Command-Line Installation and Upgrade of VMware vCenter Server™ 5.1

vCenter Server 5.1 and 5.1 Update 1

This technical note describes how to install, upgrade, and uninstall vCenter Server and related components by using the Windows command-line interface. The command-line installation requires you to log on to the local machine.

The command-line installation process includes downloading the vCenter Server installer, gathering the required data, and using the command parameters and samples in this technical note to install the products according to your specifications.

IMPORTANT VMware does not support command-line installation and upgrade methods for vCenter Server. However, if the installation or upgrade succeeds, VMware supports the installed or upgraded product.

vCenter Server 5.1 with vCenter Single Sign-On

vSphere 5.1 introduces the vCenter Single Sign-On service as part of the vCenter Server management infrastructure. This change affects vCenter Server installation, upgrading, and operation. As part of this change, vCenter Inventory Service is now installed separately from vCenter Server. When you install or upgrade vCenter Server 5.1, you must install vCenter Single Sign-On and install or upgrade vCenter Inventory Service, in that order, before you install or upgrade vCenter Server. For detailed information about how vCenter Single Sign-On affects vCenter Server installation and upgrades, see *vSphere Installation and Setup* and *vSphere Upgrade* at the following site: http://www.vmware.com/support/pubs.

Preparing for the Installation

Before you install vCenter Server and related components, review the following sections to understand the installation process and options, and to ensure that you prepare your system.

vCenter Server Installation Requirements

For information about all vCenter Server installation and upgrade requirements, see *vSphere Installation and Setup* and *vSphere Upgrade* at http://www.vmware.com/support/pubs. These publications include information about the following requirements for vCenter Server and related components.

- System requirements.
- Required ports.
- Required information for installation. Record the values that you enter in case you must reinstall vCenter Server and want to use the same values.

NOTE If you plan to use the Microsoft SQL Server 2008 R2 Express SP1 database that is bundled with vCenter Server, Microsoft Windows Installer version 4.5 (MSI 4.5) is required on your system. MSI 4.5 is available from from the `redist` folder in the vCenter Server installer ISO file.

Required Administrator Rights for Installation

Installation of all vCenter Server components requires Administrator-level privileges on the target machine. When you run the command to install a vCenter Server component, if User Account Control (UAC) is enabled, and you are logged in with Administrator-level privileges, but you are not the Administrator, UAC might display a dialog box asking you to confirm that you want to run the installation program.

When you install vCenter Server, the Administrator user must be able to ensure that vCenter Server receives Logon as a Service rights.

To ensure that the administrator user that vCenter Server uses for startup has Logon as a Service rights

1 Select **Control Panel > Administrative Tools**.

2 Select **Local Security Policy**.

3 Select **Local Policies > User Rights Assignment**

4 Double-click **Logon as a service** in the right-side pane and add the `VPX_ACCOUNT` user to the list.

Installing in a Virtual Machine

You can install vCenter Server in a Microsoft Windows virtual machine that runs on a VMware ESXi host. Deploying the vCenter Server system in the virtual machine has several advantages.

- Rather than dedicating a separate server to the vCenter Server system, you can place it in a virtual machine running on the same ESXi host where your other virtual machines run.
- You can provide high availability for the vCenter Server system by using VMware High Availability (HA).
- You can migrate the virtual machine containing the vCenter Server system from one host to another, enabling maintenance and other activities.
- You can create snapshots of the vCenter Server virtual machine and use them for backups, archiving, and so on.

Installing in a Virtual Machine on a Standalone ESXi Host

Before you begin, install the vSphere Client on a machine that has network access to the ESXi host.

To prepare for installing on a standalone server

1 Using the vSphere Client, access an ESXi host directly to create the virtual machine for hosting vCenter Server.

2 In the virtual machine, install vCenter Server.

Installing over a Network

If you are installing over a network, run the installer from a local machine.

To prepare for installing over a network

1 Place the installer on a network drive and call the installer from a local machine.

2 Enter the Universal Naming Convention (UNC) address in the format `\\servername\path`.

Installing with an Existing Database

If you are installing vCenter Server with an existing vCenter Server database, prepare for database access. The existing database can be on the same host machine as vCenter Server or on a different host machine. You must create the DSN on the host machine where vCenter Server is installed, and the DSN must point to the host machine where the database resides.

To prepare for installing with an existing database

1 Ensure that the database host machine belongs to the domain.

2 Log in to the vCenter Server host machine as a domain user who belongs to the local administrator group.

3 Create the DSN with integrated OS authentication mode.
The DSN user must be the same as the local administrator for vCenter Server service account.

See the *vSphere Installation and Setup* documentation for more information about preparing your vCenter Server database.

Installing and Joining a Group Using Linked Mode

If you are installing a vCenter Server that you want to join to a Linked Mode group, ensure that there is another version 5.1.x vCenter Server, so that you have a group of at least two servers. There must be at least two vCenter Server installations to create a group. vCenter Server does not support Linked Mode groups that contain both version 5.1.x and earlier versions of vCenter Servers.

To prepare for installing and joining a group using linked mode

1 Install the first vCenter Server instance and specify `VCS_GROUP_TYPE=Single`.

2 For each subsequent vCenter Server installation that you will add to the initial group, specify `VCS_GROUP_TYPE=Group` and provide the FQDN of the host of the first installation.

Installing vCenter Server and Components Remotely

To install vCenter Server remotely, install the vCenter components separately, in this order: vCenter Single Sign-On, vCenter Inventory Service, vCenter Server, and Profile-Driven Storage Service (SPS). See the examples in "Remote Installation Examples" on page 17.

Remote and Scheduled Installations of vCenter Server and Components

If you are performing a remote or scheduled installation of vCenter Server, you must install Profile-Driven Storage Service (SPS) separately from vCenter Server. Install the components in this order: vCenter Single Sign-On, vCenter Inventory Service, vCenter Server, and Profile-Driven Storage Service (SPS). See the command line examples in "Remote Installation Examples" on page 17.

vCenter Server Installation Commands

vCenter Server command-line installation uses Microsoft Windows Installer (MSI) command structure with parameters specific to vCenter Server and related components. You can use the command-line installation options to install vCenter Server components from the MS-DOS command prompt in Windows or by writing a Windows batch file (.bat).

Microsoft Windows Installer Commands

The vCenter Server installation commands are based on the Microsoft Windows Installer (MSI).

- Some actions during installation require interactive response to prompts. Only passive installation using the `msiexec` command option `/qr` is supported. The fully silent option (`/qn`) is not supported.
- All parameters that appear in the `/v"..."` section must use a backslash (\) to escape the quotation marks, for example, `SSO_ADMIN_PASSWORD=\"my password\"`. If a quote is not escaped, the `/v"..."` option is terminated. The closing double quote in `/v"..."` should have at least one space before it. Otherwise, the last parameter inside this string will not receive the proper value.
- For information about MSI command line options, see the Microsoft Developer Network.

An installation from a local disk, using `MSIEXEC` command options, has the following format:

`start /wait` *`path_to_installer.exe`* `/w /L` *`Language Code`* `/v"/qr` *`parameters`* `"`

`path_to_installer.exe` is the location of the extracted files.

`installer.exe` is the installer executable for the vCenter Server component, for example `VMware-vcserver.exe`, `VMware-SSO-Server.exe`, `VMware-inventory-service.exe`, and so forth.

For example, if `C:\temp\vCenter510\SetupFiles` is the location of the extracted files, use the following command format:
vCenter Server installer: `C:\temp\vCenter510\SetupFiles\vCenter-Server\VMware-vcserver.exe`

`parameters` are the optional parameters listed in "vCenter Server Installer Command Parameters" on page 4.

`Language Code` is the language to be used during the installation. The language code used in the examples is English, L1033.

vCenter Server Installer Command Parameters

Table 1, Table 2, Table 3, Table 4, Table 5, and Table 6 list the parameters that you might need to provide during installation of vCenter Single Sign-On, vCenter Inventory Service, vCenter Server, vSphere Client, vSphere Web Client, and Profile-Driven Storage Service. The information you provide depends upon your specific installation. For example, you must provide database parameters if you have an existing database, and you must provide server parameters if you are adding your vCenter Server to a group.

Follow these syntax and installation guidelines:

- You must include double quotation marks for values that contain spaces. Otherwise, the installation fails. Using null, as in *`parameter`*`=`, for `\"\"` is not allowed. For values other than null, double quotation marks are not required, for example `FORMAT_DB = 1` and `FORMAT_DB = "1"` are identical.
- Command options are case-sensitive. For example, use `Bundled`, not `bundled` or `BUNDLED`.
- The command installation process is not completely silent. Prompts can occur. Respond to the prompts.
- When you enter responses to prompts, or values to parameters, the content of the response or parameter is not validated. It is accepted. Ensure that the values entered as responses to prompts or values for parameters are correct. Otherwise, vCenter Server will not start up after installation.

