



Microsoft | Hyper-V Cloud

Hyper-V Cloud Fast Track

WHAT IS THE PRIVATE CLOUD?

Microsoft® private cloud solutions, built on Windows Server® 2008 R2 Hyper-V™ and Microsoft System Center, are a key element of our approach to cloud computing, helping customers and service providers build dedicated 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.
- Leverage 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 out 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, multi-tenant 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 Dell™ 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

DELL ADVANTAGE:

Dell provides Business-Ready Configuration for virtualization optimized for Hyper-V

- High availability and live migration through Microsoft Failover Clustering capabilities
- Embedded Broadcom Gigabit Ethernet NICs with support for multiple Ethernet ports
- Great reliability through hot-swappable and redundant components

Microsoft and Dell deliver on the promise of agile private cloud computing through an interoperable hardware and software platform based on a standardized reference architecture. A Hyper-V Cloud from Dell can greatly reduce time-to-value for virtualization infrastructure investments because it unites shared compute, storage, and network resources into a flexible, cost-effective solution based on off-the-shelf components. 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 Dell?

DELL IS COMMITTED TO PRIVATE CLOUD as the next-generation dynamic data center. The company delivers a single enterprise solution by combining its PowerEdge™ Servers, EqualLogic storage arrays, and PowerConnect™ network fabric with Microsoft Hyper-V Cloud software (Windows Server 2008 R2, Hyper-V, and System Center). With a solution based on the Hyper-V Cloud reference architecture, Dell conveys a clear message to business leaders: Private Cloud is ready—and it's here now. Dell and Microsoft can help you purchase and deploy private cloud infrastructure the way you want it: on prevalidated and tested configurations with the scalability, reliability, and flexibility your business demands.

Compute: Dell takes advantage of Windows Server virtualization capabilities with PowerEdge server blades or racks built on the latest CPU technologies optimized for multi-tenant server workloads, shared memory, and IO capacity.

- High availability and live migration are enabled through Microsoft Failover Clustering capabilities.
- Components, from CPUs to physical drives, are used optimally, as each PowerEdge Server is configured with the memory and network adapters required for built-in Hyper-V virtualization.
- All Microsoft products are allowed on a single PowerEdge Server, enabling Business-Ready Configuration for virtualization.
- Dell OpenManage™ suite offers enhanced operations and standards-based commands designed to interoperate with existing systems for more effective control.

Network: Dell offers networking solutions for virtual, dynamic environments to more securely extend data center services to users across locations. Dell PowerConnect provides resilient, highly available connectivity for virtualized, cloud-enabled, and convergence-ready environments.

- Dell PowerConnect blade solutions deliver wire-speed Layer 2/3 switches scaling up to 10GbE performance to address demanding virtual machine environments, while preserving easy management and compact, high-density form factors of up to 24 ports.
- Embedded Broadcom Gigabit Ethernet NICs provide Hyper-V servers with multiple Ethernet ports as well as advanced failover and load balancing TCP/IP Offload Engine capabilities.
- Dell support for SNMP v2c is enhanced by improved SCOM reporting and monitoring.

Storage: Dell EqualLogic has built-in storage features used by top-tier data centers, enabling storage based on best practices for enterprises of virtually any size. It includes software designed to simplify storage deployment and management and offer end-to-end data protection.

- IT can simplify the deployment and administration of consolidated storage environments with automated load balancing across disks, RAID sets, connections, cache, and controllers.
- Greater reliability can be achieved through hot-swappable and redundant components as well as an auto-stat disk monitoring system that includes dual controllers, fan trays, and power supplies.
- Virtual machines can move between physical hosts by using the encapsulation feature of Hyper-V in the storage architecture.

Hyper-V Cloud Reference Architecture

The Dell Business-Ready Configuration is pre-engineered, tested, and optimized for virtualization. It supports the operating system, virtualization, and management capabilities offered by Windows Server 2008 R2, Hyper-V, and System Center.





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 x64 computing.



System Center offers 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.



PowerEdge Servers

- Individually configured with the memory and network adapters required for Hyper-V
- High I/O throughput (up to 40 GB/second per port)
- Architecture that supports high availability and live migration
- Support for SCVMM, SCOM, and Microsoft SQL Server® 2008

PowerConnect

- Managed, high-performance modular Layer 2/3 solutions for efficient resource mobility and access
- High port density switches with flexible external I/O choices that connect to existing infrastructure for investment protection
- Support for 1- and 10-gigabit SAN and NAS connectivity for high-performance data delivery

EqualLogic

- Shared storage array with SSD, SAS, and SATA drives for fast access by Hyper-V hosts
- Redundant intelligent controllers for increased capacity, fault tolerance, and load balancing
- Scalable and self-managing arrays to support high performance and easy management

FOR MORE INFORMATION:

- <http://www.microsoft.com/privatecloud>
- <http://www.dell.com/hypervcloud>

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