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What Is Microsoft Private Cloud Fast Track?

MICROSOFT PRIVATE CLOUD FAST TRACK is a reference architecture for building private clouds that combines Microsoft software, consolidated guidance, and validated configurations with Hitachi Data Systems technology—including compute, network, and storage—as well as value-added software components.

The latest reference architecture is built on the Windows Server 2012 Hyper-V technology and Microsoft System Center solutions. Microsoft private cloud offerings can help customers and service providers build dedicated infrastructure as a service (IaaS) environments that transform the way they deliver IT services. Specifically, Microsoft Private Cloud Fast Track solutions provide a streamlined 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 IaaS. 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 construct, deploy, and manage.

- 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

REDUCED RISK
Validated configurations mean you can implement with confidence.

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

HITACHI DATA SYSTEMS ADVANTAGE
Hitachi enables rapid application deployment with a solution optimized for Windows Server 2012 and Hyper-V technology.

- Tightly integrated with the System Center Management Suite to enable rapid provisioning of virtual machines using small, medium, and large Windows PowerShell script templates and System Center Orchestrator runbooks
- Easily customizable, allowing you to build "Gold Image Libraries" and manage consistent deployments of fully imaged virtual machines
- Preconfigured at Hitachi Distribution Centers to provide tightly integrated server, network, and storage infrastructure built using Microsoft-validated reference architectures with Gigabit Ethernet VLANs, networks, and storage pools
- Designed for predictable, scalable performance to deploy and manage Hyper-V-based virtual machines
- Validated to host Microsoft enterprise applications

Microsoft and **Hitachi Data Systems** deliver on the promise of agile private cloud computing through an interoperable hardware and software platform based on standardized reference architecture. A private cloud from Hitachi Data Systems can greatly reduce time-to-value for virtualization infrastructure investments because it unites shared compute, network, and storage resources into a flexible, cost-effective solution based on off-the-shelf components. Microsoft Private Cloud Fast Track solutions provide a highly productive application and service experience by delivering workloads faster, keeping them up and running more reliably, and ultimately enabling more predictable service level agreements. Windows Server 2012 offers flexibility to build infrastructure across premises on an open, scalable, and elastic web and application platform to support your workloads. The reference architecture defines a common set of requirements to help IT consolidate hardware platforms into an environment that is more manageable, better used, and less consumptive.

Why Hitachi Data Systems?

HITACHI IS COMMITTED TO PRIVATE CLOUD as the next-generation dynamic data center, and our message to business leaders is clear: Private cloud is ready—and it's here now. Hitachi solutions for Microsoft private clouds help organizations and service providers deploy dedicated infrastructure as a service (IaaS) and platform as a service (PaaS) environments that transform the delivery of IT services. Hitachi solutions provide a cost-effective converged infrastructure that is preconfigured from the factory, allowing you to quickly deploy a private cloud with increased resiliency at a lower cost of ownership. Using Hitachi solutions built on Microsoft Private Cloud Fast Track, you can deploy private cloud infrastructures with predictable results and create an avenue for further automation and orchestration. These solutions provide validated reference architectures for combining Hitachi compute blades and storage with network infrastructure, Windows Server 2012 Hyper-V, and Microsoft System Center 2012 SP1. Each solution is tuned to different business needs, so your organization can quickly build and use the benefits of a private cloud to improve agility, maximize efficiency, and optimize control of data centers.

Microsoft and Hitachi deliver on the promise of agile private clouds with a pre-racked, fault-tolerant cloud platform that has been validated to Microsoft standards. Your organization gains the advantage of a simplified infrastructure solution that has been optimized to work with Windows Server 2012 with Hyper-V technology. For virtual machine and infrastructure deployment, integrated management with Microsoft System Center 2012 SP1 can help to eliminate the need for third-party orchestration and automation vendors (who may lack deep knowledge of the infrastructure). Looking toward the future, System Center 2012 enables proactive management of both your physical and virtual environments, whether on-premises or hosted, through a unified user interface and consistent policies.

FASTER DEPLOYMENT: Rich features and support make private clouds easy to deploy.

- Preconfigured end-to-end architectures with deployment guidance
- Streamlined infrastructure deployment due to predefined configurations
- Enhanced functionality and automation with deep System Center infrastructure integration
- Seamless management for virtual machine and infrastructure deployment

REDUCED RISK: Validated configurations mean you can implement a private cloud 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 performance, service, and availability with automated load balancing

PREDICTABLE RESULTS: With Hitachi, you can create an avenue for further automation and orchestration.

- Building blocks for private cloud infrastructures with predictable performance and flexibility
- Prevalidated IaaS and PaaS solutions that are easy to order and deploy and that combine best-in-class Hitachi storage and servers with networking and Microsoft software
- Ability to quickly deploy applications for a private cloud

Private Cloud Fast Track Reference Architecture

The Hitachi Data Systems Business-Ready Configuration is pre-engineered, tested, and optimized for virtualization. It supports the operating system, virtualization (compute, storage, and networking), and management capabilities offered by Windows Server 2012, Hyper-V, and System Center 2012 SP1.

