Build From The Cloud Up

Windows Server·2012

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Windows Server 2012

Jako puno promjena

Nove "stvari"…

Domain Controller cloning
Enhanced Direct Access
Safe Domain controller virtualization
RID pool enhanced management
Enhanced logging
PowerShell 3.0
PowerShell Workflow
PowerShell history
Kerberos CBAC
Compound identity
Remote FX
IP Address Management
DHCP HA
DA object recovery GUI
ISCI Target

PowerShell

# PowerShell, noviteti....

Windows PowerShell Workflow

Windows PowerShell Web Access

New Windows PowerShell ISE Features

Support for Microsoft .NET Framework 4.0

Support for Windows Preinstallation Environment

Disconnected Sessions

Robust Session Connectivity

Updatable Help System

Enhanced Online Help

CIM integration

Session Configuration Files

Scheduled Jobs and Task Scheduler Integration

Windows PowerShell Language Enhancements

New Core Cmdlets

Improvements to Existing Core Cmdlets and Providers

Remote module import and discovery

Enhanced Tab Completion

Module Auto-Loading

Module Experience Improvements

Simplified Command Discovery

Improved Logging, Diagnostics, and Group Policy Support

Formatting and Output Improvements

Enhanced Console Host Experience

New Cmdlet and Hosting APIs

Performance Improvements

RunAs and Shared Host Support

Special Character Handling Improvements

PowerShell

PowerShell, vaš "new best friend"

PowerShell
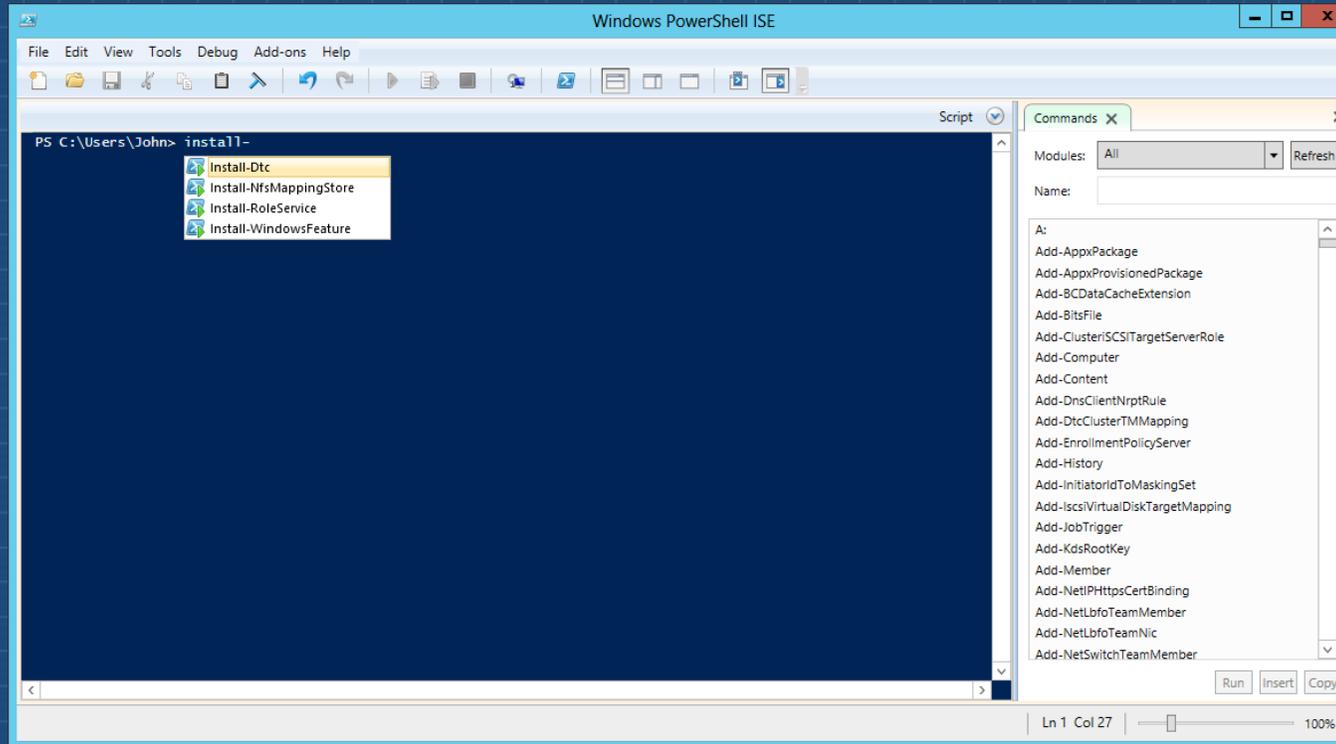
- ⬂ PowerShell 3.0 sa preko 2000 cmdlets
  - ⬂ Allows creation scripts with workflow
  - ⬂ AD PowerShell history helps you get started
  - ⬂ Newest help files download on demand – *Update-Help*

