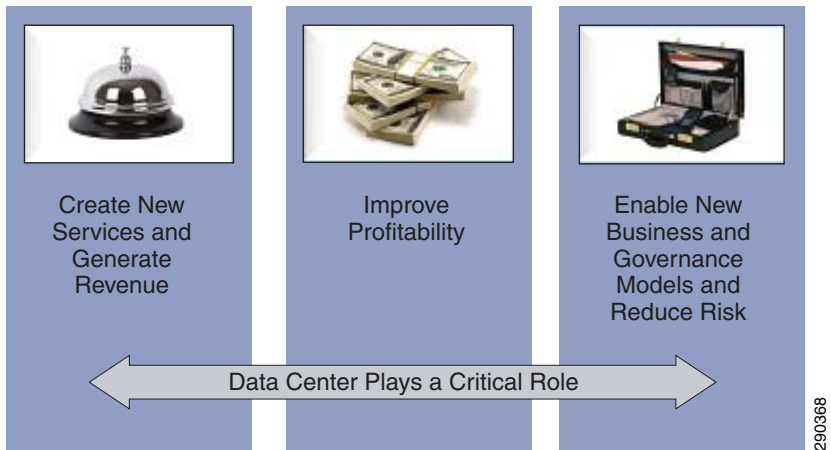


Customer Challenges

In today's competitive environment, companies have to innovate rapidly to stay ahead of their competition, improve profitability, create new services and revenue streams, and reduce risks by adopting cost efficient business models.

The increased business pressure has a direct impact on the IT organization to innovate rapidly and efficiently meet increasingly demanding business needs. At the same time, CIOs are struggling with legacy, siloed, and underutilized IT infrastructure and operational processes that were built based on the requirements of individual enterprise applications and processes. The end result is increased total cost of ownership and an inability to help the business be more agile, introduce new services, and achieve operational efficiency.

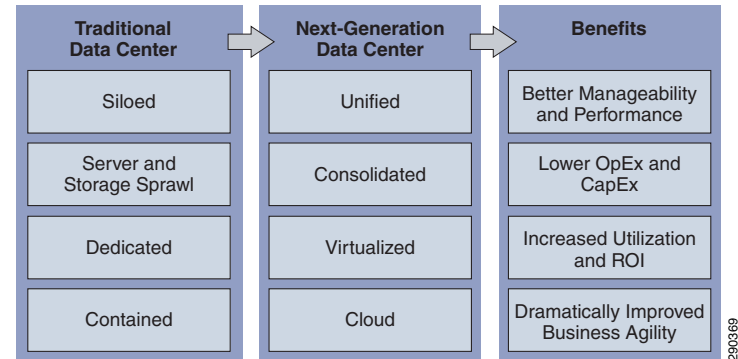
Figure 1 Data Center Plays a Critical Role



Why Move Enterprise Applications to Virtual Infrastructure and Private Cloud?

- IT organizations require new, innovative approaches to efficiently meet ever evolving business requirements with technology innovations that allow the delivery of hundreds of enterprise applications and services from a shared, elastic IT infrastructure. The goal is to efficiently meet rapidly changing business needs without introducing negative side effects.
- Data center virtualization and cloud computing are styles of IT that improve efficiency by enabling the pooling and on-demand consumption of IT resources (compute, network, storage) and services by individual enterprise application on an as-needed basis.
- The end result is business agility, faster responses to changing needs, higher overall efficiency, and affordability.

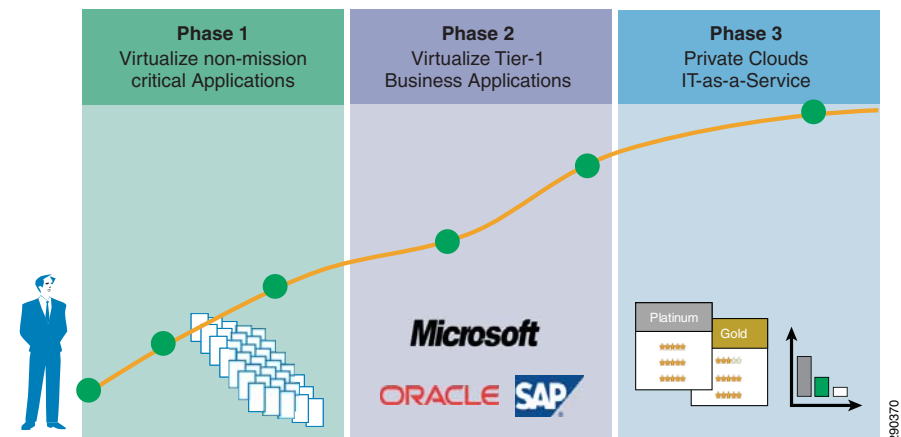
Figure 2 Benefits of Virtual Infrastructure and Private Cloud



