



Overview

This chapter contains the following sections:

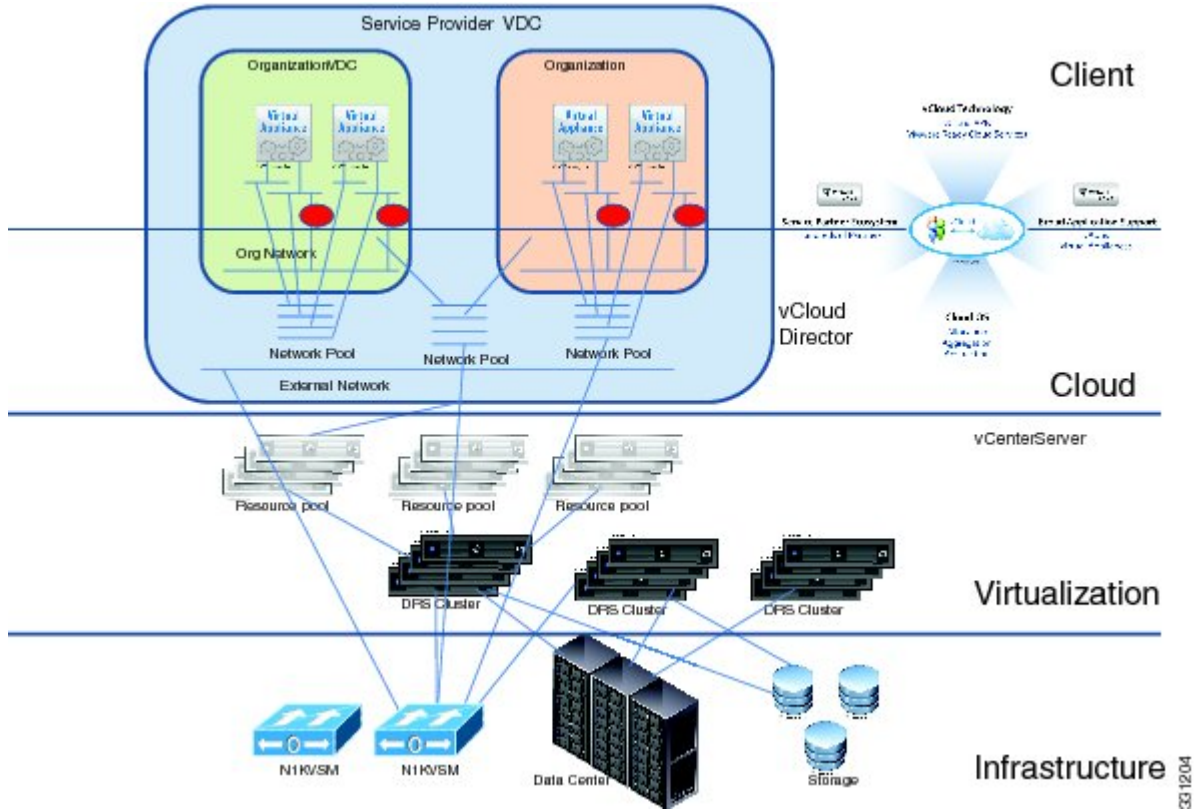
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Information About vCloud Director

VMware's vCloud Director provides an abstraction layer that enables cloud service providers to provide an infrastructure as a service (IaaS) to various tenant organizations. In the following figure, vCloud Director also

allows the tenant organizations to manage resources such as virtual datacenters (vDCs), vApps, networks, and network pools.

Figure 1: vCloud Director



Cloud Resources in vCloud Director

vCloud Director includes the following cloud resources:

- Virtual data centers (vDCs)—Enable IT organizations to combine compute, storage, and networking resources to a vDC and deliver these resources to the users. The two types of vDCs provider are vDCs and organization vDCs.
- Networks—Define the boundaries and the service level for each function within a cloud’s network architecture. vCloud Director supports three types of networks: external networks, organization networks, and vApp networks. These networks are created as port profiles on the Cisco Nexus 1000V.



Note Names of networks created in the vCloud Director cannot contain a forward slash (/), back slash (\), percent (%), question mark (?), or space. The network name is used to create port profiles in the Cisco Nexus 1000V.

- Network pools—Provide a mechanism for dynamic provisioning of networks within an organization vDC. The three different types of network pools are VLAN-backed, network isolation-backed, and port group-backed. All the types of network pools can be backed by using the Cisco Nexus 1000V.

See the *Cisco Nexus 1000V and VMware Compatibility Information* for information on the supported network pool in vCloud Director with Cisco Nexus 1000V.