Linked Mode installation is supported only if the vCenter Servers to be joined are registered to the same Single Sign-On server. If the vCenter Servers are not registered to the same Single Sign-On server, you cannot perform a vCenter Server Linked Mode installation.

vCenter Single Sign-On Installation Command Parameters

Table 1. vCenter Single Sign-On Installation Command Parameters

Parameter	Conditions
MASTER_PASSWORD=*password*	Not required if CONFIG_TYPE=Join and JOIN_TYPE=HA or if CONFIG_TYPE=Recover
CONFIG_TYPE=[Setup|Join|Recover]	Setup creates the only node in a basic vCenter Single Sign-On installation, or the first node in a high availability or multisite installation. Join creates an additional node for an existing Single Sign-On installation. Recover restores a Single Sign-On configuration from a backup.
(If CONFIG_TYPE=Setup) SETUP_TYPE=[Basic|Primary]	Basic creates the only node in a basic vCenter Single Sign-On installation. Primary creates the first node in a high availability or multisite installation.
(If CONFIG_TYPE=Join) JOIN_TYPE=[HA|Multisite]	HA (high availability} is for deployment of a cluster of two or more vCenter Single Sign-On instances in high availability mode. All instances use the same database and point to the same identity sources. Multisite is for a deployment with vCenter Single Sign-On instances in geographically dispersed datacenters. In each datacenter, you can install Single Sign-On in standalone or clustered mode, pointing to the identity sources in that location.
(If CONFIG_TYPE=Join) PRIMARY_NODE_FQDN=*FQDN*|IP]	FQDN or IP of primary node: for example, 10.20.100.102 or abc.domain.com.
(If CONFIG_TYPE=Join) PRIMARY_NODE_PORT=*port*	Primary node HTTPS port: for example, 7444.
(If CONFIG_TYPE=Join) PRIMARY_NODE_PASSWORD=*password*	Primary node master password that was used for admin@System-Domain account.
(If CONFIG_TYPE=Recover) OLD_NODE_PKG=*path*	Location of .zip file produced by backup of Single Sign-On.
(If CONFIG_TYPE=Recover) RECOVER_MASTER_PASSWORD=*password*	Master password of Single Sign-On instance that was backed up.
SSO_DB_SERVER_TYPE=["Bundled"|"Custom"]	Not required if CONFIG_TYPE=Join and JOIN_TYPE = HA or if CONFIG_TYPE = Recover "Bundled" installs the bundled Single Sign-On database. Use "Custom" for an existing supported Single Sign-On database.
(If SSO_DB_SERVER_TYPE="Custom) JDBC_DBTYPE = [Mssql|Oracle|DB2]	The custom database type: Microsoft SQL, Oracle, or IBM DB2.
(If SSO_DB_SERVER_TYPE="Custom") JDBC_DBNAME=*database_name*	The custom database name.
(If SSO_DB_SERVER_TYPE="Custom") JDBC_HOSTNAME_OR_IP=*database_host_name_or_IP*	The custom database server host name.
(If SSO_DB_SERVER_TYPE="Custom") JDBC_HOST_PORT=*port*	The custom database server port.
(If SSO_DB_SERVER_TYPE="Custom") JDBC_USERNAME=*user_name*	Database user name (do not provide if IS_JDBC_AUTH = 1 for Microsoft SQL)
(If SSO_DB_SERVER_TYPE="Custom") JDBC_PASSWORD=*password*	Database user password (do not provide if IS_JDBC_AUTH = 1 for Microsoft SQL)
(If JDBC_DBTYPE=Oracle) *ORACLE_SERVICE_OR_SID=SID or Service Name*	Use only for Oracle database.

Table 1. vCenter Single Sign-On Installation Command Parameters (Continued)

Parameter	Conditions
(If ORACLE_SERVICE_OR_SID value is Oracle service ID) IS_ORACLE_SID=1	Use only for Oracle database.
(If SSO_DB_SERVER_TYPE="Custom") SKIP_DB_USER_CREATION = 1	Use this parameter if you are using a custom database, and you want to create vCenter Server database users manually, rather than letting the installer create the database users.
(If SKIP_DB_USER_CREATION=1) DBA_JDBC_USERNAME="*DBA_user*"	This parameter is required if SKIP_DB_USER_CREATION = 1.
(If SKIP_DB_USER_CREATION=1) DBA_JDBC_PASSWORD=*password*	This parameter is required if SKIP_DB_USER_CREATION = 1.
RSA_DBA_PASSWORD=*password*	The RSA_DBA password.
RSA_USER_PASSWORD=*password*	The RSA_DBA user password.
COMPUTER_FQDN=*IP_or_FQDN*	IP address or FQDN of the Single Sign-On host machine.
IS_SSPI_NETWORK_SERVICE_ACCOUNT=1	Not required if CONFIG_TYPE=Join and JOIN_TYPE=HA or if CONFIG_TYPE=Recover Use this parameter if the Single Sign-On host machine is in a domain. Requires parameters SSPI_USERNAME, SSPI_PASSWORD, and SSPI_DOMAIN
(If IS_SSPI_NETWORK_SERVICE_ACCOUNT=1 SSPI_USERNAME=*user_name*	The SSPI user name.
(If IS_SSPI_NETWORK_SERVICE_ACCOUNT=1 SSPI_PASSWORD=*password*	The SSPI password.
(If IS_SSPI_NETWORK_SERVICE_ACCOUNT=1 SSPI_DOMAIN=*domain_name*	The SSPI domain where the entered SSPI user account is present.
SSO_HTTPS_PORT=*port*	Use only if you want a different port value than the default 7444.
INSTALLDIR=*install_location*	Use only if you want a different installation directory than the default C:\Program Files\VMware\Infrastructure\.

vCenter Inventory Service Installation Command Parameters

Table 2. vCenter Inventory Service Installation Command Parameters

Parameter	Default	Conditions
INSTALLDIR=*install_location*		Use only if you want a different installation directory than the default C:\Program Files\VMware\Infrastructure\.
HTTPS_PORT=*port*	10443	Inventory Service HTTP port.
XDB_PORT=*port*	10109	vCenter Inventory Service service management port.
FEDERATION_PORT=*port*	10111	vCenter Inventory Service linked mode communication port.
QUERY_SERVICE_NUKE_DATABASE=1	1	Set to 1 to clear the existing database for Inventory Service
SSO_ADMIN_USER=\"*user_name*\"	None	User name for the vCenter Single Sign-On administrator user account.
SSO_ADMIN_PASSWORD=\"*password*\"	None	Password for the vCenter Single Sign-On administrator user account

Table 2. vCenter Inventory Service Installation Command Parameters (Continued)

Parameter	Default	Conditions
LS_URL=*URL*	None	Lookup Service URL. The Lookup Service URL takes the form https://*SSO_host_FQDN_or_IP*:7444/lookupservice/sdk, where 7444 is the default vCenter Single Sign-On HTTPS port number. If you enter a different port number when you install vCenter Single Sign-On, use that port number.
TOMCAT_MAX_MEMORY_OPTION=[S|M|L]	None	Choices refer to vCenter Server inventory size. ■ S – Small inventory (1-100 hosts or 1-1000 virtual machines) ■ M – Medium inventory (100-400 hosts or 1000-4000 virtual machines) ■ L – Large inventory (more than 400 hosts or 4000 virtual machines) This parameter determines the maximum JVM heap settings for VMware VirtualCenter Management Webservices (Tomcat), Inventory Service, and Profile-Driven Storage Service. You can adjust this setting after installation if the number of hosts in your environment changes. See the recommendations in the *vSphere Installation and Setup* documentation.

vCenter Server Installation Command Parameters

Table 3. vCenter Server Installation Command Parameters

Parameter	Default	Conditions
LICENSEKEY=\"*licensekey*\"	""	If you omit the license key, vCenter Server will be in evaluation mode, which allows you to use the full feature set. After installation, you can convert vCenter Server to licensed mode by entering the license key using the vSphere Client.
DB_SERVER_TYPE=[Bundled|Custom]	Bundled	Configures vCenter Server to use an existing database instance. When using Bundled, you must also include FORMAT_DB=1. When using Custom, you must also include DB_DSN=\"*dns_name*\", DB_PASSWORD=\"*password*\", and DB_USERNAME=\"*username*\". ■ The bundled database is suitable for deployments of up to 5 hosts and 50 virtual machines. ■ If you are using an existing SQL Server database that uses Windows NT authentication, the specified database user and the logged-in user on the vCenter Server machine must be the same.
DB_DSN=\"*name*\"	"VMware VirtualCenter"	Customizes the DSN. Required only if DB_SERVER_TYPE=Custom.
DB_DSN_WINDOWS_AUTH=1		Set to 1 if integrated security is used with SQL Server or SQL Server Express database. Otherwise, this parameter is not passed.

