VMware vCenter AppSpeed Installation Guide

AppSpeed 1.0

EN-000185-02

vmware®

You can find the most up-to-date technical documentation on the VMware Web site at:

http://www.vmware.com/support/

The VMware Web site also provides the latest product updates.

If you have comments about this documentation, submit your feedback to:

docfeedback@vmware.com

Contents

About This Book

This book, the *VMware vCenter AppSpeed Installation Guide*, describes the procedures for installing the VMware® vCenter AppSpeed virtual appliance and plug-in, including how to configure the AppSpeed server and how to deploy the AppSpeed probes on the VMware host machines within the datacenter network.

Intended Audience

This book is intended for anyone who wants to install the AppSpeed plug-in. The information is written for experienced Windows or Linux system administrators who are familiar with virtual appliance technology and datacenter operations.

Document Feedback

VMware welcomes your suggestions for improving our documentation. If you have comments, send your feedback to docfeedback@vmware.com.

Technical Support and Education Resources

The following sections describe the technical support resources available to you. To access the current versions of this book and other books, go to http://www.vmware.com/support/pubs.

Online and Telephone Support

Use online support to submit technical support requests, view your product and contract information, and register your products. Go to http://www.vmware.com/support.

Customers with appropriate support contracts should use telephone support for the fastest response on priority 1 issues. Go to http://www.vmware.com/support/phone_support.

Support Offerings

Find out how VMware support offerings can help meet your business needs. Go to http://www.vmware.com/support/services.

VMware Professional Services

VMware Education Services courses offer extensive hands-on labs, case study examples, and course materials designed to be used as on-the-job reference tools. Courses are available onsite, in the classroom, and live online. For onsite pilot programs and implementation best practices, VMware Consulting Services provides offerings to help you assess, plan, build, and manage your virtual environment. To access information about education classes, certification programs, and consulting services, go to http://www.vmware.com/services/.

AppSpeed Installation Overview 1

VMware vCenter AppSpeed provides performance management and service-level reporting for applications running within virtual appliances. AppSpeed analyzes the traffic that flows between end users, Web applications, and back-end servers. This analysis provides visibility into multitier applications and enables rapid identification of performance issues originating from inadequate resource allocation and application problems.

AppSpeed is installed on a VMware host machine that resides within the data center network and integrates into both the VMware vSphere Client and the VMware Virtual Infrastructure (VI) Client. AppSpeed is installed on a centralized server, with one or more AppSpeed probes installed on each host to be monitored.

This chapter includes the following topics:

- "Installation Workflow" on page 7
- "Installation Prerequisites" on page 7

Installation Workflow

AppSpeed is Ia virtual appliance in Open Virtualization Format (OVF). The AppSpeed plug-in is installed in the vSphere Client or VI Client.

You perform the installation and setup process in the following stages:

- Import the OVF file and configure the AppSpeed server (see "Installing and Configuring the AppSpeed Server" on page 9)
- Install the AppSpeed plug-in in the Client (see "Install the AppSpeed Plug-In" on page 13)
- Install the AppSpeed probes using the AppSpeed user interface within the Client (see "Deploying the AppSpeed Probes" on page 13)
- Add a valid AppSpeed license key (see "Adding a License" on page 15)
- Verify the successful deployment of the probes (see "Managing SSL Keys" on page 16)

NOTE   To upgrade from a previous version of AppSpeed to a more recent version, see Chapter 5, "Upgrading AppSpeed," on page 23.

Installation Prerequisites

The following VMware ESX™ and vCenter versions support AppSpeed:

- ESX, version 3.0.x, 3.5.x or 4.0x
- vCenter Server, version 2.5x, or vSphere 4.0

System Requirements

Review the following system requirements before you install AppSpeed:

- You must have admin-level access to vCenter Server for the automated installation process.

- Routable IP addresses for servers and probes need to be defined.

  > **NOTE** Using DHCP is not recommended. However, if DHCP is used, you do not need routable IP addresses.

- If HTTPS sites are to be monitored, an SSL private key is required.

- Administrator privileges are required on the Client machine to install Adobe Flash Player 10.

In addition, it is recommended that you synchronize the time on the hosts on which the AppSpeed server and probes are to be installed. If the time is not synchronized, AppSpeed might lose data and experience delays in the mapping process. You can synchronize the time by setting an NTP server in the **Configuring Time** option for each host in vCenter.

Deployment Considerations

When you plan your AppSpeed deployment, take into consideration the following system resource requirements:

- Server

  - 30GB HDD

  - 2 vCPUs

  - 4GB RAM

- Probes

  - 5GB HDD

  - 1 vCPU

  - 0.5GB RAM

Open Port Requirements

AppSpeed requires that the following ports be open on your firewall:

- AppSpeed server to vCenter Server:

  - TCP port 443 to connect to vCenter Server for the vCenter interface. Port 443 is the vCenter default Web service port, but you can configure a different TCP port in vCenter.

  - TCP port 80 to connect to vCenter Server for the vCenter proxy interface. This port is used only during setup to verify that the vCenter proxy is configured correctly. Port 80 is the vCenter default Web service port, but you can configure a different TCP port in vCenter.