Hyper-V 3.0

# Virtualization, virtualization, virtualization

Secure multitenancy

Provides new security and multitenant isolation capabilities to keep virtual machines isolated, even when they are stored on the same physical server.
You can expand this with a fully extensible virtual switch, which enables Microsoft partners to develop plug-ins for enhanced networking and security capabilities. These functionalities provide a solution that addresses the complex security requirements of virtual environments.

Flexible infrastructure
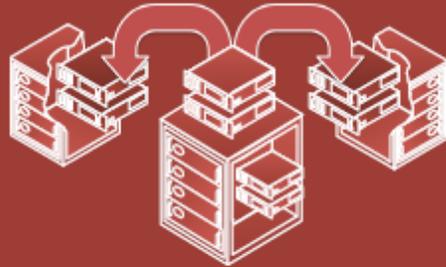
Flexible infrastructure, when and where you need it,With Hyper-V, you can scale beyond virtual local area networks (VLANs) using network virtualization and can place a virtual machine on any node, regardless of its IP address. You can migrate your virtual machines and virtual machine storage flexibly—this includes migrating outside a clustered environment and fully automating management tasks, which reduces the administrative overhead in your environment.

Scalability, performance, and density
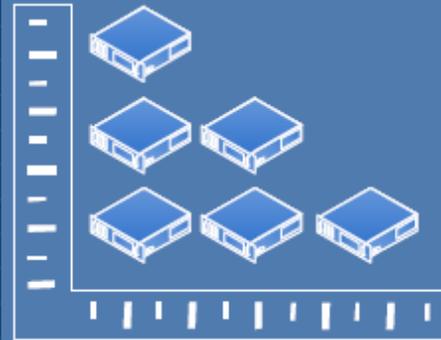
Hyper-V provides support for up to 64 processors and 1 TB of memory for guest operating systems. It also offers a new virtual hard disk format with larger disk capacity that supports up to 64 TB per virtual disk, and provides additional resiliency to enable you to virtualize large-scale workloads. Support for Offloaded Data Transfer, and improved Quality of Service (QoS) to enforce minimum bandwidth requirements (including network storage requirements).

High availability
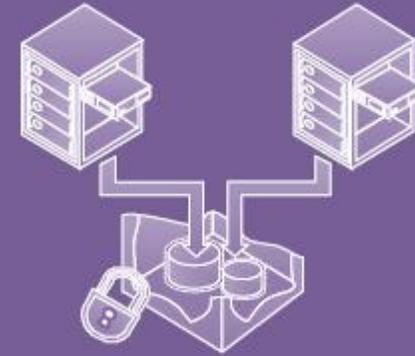
Ensure that your virtual machines are available when they are needed. Hyper-V provides a wide variety of high availability options.
These include simple incremental backup support, enhancements in clustered environments to support up to 4000 virtual machines, parallel live migrations and encryption with BitLocker® Drive Encryption. You can also use Hyper-V Replica, which replicates virtual machines to an offsite location and provides failover to that site if a failure at the primary site occurs.

