



## VirtualCenter 1.2 New Feature Overview

### Additional Support for ESX Server 2.5

The new version of ESX Server, version 2.5, includes a number of improvements to the underlying VMware virtualization platform. VirtualCenter 1.2 adds full support for the ESX Server release and increases the breadth of managed platforms supported to include ESX Server 2.0.1, ESX Server 2.1.x, ESX Server 2.5, and GSX Server 3.1.

### Expanded support for configuration and migration of virtual machines using Raw Device Mappings (RDMs)

VirtualCenter 1.2 in conjunction with ESX Server 2.5 provide the following significant enhancements:

- SAN LUNs can be accessed directly by virtual machines in a way that is more secure and more reliable than in previous versions.
- Multiple virtual machines can access the same LUN, but can be restricted so only one is powered on, or only one has write access at any given time.
- A virtual machine can be configured to use a raw LUN in accordance with different compatibility modes. “Physical compatibility” restricts use of the raw LUN to remain compatible with SAN-aware applications, while “virtual compatibility” allows the LUN to behave more like a virtual disk and benefit from features like disk modes.
- VirtualCenter can migrate virtual machines with VMotion using raw LUNs in either “physical compatibility” or “virtual compatibility” modes.
- VirtualCenter can manage raw LUNs in “virtual compatibility” mode as if they were virtual disks, and can perform virtual machine clone, template, and migration operations on the virtual machines that use them.

Enabling this functionality requires an additional set of steps to map a LUN to a VMFS volume. For additional technical details and further explanation of the options available, please refer to the following sections in the VirtualCenter 1.2 user manual:

- [Creating Custom Virtual Machines Using the New Virtual Machine Wizard](#)
- [Adding the Virtual Disks](#)

### Migration of Virtual Machines using Raw Device Mappings (RDMs)

If a virtual machine is using Raw Device Mappings, that virtual machine can still be migrated, with or without VMotion, but note the following:

- The contents of a LUN in virtual compatibility mode is copied to a virtual disk file in any operation that would normally require the copying of a disk.
- The contents of a LUN in physical compatibility mode is NOT copied to a virtual disk file in any operation that would disallow the copying of a disk.



More specifically:

	<u>VMotion Operations</u>	<u>Migration Operations</u>
<u>Physical Compatibility Mode</u>	Virtual machines using LUNs in physical compatibility mode may only be migrated with VMotion from ESX Server 2.5 source hosts to ESX Server 2.5 destination hosts, but only if the datastore and LUN are visible to both the source and destination so that a LUN in physical compatibility mode does not need to be copied.	Virtual machines using LUNs in physical compatibility mode may only be migrated without VMotion from ESX Server 2.5 source hosts to ESX Server 2.5 destination hosts, but only if the datastore and LUN are visible to both the source and destination so that a LUN in physical compatibility mode does not need to be copied.



	<u>VMotion Operations</u>	<u>Migration Operations</u>
<u>Virtual Compatibility Mode</u>	Virtual machines using LUNs in virtual compatibility mode may be migrated with VMotion from ESX Server 2.5 source hosts to any destination host running any version of ESX Server supported by VirtualCenter, but only if the datastore and LUN are visible to both the source and destination, so that a LUN in virtual compatibility mode does not need to be copied.	Virtual machines using LUNs in virtual compatibility mode may be migrated without VMotion from ESX Server 2.5 source hosts to any destination host running any version of ESX Server supported by VirtualCenter.  As with virtual disks, if the destination datastore is different than the source datastore, or if the source LUN is not visible to the destination host, the migration copies the contents of a LUN in virtual compatibility mode to a virtual disk file on the destination datastore.

However, please note that even though migrations of virtual machines using raw LUNs in virtual compatibility mode (with and without VMotion) from ESX Server 2.5 to an older version of ESX Server are supported, they are not recommended. Doing so generates a warning because the LUN is forced into legacy virtual compatibility mode. In this case, the virtual machine continues to have access to its LUNs, but VirtualCenter sees those LUNs as virtual disks instead of raw LUNs for all future operations.

