

Command-Line Deployment and Upgrade of VMware vCenter Server Appliance 6.0 Update 3

vCenter Server Appliance 6.0 Update 3

This technical note describes the command-line deployment and upgrade processes of the VMware vCenter Server™ Appliance™.

The vCenter Server Appliance is a preconfigured Linux-based virtual machine that is optimized for running vCenter Server.

The command-line installer is intended for advanced users who are familiar with vSphere. The main purpose of the command-line installer is to enable automation and prevent user input errors.

Overview

You can use the vCenter Server Appliance command-line installer, which is integrated with the VMware OVF Tool, to deploy and upgrade the vCenter Server Appliance.

The command-line deployment process includes downloading the installer ISO file, preparing a deployment template that is a JSON configuration file, and running the deployment command.

The command-line upgrade process includes downloading the installer ISO file, preparing an upgrade template that is a JSON configuration file, and running the upgrade command. The upgrade of the vCenter Server Appliance is a migration of the old version to the latest version, which results in the deployment of a new vCenter Server Appliance.

The installer ISO file contains deployment and upgrade templates of JSON files that contain the minimum configuration parameters required for the different use cases. You can see the content of the templates in [Example 1](#) to [Example 16](#).

Software Included in the vCenter Server Appliance Package

The vCenter Server Appliance package contains the following software:

- SUSE Linux Enterprise Server 11 Update 3 for VMware, 64-bit edition
- PostgreSQL
- vCenter Server 6.0 and vCenter Server 6.0 components

vCenter Server Appliance Components

The vCenter Server Appliance consists of the following components.

- **VMware Platform Services Controller**

A group of infrastructure services such as vCenter Single Sign-On, License service, and VMware Certificate Authority

- **vCenter Server**

A group of services such as vCenter Server, vSphere Web Client, Inventory Service, vSphere Auto Deploy, vSphere ESXi Dump Collector, and vSphere Syslog Service for vCenter Server Appliance

vCenter Server Appliance Deployment Models

You can deploy the vCenter Server Appliance in one of the following deployment models.

Table 1. vCenter Server Appliance Deployment Models

vCenter Server Appliance Deployment Model	Description
vCenter Server Appliance with an embedded Platform Services Controller	<p>All services bundled with the Platform Services Controller are deployed together with vCenter Server in the same appliance.</p> <p>IMPORTANT A vCenter Server with an embedded Platform Services Controller deployment contains a standalone Platform Services Controller. You cannot use the embedded Platform Services Controller to replicate vCenter Single Sign-On data. Setting up replication partners between multiple vCenter Server instances with embedded Platform Services Controllers is not supported.</p>
vCenter Server Appliance with an external Platform Services Controller	<p>All services bundled with the Platform Services Controller are deployed as one appliance and vCenter Server is deployed as another appliance.</p> <p>IMPORTANT You must first deploy the Platform Services Controller and then deploy the vCenter Server Appliance.</p>

For more information about vCenter Server deployment models, see the *vSphere Installation and Setup* documentation at <http://pubs.vmware.com>.

vCenter Server Appliance Upgrade Paths

You can upgrade from the vCenter Server Appliance 5.1 Update 3 or 5.5.x to 6.0 Update 3.

For more information about the vCenter Server upgrade paths, see the *vSphere Upgrade* documentation at <http://pubs.vmware.com>.

Requirements

Supported Operating Systems for the Command-Line Installer

You can run the vCenter Server Appliance command-line installer from any virtual or physical server in the vSphere network. The vCenter Server Appliance command-line installer is supported on the following operating systems:

- Windows 7
- Windows Server 2008/2012
- Windows 8
- Windows 10
- SUSE Linux 11 SP3 (64-bit)
- Mac OS 10.9

Hardware Requirements

When you deploy or upgrade the vCenter Server Appliance, select an appliance size that is suitable for the size of your vSphere environment. The option that you select determines the number of CPUs and the amount of memory that the appliance will have.

The hardware requirements, such as the number of CPUs and memory, depend on the size of your vSphere inventory.

Table 2. Hardware Requirements

Resources	Number of CPUs	Memory
Platform Services Controller	2	4 GB RAM
Tiny environment up to 10 hosts, 100 virtual machines	2	8 GB RAM
Small environment up to 100 hosts, 1,000 virtual machines	4	16 GB RAM
Medium environment up to 400 hosts, 4,000 virtual machines	8	24 GB RAM
Large environment up to 1,000 hosts, 10,000 virtual machines	16	32 GB RAM

NOTE For instances of vCenter Server Appliance with an embedded Platform Services Controller, add hardware requirements for Platform Services Controller to the hardware requirements for vCenter Server Appliance depending on the size of your environment.

Storage Requirements

The host on which the vCenter Server Appliance is to be deployed or upgraded must meet minimum storage requirements, depending on the selected deployment model, size, and the disk provisioning mode.

Table 3. Storage Requirements

	vCenter Server Appliance with an Embedded Platform Services Controller		vCenter Server Appliance with an External Platform Services Controller		External Platform Services Controller Appliance
	Default Storage Size	Large Storage Size	Default Storage Size	Large Storage Size	
Tiny environment up to 10 hosts, 100 virtual machines	120 GB	700 GB	120 GB	700 GB	30 GB
Small environment up to 100 hosts, 1,000 virtual machines	150 GB	700 GB	150 GB	700 GB	30 GB
Medium environment up to 400 hosts, 4,000 virtual machines	300 GB	800 GB	300 GB	800 GB	30 GB
Large environment up to 1,000 hosts, 10,000 virtual machines	450 GB	900 GB	450 GB	900 GB	30 GB

Database Requirements

The vCenter Server Appliance requires a database to store and organize server data.

Each vCenter Server Appliance instance must have its own database. You can use the embedded PostgreSQL database that is included in the vCenter Server Appliance. The PostgreSQL database supports up to 1,000 hosts and 10,000 virtual machines.

The vCenter Server Appliance supports only an Oracle database as an external database. The supported Oracle database versions are the same as the supported Oracle database versions that are shown in the VMware Product Interoperability Matrix for vCenter Server 6.0 Update 3. See the VMware Product Interoperability Matrix at http://www.vmware.com/resources/compatibility/sim/interop_matrix.php.

ESXi Host Requirements

You can deploy or upgrade the vCenter Server Appliance on an ESXi host 5.0 or later. You can also deploy or upgrade the vCenter Server Appliance on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance 5.0 or later.