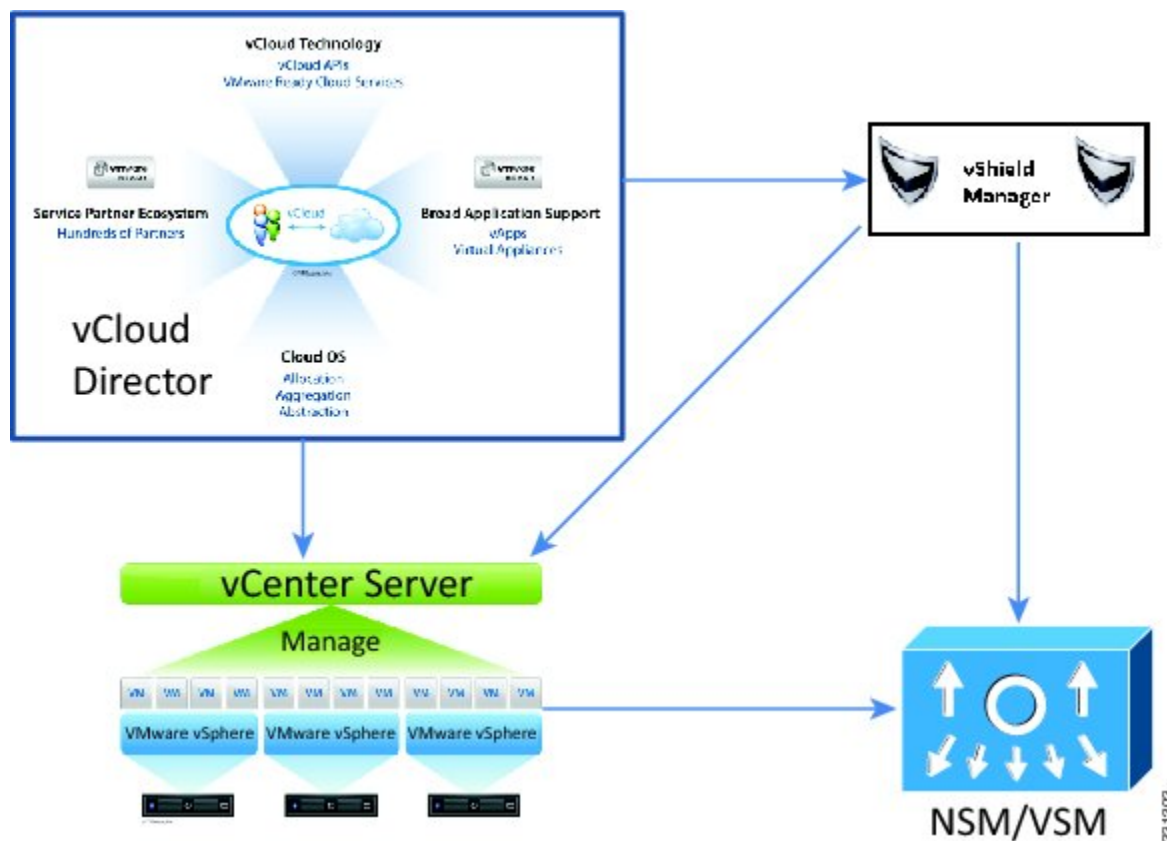
See the *VMware vCloud Director Administrator's Guide* and *vCloud Director User's Guide* for more information about vCloud Director.

Information About Network Segmentation Manager

Cisco Network Segmentation Manager (NSM) integrates VMware's vCloud Director with the Cisco Nexus 1000V for networking management. As the following figure shows, NSM communicates with vShield Manager to integrate with vCloud Director, which enables you to use the Cisco Nexus 1000V for backing all types of network pools supported by vCloud Director.

See the *Cisco Nexus 1000V and VMware Compatibility Information* for information about the supported network pool in vCloud Director with the Cisco Nexus 1000V.