Table 3. vCenter Server Installation Command Parameters (Continued)

Parameter	Default	Conditions
DB_USERNAME=\"*name*\"	""	Sets the DSN account name. Required only if DB_SERVER_TYPE=Custom. To use Windows authentication for SQL Server, specify an account that is an administrator on the local machine. As a best practice, type the account name as *domain_name**user_name*. ■ If your database is a local SQL Server database using Windows NT authentication, do not specify the user name and password. ■ If you specify a remote SQL Server database that uses Windows NT authentication, the specified database user and the logged-in user on the vCenter Server machine must be the same.
DB_PASSWORD=\"*password*\"	""	Sets the DSN account password. Required only if DB_SERVER_TYPE=Custom. ■ If your database is a local SQL Server database using Windows NT authentication, do not specify the user name and password. ■ If you specify a remote SQL Server database that uses Windows NT authentication, the database user and the logged-in user on the vCenter Server machine must be the same.
FORMAT_DB=1	None	Creates a fresh database schema. All existing data is lost if the database already exists. Required only if DB_SERVER_TYPE=Bundled, but can be used with DB_SERVER_TYPE=Custom as a means to overwrite existing database.  **CAUTION** Using FORMAT_DB=1 results in loss of data. Do not use it if you want to preserve the existing data and the database schema.
JVM_MEMORY_OPTION=[S|M|L]	S	Choices refer to vCenter Server inventory size. ■ S – Small inventory (1-100 hosts or 1-1000 virtual machines) ■ M – Medium inventory (100-400 hosts or 1000-4000 virtual machines) ■ L – Large inventory (more than 400 hosts or 4000 virtual machines) This parameter determines the maximum JVM heap settings for VMware VirtualCenter Management Webservices (Tomcat), Inventory Service, and Profile-Driven Storage Service. You can adjust this setting after installation if the number of hosts in your environment changes. See the recommendations in the *vSphere Installation and Setup* documentation.
SSO_ADMIN_USER=\"*user_name*\"	None	User name for the vCenter Single Sign-On administrator user account.
SSO_ADMIN_PASSWORD=\"*password*\"	None	Password for the vCenter Single Sign-On administrator user account
LS_URL=*URL*	None	Lookup Service URL. The Lookup Service URL takes the form https://*SSO_host_FQDN_or_IP*:7444/lookupservice/sdk, where 7444 is the default vCenter Single Sign-On HTTPS port number. If you enter a different port number when you install vCenter Single Sign-On, use that port number.

Table 3. vCenter Server Installation Command Parameters (Continued)

Parameter	Default	Conditions
IS_URL=*URL*	None	Inventory Service URL. The IS_URL takes the form https://*IS_host_FQDN*:10443/\", where 10443 is the default vCenter Inventory Service HTTPS port number. If you enter a different port number when you install vCenter Inventory Service, use that port number.
VC_ADMIN_USER=*user_name*		The user who will log in to vCenter Server.
VC_ADMIN_IS_GROUP_VPXD_TXT= [true|false]		Set to true if VC_ADMIN_USER is a group. Otherwise set to false. For example, if the specified VC_ADMIN_USER specified is the Administrators group, set this property to true. If the user specified is the Administrator user, set this property to false.
VPX_USES_SYSTEM_ACCOUNT=[""|1]	System	This parameter corresponds to the **Use System Account** checkbox in the vCenter Server Service dialog box. System – Use system account. 0 – Non-null value, such as 0, behaves the same as 1. When value is 1, do not include the parameters VPX_ACCOUNT_UPN=\"*account_name*@*UNCname*\", VPX_PASSWORD=\"*password*\", VPX_PASSWORD_VERIFY=\"*password*\", or VPX_ACCOUNT=\"*UNCname**account_name*\". "" – Use account provided. When value is "", you must include VPX_ACCOUNT_UPN=\"*account_name*@*UNCname*\", VPX_PASSWORD=\"*password*\", VPX_PASSWORD_VERIFY=\"*password*\", and VPX_ACCOUNT=\"*UNCname**account_name*\".
VPX_ACCOUNT_UPN		The User Principal Name in the Windows Active Directory, in an e-mail address format, for example. *account_name*@*UNCname*
VPX_ACCOUNT=\"*UNCname*\ *account_name*\"	None	User account to run VMware vCenter Server service. *UNCname* can either be the domain name or local host name. *account_name* default is the current logged in user. The administrator user must have **Logon as a Service** right. Required only if VPX_USES_SYSTEM_ACCOUNT=""; ignored if 1. Example:\"mydomain\john\"
VPX_PASSWORD=\"*password*\"	None	User account password. Required only if VPX_USES_SYSTEM_ACCOUNT=""; ignored if 1.
VPX_PASSWORD_VERIFY= \"*password*\"	None	Verify user account password. Required only if VPX_USES_SYSTEM_ACCOUNT=""; ignored if 1.
INSTALLDIR=\"*installdir*\"	None	Specifies an alternate installation directory. The installation path cannot have commas (,) or periods (.). To install vCenter Server on a drive other than C:, verify that there is enough space in the C: \WINDOWS\Installer folder to install the Microsoft Windows Installer .msi file. If you use an Oracle DSN, the path name cannot contain opening or closing parentheses.
VC_JDBC_URL=*URL*		JDBC URL for the database. Required if you use an existing database.

Table 3. vCenter Server Installation Command Parameters (Continued)

Parameter	Default	Conditions
VCS_GROUP_TYPE=[Single|Group]	Single	Types of Directory Services instance. When using Group, you must include VCS_ADAM_PRIMARY_PORT=\"*port*\" and VCS_ADAM_PRIMARY_SERVER=\"*IP_address*\".
VCS_ADAM_PRIMARY_SERVER=\"*IP_address*\"	""	IP address or fully qualified DNS name of the remote vCenter Server to which you want to join this vCenter Server instance. Example: vcms-internal.eng.vmware.com. Required only if VCS_GROUP_TYPE=Group.
VCS_ADAM_PRIMARY_PORT=*port*	389	LDAP port that the remote Directory Services instance is listening on. Required only if VCS_GROUP_TYPE=Group.
VCS_ADAM_LDAP_PORT=*port*	389	LDAP port of Directory Services where VMware VCMSDS listens. VCS_ADAM_LDAP_PORT must either use the default port number or reside in the range 1025 <= PORT <= 65535
VCS_ADAM_SSL_PORT=*port*	636	SSL port of Directory Services where VMware VCMSDS listens. VCS_ADAM_SSL_PORT must either use the default port number or reside in the range 1025 <= PORT <= 65535
VCS_HTTPS_PORT=*port*	443	vCenter Server HTTPS port.
VCS_HTTP_PORT=*port*	80	vCenter Server HTTP port.
TC_HTTP_PORT=*port*	8080	VMware vCenter Web services HTTP port.
TC_HTTPS_PORT=*port*	8443	VMware vCenter Web services HTTPS port.
VCS_WSCNS_PORT=*port*	60099	Web Services Change Service Notification port
VCS_HEARTBEAT_PORT=*port*	902	vCenter Server Heartbeat port.
VPX_BUMPUP_EPHEMERAL_PORT=[""|1]	""	Set this option to 1 if your vCenter Server manages hosts on which you will power on more than 2000 virtual machines simultaneously. This option prevents the pool of available ephemeral ports from being exhausted.

vSphere Client Installation Parameters

Table 4. vSphere Client Installation Command Parameters for the VMware-viclient.exe Command

Parameter	Default	Conditions
INSTALLDIR=\"*installdir*\"	None	Specifies an alternate installation directory and creates a Virtual Infrastructure Client directory. The installation path cannot have commas (,) or periods (.). If you install vSphere Client on a drive other than C:, verify that there is enough space in the C: \WINDOWS\Installer folder to install the Microsoft Windows Installer .msi file.

vSphere Web Client Installation Parameters

Table 5. vSphere Web Client Installation Command Parameters for the VMware-WebClient.exe Command

Parameter	Default	Conditions
INSTALLDIR=\"*installdir*\"	None	Specifies an alternate installation directory and creates a vSphereWebClient directory. The installation path cannot have commas (,) or periods (.). If you install vSphere Web Client on a drive other than C:, verify that there is enough space in the C: \WINDOWS\Installer folder to install the Microsoft Windows Installer .msi file.
HTTP_PORT=*port_number*	9090	vSphere Web Client HTTP port.