Command-Line Deployment and Upgrade Steps

You can run the command-line deployment or upgrade of the vCenter Server Appliance from a virtual or physical machine that is running on a Windows, Linux, or Mac operating system and that meets the operating system requirements. See section “Supported Operating Systems for the Command-Line Installer” on page 3.

Command-Line Migration

You can run command-line migration of vCenter Server 5.5 on Windows to vCenter Server Appliance 6.0 Update 3. See <http://www.vmware.com/techpapers/2016/vsphere-602-vcenter-server-appliance-cmdline-migration.html>.

General Deployment and Upgrade Process

You can deploy or upgrade the vCenter Server Appliance from a machine that is in your vSphere network and that is running on Microsoft Windows, Linux, or Mac.

IMPORTANT As a precaution in case of failure during the upgrade process, create a snapshot of the vCenter Server Appliance that you want to upgrade.

To deploy or upgrade the vCenter Server Appliance:

- 1 Download the installer ISO file from the VMware Web site.
The installer ISO file name is `VMware-VCSA-all-6.0.0-yyyyyy.iso`, where `yyyyyy` is the build number.
- 2 Prepare the JSON configuration file for your deployment or upgrade specification by using the templates that are available in the installer ISO file. See “Prepare Deployment and Upgrade Templates” on page 27.
- 3 Navigate to the installer execution directory for your operating system (OS).
 - If you are deploying or upgrading the vCenter Server Appliance from a machine with Windows OS, at the command prompt, navigate to the `vcsa-cli-installer\win32` directory.
 - If you are deploying or upgrading the vCenter Server Appliance from a machine with Linux OS, at the command prompt, navigate to the `vcsa-cli-installer/lin64` directory.
 - If you are deploying or upgrading the vCenter Server Appliance from a machine with Mac OS, at the command prompt, navigate to the `vcsa-cli-installer/mac` directory.
- 4 (Optional) Run a pre-deployment or pre-upgrade check without deploying the appliance.
 - Verify that you prepared the deployment template correctly.
`vcsa-deploy --verify-only path_to_the_json_file`
 - Verify that you prepared the upgrade template correctly.
`vcsa-deploy upgrade --verify-only path_to_json_file`

NOTE When verifying an upgrade template, the pre-upgrade check installs an RPM file on the vCenter Server Appliance that you want to upgrade.

- 5 Run the deployment or upgrade command.
 - Deploy the appliance.
`vcsa-deploy install --accept-eula --deployment-target-ssl-thumbprint target_thumbprint optional_arguments path_to_the_json_file`
 - Upgrade the appliance.
`vcsa-deploy upgrade --accept-eula optional_arguments --deployment-target-ssl-thumbprint target_thumbprint path_to_json_file`

NOTE If you cannot provide a deployment target thumbprint, delete the `--deployment-target-ssl-thumbprint` argument and use the `--no-esx-ssl-verify` argument. For example:

- `vcsa-deploy --accept-eula --no-esx-ssl-verify optional_arguments path_to_the_json_file`

You can use a space-separated list of optional arguments to set additional configurations. For example, you can set the location of the log and other output files that the installer generates.

```
vcsa-deploy --accept-eula --log-dir=path_to_the_location path_to_the_json_file
```

Optional Arguments of the Command-Line Installer

Table 4. Optional Arguments of the Command-Line Installer

Optional Argument	Description
-h, --help	Displays the help message for the command.
--template-help	Displays the help message for the configuration parameters in the JSON file.
-v, --verbose	Adds debug information to the console output.
-t, --terse	Hides the console output. Displays only warning and error messages.
--log-dir, LOG_DIR	Sets the location of the log and other output files that the installer generates.
--verify-template-only	Performs basic verification of the configuration parameters in the JSON file and verification of the OVF Tool parameters. Does not deploy the appliance.
--precheck-only	Provide this argument to run the complete set of prechecks on the source vCenter Server instance. If you want to perform only the basic template verification, use the <code>--verify-template-only</code> argument.
--skip-ovftool-verification	Performs basic verification of the configuration parameters in the JSON file and deploys the appliance. Does not perform verification of the OVF Tool parameters.
--no-esx-ssl-verify	Skips the SSL verification for ESXi connections. Avoid using this option because it might cause problems during deployment or after deployment because of invalidated values passed to the appliance.
--deployment-target-ssl-thumbprint SSL-SHA1-THUMBPRINT	Thumbprint to pass to OVF Tool for verifying the ESXi or vCenter Server deployment target. Validates the certificate against the supplied SHA1 thumbprint.
--accept-eula	Accepts the end-user license agreement

Using the Deployment and Upgrade Templates

This section provides details about the vCenter Server Appliance deployment and upgrade templates and how to use the templates to prepare the JSON configuration files for your deployment or upgrade specification.

Templates for New Deployments

For deployment of the vCenter Server Appliance, the installer ISO file contains eight JSON templates that are located in the `vcasa-cli-installer/templates/install` directory:

Table 5. Templates of JSON Files for Deployment of the vCenter Server Appliance

Template JSON File	Description
<code>embedded_vCSA_on_ESXi.json</code>	Contains the minimum configuration parameters required for deployment of a vCenter Server Appliance with an embedded Platform Services Controller on an ESXi host. See the template in Example 1 .
<code>embedded_vCSA_on_VC.json</code>	Contains the minimum configuration parameters required for deployment of a vCenter Server Appliance with an embedded Platform Services Controller on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the template in Example 2 .
<code>PSC_on_ESXi.json</code>	Contains the minimum configuration parameters required for deployment of a Platform Services Controller appliance on an ESXi host. See the template in Example 3 .
<code>PSC_on_VC.json</code>	Contains the minimum configuration parameters required for deployment of a Platform Services Controller appliance on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the template in Example 4 .
<code>PSC_replication_on_ESXi.json</code>	Contains the minimum configuration parameters required for deployment of a replicating Platform Services Controller appliance on an ESXi host. See the template in Example 5 .
<code>PSC_replication_on_VC.json</code>	Contains the minimum configuration parameters required for deployment of a replicating Platform Services Controller appliance on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the template in Example 6 .
<code>vCSA_on_ESXi.json</code>	Contains the minimum configuration parameters required for deployment of a vCenter Server Appliance with an external Platform Services Controller on an ESXi host. See the template in Example 7 .
<code>vCSA_on_VC.json</code>	Contains the minimum configuration parameters required for deployment of a vCenter Server Appliance with an external Platform Services Controller on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the template in Example 8 .