Microsoft System Center 2012 SP1 (optional): Organizations can realize the benefits of cloud computing by providing a common toolset for the management of physical and virtual resources and cloud-hosted apps, whether they are deployed in public, private, or partner-hosted cloud environments.

Compute: The server fabric consists of similarly configured, swappable server blades that can be replaced for upgrades, repair, and capacity changes. Automated load balancing limits service interruption.

Microsoft®
System Center 2012

⊞ Windows Server 2012
Hyper-V™

| COMPUTE | NETWORK | STORAGE |
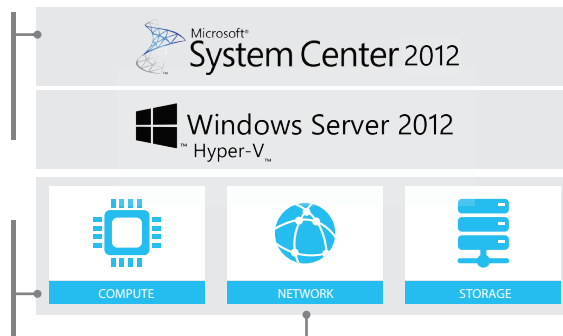
Windows Server 2012 Hyper-V: Customers can take advantage of the cost savings of virtualization through the massive scale capabilities of Windows Server 2012 Hyper-V. They also can make optimal use of server hardware investments by consolidating multiple server roles as separate virtual machines.

Storage: Storage Spaces provides a complete storage virtualization solution. It supports aggregation and elastic capacity expansion, building virtual disks from storage pools of capacity, and thin provisioning with full TRIM support. Other storage deployments also can be validated for Private Cloud Fast Track reference architectures, according to customer requirements.

Network: Networking is virtualized, consolidated, and automated. It supports advanced multitenant isolation and connectivity to public clouds, allowing organizations to take full advantage of hybrid IT.

Private Cloud Technologies

Windows Server 2012
Hyper-V

Windows Server 2012 Hyper-V delivers massive scale capabilities and improved performance—in the data center, on the desktop, and now in the cloud. This technology:

- Offers customers significant cost savings through virtualization.
- Improves virtualization density and makes optimal use of server hardware investments by consolidating multiple server roles as separate virtual machines. These virtual machines can use Hyper-V to efficiently run multiple operating systems—Microsoft Windows, Linux, and others—in parallel, on a single server.
- Extends virtualization capabilities with more features, greater scalability, and built-in reliability mechanisms.

Microsoft System Center 2012

A cloud and data center management solution, Microsoft System Center 2012 SP1 builds on the core capability provided by Windows Server 2012. It delivers a flexible, cost-effective private cloud infrastructure in a self-service model, while using existing data center hardware and software investments. This solution:

- Provides a common management experience across public, private, and partner-hosted clouds.
- Provides comprehensive, end-to-end management for infrastructure and applications, including interoperability for heterogeneous environments.
- Offers deep application insight—down to client script performance—to deliver an optimal experience for modern applications across diverse devices.
- Delivers tools and capabilities to negotiate challenges surrounding the explosive growth of data from social networking and new application patterns. These features also enable organizations to scale application capacity and, where necessary, to take advantage of public cloud resources.

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HITACHI DATA SYSTEMS TECHNOLOGIES

Hitachi Compute Blade 500™—Powerful midrange server for mission-critical applications:

- Midrange server, 6U, 8 blades
- Up to 512 GB per blade
- Intel Xeon 2600 and 4600 Series processors
- Blade-symmetric multi-processor interconnect to enable bidirectional scaling
- Internal GigE and FC switching

Hitachi Compute Blade 2000™—Enterprise-class powerhouse for the most demanding applications:

- Enterprise-class server, 10U, 16 blades
- Up to 384 GB per blade
- Intel Xeon 2600 and 4600 Series processors
- Blade-symmetric multi-processor interconnect to enable bidirectional scaling
- Internal GigE and FC switching

Hitachi Unified Storage VM™:

- Large storage resources and deployments
- Integrated front-to-back I/O load balancing
- 8 Gb Fibre Channel with optional FCoE connectivity
- Internal storage switching
- High-performance SAS and SATA drives

Hitachi Virtual Storage Platform (VSP)™:

- Maximum emphasis on high availability to satisfy the resiliency and availability needs of demanding enterprise applications
- Virtualization technology that enables the consolidation of multivendor storage resources in a single pool of enterprise storage capacity
- Ability to manage up to 5 million logical objects and 255 PB of virtualized capacity
- Agentless technologies to manage large storage resources and deployments
- Integrated, automated, and hardware-based front-to-back I/O load balancing

FOR MORE INFORMATION

http://www.microsoft.com/privatecloud
http://www.hds.com/go/hypervcloud