Table 5. vSphere Web Client Installation Command Parameters for the `VMware-WebClient.exe` Command

`HTTPS_PORT=`*`port_number`*	9443	vSphere Web Client HTTPS port
`SSO_ADMIN_USER=\"`*`user_name`*`\"`	None	User name for the vCenter Single Sign-On administrator user account.
`SSO_ADMIN_PASSWORD=\"`*`password`*`\"`	None	Password for the vCenter Single Sign-On administrator user account
`LS_URL=`*`URL`*	None	Lookup Service URL. The Lookup Service URL takes the form `https://`*`SSO_host_FQDN_or_IP`*`:7444/lookupservice/sdk`, where 7444 is the default vCenter Single Sign-On HTTPS port number. If you enter a different port number when you install vCenter Single Sign-On, use that port number.

Profile-Driven Storage Service Installation Parameters

The Profile-Driven Storage Service installer is located at *`media`*`\vCenter-Server\Profile-Driven StoragVMware vSphere Profile-Driven Storage.msi`.

Table 6. Profile-Driven Storage Service Installation Command Parameters

Parameter	Default	Conditions
`INSTALLDIR=\"`*`installdir`*`\"`	None	Specifies an alternate installation directory. The installation path cannot have commas (,) or periods (.).
`SPS_HTTP_PORT=`*`port_number`*	21200	Profile-Driven Storage Service HTTP port.
`SPS_HTTPS_PORT=`*`port_number`*	21100	Profile-Driven Storage Service HTTPS port.
`COMPUTER_FQDN=`*`FQDN`*		The fully qualified domain name of the Profile-Driven Storage Service host machine.
`TOMCAT_MAX_MEMORY_OPTION=[S|M|L]`	None	Choices refer to vCenter Server inventory size. ■ `S` – Small inventory (1-100 hosts or 1-1000 virtual machines) ■ `M` – Medium inventory (100-400 hosts or 1000-4000 virtual machines) ■ `L` – Large inventory (more than 400 hosts or 4000 virtual machines) ■ This parameter determines the maximum JVM heap settings for VMware VirtualCenter Management Webservices (Tomcat), Inventory Service, and Profile-Driven Storage Service. You can adjust this setting after installation if the number of hosts in your environment changes. See the recommendations in the *vSphere Installation and Setup* documentation.
`ARPSYSTEMCOMPONENT==["""|1]`		Set value to `1` to hide the installer from the Add or Remove Programs list in the control panel.
`SKIPVCCHECK=1`		Required to install Profile-Driven Storage Service separately. Confirms presence of vCenter Server on the system.

Performing a Command-Line Installation of vCenter Server and Components

This section describes how to install vCenter Single Sign-On, vCenter Inventory Service, vCenter Server and the vSphere Client from the command line. You must install vCenter Server and related components in this order: vCenter Single Sign-On, vCenter Inventory Service, vCenter Server, and Profile-Driven Storage Service.

Basic Procedure for Installing vCenter Server and Components from the Command Line

The following steps outline the basic procedure for installing vCenter Server and components from the command line. The following sections give specific command parameters and examples for the installation of each component.

1 Download the installer and any additional modules for vCenter Server.

   a Download the ISO installer file for vCenter Server from the VMware product page at http://www.vmware.com/products.

   The installer ISO file name is `VMware-VIMSetup-all-5.1.0-yyyyyy.iso`, where `yyyyyy` is the build number.

   b Extract the files from the ISO file.

2 Open a Windows command prompt on the virtual machine or server that you are going to install vCenter Server or vSphere Client on.

3 Change directory to the location of the installation executables.

4 From the command line of the server or virtual machine where you are installing the vCenter Server component, run the appropriate command string

   - The command string format from a network location is:

     `start /wait` *`installer.exe_file parameters`*

   - The command string format from a local disk is:

     `start /wait` *`installer.exe file`* `/LLanguage Code /v"/qr` *`parameters`*`"`

vCenter Single Sign-On Local Installation Examples

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4, "vCenter Server Installer Command Parameters" on page 4, and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12. Single Sign-On installation command parameters are listed in Table 1.

The examples assume that you are running the installation from a local disk, not a network location. See "Installing over a Network" on page 2.

Example 1. Local Installation with Basic Single Sign-On and Bundled Database.

```
start /wait VMware-SSO-Server.exe /L1033 /v"/qr
MASTER_PASSWORD=Admin@12345
RSA_DBA_PASSWORD=Admin.67890
RSA_USER_PASSWORD=Admin.67890
CONFIG_TYPE=Setup
SETUP_TYPE=Basic
SSO_DB_SERVER_TYPE=Bundled
COMPUTER_FQDN="hostname-domain.com"
SSO_HTTPS_PORT=7444
INSTALLDIR=\"C:\vCenter\"
/L*v \"%TEMP%\vim-sso-msi.log\" "
```

Example 2. Local Installation with Basic Single Sign-On, Bundled Database, and SSPI Domain

```
start /wait VMware-SSO-Server.exe /L1033 /v"/qr
MASTER_PASSWORD=Admin@12345
RSA_DBA_PASSWORD=Admin.67890
RSA_USER_PASSWORD=Admin.67890
CONFIG_TYPE=Setup
SETUP_TYPE=Basic
SSO_DB_SERVER_TYPE=Bundled
COMPUTER_FQDN="hostname-domain.com"
```

```
SSO_HTTPS_PORT=7444
INSTALLDIR=\"E:\vCenter\"
/L*v \"%TEMP%\vim-sso-msi.log\"
SSPI_USERNAME=administrator
SSPI_DOMAIN=xyz.com
SSPI_PASSWORD=Admin@12345
IS_SSPI_NETWORK_SERVICE_ACCOUNT=1"
INSTALLDIR=\"C:\vCenter\"
/L*v \"%TEMP%\vim-sso-msi.log\" "
```

vCenter Inventory Service Local Installation Example

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4, "vCenter Server Installer Command Parameters" on page 4, and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12. vCenter Inventory Service installation command parameters are listed in Table 2.

Example 3. Inventory Service Local Installation

```
start /wait "media\Inventory Service\VMware-inventory-service.exe" /S /v"
INSTALLDIR=\"C:\Program Files\VMware\Infrastructure\"
QUERY_SERVICE_NUKE_DATABASE=0 or 1
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
HTTPS_PORT=10443
FEDERATION_PORT=10111
XDB_PORT=10109
TOMCAT_MAX_MEMORY_OPTION=S /qr"
```

vCenter Server Local Installation Examples

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4, "vCenter Server Installer Command Parameters" on page 4, and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12. vCenter Server installation command parameters are listed in Table 3.

The examples assume that you are running the installation from a local disk, not a network location. See "Installing over a Network" on page 2.

For examples of vCenter Server remote installation commands, see "Remote Installation Examples" on page 17.

vCenter Server Typical Local Installation

Use the default settings to install vCenter Server to the default location with the bundled database.

Example 4. Typical Local Installation – Use the Default Settings

```
start /wait media\vCenter-Server\VMware-vcserver.exe  /w /L1033 /v"/qr
DB_SERVER_TYPE=Bundled
FORMAT_DB=1
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators
/L*v \"%TEMP%\vmvcsvr.log\" "
```

If the database is already installed, `FORMAT_DB=1` command parameter specifies replacing the existing database. When `DB_SERVER_TYPE=Bundled` is used, `FORMAT_DB=1` must also be specified as described in the Table 3 condition for `DB_SERVER_TYPE`.

vCenter Server Custom Local Installation

Example 5 sets parameters for a single vCenter Server custom installation.

Example 5. Custom Local Installation – Single vCenter Server Installation Parameters

```
start /wait media\vpx\VMware-vcserver.exe  /w /L1033 /v"/qr
LICENSEKEY=\"xxxxx-xxxxx-xxxxx-xxxxx-xxxxx\"
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators
DB_SERVER_TYPE=Custom
DB_DSN=\"VCCmdLineInstall-2\"
DB_USERNAME=\"Administrator\"
DB_PASSWORD=\"CENSORED\"
VPX_USES_SYSTEM_ACCOUNT=\"\"
VPX_ACCOUNT=\"TEST\administrator\"
VPX_PASSWORD=\"CENSORED\"
VPX_PASSWORD_VERIFY=\"CENSORED\"
INSTALLDIR=\"C:\VCServer\"
VCS_GROUP_TYPE=Single
VCS_HTTPS_PORT=443
VCS_HTTP_PORT=80
VCS_HEARTBEAT_PORT=902
TC_HTTP_PORT=8080
TC_HTTPS_PORT=8443
VCS_ADAM_LDAP_PORT=389
VCS_ADAM_SSL_PORT=902"
```

vCenter Server Local Installation over a Network

Over a network, use the default settings to install vCenter Server to the default location with the bundled database

Example 6. Typical Local Installation from a Network

```
start /wait \\10.112.121.19\c\VMware-VIMSetup-5.1.0_150520\vCenter-Server\VMware-vcserver.exe  /w
               /L1033 /v"/qr
FORMAT_DB=1"
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators "
```

When DB_SERVER_TYPE is not specified, its default value is Bundled, so FORMAT_DB=1 must be specified as shown in the Table 3 condition for DB_SERVER_TYPE.

vCenter Server Local Installation with an Existing Database

Example 7 sets the default user as the custom database server user. The domain user sets the default user for vCenter Server, integrated OS authentication, and remote SQL Servers. The same command string works for local SQL Servers.