Example 1. Content of the embedded_vCSA_on_ESXi.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a vCenter Server Appliance with an embedded Platform
                Services Controller on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Embedded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
                password policy>",
      "domain-name": "vsphere.local",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 2. Content of the embedded_vCSA_on_VC.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a vCenter Server Appliance with an embedded Platform
    Services Controller on a vCenter Server instance.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Embedded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
        password policy>",
      "domain-name": "vsphere.local",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 3. Content of the PSC_on_ESXi.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a Platform Services Controller appliance as the first
                 instance in a new vCenter Single Sign-On domain on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Platform-Services-Controller",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
                 password policy>",
      "domain-name": "vsphere.local",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 4. Content of the PSC_on_VC.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a Platform Services Controller appliance as the first
                 instance in a new vCenter Single Sign-On domain on a vCenter Server instance.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Platform-Services-Controller",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
                 password policy>",
      "domain-name": "vsphere.local",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 5. Content of the PSC_replication_on_ESXi.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a Platform Services Controller appliance as a replication
                 partner in an existing vCenter Single Sign-On domain on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Platform-Services-Controller",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
                 password policy>",
      "domain-name": "vsphere.local",
      "first-instance": false,
      "replication-partner-hostname": "<Host name of the replication partner>",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 6. Content of the PSC_replication_on_VC.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a Platform Services Controller appliance as a replication
                 partner in an existing vCenter Single Sign-On domain on a vCenter Server instance.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Platform-Services-Controller",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
                 password policy>",
      "domain-name": "vsphere.local",
      "first-instance": false,
      "replication-partner-hostname": "<Host name of the replication partner>",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 7. Content of the vCSA_on_ESXi.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a vCenter Server Appliance with an external Platform
    Services Controller on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-small",
      "name": "vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
        password policy>",
      "domain-name": "vsphere.local",
      "platform.services.controller": "<System name of the Platform Services Controller>",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Example 8. Content of the vCSA_on_VC.json Deployment Template

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a vCenter Server Appliance with an external Platform
    Services Controller on a vCenter Server instance.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-small",
      "name": "vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "network": {
      "hostname": "<Optional. FQDN or IP address for the appliance. Remove this if using dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32. Remove this if using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "os": {
      "password": "<Appliance root password; refer to --template-help for password policy>",
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
        password policy>",
      "domain-name": "vsphere.local",
      "platform.services.controller": "<System name of the Platform Services Controller>",
      "site-name": "<vCenter Single Sign-On site name>"
    }
  }
}

```

Templates for Upgrading a vCenter Server Appliance 5.1 Update 3

For upgrade of the vCenter Server Appliance from 5.1 Update 3 to 6.0 Update 3, the installer ISO file contains two JSON templates that are located in the `vcsa-cli-installer/template/upgrade/5.1` directory.:

Table 6. Templates of JSON Files for Upgrade of the vCenter Server Appliance 5.1 Update 3

Template JSON File	Description
<code>embedded_vCSA_on_ESXi.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Server Appliance 5.1 Update 3 to a vCenter Server Appliance 6.0 Update 3 with an embedded Platform Services Controller on an ESXi host. See the content of the template in Example 9 .
<code>embedded_vCSA_on_VC.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Server Appliance 5.1 Update 3 to a vCenter Server Appliance 6.0 Update 3 with an embedded Platform Services Controller on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the content of the template in Example 10 .

Example 9. Content of the embedded_vCSA_on_ESXi.json Template for Upgrade From Version 5.1 Update 3

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.1 with an embedded vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an embedded Platform
    Services Controller.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Server
        Appliance resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source vCenter Server Appliance>",
      "username": "root",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Embedded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
        password policy>",
      "domain-name": "vsphere.local",
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
        dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
        using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "user-options": {
      "vcdb.migrateSet": "<Set data migration option. Available options are 'yes' and 'no'.>"
    }
  }
}

```

Example 10. Content of the embedded_vCSA_on_VC.json Template for Upgrade From Version 5.1 Update 3

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.1 with an embedded vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an embedded Platform
    Services Controller on a vCenter Server instance.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Server
        Appliance resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source vCenter Server Appliance>",
      "username": "root",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Embedded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "password": "<vCenter Single Sign-On administrator password; refer to --template-help for
        password policy>",
      "domain-name": "vsphere.local",
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
        dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
        using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "user-options": {
      "vcdb.migrateSet": "<Set data migration option. Available options are 'yes' and 'no'.>"
    }
  }
}

```

```

    }
  }
}

```

Templates for Upgrading a vCenter Server Appliance 5.5.x

For upgrade of the vCenter Server Appliance from 5.5.x to 6.0 Update 3, the installer ISO file contains six JSON templates that are located in the `vcsa-cli-installer/template/upgrade/5.5` directory.

Table 7. Templates of JSON Files for Upgrade of the vCenter Server Appliance 5.5.x

Template JSON File	Description
<code>embedded_vCSA_on_ESXi.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Server Appliance 5.5.x with an embedded vCenter Single Sign-On server to a vCenter Server Appliance 6.0 Update 3 with an embedded Platform Services Controller on an ESXi host. See the content of the template in Example 11 .
<code>embedded_vCSA_on_VC.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Server Appliance 5.5.x with an embedded vCenter Single Sign-On server to a vCenter Server Appliance 6.0 Update 3 with an embedded Platform Services Controller on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the content of the template in Example 12 .
<code>PSC_on_ESXi.json</code>	Contains the minimum configuration parameters for required upgrade of a vCenter Single Sign-On appliance 5.5.x to a Platform Services Controller appliance 6.0 Update 3 on an ESXi host. See the content of the template in Example 13 .
<code>PSC_on_VC.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Single Sign-On appliance 5.5.x to a Platform Services Controller appliance 6.0 Update 3 on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the content of the template in Example 14 .
<code>vCSA_on_ESXi.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Server Appliance 5.5.x with an external vCenter Single Sign-On server to a vCenter Server Appliance 6.0 Update 3 with an external Platform Services Controller on an ESXi host. See the content of the template in Example 15 . IMPORTANT Before you upgrade the vCenter Server Appliance 5.5.x with an external vCenter Single Sign-On server, you must upgrade the external vCenter Single Sign-On server and its replicating partners, if any exist in the domain, to Platform Services Controller instances.
<code>vCSA_on_VC.json</code>	Contains the minimum configuration parameters required for upgrade of a vCenter Server Appliance 5.5.x with an external vCenter Single Sign-On server to a vCenter Server Appliance 6.0 Update 3 with an external Platform Services Controller on an ESXi host or DRS cluster that resides in the inventory of a vCenter Server instance. See the content of the template in Example 16 . IMPORTANT Before you upgrade the vCenter Server Appliance 5.5.x with an external vCenter Single Sign-On server, you must upgrade the external vCenter Single Sign-On server and its replicating partners, if any exist in the domain, to Platform Services Controller instances.

Example 11. Content of the embedded_vCSA_on_ESXi.json Template for Upgrade From Version 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.5 with an embedded vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an embedded Platform
    Services Controller.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Server
        Appliance resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source vCenter Server Appliance>",
      "username": "administrator@vsphere.local",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Embedded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
        dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
        using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "user-options": {
      "vcdb.migrateSet": "<Set data migration option. Available options are 'yes' and 'no'.>"
    }
  }
}