### Enhanced reporting and data export capabilities for Host Summary and Performance Data

VirtualCenter 1.2 includes enhanced capabilities for exporting host summary information and performance data (previously this information was available only through queries to the underlying VirtualCenter database).

The following host summary information can be exported into HTML or Microsoft Excel formats:

<ul style="list-style-type: none"> <li>• Manufacturer</li> <li>• Model</li> </ul>	<ul style="list-style-type: none"> <li>• Number of Active Tasks</li> <li>• CPU Utilization</li> </ul>
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<ul style="list-style-type: none"><li>• Total Memory</li><li>• Processor Type</li><li>• VMotion Enabled</li><li>• Number of Virtual Machines</li><li>• Number of Processors</li><li>• Number of NICs</li></ul>	<ul style="list-style-type: none"><li>• Memory Utilization</li><li>• Datastores</li><li>• Available Resources</li><li>• Available Disk Space</li><li>• Memory Available to New Virtual Machines</li><li>• Networks</li></ul>
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The following host performance statistics can also be exported into Excel format:

<ul style="list-style-type: none"><li>• CPU</li><li>• Memory</li></ul>	<ul style="list-style-type: none"><li>• Disk</li><li>• Network</li></ul>
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For additional details please refer to the following sections in the VirtualCenter 1.2 users manual:

- [Exporting Performance and Host Summary Data](#)

## ESX to GSX Virtual Machine migration and cloning

VirtualCenter 1.1 introduced support for GSX Server 3.1, and supports the migration and cloning of virtual machines from GSX Server to ESX Server. VirtualCenter 1.2 introduces full support for the reverse combination – ESX Server to GSX Server migration and cloning operations with the following caveats:

- Only migrations between GSX Server version 3.1 and ESX Server versions 2.1.1 and later, are supported.
- Virtual machines migrated between GSX Server and ESX Server should have SCSI disks.

For additional details please refer to the following sections in the VirtualCenter 1.2 users manual:

- [Understanding the Migration Options](#)
- [Creating Virtual Machines from a Template](#)
- [Creating Virtual Machines by Cloning an Existing Virtual Machine](#)

## Enhanced Logging for Auditing and Security

VirtualCenter 1.2 extends events to contain more information about logins, logouts, and failed login attempts. In particular, failed logins now display the name of the user who failed to log in, and the reason why. This additional information can be obtained by viewing Events in the VirtualCenter client, or by exporting events to a text file and filtering for the following text strings:

Successful logins appear as:

```
"info      9/16/2004 6:13 PM    User administrator logged in"
```



Unsuccessful logins appear as:

```
"error      9/16/2004 6:12 PM    Failed to login user adfad. Reason: Bad
username/password"
```

Logouts appear as:

```
"info      9/16/2004 6:12 PM    User adfad logged out"
```

This information can also be added to the VirtualCenter log files by enabling verbose logging in the Advanced Settings tab.

For additional details please refer to the following sections in the VirtualCenter 1.2 users manual:

- [Exporting Events](#)
- [Setting VirtualCenter Verbose Logging](#)

## New features in the Web Service SDK

The virtual infrastructure services available through the VirtualCenter Web Service interface have been extended to provide the following:

- Snapshot support for ESX Server 2.5 & GSX Server 3.1 Server virtual machines
- Collect and expose additional performance data
- Tracking virtual machine total runtime and total suspend time

For additional information, please refer to the following:

- [http://www.vmware.com/support/developer/SDK\\_FAQs.html](http://www.vmware.com/support/developer/SDK_FAQs.html)

## Additional performance improvements

VirtualCenter 1.2 also builds upon the performance and scalability improvements of version 1.1.1, and additional changes were made to enable:

- Faster VirtualCenter Management Server start-up through streamlined initialization and host connections
- Better VirtualCenter Client responsiveness with a highly loaded VirtualCenter Management Server
- Lower CPU utilization on the VirtualCenter Management Server during background performance statistics collection

## Updated SNMP support

VirtualCenter 1.2 includes updates to the SNMP traps generated and the MIBs included. Instead of relying on SNMP version 2, the new versions use SNMP version 1.