Example 7. Typical Local Installation with an Existing Database

```
start /wait media\vCenter-Server\VMware-vcserver.exe  /w /L1033 /v"/qr
LICENSEKEY=\"xxxxx-xxxxx-xxxxx-xxxxx-xxxxx\"
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators
DB_SERVER_TYPE=Custom
DB_DSN=\"sql2005_NT_mli\"
```

```
DB_USERNAME=\"mli\"
DB_PASSWORD=\"CENSORED\"
VPX_USES_SYSTEM_ACCOUNT=\"\"
VPX_ACCOUNT=\"PDPVC\mli\"
VPX_PASSWORD=\"CENSORED\"
VPX_PASSWORD_VERIFY=\"CENSORED\" "
```

If you are using SQL authentication for ODBC DSN, vCenter Server can run either as a local system account or as a domain user account.

vCenter Server Custom Local Installation with Linked Mode

Example 8 sets multiple vCenter Server installation parameters and joins a group of vCenter Servers. This Linked Mode examples describes how to have the installation join the group of an existing primary vCenter Server. You can specify either a local system account or user-specified account.

Example 8. Custom Installation with Linked Mode

```
start /wait media\vCenter-Server\VMware-vcserver.exe  /w /L1033 /v"/qr
LICENSEKEY=xxxxx-xxxxx-xxxxx-xxxxx-xxxxx
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators
DB_SERVER_TYPE=Custom
DB_DSN=\"VCCmdLineInstall-2\"
DB_USERNAME=\"Administrator\"
DB_PASSWORD=\"CENSORED\"
VPX_USES_SYSTEM_ACCOUNT=\"\"
VPX_ACCOUNT=\"TEST\administrator\"
VPX_PASSWORD=\"CENSORED\"
VPX_PASSWORD_VERIFY=\"CENSORED\"
INSTALLDIR=\"C:\VCServer\"
VCS_GROUP_TYPE=Group
VCS_ADAM_PRIMARY_SERVER=\"FQDN\"
VCS_ADAM_PRIMARY_PORT=389
VCS_HTTPS_PORT=443
VCS_HTTP_PORT=80
VCS_HEARTBEAT_PORT=902
TC_HTTP_PORT=8080
TC_HTTPS_PORT=8443
VCS_ADAM_LDAP_PORT=389
VCS_ADAM_SSL_PORT=636 "
```

vCenter Server Local Installation with Linked Mode and Existing Database

Example 9 installs vCenter Server with an existing database and keeps the existing database data while joining the installed vCenter Server to a Linked Mode group of vCenter Servers.

NOTE For Oracle 10g and Oracle 11g, to continue the installation, you must respond to the confirmation prompt that appears.

Example 9. Install with Linked Mode and Existing Database

```
start /wait media\vCenter-Server\VMware-vcserver.exe  /w /L1033 /v"/qr
LICENSEKEY=\"xxxxx-xxxxx-xxxxx-xxxxx-xxxxx\"
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators
DB_SERVER_TYPE=Custom
DB_DSN=\"VCCmdLineInstall-2\"
```

```
DB_USERNAME=\"Administrator\"
DB_PASSWORD=\"CENSORED\"
FORMAT_DB=0
VPX_USES_SYSTEM_ACCOUNT=\"\"
VPX_ACCOUNT=\"TEST\administrator\"
VPX_PASSWORD=\"CENSORED\"
VPX_PASSWORD_VERIFY=\"CENSORED\"
INSTALLDIR=\"C:\VCServer\"
VCS_GROUP_TYPE=Group
VCS_ADAM_PRIMARY_SERVER=\"FQDN\"
VCS_ADAM_PRIMARY_PORT=389
VCS_HEARTBEAT_PORT=902
VCS_HTTPS_PORT=443
VCS_HTTP_PORT=80
TC_HTTP_PORT=8080
TC_HTTPS_PORT=8443
VCS_ADAM_LDAP_PORT=389
VCS_ADAM_SSL_PORT=636 "
```

vSphere Client Local Installation Examples

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4, "vCenter Server Installer Command Parameters" on page 4, and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12. vSphere Client installation command parameters are listed in Table 4.

The examples assume that you are running the installation from a local disk, not a network location.

Example 10. Typical vSphere Client Installation

```
start /wait media\vSphere-Client\VMware-viclient.exe  /w /L1033 /v"/qr "
```

Example 11. vSphere Client Installation with a Log File and a a Custom Installation Directory

```
start /wait media\vSphere-Client\VMware-viclient.exe  /w /L1033 /v"/qr
INSTALLDIR=\"C:\VIClient\"
/L*v \"%TEMP%\vmvcc.log\" "
```

Example 12. vSphere Client Reinstallation

```
start /wait media\vSphere-Client\VMware-viclient.exe  /w /L1033 /v"/qr
/L*v \"%TEMP%\vmvcc.log\" "
```

vSphere Client 5.1.x Installation over Virtual Infrastructure Client

Installing the vSphere Client over an existing installation overwrites the original installation. You are not prompted to confirm the installation. You can safely install the vSphere Client over the following versions of the Virtual Infrastructure Client (VI Client) or the vSphere Client:

- VI Client 2.0
- VI Client 2.0.1
- VI Client 2.0.1 P1, P2
- VI Client 2.0.2
- VI Client 2.0.2 U1, U2, U3, U4, U5
- VI Client 2.5
- VI Client 2.5 U1, U2, U3, U4
- vSphere Client 4.0.x
- vSphere Client 4.1.x
- vSphere Client 5.0.x

Example 13. vSphere Client 5.1 Installation over Virtual Infrastructure Client

```
start /wait media\vSphere-Client\VMware-viclient.exe  /w /L1033 /v"/qr /L*v \"%TEMP%\vmvcc.log\"
              "
```

vSphere Web Client Local Installation Example

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4, "vCenter Server Installer Command Parameters" on page 4, and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12. vSphere Web Client installation command parameters are listed in Table 5.

Example 14. vSphere Web Client Local Installation

```
start /wait InstallerPath\VMware-WebClient.exe /L1033 /v"/qr
HTTP_PORT=9090 HTTPS_PORT=9443
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"CENSORED\"
LS_URL=\"https://SSO_FQDN:SSO_HTTPS_Port/lookupservice/sdk\"
INSTALLDIR=\"InstallationPath\"
/L*v \"%TEMP%\vim-ngc-msi.log\" "
```

Remote Installation Examples

To install vCenter Server remotely, install the vCenter components separately, in this order: vCenter Single Sign-On, vCenter Inventory Service, vCenter Server, and Profile-Driven Storage Service (SPS).

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4, "vCenter Server Installer Command Parameters" on page 4, and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12.

vCenter Server requires the Microsoft .NET 3.5 SP1 Framework. The .NET 3.5 SP1 installation might require Internet connectivity to download more files. If the target host does not have .NET 3.5 SP1 installed, you can install it remotely by using the command in Example 15 (for Windows Server 2008 and later) or Example 16 (for Windows Server 2003).

Example 15. Microsoft .NET 3.5 SP1 Installation for Windows Server 2008 and later

```
start /w ocsetup.exe "NetFx3" /quiet /norestart /log:\%TEMP%\netfx3.log\"
```

The `dotnetfx35.exe` file in Example 16 is located in the `redist` directory of your downloaded vCenter Server installer ISO file.

Example 16. Microsoft .NET 3.5 SP1 Installation Windows Server 2003

```
redist\dotnet\dotnetfx35.exe /L 1033 /v "/qf /norestart "
```

If you plan to use the Microsoft SQL Server 2008 R2 Express SP1 database that is bundled with vCenter Server, Microsoft Windows Installer version 4.5 (MSI 4.5) and the Microsoft .NET 3.5 SP1 Framework are required on your system. You can install Microsoft .NET 3.5 SP1 as shown in Example 15 and Example 16. You can download MSI 4.5 from the Microsoft Web site. If the target host does not have MSI 4.5 installed, you can install it remotely by using the command in Example 17. The `Windows6.0-KB958655-v2-x64.msu` file is located in the directory `redist\msi45\`*`Windows version number`*.