```

Example 12. Content of the embedded_vCSA_on_VC.json Template for Upgrade From Version 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.5 with an embedded vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an embedded Platform
    Services Controller on a vCenter Server instance.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Server
        Appliance resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source vCenter Server Appliance>",
      "username": "administrator@vsphere.local",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Embedded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
        dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
        using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "user-options": {
      "vcdb.migrateSet": "<Set data migration option. Available options are 'yes' and 'no'.>"
    }
  }
}

```

}

Example 13. Content of the PSC_on_ESXi.json Template for Upgrade From Version 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade an externally deployed vCenter Single Sign-On 5.5 appliance
                 to an external Platform Services Controller 6.0.2 appliance.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Single Sign-On
                  server resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source Platform Services Controller>",
      "username": "administrator@vsphere.local",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Platform-Services-Controller",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
                  dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
                  using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    }
  }
}

```

Example 14. Content of the `PSC_on_VC.json` Template for Upgrade From Version 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade an externally deployed vCenter Single Sign-On 5.5 appliance
                 to an external Platform Services Controller 6.0.2 appliance on a vCenter Server
                 instance.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Single Sign-On
                  server resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source Platform Services Controller>",
      "username": "administrator@vsphere.local",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Platform-Services-Controller",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
                  dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
                  using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    }
  }
}

```


Example 15. Content of the vCSA_on_ESXi.json Template for Upgrade From Version 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.5 with an external vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an external Platform
    Services Controller.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Server
        Appliance resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source vCenter Server Appliance>",
      "username": "administrator@vsphere.local",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-small",
      "name": "vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which to deploy the new appliance>",
      "username": "root",
      "password": "<Password of the ESXi host root user>",
      "datastore": "<ESXi host datastore>"
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
        dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
        using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "user-options": {
      "vcdb.migrateSet": "<Set data migration option. Available options are 'yes' and 'no'.>"
    }
  }
}

