Microsoft Hyper-V Server 2008 R2 Beta Overview v1.0

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# Microsoft Hyper-V Server 2008 R2 Beta

Microsoft Hyper-V Server 2008 R2 Beta is the beta release of the next generation of Microsoft Hyper-V Server 2008, which is a stand-alone hypervisor based product, first released in September 2008.

# New features with the R2 Beta Release

Microsoft Hyper-V Server 2008 R2 Beta contains the same virtualization feature-set as Hyper-V that is part of Windows Server 2008 R2 Beta.  Microsoft Hyper-V Server 2008 R2 now includes:

**Failover Clustering:** The initial release of Microsoft Hyper-V Server 2008 did not include support for failover clustering.  However, with Microsoft Hyper-V Server 2008 R2 Beta, host clustering technology is included to enable support for unplanned downtime.

* + **Live migration: Microsoft Hyper-V Server 2008 R2 includes support for live migration.** Live migration enables customers to move running applications between servers without service interruptions.

With live migration and failover clustering, customers receive high availability and dynamic migration capabilities for both planned and unplanned downtime.

**Processor and memory support:** MicrosoftHyper-V Server 2008 R2 Beta now supports up to 8-socket physical systems and provides support for up to 32-cores.  In addition, Microsoft Hyper-V Server 2008 R2 Beta supports up to 1TB of RAM on a physical system.

For a detailed feature/support comparison between Microsoft Hyper-V Server 2008, Microsoft Hyper-V Server 2008 R2 Beta, and Windows Server 2008 R2 Beta, please see the chart below.

**Updated Hyper-V Configuration Utility:** The Hyper-V Configuration utility is designed to simplify the most common initial configuration tasks.  It helps you configure the initial configuration settings without having to type long command-line strings.  New configuration options have been added for R2 Beta including:

* Remote Management Configuration
* Failover Clustering Configuration
* Additional options for Updates

# Virtualization Platform Comparison

The following is an overview comparison of the feature and support set for:

* Microsoft Hyper-V Server 2008
* Microsoft Hyper-V Server 2008 R2 Beta
* Windows Server 2008 R2 Beta (Enterprise and Datacenter Editions)

|  |  |  |  |
| --- | --- | --- | --- |
| **Capabilities** | **Microsoft Hyper-V Server 2008** | **Microsoft Hyper-V Server 2008 R2** | **Windows Server 2008 R2 EE, DC** |
| **Processor Architecture x64 only** | Yes | Yes | Yes |
| **Hypervisor-based** | Yes | Yes | Yes |
| **Product Type** | Standalone product | Standalone product | Operating System |
| **Number of Sockets (Licensing)** | Up to 4 | Up to 8 | Up to 8 = EE | Up to 64 = DC |
| **Number of cores supported by the hypervisor** | 24 (with QFE) | 32 | 32 |
| **Memory** | Up to 32 GB | Up to 1 TB | Up to 1TB |
| **VM Migration** | None | Quick and live migration | Quick and live  migration (EE & DC) |
| **Administrative UI** | Command line, text based configuration utility  and remote GUI management | Command line, text based configuration utility  and remote GUI management | Command line, remote management, and local GUI  (Hyper-V Manager MMC) |
| **Management** | Existing management tools | | |
| **Manageable by SCVMM** | Yes (SCVMM 2008) | Yes (SCVMM 2008 SP1) | Yes (SCVMM 2008 SP1) |
| **Virtualization Rights for Windows Server guests** | 0 | 0 | EE = 4 VM  DC Edition = unlimited VM per proc |
| **Number of running VM Guests** | Up to 192, or as many as physical resources allow | Up to 256, or as many as physical resources allow | Up to 256, or as many as physical resources allow |
| **Storage** | Direct Attach Storage (DAS): SATA, eSATA, PATA, SAS, SCSI, Firewire, Storage Area Networks (SANs): iSCSI, Fiber Channel, SAS | | |
| **Planned Guest OS support** | Windows Server 2008 R2, Windows Server 2008, Windows Server 2003 SP2, Windows 2000 Server, Novell SUSE Linux Enterprise Server 10, Windows 7, Windows Vista SP1 & Windows XP SP3/SP2 | | |

# Microsoft Hyper-V Server 2008 R2 Beta Requirements

Hyper-V Server has similar hardware requirements as to Windows Server 2008 R2:

* Processor:
  + Minimum: x64 processor with Hardware-assisted virtualization. This is available in processors that include a virtualization option; specifically, Intel VT or AMD Virtualization.
  + Hardware Data Execution Protection (DEP) must be available and be enabled. Specifically, you must enable Intel XD bit (execute disable bit) or AMD NX bit (no execute bit).
* Memory:
  + Minimum: 1 GB MB RAM; Recommended: 2+ GB RAM
  + Maximum (64-bit systems): 1TB
* Network Adapters:
  + Minimum: 1
  + Recommended: 2 or more

# Microsoft Hyper-V Server 2008 R2 Beta Management

Hyper-V Server does not contain a graphical user interface.  Instead it includes a minimal easy to use command-line based UI for general system configuration. If you need access to the command line to perform operations that are not available via the configuration tool, you can simply use the command line to perform your tasks.



Because there is no GUI, Hyper-V Server is designed to be managed remotely via the following ways:

* Remotely from Windows Server 2008 R2 (x86/x64) using the Hyper-V Manager MMC
* Remotely from System Center Virtual Machine Manager SP1.

**Note**: Currently, System Center Virtual Machine Manager 2008 does not provide support for managing Microsoft Hyper-V Server 2008 R2 Beta.  The System Center team is currently working to deliver an update to Virtual Machine Manager that will provide support for future versions of Hyper-V Server 2008 R2.