its being a "prevalidated system" that is "preconfigured and validated by NetApp and Cisco." A Global Manager (Storage) Cloud Managed Services at a tech services company with over 500 employees

spoke to this issue, too, saying, "We have a validated design from these major vendors and we use all of them; we being the cloud service providers. We can use this as a platform to focus in our business while we have a validated design. We don't have to invest time in designing an infrastructure." He also noted that, compared to an earlier vendor, FlexPod "helped us to arrive at the solution even faster."

The Director, Technology at the real estate/law firm offered, "It's a validated design, so there's not a lot of questioning to it. Storage and server compute comes in and it's ready to go. When we needed the storage and compute to run our apps, the FlexPod seemed like the right choice because it was a validated design and setup. There wasn't any question to the config. It came in a rack; plug it in, ready to go."

A Systems Architect at a healthcare company liked that "we've got the validated design that we can use quickly to start it. We have something that we know that will work. We also like the fact that the whole end-to-end design has been tested. And we know that if we have a problem, we're in good company possibly. That's a big help for us." He added, "Initial setup was very easy. We looked at the validated design. We tweaked it a little bit to fit our environment specifically. We deployed from there. It was a day or so at best, more because we have our own little processes we have to go through."

7. STORAGE EFFICIENCY

FlexPod offers users ease of data management and portability as well as guaranteed storage efficiency. IT Central Station members describe the storage efficiency in FlexPod, with the Network Infrastructure Manager at the financial services firm, for example, saying, "We are 98% plus virtualized in our environment. I appreciate the consistency in which it works. It stores data very efficiently. Those of us on the network side provide the path to get to it."

An Exec Director of Enterprise IT Services explained, "We try to strive for simplicity in our shop because of our staffing situation and because we are a non-profit organization. So reliability, efficiency, all those things really come into play. We're a 7/24/365 facility, so things just have to work." A Senior Engineer at an individual and family service company commented,

"It allows me to focus on other things. Backing up databases. More efficient."

8. HIGH AVAILABILITY

High availability emerges in IT Central Station user experiences as one of FlexPod's key benefits. For instance, a Principal Storage Engineer at a manufacturing company discussed FlexPod by stating, "There's a lot of high availability with FlexPod." A Senior Sys Admin at a manufacturing company agreed, saying, "It has the high availability features; you've got storage failover, or takeover, to upgrade a node non-destructively. Those would be the main valuable features."

A Network Services System Administrator II at a retailer elaborated on the use case where he values HA, saying "We're using the mirroring capability of the FlexPod. We're having the two heads in separate data centers that are approximately one mile apart with dark fiber. We really like the capability of having that high availability and high resiliency within our data structure, our data centers. That's one of the features. High availability is outstanding. We haven't had any problems with that." He explained his context, noting, "We have a campus center, where we have two data centers on campus. So, it just made sense. It was the best fit for us at the time to be able to do that mirroring between the data centers, and be able to also have other aggregates for other purposes; all built into one SAN."

> " We are **98**% plus virtualized in our environment. I appreciate the consistency in which it works.

9. PERFORMANCE

Performance is a big plus for FlexPod users on IT Central Station. The IT Systems Engineer, III at the pharma/biotech company compared FlexPod with another CI solution and observed, "Maybe for a small company starting out, it might be okay but it won't scale to the level that the FlexPod can scale to, have the same performance, and guarantee that you're going to have it all work together." A Senior Systems

Architect at a financial services firm simply said, "FlexPod rocks. It's pretty powerful. And it helps when you have a FlexPod, all the workload's inside. There's no external things that can hurt it, except for itself." He then added that FlexPod was "Extremely fault tolerant so it's highly available and provides powerful performance."

An IT Manager at an engineering company with over 500 employees offered a workload example, saying, "Performance is very important for us, when it comes to processing data on SQL databases." The System Engineer II at the hospitality company agreed, commenting that "flexibility and the ease of deployment" were two of FlexPod's biggest benefits to his organization. A Senior IT Analyst at an energy/utilities company noted, "The benefit is the speed, it's the performance. That's what it comes down to is the performance of the solution." His use case is an application called Petrel. As he explained, Petrel is "IO intensive. It's an application that petrophysicists use to look for oil. That's what they're using it for, so they need performance for projects."

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10. FLEXIBILITY

Converged Infrastructure helps people get things done by removing obstacles to set up and change system configurations. The Principal Architect at the tech services company commented, "We really like the flexibility. I love that - it doesn't happen a whole lot, but - anytime we have a blade die or even just bad RAM, I grab that service profile, throw it on another blade, and we're up and running without any issues." He explained how he runs one of several private clouds within his company on FlexPod. "We run it as a profit center," he continued. "We're able to give all our internal clients the fastest response time of any of our server teams and the flexibility to, if you need a VM with one CPU and a couple gigs of RAM, or if

you need 20 VMs with eight CPUs and 32 gigs each, it's all the same to us. We have the blades to support it all."

An Admin at a transportation company offered detail on how flexibility works with FlexPod. He said, "For anyone who needs the flexibility of moving around profiles from physical device to physical device, it really adds an additional layer of virtualization, much like you move a guest from a VMware host to a VMware host. Now, you can move that VMware host from physical box to physical box. It gives you all that flexibility, if your company demands that. It's priceless."

CONCLUSION

According to user experiences documented on IT Central Station, FlexPod helps IT departments reap the benefits of Converged Infrastructure. The joint NetApp/Cisco solution provides users with innovative and reliable technology in a single SKU. Setup and administration are streamlined and efficient. With validated designs and a "single throat to choke" in terms of support, FlexPod makes it easier for the IT department to deliver the business benefits of CI.

A robust partner ecosystem further bolsters the solution's appeal. FlexPod reduces storage silos and contributes to administrative productivity with support for multiple protocols on a single platform. Users also found FlexPod to be an efficient storage solution. High availability, flexibility and performance were also mentioned as benefits to adopting FlexPod for CI. As CI grows in popularity, infrastructure managers can look to FlexPod as a versatile, business-friendly solution.

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ABOUT FLEXPOD

FlexPod is a portfolio of prevalidated, converged infrastructure solutions that combine the Cisco Unified Computing System integrated infrastructure, Cisco networking, and NetApp All Flash data management components. FlexPod simplifies and modernizes IT with continuous innovation, delivering unmatched application performance, broad support for any cloud strategy, and improved operational efficiency to accelerate data center transformation and business evolution. The FlexPod portfolio includes FlexPod Datacenter for core enterprise data centers and service providers, FlexPod Express for medium-sized businesses and branch offices, and FlexPod Select for data-intensive workloads. The portfolio is validated with leading hypervisors, operating systems, systems management tools, and cloud management platforms.

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