```

Example 16. Content of the vCSA_on_VC.json Template for Upgrade From Version 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.5 with an external vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an external Platform
    Services Controller on a vCenter Server instance.",
  "source.vc": {
    "esxi": {
      "hostname": "<FQDN or IP address of the ESXi host on which the source vCenter Server
        Appliance resides>",
      "username": "root",
      "password": "<Password of the ESXi host root user>"
    },
    "vc.vcsa": {
      "hostname": "<FQDN or IP address of the source vCenter Server Appliance>",
      "username": "administrator@vsphere.local",
      "password": "<vCenter Single Sign-On administrator password>",
      "root.password": "<Appliance root password>"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-small",
      "name": "vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "vc": {
      "hostname": "<FQDN or IP address of the vCenter Server instance>",
      "username": "<vCenter Server username>",
      "password": "<vCenter Server password>",
      "datacenter": [
        "parent_folder",
        "child_folder",
        "Datacenter"
      ],
      "datastore": "<ESXi host or DRS cluster datastore>",
      "target": [
        "parent_folder",
        "child_folder",
        "<ESXi host or DRS cluster>"
      ]
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "<vCenter Single Sign-On site name>"
    },
    "temporary.network": {
      "hostname": "<Optional. Temporary FQDN or IP address for the appliance. Remove this if using
        dhcp.>",
      "ip.family": "ipv4",
      "mode": "static",
      "ip": "<Optional. Static IP address. Remove this if using dhcp.>",
      "dns.servers": [
        "<Optional. DNS Server IP Address. Remove this if using dhcp.>"
      ],
      "prefix": "<Optional. The value must be from 0 to 32 for an IPv4 address. Remove this if
        using dhcp.>",
      "gateway": "<Optional. Gateway IP address. Remove this if using dhcp.>"
    },
    "user-options": {
      "vcdb.migrateSet": "<Set data migration option. Available options are 'yes' and 'no'.>"
    }
  }
}

```

}

Prepare Deployment and Upgrade Templates

You can deploy and upgrade the vCenter Server Appliance with minimum configurations by setting values to the configuration parameters in the templates that are available in the installer ISO file. The configuration parameters that are not included in the templates are set to their default values. You can add configuration parameters in the templates to set their values for your deployment or upgrade specification.

To prepare the deployment or upgrade templates:

- 1 Open the `templates` subfolder that is located in the `vsca-cli-installer` directory.
- 2 Copy the template files to your workspace.
- 3 Open a template file in a text editor.
- 4 Fill in the required fields and, optionally, add new parameters to the template.
- 5 Save in UTF-8 format and close the file.

You can create and save as many templates as are needed for your specific environment.

Configuration Parameters for New and Upgrade Deployments

Table 8 lists the configuration parameters in the `target.vcsa` section that you use to provide input data for the new vCenter Server Appliance in the deployment and upgrade templates.

You must provide the parameters with values for your deployment or upgrade specification. For example, if you want to deploy the appliance with an external database, you must provide the `database` parameter subsection.

Table 8. List of the Configuration Parameters in the `target.vcsa` Section

Parameter	Default	Description
appliance subsection		
<code>deployment.network</code>	-	The network of the ESXi host on which you want to deploy the vCenter Server Appliance. Required only if the ESXi host, on which you want to deploy the vCenter Server Appliance, has more than one network.
<code>deployment.option</code>	<code>tiny</code>	The size of the vCenter Server Appliance depending on the size of your vSphere environment. The value can be: <ul style="list-style-type: none"> ■ <code>tiny</code> vCenter Server Appliance with an embedded Platform Services Controller for up to 10 hosts and 100 virtual machines ■ <code>small</code> vCenter Server Appliance with an embedded Platform Services Controller for up to 100 hosts and 1,000 virtual machines ■ <code>medium</code> vCenter Server Appliance with an embedded Platform Services Controller for up to 400 hosts and 4,000 virtual machines ■ <code>large</code> vCenter Server Appliance with an embedded Platform Services Controller for up to 1,000 hosts and 10,000 virtual machines ■ <code>management-tiny</code> vCenter Server Appliance with an external Platform Services Controller for up to 10 hosts and 100 virtual machines ■ <code>management-small</code> vCenter Server Appliance with an external Platform Services Controller for up to 100 hosts and 1,000 virtual machines ■ <code>management-medium</code> vCenter Server Appliance with an external Platform Services Controller for up to 400 hosts and 4,000 virtual machines ■ <code>management-large</code> vCenter Server Appliance with an external Platform Services Controller for up to 1,000 hosts and 10,000 virtual machines ■ <code>infrastructure</code> Platform Services Controller appliance
<code>image</code>	Package included in the installer ISO file	The filepath to the vCenter Server Appliance installation package.
<code>name</code>	-	The name of the vCenter Server Appliance.
<code>thin.disk.mode</code>	<code>true</code>	A Boolean value. If <code>true</code> , the vCenter Server Appliance is deployed with a thin mode virtual disk.

Table 8. List of the Configuration Parameters in the `target.vcsa` Section

Parameter	Default	Description
database subsection		
NOTE Use the <code>database</code> subsection only in the deployment templates to configure the database of the vCenter Server Appliance. The database configurations for the upgraded vCenter Server Appliance are migrated from the old vCenter Server Appliance.		
For information about or assistance with the external Oracle database configuration, see the Oracle documentation.		
<code>type</code>	<code>embedded</code>	The vCenter Server Appliance database type. The value can be: <ul style="list-style-type: none"> ■ <code>embedded</code> The vCenter Server Appliance uses the embedded PostgreSQL database. This database is suitable for small scale deployments. ■ <code>external</code> The vCenter Server Appliance uses an existing external Oracle database.
<code>user</code>	-	The vCenter Server Appliance database user. Required only if the value of the <code>type</code> parameter is <code>external</code> .
<code>password</code>	-	The password of the vCenter Server Appliance database user. Required only if the value of the <code>type</code> parameter is <code>external</code> .
<code>provider</code>	-	The vCenter Server Appliance database provider. The value can be only <code>oracle</code> . Required only if the value of the <code>type</code> parameter is <code>external</code> .
<code>instance</code>	-	The Oracle database instance name. Required only if the value of the <code>type</code> parameter is <code>external</code> .
<code>servername</code>	-	The vCenter Server Appliance database server hostname. Required only if the value of the <code>type</code> parameter is <code>external</code> .
<code>serverport</code>	-	Oracle database port number. Required only if the value of the <code>type</code> parameter is <code>external</code> .
esxi subsection		
NOTE Required only if you are deploying the vCenter Server Appliance on an ESXi host or if you are upgrading a vCenter Server Appliance on an ESXi host that is different from the ESXi host on which the old vCenter Server Appliance is running.		
<code>hostname</code>	-	The IP address or FQDN of the ESXi host on which you want to deploy the vCenter Server Appliance.
<code>username</code>	-	A user name with administrative privileges for the ESXi host on which you want to deploy the vCenter Server Appliance.
<code>password</code>	-	The password of the ESXi host user with administrative privileges.
<code>datastore</code>	-	The name of the datastore on which you want to deploy the vCenter Server Appliance. The datastore must have at least 15 GB of free space and must be accessible from the ESXi host on which you are deploying the vCenter Server Appliance.
vc subsection		
NOTE Required only if you are deploying or upgrading the vCenter Server Appliance on a vCenter Server instance.		
<code>hostname</code>	-	The IP address or FQDN of the vCenter Server instance on which you want to deploy the vCenter Server Appliance.
<code>username</code>	-	A vCenter Single Sign-On user name with administrative privileges for the vCenter Server instance on which you want to deploy the vCenter Server Appliance.
<code>password</code>	-	The password of the vCenter Single Sign-On user with administrative privileges for the vCenter Server instance.

Table 8. List of the Configuration Parameters in the `target.vcsa` Section

Parameter	Default	Description
<code>datacenter</code>	-	The name of the vCenter Server datacenter that contains the ESXi host or DRS cluster on which you want to deploy the vCenter Server Appliance. If the datacenter is located in a folder, you must set the path to the datacenter as a comma-separated list, for example, [" <code>folder1</code> ", " <code>datacenter</code> "].
<code>vm.folder</code>	-	A VM folder in the vCenter Server datacenter on which you want to deploy the vCenter Server Appliance.
<code>datastore</code>	-	The name of the datastore on which you want to deploy the vCenter Server Appliance. The datastore must have at least 15 GB of free space and must be accessible from the vCenter Server instance on which you are deploying the vCenter Server Appliance.
<code>target</code>	-	The ESXi host or DRS cluster on which you want to deploy the vCenter Server Appliance. If the ESXi host or DRS cluster is located in a folder, you must set the path to the ESXi host or DRS cluster as a comma-separated list, for example, [" <code>folder2</code> ", " <code>esxi-host.badger.com</code> "].
network and temporary.network subsections		
NOTE Use the <code>network</code> subsection only in the deployment templates to configure the network of the vCenter Server Appliance. Use the <code>temporary.network</code> subsection only in the upgrade templates to configure a temporary network for migrating the data from the old vCenter Server Appliance to the new vCenter Server Appliance. The network configurations for the upgraded vCenter Server Appliance are migrated from the old vCenter Server Appliance.		
<code>hostname</code>	-	Primary network identity. The value can be an FQDN or IP address, preferably an FQDN. You cannot change the value of this parameter after the deployment. The FQDN and dotted-decimal numbers must comply with the RFC 1123 guidelines.
<code>ip.family</code>	-	Network IP address family. The value can be: <ul style="list-style-type: none"> ■ <code>ipv4</code> ■ <code>ipv6</code> NOTE Do not use the <code>ipv6</code> option for the <code>temporary.network</code> subsection in the upgrade templates. You can use the <code>ipv6</code> value only for the <code>network</code> subsection in the deployment templates.