Moving Enterprise Applications to Virtual Infrastructure and Private Cloud

- Customers are in different phases of their journey to the private cloud:
 - Phase 1—Consolidation and virtualization of non-mission critical workloads, such as Test and Dev, Tier-2/Tier-3 applications, etc.
 - Phase 2—Virtualize Tier-1 enterprise applications, such as Microsoft Exchange, Sharepoint, SQL Server, Oracle, SAP, etc.
 - Phase 3—Fully-automated clouds enabling the consumption of IT as a service.
- Factors inhibiting customers moving to Phases 2/3 include security, high availability, disaster recovery, end user experience, and disruption to current IT processes, as well as resistance from application owners, lack of proven shared virtual infrastructure stacks and supporting reference architectures, and concerns about ISV support.

Figure 3 Phases in Journey to Virtual Infrastructure and Private Cloud



Introducing FlexPod for VMware

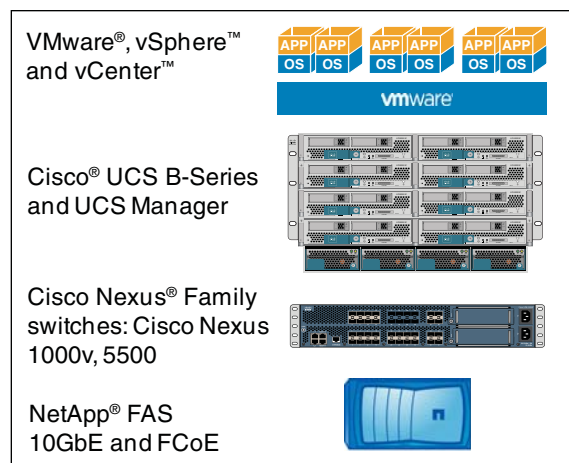
Cisco®, NetApp®, and VMware® have collaborated to create FlexPod™ for VMware (<http://www.netapp.com/us/technology/flexpod/>), a unified and shared infrastructure solution to simplify data center transformation. It is a validated data center solution built on a flexible, shared infrastructure that can easily scale, be optimized for a variety of mixed application workloads, and be configured for virtual desktops or server infrastructure, optionally in secure multi-tenancy cloud environments. FlexPod components include Cisco Unified Computing System (UCS) (http://www.cisco.com/web/solutions/data_center/unifiedcomputing_promo.html) and Unified Networking (<http://www.cisco.com/en/US/products/ps9670/index.html>), NetApp Unified Storage (<http://www.netapp.com/us/technology/unified-storage/>), and VMware vSphere™,

Key features include:

- Performance-matched stack
- Detailed application sizing guides
- Support for multiple classes of compute, network, and storage in a single FlexPod deployment
- Centralized management with VMware vCenter, Cisco UCS, and NetApp FAS plug-ins
- Step-by-step deployment guides

FlexPod for VMware can be easily scaled to efficiently host and protect thousands of instances of virtualized enterprise applications (e.g., Microsoft Exchange, SQL Server, Sharepoint, Oracle, SAP), optionally in a secure multi-tenant cloud environment.

Figure 4 FlexPod for VMware



Why Consider FlexPod for VMware for Virtualizing Enterprise Applications?

- Maximize efficiency and decrease costs with a simplified, virtual infrastructure that increases asset utilization and integrates into your existing environment.
- Improve IT agility and “future proof” your business with a flexible, unified infrastructure that securely virtualizes and protects your mission-critical enterprise applications and can easily be optimized to a fully-automated private or public cloud solution.
- Reduce risks and time to deployment for your enterprise applications with a pre-validated, standardized, open delivery ecosystem,
- Tested and validated enterprise application solutions (e.g., Exchange, Sharepoint, SQL Server, Oracle, SAP, VDI) with Cisco Validated Designs (CVDs, http://www.cisco.com/en/US/netsol/ns741/networking_solutions_program_home.html) to help deploy mission-critical Tier 1 enterprise applications on the integrated compute stacks.
- Cisco, NetApp, and VMware cooperative 24/7 support model provides a more streamlined response to identify and quickly solve potential issues related to shared infrastructures. Joint escalation processes save customers valuable time and resources when requesting product and technology support.

Additional Resources

- FlexPod for VMware Deployment Model (http://www.cisco.com/en/US/docs/solutions/Enterprise/Data_Center/Virtualization/flexpod_vmware.html)
- FlexPod for VMware Technical Specification (<http://media.netapp.com/documents/flexpod-technical-specifications-final.pdf>)
- FlexPod for VMware Solution Brief (<http://media.netapp.com/documents/ds-3105-flexpod.pdf>)
- Enhanced Secure Multi-Tenancy Design Guide (http://www.cisco.com/en/US/docs/solutions/Enterprise/Data_Center/Virtualization/secureclgd_V2.html)