Example 17. Windows MSI 4.5 Remote Installation

```
start /wait Windows6.0-KB958655-v2-x64.msu /quiet /norestart
```

To install the Microsoft SQL Server 2008 R2 Express database remotely, use the command in Example 18. You must log in as the system account. The `SQLEXPR_x64_ENU.exe` file is located in the directory `redist\SQLEXPR`.

Example 18. Microsoft SQL Server 2008 R2 Express Remote Installation

```
start /wait SQLEXPR_x64_ENU.exe /Q
/ACTION=Install
/IACCEPTSQLSERVERLICENSETERMS
/SQLSVCACCOUNT="NT AUTHORITY\SYSTEM"
/FEATURES=SQL,Tools /SQLSYSADMINACCOUNTS="BUILTIN\ADMINISTRATORS"
/NPENABLED="1"
/TCPENABLED="1"
/SECURITYMODE="SQL"
/INSTANCENAME=VIM_SQLEXP
/SAPWD="MASTER_PASSWORD"
```

The msvcrt90 DLL is required for OpenSSL. To install the msvcrt90.dll remotely, use the command in Example 19. The `vcredist_x64.exe` file is located in the directory `redist\vcredist\`*`Windows version number`*.

Example 19. Microsoft msvcrt90.dll Remote Installation

```
start /wait vcredist_x64.exe /q
```

Example 20. vCenter Single Sign-On Remote Installation

```
start /wait VMware-SSO-Server.exe /L1033 /v"/q
CONFIG_TYPE=Setup
SETUP_TYPE=Basic
SSO_DB_SERVER_TYPE=Bundled
RSA_DBA_PASSWORD=RSA_DBA_PASSWORD
RSA_USER_PASSWORD=RSA_USER_PASSWORD
MASTER_PASSWORD=MASTER_PASSWORD
COMPUTER_FQDN=IP_ADDRESS
INSTALLDIR=\"C:\Program Files\VMware\Infrastructure\"
/L*v \"c:\temp\vim-sso-msi.log\" "
```

Example 21. Inventory Service Remote Installation

```
start /wait VMware-inventory-service.exe /L1033 /v"/q
SSO_ADMIN_USER=admin@System-Domain
SSSO_ADMIN_PASSWORD=\"master_password\"
LS_URL=\"https://IP_ADDRESS:7444/lookupservicedk\"
QUERY_SERVICE_NUKE_DATABASE=1
TOMCAT_MAX_MEMORY_OPTION=S
COMPUTER_FQDN=IP_ADDRESS
/L*v \"c:\temp\vim-qs-msi.log\" "
```

Example 22. vCenter Server Remote Installation

```
start /wait VMware-vcserver.exe  /v"/qr
SSO_ADMIN_USER=admin@System-Domain
SSO_ADMIN_PASSWORD=\"master_password\"
VC_ADMIN_USER=Administrators
VC_ADMIN_IS_GROUP_VPXD_TXT=true
COMPUTER_FQDN=IP_ADDR
LS_URL=\"https://IP_ADDR:7444/lookupservicedk\"
IS_URL=\"https://FQDN:10443/\"
DB_SERVER_TYPE=Bundled FORMAT_DB=1
VCS_GROUP_TYPE=Single
VPX_ACCOUNT_TYPE=System
/L*v \"\temp\vim-vcs-msi.log\" "
```

If you are performing a remote installation of vCenter Server, you must install Profile-Driven Storage Service (SPS) separately from vCenter Server. Before installing Profile-Driven Storage Service, verify that the VMware VirtualCenter Server service is started in the Windows Adminstrative Tools control panel. The Profile-Driven Storage Service installation will fail if the VMware VirtualCenter Server service is not started.

Example 23. Profile-Driven Storage Service (SPS) Remote Installation

```
msiexec.exe /qr /L*v "C:\Users\ADMINI~1\AppData\Local\Temp\vim-sps-msi.log" /i
               "media\vCenter-Server\Profile-Driven Storage\VMware vSphere Profile-Driven
               Storage.msi"
INSTALLDIR="C:\Program Files\VMware\Infrastructure\"
SPS_HTTP_PORT=31000
SPS_HTTPS_PORT=31100
COMPUTER_FQDN=abc.eng.vmware.com
QUERY_SERVICE_NUKE_DATABASE="1"
TOMCAT_MAX_MEMORY_OPTION="S"
ARPSYSTEMCOMPONENT=1
SKIPVCCHECK=1
```

Example 24. vSphere Client Remote Installation

```
VMware-viclient.exe /s /v"/qn INSTALLDIR=\"C:\program files\VMware\Infracture\" "
```

Example 25. vSphere Web Client Remote Installation

```
start /wait media\VMware-WebClient.exe /L1033 /v"/qr
HTTP_PORT=9090
HTTPS_PORT=9443
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"CENSORED\"
LS_URL=\"https://SSO_FQDN:SSO_HTTPS_Port/lookupservice/sdk\"
INSTALLDIR=\"InstallationPath\"
/L*v \"%TEMP%\vim-ngc-msi.log\" "
```

Upgrading vCenter Server from the Command Line

When you upgrade to vCenter Server 5.1 from the command line, you must install vCenter Single Sign-On and install or upgrade vCenter Inventory Service, in that order, before you install or upgrade vCenter Server.

When you upgrade vCenter Server, you can upgrade the vCenter Server database first, and then upgrade vCenter Server, or upgrade both the vCenter Server database and vCenter Server in a single command.

To upgrade the vCenter Server database before upgrading vCenter Server, use the following command.

```
path_to_vCenter-Server\vCenter-Server\dbupgrade\bin\VCDtabaseUpgrade.exe DSN=DSN_name
               UID=DB_username PWD=DB_password LOGFILE=optional or specify another name with path
```

To run this command silently, add the parameter `QUIET=true`. The *DB_username* depends on the database type:

- For SQL Server databases. If the DSN uses Windows authentication, the *DB_username* is the user name for the logon user. If the DSN uses the SQL Server authentication, the *DB_username* is the specific database user.
- For Oracle or IBM DB2 databases, the *DB_user name* is the database user.

The *DB_password* is the password for the specified *DB_username*.

To upgrade the vCenter Server database when you upgrade vCenter Server, in a single command, the `VMware-vcserver.exe` command must include the following parameters.

- `DB_EXISTING_VERSION=`*existing_database_version*
- `DB_DSN=`*database_DSN*
- `DB_USERNAME=`*database_user_name*
- `DB_PASSWORD=`*database_password*
- `LAUNCHWIZARD=\"1\"`
- `VCS_DB_BACKUP=\"1\"`

Example 26. Upgrade of vCenter Server and vCenter Server Database

```
path_to_vCenter-Server\vCenter-Server\VMware-vcserver.exe  /L1033
/v"DB_EXISTING_VERSION=existing_database_version
DB_DSN=database_DSN
DB_USERNAME=database_user_name
DB_PASSWORD=database_password
SSO_ADMIN_USER=\"admin@System-Domain\"
SSO_ADMIN_PASSWORD=\"mypassword\"
LS_URL=\"https://FQDN:7444/lookupservice/sdk\"
IS_URL=\"https://FQDN:10443/\"
VC_ADMIN_USER=Administrators
VC_ADMIN_IS_GROUP_VPXD_TXT=true
LAUNCHWIZARD=\"1\"
VCS_DB_BACKUP=\"1\" " /qr
```

If the vCenter Server database is already upgraded to the correct version for the vCenter Server version that you are installing, this command does not upgrade the database again. For the `DB_EXISTING_VERSION` parameter, use the following schema version numbers:

- VirtualCenter 2.5 Update 6: `5`
- vCenter Server 4.0.x: `400`
- vCenter Server 4.1.x: `410`
- vCenter Server 5.0: `500`
- vCenter Server 5.1: `510`

You can customize this command by using the parameters in Table 3.

Uninstalling vCenter Server and Components from the Command Line

You must uninstall vSphere 5.1 components in this order: Profile-Driven Storage Service (SPS), vCenter Server, vCenter Inventory Service, and vCenter Single Sign-On.