<code>mode</code>	-	Network mode. Use this parameter to choose how to allocate the IP address of the vCenter Server Appliance. The value can be: <ul style="list-style-type: none"> ■ <code>static</code> You must set the static IP address and network settings. ■ <code>dhcp</code> A DHCP server is used to allocate the IP address. Use this option only if the DHCP server is available in your environment.
<code>ip</code>	-	Network IP address. Required only if the value of the <code>mode</code> parameter is <code>static</code> . Depending on the value of the <code>ip.family</code> parameter, you must set an IPv4 or IPv6 address. An IPv4 address must comply with the RFC 790 guidelines. An IPv6 address must comply with the RFC 2373 guidelines.
<code>dns.servers</code>	-	A comma-separated list of IP addresses of network DNS servers. Could be a JSON array, for example, [" <code>1.2.3.4</code> ", " <code>127.0.0.1</code> "], or a serialized string, for example, " <code>1.2.3.4,127.0.0.1</code> ".

Table 8. List of the Configuration Parameters in the `target.vcsa` Section

Parameter	Default	Description
<code>prefix</code>	-	Network prefix length. Required only if the value of the <code>mode</code> parameter is <code>static</code> . For IPv4, the value can be between 0 and 32. For IPv6, the value can be between 0 and 128.
<code>gateway</code>	-	IP address of the default gateway. For IPv6, the value can be <code>default</code> .
os subsection		
<code>password</code>	-	Password for the root user of the Linux operating system of the vCenter Server Appliance. NOTE Use only in the deployment templates. When you upgrade a vCenter Server Appliance, the new vCenter Server Appliance uses the root password of the old vCenter Server Appliance.
<code>ssh.enable</code>	<code>false</code>	A Boolean value. If <code>true</code> , the vCenter Server Appliance is deployed with the SSH administrator login option enabled. You can change this setting after the deployment.
<code>ntp.servers</code>	-	Optional. A comma-separated list of host names or IP addresses of NTP servers for time synchronization. Could be a JSON array, for example, <code>["ntp1.com", "ntp2.com"]</code> , or a serialized string, for example, <code>"ntp1.com,ntp2.com"</code> . NOTE Use only in the deployment templates. When you upgrade a vCenter Server Appliance, the new vCenter Server Appliance uses the time synchronization settings of the old vCenter Server Appliance.
<code>time.tool-sync</code>	<code>false</code>	Optional. A boolean value. If <code>true</code> , the vCenter Server Appliance is deployed with the VMware Tools time synchronization option enabled. VMware Tools synchronizes the time of the appliance with the time of the ESXi host. Ignored if you set the <code>ntp.servers</code> parameter. NOTE Use only in the deployment templates. When you upgrade a vCenter Server Appliance, the new vCenter Server Appliance uses the time synchronization settings of the old vCenter Server Appliance.
<code>platform.service.controller</code>	-	System name of the Platform Services Controller with which you want to register the vCenter Server Appliance. You cannot use an FQDN if the system name of the Platform Services Controller is an IP address, and the reverse. Required only if you are deploying a vCenter Server Appliance with an external Platform Services Controller. NOTE Use only in deployment templates. When upgrading a vCenter Server Appliance with an external vCenter Single Sign-On, the new vCenter Server Appliance is registered with the old vCenter Single Sign-On that you have upgraded to a Platform Services Controller.

Table 8. List of the Configuration Parameters in the `target.vcsa` Section

Parameter	Default	Description
sso subsection		
<code>password</code>	-	<p>Password of the vCenter Single Sign-On administrator user account, <code>administrator@your_domain_name</code>.</p> <p>If you are deploying a vCenter Server Appliance with an embedded Platform Services Controller or the first Platform Services Controller instance of your identity domain, you must set the password for the vCenter Single Sign-On administrator user account.</p> <p>The password must adhere to the following requirements:</p> <ul style="list-style-type: none"> ■ At least 8 characters ■ No more than 20 characters ■ At least one uppercase character ■ At least one lowercase character ■ At least one number ■ At least one special character (for example, '!', '(', or '@') ■ Only visible lower-ASCII characters. Cannot use spaces and non-printing control characters such as BEL, Nul, and so on. <p>If you are deploying a vCenter Server Appliance with an external Platform Services Controller, you must provide the password of the vCenter Single Sign-On administrator user account of the Platform Services Controller with which you want to register the appliance.</p> <p>If you are deploying a replicating Platform Services Controller, you must provide the password of the vCenter Single Sign-On administrator user account of the Platform Services Controller with which you want to join the appliance.</p> <p>If you are upgrading a vCenter Server Appliance 5.1 Update 3, you must provide the password of the vCenter Single Sign-On administrator user account.</p> <p>NOTE Do not use for upgrading a vCenter Server Appliance 5.5, because the new vCenter Server Appliance uses the password of the vCenter Single Sign-On administrator user account of the old vCenter Server Appliance.</p>
<code>domain-name</code>	-	<p>The vCenter Single Sign-On domain name, for example, <code>vsphere.local</code>.</p> <p>If you are deploying a vCenter Server Appliance with an embedded Platform Services Controller or the first Platform Services Controller instance of your identity domain, you must set the vCenter Single Sign-On domain name.</p> <p>If you are deploying a vCenter Server Appliance with an external Platform Services Controller, you must provide the vCenter Single Sign-On domain name of the Platform Services Controller with which you want to register the appliance.</p> <p>If you are deploying a replicating Platform Services Controller, you must provide the vCenter Single Sign-On domain name of the Platform Services Controller with which you want to join the appliance.</p>
<code>first-instance</code>	-	<p>A Boolean value.</p> <p>If <code>true</code>, the deployment creates a new vCenter Single Sign-On domain.</p> <p>Required if you are deploying a replicating Platform Services Controller, when you must use the <code>false</code> value.</p>

Table 8. List of the Configuration Parameters in the `target.vcsa` Section

Parameter	Default	Description
<code>platform.services.controller</code>		When deploying a vCenter Server Appliance with an external Platform Services Controller, you must set the system name of the Platform Services Controller. If the system name of the Platform Services Controller is an IP address, then you must provide the IP address of the Platform Services Controller. If you provide an IP address when the system name is an FQDN, or the reverse, the vCenter Server instance cannot be successfully registered with the Platform Services Controller.
<code>replication-partner-hostname</code>	-	The host name, FQDN or IP address, of the Platform Services Controller replication partner. Required only if you are deploying a replicating Platform Services Controller, that is, if the value of the <code>first-instance</code> parameter is <code>false</code> .
<code>site-name</code>	-	Required. The vCenter Single Sign-On site name. You cannot change the vCenter Single Sign-On site name after deploying or upgrading the vCenter Server Appliance.

Configuration Parameters for Deployments to Upgrade

Table 9 lists the configuration parameters that you use to provide input data for the existing vCenter Server Appliance in the upgrade templates.

Table 9. List of the Configuration Parameters in the `source.vc` Section

Parameter	Default	Description
esx subsection		
<code>hostname</code>	-	The host name or IP address of the ESXi host which runs the vCenter Server Appliance that you want to upgrade.
<code>username</code>	-	A user name with administrative privileges for the ESXi host which runs the vCenter Server Appliance that you want to upgrade.
<code>password</code>	-	The password of the ESXi host user with administrative privileges.
vc.vcsa subsection		
<code>hostname</code>	-	The host name or IP address of the vCenter Server Appliance that you want to upgrade.
<code>username</code>	<code>administrator@ your_domain_name</code>	A vCenter Single Sign-On user name with administrative privileges for the vCenter Server Appliance that you want to upgrade.
<code>password</code>	-	The password of the vCenter Single Sign-On user with administrative privileges for the vCenter Server Appliance that you want to upgrade.
<code>root.password</code>	-	The password of the operating system root user of the vCenter Server Appliance that you want to upgrade.

vCenter Server Appliance Deployment Example

Use the templates in the following example to deploy two pairs of virtual appliances on two ESXi hosts. The template displayed in [Example 17](#) deploys the first Platform Services Controller on the first ESXi host, and the template displayed in [Example 18](#) deploys a replicating Platform Services Controller on the second ESXi host. [Example 19](#) and [Example 20](#) deploy two vCenter Server Appliance instances with an external Platform Services Controller. The first vCenter Server Appliance is deployed on the first ESXi host and is registered with the first Platform Services Controller. The second vCenter Server Appliance is deployed on the second ESXi host and is registered with the second Platform Services Controller.

IMPORTANT You must first deploy the Platform Services Controller, and then you can deploy the vCenter Server Appliance and register it with this Platform Services Controller.

By having two or more Platform Services Controllers that replicate their vCenter Single Sign-On data, you can ensure high availability of your system.

Table 10. Values of the Parameters Used in the Example Deployment Templates

IP addresses of the ESXi hosts	10.100.100.1 and 10.100.100.2
Root passwords of the ESXi hosts	P@ss!w0rd
IP addresses of the local DNS servers	10.100.100.7 and 10.100.100.8
IP address of the default gateway	10.100.100.253
Static IP addresses for the new appliances	10.100.100.10, 10.100.100.11, 10.100.100.12, and 10.100.100.13
Root passwords for the Linux OS of the new appliances	Admin1!
vCenter Single Sign-On domain name	vsphere.local
vCenter Single Sign-On administrator password	SSOadm!n601

Example 17. Example Template for Deployment of the First Platform Services Controller

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a Platform Services Controller appliance as the first
                 instance in a new vCenter Single Sign-On domain on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "platform-services-controller-1",
      "thin.disk.mode": true
    },
    "esx": {
      "hostname": "10.100.100.1",
      "username": "root",
      "password": "P@ss!w0rd",
      "datastore": "datastore1"
    },
    "network": {
      "hostname": "platform_services_controller1.my.company.com",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.10",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    },
    "os": {
      "password": "Admin1!",
      "ssh.enable": true
    },
    "sso": {
      "password": "SSOadm!n601",
      "domain-name": "vsphere.local",
      "site-name": "First-Site"
    }
  }
}

