



## Overview

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## About Microsoft System Center Virtual Machine Manager

Microsoft System Center Virtual Machine Manager (SCVMM) 2012 SP1 is a comprehensive IT infrastructure, virtualization, and cloud management platform. With this platform, you can manage your applications and services across multiple hypervisors and across public, hosted, and private cloud infrastructures to deliver flexible and cost-effective IT services. Microsoft SCVMM allows you, as the administrator, to configure and manage the servers, the network, and the storage resources.

Microsoft SCVMM 2012 SP1 introduces the following constructs to model and configure the networks on the Hyper-V servers:

- **Logical network**—A logical network is used to organize and simplify network assignments for hosts, virtual machines, and services. As logical networks represent an abstraction of the underlying physical network infrastructure, they enable you to model the network based on business needs and connectivity properties.
- **Network site**—A network site (otherwise known as Logical Network Definitions) is used to define the VLANs and IP subnets that you want to associate with the logical network in each physical location and to control which hosts (in that location) may be configured to support it.
- **VM network**—VM Networks provide the (network) interface through which a virtual machine (VM) connects to a particular Logical Network.
- **IP pool**—An IP pool template is used to assign a range of IP addresses to the hosts and to the virtual machines that are running inside the Microsoft SCVMM-managed environment.
- **Port profile**—A port profile for uplinks (also called an uplink port profile) specifies which logical networks can connect through a particular physical network adapter. A port profile for virtual network adapters specifies capabilities for those adapters and makes it possible for you to control how bandwidth is used on the adapters. The capabilities include offload settings and security settings.
- **Port classification**—A port classification provides a global name for identifying different types of virtual network adapter port profiles. As a result, a classification can be used across multiple logical switches

while the settings for the classification remain specific to each logical switch. For example, you can create one port classification that is named FAST to identify ports that are configured to have more bandwidth, and one port classification that is named SLOW to identify ports that are configured to have less bandwidth. You can use the port classifications that are provided in VMM, or you can create your own port classifications.

- **Logical switch**—A logical switch is a switch template which contains a set of parameters (for example, switch extensions, uplink port profiles, and port classifications) that you can use to create Hyper-V virtual switches on Windows Server 2012 host computers. A logical switch helps to configure a consistent network policy across many Hyper-V hosts.

## About Cisco UCS Director for SCVMM

Cisco UCS Director supports the Microsoft System Center Virtual Machine Manager (SCVMM) environments listed in the [Cisco UCS Director Compatibility Matrix](#).

Cisco UCS Director is integrated with SCVMM through a Windows PowerShell. The PowerShell Agent acts as an interfacing layer between Cisco UCS Director and SCVMM. After you have installed and started the PowerShell Agent, you can manage SCVMM from Cisco UCS Director.

Cisco UCS Director enables you to perform basic SCVMM actions on a virtual machine (VM) such as power-on, power-off, adding disks, removing disks, VM provisioning, and so on. Also, you can manage Server Message Block (SMB) 3.0 file share, Hyper-V host clustered storage, and logical unit numbers (LUNs).

Cisco UCS Director supports the following network models that are defined based on the types of logical networks in SCVMM:

- 1 **VLAN-based network model**—Uses virtual local area network (VLAN) technology for isolating networks. Configure IP subnets for a site if Virtual Machine Manager (VMM) statically assigns IP addresses to VMs created within the site. If DHCP is present, no IP subnet configuration is required. You can manage the isolated networks as they are, and use SCVMM to simplify the management process.
- 2 **Private VLAN-based network model**—Private Virtual LANs (PVLANS) are often used by service providers to work around the scale limitations of VLANS. They essentially allow network administrators to divide a VLAN into several separate and isolated subnetworks which can then be allocated to individual customers (tenants). PVLANS share the IP subnet that was allocated to the parent VLAN. Hosts connected to different PVLANS still belong to the same IP subnet. They require a router to communicate with each other and to communicate with resources on any other network. The network sites within this logical network contain independent networks consisting of primary and secondary VLAN pairs in isolated mode.
- 3 **Network virtualization-based model**—Using this network model, you can support multiple tenants (also called as clients or customers). Each tenant is on their own network and isolated from the network of other tenants. With this isolation, your tenants can use any IP addresses that they want for their virtual machines, regardless of the IP addresses of other VM networks. Based on the specified limits, you can allow your tenants to configure some aspects of their own networks. Network virtualization abstracts the physical address space and presents a virtual address space to the tenant.

Cisco UCS Director includes orchestration features that allow you to automate configuration and management of Hyper-V in one or more workflows. A complete list of the Hyper-V orchestration tasks is available in the Workflow Designer, and in the Task Library. For more information about orchestration in Cisco UCS Director, see the [Cisco UCS Director Orchestration Guide](#).