To uninstall Profile-Driven Storage Service

1 Open a Windows command prompt on the virtual machine or server that Profile-Driven Storage Service is installed on.

2 Run the following command:

```
msiexec.exe /x{6D993720-9949-4A37-AA5C-0FACBD6B0A27}
               SKIPVCCHECK=1
               SUPPRESS_CONFIRM_UNINSTALL="1"  /qr
```

To uninstall vCenter Server

1 Open a Windows command prompt on the virtual machine or server that vCenter Server is installed on.

2 Run the following command:

```
msiexec.exe /x{A4400513-2688-45A9-8439-CA991F4E4106}
               SUPPRESS_CONFIRM_UNINSTALL="1"  /qr
```

To uninstall both vCenter Server and Profile-Driven Storage Service

1 Open a Windows command prompt on the virtual machine or server that vCenter Server is installed on.

2 Run the following command:

```
msiexec.exe /I{A4400513-2688-45A9-8439-CA991F4E4106} REMOVE=ALL
               SUPPRESS_CONFIRM_UNINSTALL="1"  /qr
```

To uninstall vCenter Inventory Service

1 Open a Windows command prompt on the virtual machine or server that vCenter Inventory Service is installed on.

2 Run the following command:

```
msiexec.exe /x{946581B4-C0B9-4A86-9207-E64448CBA66B}
               SUPPRESS_CONFIRM_UNINSTALL="1" /qr
```

To uninstall vCenter Single Sign-On

1 Open a Windows command prompt on the virtual machine or server that vCenter Single Sign-On is installed on.

2 Run the following command:

```
msiexec /x {DEC4C346-414B-4814-9BF3-CAC14154B55A} MASTER_PASSWORD=master_password /qr
```

To uninstall the vSphere Client

1 Open a Windows command prompt on the virtual machine or server that the vSphere Client is installed on.

2 Run the following command:

```
msiexec.exe /x{09DC364B-A77A-49A0-972B-E43F0DACC5E3}
```

To uninstall the vSphere Web Client

1 Open a Windows command prompt on the virtual machine or server that the vSphere Web Client is installed on.

2 Run the following command:

```
MSIEXEC.EXE /norestart /qr /x{F6DE3801-C557-40AD-B949-7A82D68CDFEE}
                SSO_ADMIN_USER="admin@System-Domain "
                SSO_ADMIN_PASSWORD="CENSORED"
                /L*v \"%TEMP%\vim-ngc-msi.log\"
```

Installing, Upgrading, and Uninstalling vCenter Server Support Tools

After you install vCenter Single Sign-On, vCenter Inventory Service, and vCenter Server, you can install the following vCenter Server support tools:

- vSphere Auto Deploy
- vSphere Authentication Proxy
- vSphere ESXi Dump Collector
- vSphere Syslog Collector

The installer files are included in the ISO installer file for vCenter Server, which you can download from the VMware product page at http://www.vmware.com/products. The installer ISO file name is `VMware-VIMSetup-all-5.1.0-yyyyyy.iso`, where `yyyyyy` is the build number. After you extract the files from the ISO file, the installer executables for the support tools are in the `vctools` subdirectory.

For remote installations, you can store installation-related data on the remote computer, mapping the remote remote path `\\10.20.100.23\DATA` as `F:\DATA`. Then you can point to this location from the installation command.

For more information about these tools, see the vSphere 5.1 documentation at http://www.vmware.com/support/pubs.

Installing, Upgrading, and Uninstalling vSphere Auto Deploy

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4 and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12.

Auto Deploy Installation Parameters

Table 7. Auto Deploy Installation Command Parameters for the `VMware-autodeploy.exe` Command

Parameter	Conditions
`INSTALLDIR=\"`*`installdir`*`\"`	Specifies the root destination directory for the installation. The installation path cannot have commas (,) or periods (.). If you install Auto Deploy on a drive other than C:, verify that there is enough space in the `C:\WINDOWS\Installer` folder to install the Microsoft Windows Installer `.msi` file.
`VM_DATA_SIZE=`*`number of GB`*	Hard disk space in gigabytes (GB) for VM_PATH_DATA.
`VM_LOCALSERVER=`*`IP or FQDN`*	Auto Deploy local computer IP address or fully qualified domain name (FQDN).
`VM_PATH_DATA=\"`*`data_directory`*`\"`	Specifies the root destination data directory for the installation.
`VM_PORT=`*`port number`*	Auto Deploy service TCP port number
`VM_PORTADD=`*`port number`*	Auto Deploy management TCP port number
`VC_SERVER_ADDRESS=`*`IP_address`*	vCenter Server address
`VC_SERVER_PASSWORD=\"`*`password`*`\"`	vCenter Server user password
`VC_SERVER_PORT=`*`port number`*	vCenter Server port number

Table 7. Auto Deploy Installation Command Parameters for the `VMware-autodeploy.exe` Command

`VC_SERVER_THUMBPRINT=`*`thumbprint`*	vCenter Server certificate thumbprint
`VC_SERVER_USER=\"`*`user_name`*`\"`	vCenter Server user name

Example 27 installs Auto Deploy with the log file written to the %TEMP% directory.

Example 27. vSphere Auto Deploy Installation

```
VMware-autodeploy.exe  /v"VM_PATH_DATA=\"C:\DATA\"
VM_DATA_SIZE=4
VM_PORT=6501
VM_PORTADD=6502
VC_SERVER_ADDRESS=10.20.104.158
VC_SERVER_PORT=80
VC_SERVER_USER=\"myUser\"
VC_SERVER_PASSWORD=\"myPassword\"
VC_SERVER_THUMBPRINT=\"6A:60:D0:25:8B:3E:67:0F:9B:EA:14:C5:F3:B7:01:2C:3B:11:EF:2A\"
/qn /L*v \"%TEMP%\vim-autodeploy-msi.log\" "
```

Example 28 performs a silent minor upgrade of Auto Deploy with the log file written to the %TEMP% directory.

Example 28. vSphere Auto Deploy Minor Upgrade

```
VMware-autodeploy.exe  /v"/qn /L*v \"%TEMP%\vim-autodeploy-msi.log\" "
```

Example 29 performs a silent major upgrade of Auto Deploy with the log file written to the %TEMP% directory.

Example 29. vSphere Auto Deploy Major Upgrade

```
VMware-autodeploy.exe  /v"/qn /L*v \"%TEMP%\vim-autodeploy-msi.log\" "
```

Example 30 removes Auto Deploy silently with the log file written to the %TEMP% directory.

Example 30. vSphere Auto Deploy Uninstallation

```
VMware-autodeploy.exe  /x /v"/qn /L*v \"%TEMP%\vim-autodeploy-msi.log\" "
```

Installing, Upgrading, and Uninstalling vSphere Authentication Proxy

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4 and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12.

vSphere Authentication Proxy Installation Parameters

Table 8. vSphere Authentication Proxy Installation Command Parameters for the `VMware-cam.exe` Command

Parameter	Conditions
`INSTALLDIR=\"`*`installdir`*`\"`	Specifies the root destination directory for the installation. The installation path cannot have commas (,) or periods (.). If you install Authentication Proxy on a drive other than C:, verify that there is enough space in the `C:\WINDOWS\Installer` folder to install the Microsoft Windows Installer `.msi` file.
`VM_LOCALSERVER=`*`IP or FQDN`*	Authentication Proxy local computer IP address or fully qualified domain name (FQDN).
`VM_IIS_PORT_TCP=`*`port number`*	Authentication Proxy service TCP port number
`VM_IIS_PORTSSL=`*`port number`*	Authentication Proxy service SSL TCP port number
`VC_SERVER_ADDRESS=`*`IP_address`*	vCenter Server address
`VC_SERVER_PASSWORD=`*`password`*	vCenter Server user password
`VC_SERVER_PORT=`*`port number`*	vCenter Server port number

Table 8. vSphere Authentication Proxy Installation Command Parameters for the `VMware-cam.exe` Command

`VC_SERVER_THUMBPRINT=`*`thumbprint`*	vCenter Server certificate thumbprint
`VC_SERVER_USER=`*`user name`*	vCenter Server user name

Example 31 installs Authentication Proxy with the log file written to the %TEMP% directory.

Example 31. vSphere Authentication Proxy Installation

```
VMware-cam.exe /s /v"VC_SERVER_ADDRESS=10.20.104.158
VC_SERVER_USER=\"myUser\"
VC_SERVER_PASSWORD=\"myPassword\"
VM_IIS_PORT_TCP=52000
VM_IIS_PORTSSL=53000
VM_LOCALSERVER= 10.20.104.64
VC_SERVER_THUMBPRINT=\"6A:60:D0:25:8B:3E:67:0F:9B:EA:14:C5:F3:B7:01:2C:3B:11:EF:2A\"
/qn /L*v \"%TEMP%\vim-cam-msi.log\" "
```

Example 32 performs a silent minor upgrade of Auto Deploy with the log file written to the %TEMP% directory.

Example 32. vSphere Authentication Proxy Minor Upgrade

```
VMware-cam.exe /s /v"/qn /L*v \"%TEMP%\vim-cam-msi.log\" "
```

Example 33 performs a silent major upgrade of Authentication Proxy with the log file written to the %TEMP% directory.