```

Example 18. Example Template for Deployment of the Second Platform Services Controller

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a Platform Services Controller appliance as a replication
                 partner in an existing vCenter Single Sign-On domain on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "platform-services-controller-2",
      "thin.disk.mode": true
    },
    "esx": {
      "hostname": "10.100.100.2",
      "username": "root",
      "password": "P@ss!w0rd",
      "datastore": "datastore1"
    },
    "network": {
      "hostname": "platform_services_controller2.my.company.com",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.11",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    },
    "os": {
      "password": "Admin1!",
      "ssh.enable": true
    },
    "sso": {
      "password": "SSOadm!n601",
      "domain-name": "vsphere.local",
      "first-instance": false,
      "replication-partner-hostname": "platform_services_controller1.my.company.com",
      "site-name": "Second-Site"
    }
  }
}

```

Example 19. Example Template for Deployment of the First vCenter Server Appliance Instance

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a vCenter Server Appliance with an external Platform
                 Services Controller on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-tiny",
      "name": "management-node-1",
      "thin.disk.mode": true
    },
    "esx": {
      "hostname": "10.100.100.1",
      "username": "root",
      "password": "P@ss!w0rd",
      "datastore": "datastore1"
    },
    "network": {
      "hostname": "vcenter1.my.company.com",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.12",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    },
    "os": {
      "password": "Admin1!",
      "platform.service.controller": "platform_services_controller1.my.company.com",
      "ssh.enable": true
    },
    "sso": {
      "password": "Admin?61",
      "domain-name": "vsphere.local",
      "site-name": "First-Site"
    }
  }
}

```

Example 20. Example Template for Deployment of the Second vCenter Server Appliance Instance