Impressive scalability

System	Resource	Maximum number		Windows Server 2012	Improvement factor
		Windows 2008 R2	Windows Server "8" Beta		
Host	Logical processors on hardware	64	160	320	5×
	Physical memory	1 TB	2 TB	4 TB	4×
	Virtual processors per host	512	1024	2048	4×
Virtual machine	Virtual processors per virtual machine	4	32	64	16×
	Memory per virtual machine	64 GB	1 TB	1 TB	16×
	Active virtual machines	384	1024	1024	2,7×
Cluster	Nodes	16	64	64	4×
	Virtual machines	1000	4000	8000	8×

Secure Multitenancy

Multitenant security and isolation

fully isolated network layer of the datacenter
enables connection to the network of virtual machines with policy enforcement for security and isolation

Hyper-V Extensible Switch

Layer 2 virtual network switch that provides programmatically managed and extensible capabilities to connect virtual machines to the physical network. The Hyper-V Extensible Switch is an open platform that lets vendors provide extensions

Private virtual local area network

PVLANs allow Hyper-V administrators to isolate virtual machines from each other

DHCP guard
drops server messages from unauthorized virtual machines that are acting as DHCP servers

Router guard

drops router advertisement and redirection messages from unauthorized virtual machines that are acting as routers

Flexible Infrastructure

Hyper-V 3.0

Network virtualization

Network Virtualization eliminates hierarchical IP address assignments across virtual machines. A virtual machine can be placed on any node, regardless of IP address, even across the cloud.

Merging snapshots

The Hyper-V Live Merge feature allows users to merge snapshots back into the virtual machine while it continues to run.

Live migration

Migrate virtual machines with support for simultaneous live migrations. Live migrations are not limited to a cluster. Virtual machines can be migrated across cluster boundaries, and between stand-alone servers that are not part of a cluster.

Live storage migration

Live storage migration allows users to move virtual hard disks that are attached to a running virtual machine.

Importing virtual machines

The Import Wizard detects and fixes problems and does not require a virtual machine to be exported

Scale, Performance, and Density

Hyper-V 3.0

Hyper-V host and workload support

Improves performance and maximizes the use of processors and memory.

Non-Uniform Memory Access

A NUMA topology can be projected onto a virtual machine, and guest operating systems and applications can make intelligent NUMA decisions.

Single Root I/O Virtualization

Reduces network latency and host CPU overhead (for processing network traffic); increases network throughput.

Hyper-V smart paging

If a virtual machine is configured with a lower minimum memory than its startup memory and Hyper-V needs additional memory to restart it, Hyper-V smart paging is used to bridge the gap between minimum and startup memory.

Dynamic Memory, startup memory, and minimum memory

Reclaim the unused memory from virtual machines with a minimum memory value lower than their startup value. Enables the consolidation of more virtual machines, especially in Virtual Desktop Infrastructure (VDI) environments.

Virtual Fibre Channel in Hyper-V

Virtual Fibre Channel in Hyper-V provides Fibre Channel ports within the guest operating system.

High Availability

Hyper-V 3.0

Hyper-V Replica

Asynchronous replication of virtual machines occurs over a network link from one Hyper-V host at a primary site to another Hyper-V host at a replica site. It also can restore the system from an unplanned shutdown.

Hyper-V clustering

Increases availability and enables access to server-based applications during planned and unplanned downtime.

Guest clustering

Workloads can be virtualized by directly accessing cluster guest operating systems and storage over Fibre Channel or through iSCSI.

Virtual machine failover prioritization

Administrators can configure priorities to control the order of virtual machine failover. Lower priority virtual machines automatically release resources if they are needed for higher priority virtual machines.

In-box live migration queuing

Administrators can perform large, multiselect actions to queue live migrations of multiple virtual machines.