Microsoft | Hyper-V Cloud

Hyper-V Cloud Fast Track

WHAT IS THE PRIVATE CLOUD?

Microsoft® private cloud solutions, built on the Windows Server® 2008 R2 Hyper-V™ technology and Microsoft System Center solutions, are a key element of our approach to cloud computing, helping customers and service providers build dedicated infrastructure as a service (IaaS) environments that transform the way they deliver IT services. A Microsoft private cloud pools and dynamically allocates IT resources across business units. This means that IT can deploy services quickly and scale them out to meet critical needs whenever and wherever they occur—all while tracking resource usage with appropriate charges back to line-of-business owners.

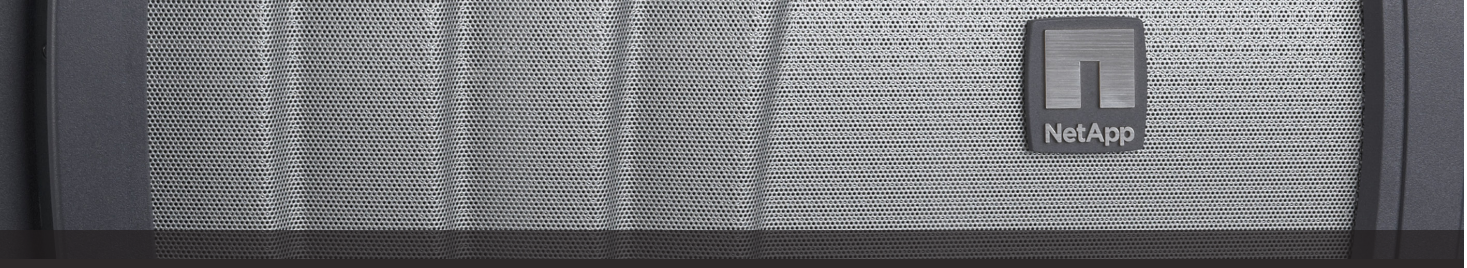
Microsoft private cloud solutions are optimized for service delivery and provide both the flexibility and control to harness the full power of the cloud today. These solutions:

- Provide a familiar and consistent platform across traditional, private, and public cloud environments, so that customers can use the investments and skill sets they already have, while taking advantage of the new value the cloud offers.
- Manage across heterogeneous physical and virtual environments, standardize and automate data center processes, and provide deep insight into key business applications—helping to enable end-to-end services management.
- Capitalize on a common identity framework, management platform, and development environment across private and public clouds to ensure investments made today in a private cloud can be extended to public cloud offerings as business demands evolve.

Through just-in-time provisioning of IaaS on dedicated resources, IT can streamline processes on a standardized, reliable, and scalable platform; be more responsive to business needs; and more fully use available hardware.

FEATURES

- Shared pools of resources
- Scalable and elastic
- Continuous availability
- Automated workflow
- Integrated security and identity
- Predictable, multitenant platform
- Usage metering and chargeback
- Self-service portal and services catalog



What Is Hyper-V Cloud Fast Track?

MICROSOFT HYPER-V CLOUD FAST TRACK is a reference architecture for building private clouds that combines Microsoft software, consolidated guidance, and validated configurations with NetApp and Cisco technology, including compute, network, and storage, as well as value-added software components.

Hyper-V Cloud Fast Track solutions provide a turnkey approach to delivering scalable, preconfigured, and validated infrastructure platforms for on-premises private cloud implementations. With local control over data and operations, IT can dynamically pool, allocate, secure, and manage resources for agile infrastructure as a service. Likewise, business units can deploy line-of-business applications with speed and consistency using self-provisioning (and decommissioning) and automated data center services in a virtualized environment.

PRIVATE CLOUD ON YOUR TERMS

FASTER DEPLOYMENT:

Rich features and support make private clouds easy to deploy.

- End-to-end architectural and deployment guidance
- Streamlined infrastructure planning due to predefined capacity
- Enhanced functionality and automation through deep knowledge of infrastructure
- Integrated management for virtual machine and infrastructure deployment
- Self-service portal for rapid and simplified provisioning of resources

REDUCED RISK:

Validated configurations mean you can implement with confidence.

- Tested, end-to-end interoperability of compute, storage, and network
- Predefined, out-of-box solutions based on a common cloud architecture
- High degree of service availability through automated load balancing

NETAPP ADVANTAGE:

NetApp provides storage efficiency and management simplicity for your Hyper-V private cloud.

NetApp Unified Storage Architecture provides a flexible platform for supporting multiple protocols and diverse workloads. It provides:

- Storage efficiency features such as deduplication, thin provisioning, application-aware data protection, and multitenancy
- Data management capabilities including storage management, provisioning, backup, recovery, and disaster recovery
- Integration with Microsoft Systems Center solutions for management of infrastructure and applications such as Microsoft Exchange Server, SQL Server®, and SharePoint®
- Automated workflow and self-service orchestration through Opalis Integration Packs, and Windows PowerShell® scripts from NetApp

To meet this challenge, NetApp and Cisco have collaborated to create the NetApp Hyper-V Cloud Fast Track with Cisco. It is a proven, long-term data center solution built on a flexible, shared infrastructure that can scale easily; be optimized for a variety of mixed application workloads; and configured for secure multitenancy in private cloud environments. The NetApp Hyper-V Cloud Fast Track with Cisco is a prevalidated configuration that delivers a virtualized data center in a rack composed of leading computing, networking, storage, and infrastructure oftware components that can be right-sized up or out, and then duplicated in modular fashion to fit your specific organizational needs.

Why NetApp and Cisco?