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to deploy a vCenter Server Appliance with an external Platform
                 Services Controller on an ESXi host.",
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-tiny",
      "name": "management-node-2",
      "thin.disk.mode": true
    },
    "esx": {
      "hostname": "10.100.100.2",
      "username": "root",
      "password": "P@ss!w0rd",
      "datastore": "datastore1"
    },
    "network": {
      "hostname": "vcenter2.my.company.com",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.13",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    },
    "os": {
      "password": "Admin1!",
      "platform.service.controller": "platform_services_controller2.my.company.com",
      "ssh.enable": true
    },
    "sso": {
      "password": "SSOadm!n601",
      "domain-name": "vsphere.local",
      "site-name": "Second-Site"
    }
  }
}

```

vCenter Server Appliance 5.1 Update 3 Upgrade Example

Use the template in [Example 21](#) to upgrade a vCenter Server Appliance 5.1 Update 3 to a vCenter Server Appliance 6.0 Update 3 with an embedded Platform Services Controller on a DRS cluster from the inventory of a vCenter Server instance.

Table 11. Values of the Parameters Used in the Example Upgrade Template in [Example 21](#)

IP address of the ESXi host on which the vCenter Server Appliance is running.	10.100.100.1
Root password of the ESXi host	P@ss!w0rd
IP address of the vCenter Server Appliance	10.100.100.10
vCenter Single Sign-On administrator password of the vCenter Server Appliance	ssoadm!n513
Root password of the Linux OS of the vCenter Server Appliance	Admin!
vCenter Single Sign-On administrator password for the new upgraded vCenter Server Appliance	SSOadm!n601
vCenter Single Sign-On domain name for the new upgraded vCenter Server Appliance	vsphere.local
vCenter Single Sign-On site name for the new upgraded vCenter Server Appliance	Site-One
IP addresses of the local DNS servers for the temporary network by which the old appliance migrates the data to the new appliance	10.100.100.7 and 10.100.100.8
IP address of the default gateway for the temporary network by which the old appliance migrates the data to the new appliance	10.100.100.253
Static IP address that is temporarily used for the new vCenter Server Appliance	10.100.100.112
IP address of the vCenter Server instance on which you are deploying the new upgraded vCenter Server Appliance	10.100.100.55
vCenter Single Sign-On administrator password of the vCenter Server instance on which you are deploying the new upgraded vCenter Server Appliance	SSOadm!n55

Example 21. Example Template for Upgrading a vCenter Server Appliance 5.1 Update 3

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.1 with an embedded vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an embedded Platform
    Services Controller.",
  "source.vc": {
    "esx": {
      "hostname": "10.100.100.1",
      "username": "root",
      "password": "P@ss!w0rd"
    },
    "vc.vcsa": {
      "hostname": "10.100.100.10",
      "username": "root",
      "password": "ssoadm!n513",
      "root.password": "Admin1!"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "small",
      "name": "Upgraded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "password": "SSOadm!n601",
      "domain-name": "vsphere.local",
      "site-name": "Site-One"
    },
    "temporary.network": {
      "hostname": "Temporary-vCenter-Server-Appliance",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.112",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    },
    "vc": {
      "hostname": "10.100.100.55",
      "username": "Administrator@vsphere.local",
      "password": "SSOadm!n55",
      "datacenter": [
        "folder1",
        "Datacenter1"
      ],
      "datastore": "Datastore1",
      "target": "DRS_Cluster1"
    }
  }
}

```


vCenter Server Appliance 5.5 Upgrade Example

Use the following templates to upgrade a vCenter Server Appliance 5.5 with an external vCenter Single-Sign-On server to a vCenter Server Appliance 6.0 Update 3 with an external Platform Services Controller on the same ESXi host. The template that is displayed in [Example 22](#) upgrades a vCenter Server Appliance 5.5.x that contains a vCenter Single Sign-On server to a vCenter Server Appliance 6.0 Update 3 that contains a Platform Services Controller. The template that is displayed in [Example 23](#) upgrades a vCenter Server Appliance 5.5.x that contains a vCenter Server instance to a vCenter Server Appliance 6.0 Update 3.

IMPORTANT You must first upgrade the vCenter Single-Sign-On server to a Platform Services Controller, and then you can upgrade the vCenter Server Appliance that is registered with this vCenter Single-Sign-On server.

[Table 12](#) summarizes the values of the parameters used in the example templates.

Table 12. Parameters Used in the Upgrade Templates in [Example 22](#) and [Example 23](#)

IP address of the ESXi host on which the vCenter Single Sign-On server and the vCenter Server Appliance are running	10.100.100.1
Root password of the ESXi host	P@ss!w0rd
IP address of the vCenter Single Sign-On server	10.100.100.10
IP address of the vCenter Server Appliance	10.100.100.11
vCenter Single Sign-On administrator password	SSOadm!n55
Root passwords of the Linux OS of the vCenter Single Sign-On server and the vCenter Server Appliance	Admin1!
vCenter Single Sign-On site name for the new upgraded appliances	Site-One
IP addresses of the local DNS servers for the temporary network by which the old appliance migrates the data to the new appliance	10.100.100.7 and 10.100.100.8
IP address of the default gateway for the temporary network by which the old appliance migrates the data to the new appliance	10.100.100.253
Static IP address that is temporarily used for the new appliances	10.100.100.112

Example 22. Example Template for Upgrade of a vCenter Single Sign-On Server 5.5.x to a Platform Services Controller

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade an externally deployed vCenter Single Sign-On 5.5 appliance
                 to an external Platform Services Controller 6.0.2 appliance.",
  "source.vc": {
    "esx": {
      "hostname": "10.100.100.1",
      "username": "root",
      "password": "P@ss!w0rd"
    },
    "vc.vcsa": {
      "hostname": "10.100.100.10",
      "username": "Administrator@vsphere.local",
      "password": "SSOadm!n55",
      "root.password": "Admin1!"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "infrastructure",
      "name": "Upgraded-Platform-Services Controller",
      "thin.disk.mode": true
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "Site-One"
    },
    "temporary.network": {
      "hostname": "Temporary-Platform-Services-Controller",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.112",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    }
  }
}

```

Example 23. Example Template for Upgrade of a vCenter Server Appliance 5.5.x

```

{
  "__version": "1.2.0",
  "__comments": "Sample template to upgrade a vCenter Server Appliance 5.5 with an external vCenter
    Single Sign-On instance to a vCenter Server Appliance 6.0.2 with an external Platform
    Services Controller.",
  "source.vc": {
    "esx": {
      "hostname": "10.100.100.1",
      "username": "root",
      "password": "P@ss!w0rd"
    },
    "vc.vcsa": {
      "hostname": "10.100.100.11",
      "username": "Administrator@vsphere.local",
      "password": "SSOadm!n55",
      "root.password": "Admin1!"
    }
  },
  "target.vcsa": {
    "appliance": {
      "deployment.network": "VM Network",
      "deployment.option": "management-small",
      "name": "Upgraded-vCenter-Server-Appliance",
      "thin.disk.mode": true
    },
    "os": {
      "ssh.enable": true
    },
    "sso": {
      "site-name": "Site-One"
    },
    "temporary.network": {
      "hostname": "Temporary-vCenter-Server-Appliance",
      "dns.servers": [
        "10.100.100.7",
        "10.100.100.8"
      ],
      "gateway": "10.100.100.253",
      "ip": "10.100.100.112",
      "ip.family": "ipv4",
      "mode": "static",
      "prefix": "24"
    },
    "user-options": {
      "vcdb.migrateSet": "Yes"
    }
  }
}

```

If you have comments about this documentation, submit your feedback to: docfeedback@vmware.com

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