Example 33. vSphere Authentication Proxy Major Upgrade

```
VMware-cam.exe /s /v"VC_SERVER_PASSWORD=\"myPassword\" /qn /L*v \"%TEMP%\vim-cam-msi.log\" "
```

Example 34 removes Authentication Proxy silently with the log file written to the %TEMP% directory.

Example 34. vSphere Authentication Proxy Uninstallation

```
VMware-cam.exe /s /x /v"/qn /L*v \"%TEMP%\vim-cam-msi.log\" "
```

Installing, Upgrading, and Uninstalling vSphere ESXi Dump Collector

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4 and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12.

vSphere ESXi Dump Collector Installation Parameters

Table 9. vSphere ESXi Dump Collector Installation Command Parameters for the `VMware-netdump.exe` Command

Parameter	Conditions
`INSTALLDIR=\"`*`installdir`*`\"`	Specifies the root destination directory for the installation. The installation path cannot have commas (,) or periods (.). If you install ESXi Dump Collector on a drive other than C:, verify that there is enough space in the `C:\WINDOWS\Installer` folder to install the Microsoft Windows Installer `.msi` file.
`VM_VC=1`	Include this parameter, set to `1`, for an integrated installation with vCenter Server.
`VM_DATA_SIZE=`*`number of GB`*	Hard disk space in gigabytes (GB) for VM_PATH_DATA.
`VM_LOCALSERVER=`*`IP or FQDN`*	ESXi Dump Collector local computer IP address or fully qualified domain name (FQDN).
`VM_PATH_DATA=\"`*`data_directory`*`\"`	Specifies the root destination data directory for the installation.
`VM_PORT=`*`port number`*	ESXi Dump Collector service TCP port number
`VM_PORTADD=`*`port number`*	Dump Collector management TCP port number.
`VC_SERVER_ADDRESS=`*`IP_address`*	vCenter Server address.

Table 9. vSphere ESXi Dump Collector Installation Command Parameters for the `VMware-netdump.exe` Command

`VC_SERVER_PORT=`*`port number`*	vCenter Server port number.
`VC_SERVER_USER==\"`*`user_name`*`\"`	vCenter Server user name
`VC_SERVER_PASSWORD=\"`*`password`*`\"`	vCenter Server user password
`VC_SERVER_THUMBPRINT=`*`thumbprint`*	vCenter Server certificate thumbprint

Example 35 installs vSphere ESXi Dump Collector in a standalone deployment with the log file written to the %TEMP% directory.

Example 35. vSphere ESXi Dump Collector Standalone Installation

```
VMware-netdump.exe /s /v"VM_PATH_DATA=\"C:\DATA\"
VM_DATA_SIZE=4 VM_PORT=6501
VM_LOCALSERVER=10.20.104.64
/qn /L*v \"%TEMP%\vim-netdump-msi.log\" "
```

Example 36 installs vSphere ESXi Dump Collector in a deployment with vCenter Server, with the log file written to the %TEMP% directory. For vCenter Server installation command parameters, see Table 3.

Example 36. vSphere ESXi Dump Collector Installation with vCenter Server

```
VMware-netdump.exe /s /v"VM_VC=1
VM_PATH_DATA=\"C:\DATA\"
VM_DATA_SIZE=4
VM_PORT=6501
VM_PORTADD=8001
VC_SERVER_ADDRESS=10.20.104.157
VC_SERVER_PORT=80
VC_SERVER_USER=\"myUser\"
VC_SERVER_PASSWORD=\"myPassword\"
/qn /L*v \"%TEMP%\vim-netdump-msi.log\" "
```

Example 37 performs a silent minor upgrade of vSphere ESXi Dump Collector with the log file written to the %TEMP% directory.

Example 37. vSphere ESXi Dump Collector Minor Upgrade (Standalone or with vCenter Server)

```
VMware-netdump.exe /s /v"/qn /L*v \"%TEMP%\vim-netdump-msi.log\" "
```

Example 38 performs a silent major upgrade of Authentication Proxy with the log file written to the %TEMP% directory.

Example 38. vSphere ESXi Dump Collector Major Upgrade (Standalone or with vCenter Server)

```
VMware-netdump.exe /s /v"VC_SERVER_PASSWORD=\"myPassword\" /qn /L*v
               \"%TEMP%\vim-netdump-msi.log\" "
```

Example 39 removes vSphere ESXi Dump Collector silently with the log file written to the %TEMP% directory.

Example 39. vSphere ESXi Dump Collector Uninstallation

```
VMware-netdump.exe /s /x /v"/qn /L*v \"%TEMP%\vim-netdump-msi.log\" "
```

Installing, Upgrading, and Uninstalling vSphere Syslog Collector

Before you begin, review the sections "Microsoft Windows Installer Commands" on page 4 and "Basic Procedure for Installing vCenter Server and Components from the Command Line" on page 12.

vSphere Syslog Collector Installation Parameters

Table 10. vSphere Syslog Collector Installation Command Parameters for the `VMware-syslog.exe` Command

Parameter	Conditions
`INSTALLDIR=\"`*`installdir`*`\"`	Specifies the root destination directory for the installation The installation path cannot have commas (,) or periods (.). If you install vSphere Syslog Collector on a drive other than C:, verify that there is enough space in the `C:\WINDOWS\Installer` folder to install the Microsoft Windows Installer `.msi` file.
`VM_DATA_ROTATION=`*`number`*	Number of data rotations
`VM_DATA_SIZE=`*`number of GB`*	Hard disk space in gigabytes (GB) for VM_PATH_DATA.
`VM_LOCALSERVER=`*`IP or FQDN`*	vSphere Syslog Collector local computer IP address or fully qualified domain name (FQDN)
`VM_PATH_DATA=\"`*`data_directory`*`\"`	Specifies the root destination data directory for the installation
`VM_PORT=`*`port number`*	Syslog Collector service port number
`VM_PORT_TCP=[0|1]`	Syslog Collector TCP service port. Set to `0` to disable or `1` to enable.
`VM_PORT_UDP=[0|1]`	Syslog Collector UDP service port. Set to `0` to disable or `1` to enable.
`VM_PORTSSL=`*`port number`*	Syslog Collector SSL port number
`VM_PORTSSL_TCP=[0|1]`	Syslog Collector SSL port. Set to `0` to disable or `1` to enable.

Example 40 installs a standalone vSphere Syslog Collector with the log file written to the %TEMP% directory.

Example 40. vSphere Syslog Collector Standalone Installation

```
VMware-syslog.exe /s /v"VM_PATH_DATA=\"C:\DATA\"
VM_DATA_SIZE=4
VM_DATA_ROTATION=15
VM_PORT=6501
VM_PORT_TCP=0
VM_PORT_UDP=1
VM_PORTSSL_TCP=0
/qn /L*v \"%TEMP%\vim-syslog-msi.log\" "
```

Example 41 installs vSphere Syslog Collector with vCenter Server, with the log file written to the %TEMP% directory. For vCenter Server installation command parameters, see Table 3.

Example 41. vSphere Syslog Collector Installation with vCenter Server

```
VMware-syslog.exe /s /v"VM_VC=1
VC_SERVER_ADDRESS=10.20.104.157
VC_SERVER_PORT=80
VC_SERVER_USER=\"myUser\"
VC_SERVER_PASSWORD=\"myPassword\"
VM_PATH_DATA=\"C:\DATA\"
VM_DATA_SIZE=4
VM_DATA_ROTATION=15
VM_PORT=6501
VM_PORT_TCP=0
VM_PORT_UDP=1
VM_PORTSSL_TCP=0
/qn /L*v \"%TEMP%\vim-syslog-msi.log\" "
```

Example 42 performs a silent minor upgrade of vSphere Syslog Collector with the log file written to the %TEMP% directory.

Example 42. vSphere Syslog Collector Minor Upgrade (Standalone or with vCenter Server)

```
VMware-syslog.exe /s /v"/qn /L*v \"%TEMP%\vim-syslog-msi.log\" "
```

Example 43 performs a silent major upgrade of vSphere Syslog Collector with the log file written to the %TEMP% directory.

Example 43. vSphere Syslog Collector Major Upgrade (Standalone or with vCenter Server)

```
VMware-syslog.exe /s /v"VC_SERVER_PASSWORD=\"myPassword\"
              /qn /L*v \"%TEMP%\vim-syslog-msi.log\" "
```

Example 44 removes vSphere Syslog Collector silently with the log file written to the %TEMP% directory.

Example 44. vSphere Syslog Collector Proxy Uninstallation

```
VMware-syslog.exe /s /x /v"/qn /L*v \"%TEMP%\vim-syslog-msi.log\" "
```


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