NETAPP: THE FOUNDATION OF THE HYPER-V PRIVATE CLOUD. NetApp's sophisticated storage capabilities and data management software integration with Microsoft products provide a strong foundation for a Hyper-V private cloud. A private cloud, built on NetApp storage, Cisco server and network infrastructure, and Windows Server Hyper-V and System Center solutions, enables highly efficient and cost-effective delivery of IT services and applications for your organization. You can move to the Microsoft-based private cloud model incrementally, without ripping out and replacing your current infrastructure. With integration with Microsoft products, expertise in storage and cloud computing, and a strong partnership with Microsoft, NetApp is your partner of choice for transforming the promise of the Hyper-V private cloud into real-world business results.

Compute: NetApp partners with Cisco to deliver state-of-the-art enterprise computing resources. The Cisco Unified Computing System (UCS) is a server platform specifically designed for virtualized environments, eliminating time-consuming manual integration, reducing total cost of ownership (TCO), and dramatically increasing business agility.

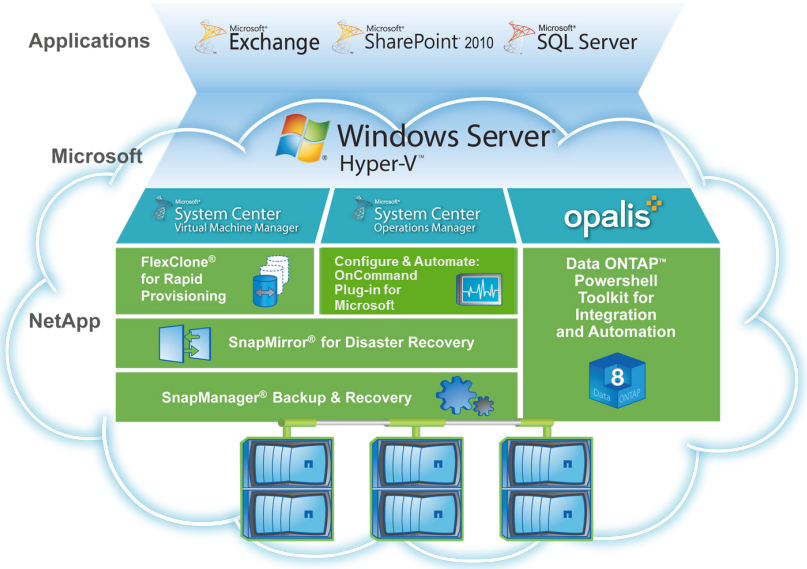
- Cisco UCS unites computing, networking, storage connectivity, and virtualization into a single cohesive system.
- Cisco UCS eliminates time-consuming manual integration, reduces TCO, and dramatically increases business agility.
- The Cisco UCS Manager interface provides policy-based service profile templates that let you automate large-scale server and application deployments.

Network: NetApp partners with Cisco for leading Ethernet connectivity. Cisco UCS integrates computing resources with Cisco Nexus switches and a unified I/O fabric that provides an intelligent method for identifying and handling different types of network traffic.

- You can consolidate all traffic onto a single high-performance, highly available 10 gigabit Ethernet network to greatly simplify network management and reduce costs.
- Cisco UCS integrates computing resources with Cisco Nexus switches to provide an intelligent method for identifying and handling different types of network traffic.

Storage: NetApp's multiprotocol unified architecture reduces cost and complexity by meeting all of the storage requirements in your private cloud environment with a single, highly scalable solution.

- Optimize performance with your choice of either iSCSI or Fibre Channel over Ethernet (FCoE) running over a single converged 10 gigabit Ethernet network.
- Enhance efficiency and save disk space with built-in deduplication and thin provisioning.
- Deploy thousands of virtual machines within minutes with NetApp rapid cloning technology.
- Boost availability with integrated Snapshot™ technology for space-efficient backups.
- Create dynamic disaster recovery capability with NetApp SnapMirror technology and integration into Microsoft Opalis orchestration.
- Integrate with major applications to automate key storage management, data protection, and security activities while managing storage from familiar application-centric interfaces.



Windows Server 2008 R2 Hyper-V

Windows Server 2008 R2 Hyper-V™

Take advantage of the cost savings of virtualization through Windows Server 2008 R2. Consolidate multiple server roles as separate virtual machines on a single physical machine that runs different operating systems in parallel and uses the power of 64-bit computing.

Microsoft® System Center

Microsoft System Center solutions offer a comprehensive set of management tools that can help an enterprise reduce training costs, apply uniform policies, and simplify maintenance by using existing software, resources, and IT management processes.

NetApp® Go further, faster

CISCO™

The combination of NetApp and Cisco delivers a prevalidated, best-in-class Microsoft-based private cloud infrastructure.

Leading components from NetApp and Cisco include:

- Cisco Unified Computing System and Cisco Nexus family switches
- NetApp FAS and complete software bundle

Features include:

- Flexible and performance-matched stack that scales to fit Microsoft application workloads.
- Step-by-step design, deployment, and application sizing guides.
- Enhanced efficiency and disk space savings through built-in deduplication and thin provisioning.
- Consolidated, multi-protocol, high-performance, highly available, 10 gigabit Ethernet network with support for iSCSI and FCoE. Fibre Channel is available separately, if desired.
- Support for multiple classes of computing and storage in a single deployment.
- Hyper-V and System Center integration (Opalis, Virtual Machine Manager Self-Service Portal, Service Manager, Operations Manager) with NetApp data management software.

FOR MORE INFORMATION:

- http://www.microsoft.com/privatecloud
- http://www.netapp.com/microsoftcloud
- http://www.cisco.com/en/US/netsol/ns944/index.html