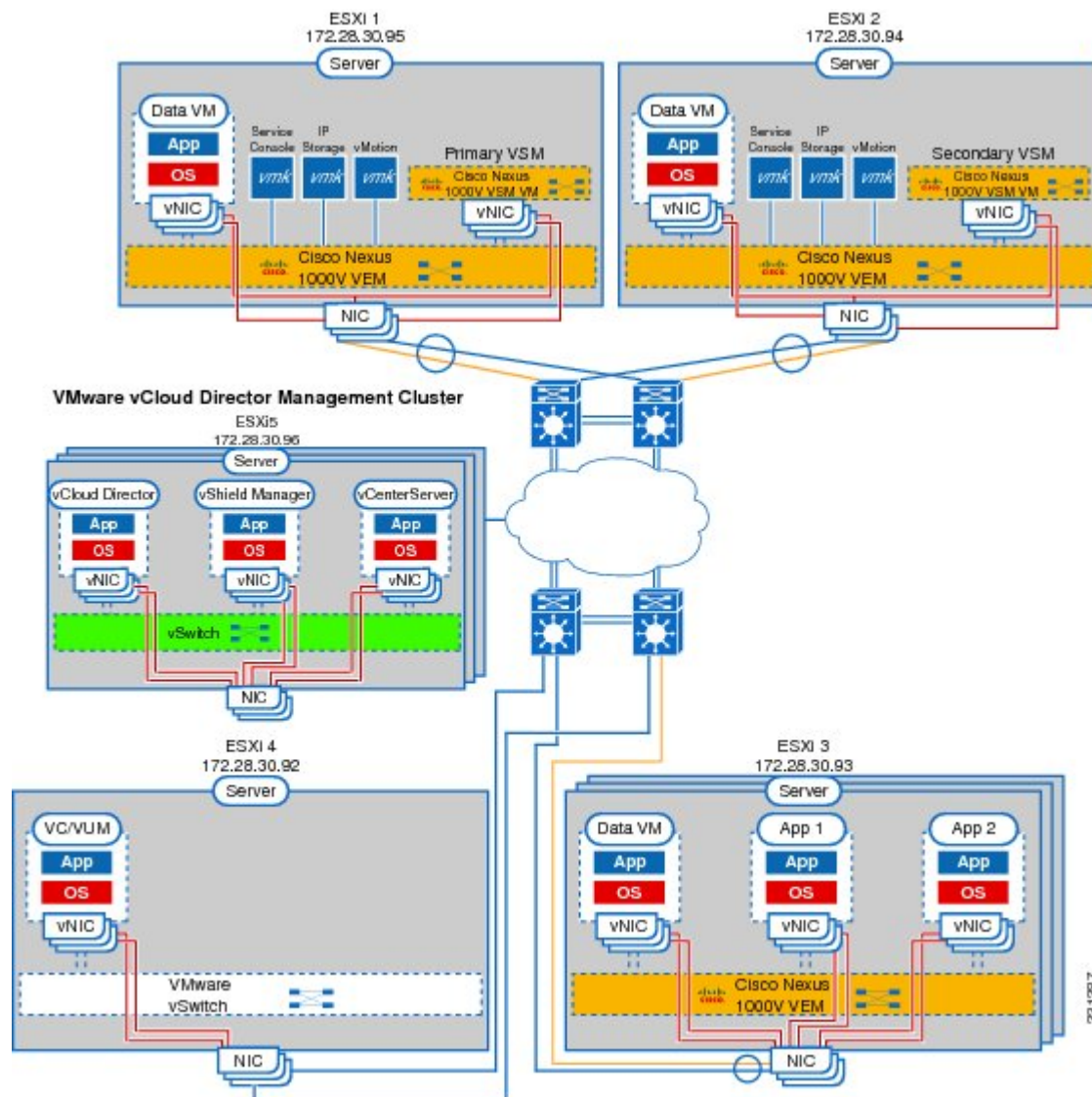
Figure 2: Integration of vCloud Director with the Cisco Nexus 1000V



Information About How vCloud Director Creates Networks

The following figure shows the Cisco Nexus 1000V network topology with vCloud Director.

Figure 3: Cisco Nexus 1000V Topology Diagram with vCloud Director



See the *Cisco Nexus 1000V and VMware Compatibility Information* for information about the version compatibility of the vCloud Director and vShield Manager for the Cisco Nexus 1000V.

When a cloud administrator creates networks on demand within vCloud Director, vShield Manager issues requests to NSM to create networks based on network pools in vCloud Director. NSM exposes a set of APIs that enables vShield Manager to create a port profile on the Cisco Nexus 1000V.

The network administrator creates network segmentation policies that contain a tenant ID that is retrieved from vCloud Director, a backing type (segmentation or VLAN), and a reference to a port profile that may

contain policies for various Cisco Nexus 1000V features. These network segmentation policies are inherited on a port profile as a result of a network that is created in vCloud Director. For more information about network segmentation policies, see [Creating Network Segment Policies](#).

When networks are created in vCloud Director, the tenant ID of the organization and the relevant network pool parameters are sent to vShield Manager. vShield Manager then issues a request to create networks to Network Segmentation Manager and then the appropriate network segmentation policy is applied.