- vCenter Server to the AppSpeed server:

  - TCP port 80 to connect to the AppSpeed server (Web interface).

- AppSpeed server and probe communication:

  - TCP port 1194 to connect to the AppSpeed server (OpenVPN over a TCP connection)

  - UDP port 123 to connect to the AppSpeed server (NTP)

  - TCP port 22 to connect to the probes if you want to access the probes from outside the VPN

- vSphere/VI Client to vCenter Server:

  - TCP port 80 to connect to vCenter server (vCenter proxy interface). Port 80 is the vCenter default Web service port, but you can configure a different TCP port in vCenter.

Installing and Configuring the AppSpeed Server

2

The first stage in the installation process is to import the OVF file and install and configure the AppSpeed server. You can install the AppSpeed server on any ESX host that is managed by the monitored vCenter.

This chapter includes the following topics:

Import and Install the AppSpeed Virtual Appliance

AppSpeed is provided as an OVF file. The first step in the installation process is to import the OVF file in the installation package into the vSphere Client or VI Client.

You must have administrator privileges to import the OVF file.

To import the OVF file into the vSphere Client

1   Save the OVF file in a location that can be accessed from the vSphere Client.

2   In the vSphere Client, select **File > Deploy OVF Template**.

3   Select **Deploy from File** and click **Browse** to located the OVF file.

4   Click **Next** and click **Next** again.

5   Read and accept the End User License Agreement, and click **Next**.

6   Enter a name for the virtual appliance server in the **Name** text box.

    The name must be unique.

7   Select the location for the deployed template and click **Next**.

8   From the Inventory Location tree, select the ESX host on which to install the virtual appliance, and click **Next**.

    The host must be managed by the monitored vCenter.

    If you select a cluster, you must select a specific host within that cluster.

9   Select the datastore on which to store the files for the virtual appliance, and click **Next**.

10 From the **Management Network** drop-down menu, select the network to use to manage the probes.

    The AppSpeed server uses this network to deploy and communicate with probes deployed on other hosts. Select a network that has access to the other machines and to vCenter.

11 Click **Next**.

12   Review the installation summary and click **Finish** to begin the installation.

When the installation is complete, the virtual appliance is added in the vSphere Client.

13   In the **Basic Tasks** pane, click **Power on the virtual appliance** to start the virtual appliance.

To import the OVF file into the VI Client

1   Save the OVF file in a location that can be accessed from the VI Client.

2   In the VI Client, select **File > Virtual Appliance > Import**.

3   Select **Import from file** and click **Browse** to located the OVF file.

4   Click **Next** and click **Next** again.

5   Read and accept the End User License Agreement, and click **Next**.

6   Enter a name for the virtual appliance server in the **Name** text box.

The name must be unique.

7   From the Inventory Location tree, select the ESX host on which to install the virtual appliance, and click **Next**.

The host must be managed by the monitored vCenter.

8   Select the datastore on which to store the files for the virtual appliance, and click **Next**.

9   From the **Management Network** drop-down menu, select the network to use to manage the probes.

The AppSpeed server uses this network to deploy and communicate with probes deployed on other hosts. Select a network that has access to the other machines and to vCenter.

10   Click **Next**.

11   Review the installation summary and click **Finish** to begin the installation.

When the installation is complete, the virtual appliance is added in the VI Client.

12   In the **Basic Tasks** pane, click **Power on the virtual appliance** to start the virtual appliance.

Configure the AppSpeed Server

You configure the AppSpeed server from the vSphere Client or VI Client. The first time you access the console you are prompted to configure the AppSpeed server.

As part of the configuration process, AppSpeed performs the following actions in vCenter:

■   Creates a snapshot of the AppSpeed server virtual machine

■   Registers the AppSpeed plug-in as a vCenter Client extension

■   Registers the redirection of AppSpeed in the vCenter proxy

■   Registers the AppSpeed server to start automatically when a host starts up

■   Registers the AppSpeed server power off settings so that AppSpeed is properly shut down when powering off

To configure the AppSpeed Server

1   Power on the server virtual appliance and open the AppSpeed server console.

When the virtual appliance is booted, the console is displayed.

2   At the login prompt, type **setup**.

NOTE   To exit the console after beginning the setup, press Ctrl+C to reinitiate the setup, and press Ctrl+C again to exit the setup.

3   Press Enter to accept the default value or specify an alternative value.

The default (or previously defined) value for each parameter appears in brackets.

4   (Optional) Select a setting for the network management card.

a   Type **Y** to use DHCP settings.

b   Type **N** to set a fixed IP address. You are prompted to set the IP address, netmask, and gateway for the management card.

NOTE   If you do not want to specify the gateway, enter **0.0.0.0**.

---

5   Set the AppSpeed time zone.

If the time zone list does not fit in the console window, press Shift + Page Up/ Page Down to view all locations.

6   Configure the vCenter IP address, user name, and password when prompted.

Optionally, you can specify the port number. Type the port number immediately after the IP address, preceded by a colon (:). For example, 10.23.89.89:8080 indicates port 8080 on IP address 10.23.89.89.

7   Press Enter to confirm that you want to complete the setup process.

8   (Optional) Press Ctrl+C to reinitiate the setup process and change any parameter values.

NOTE   If you reinitiate the setup process, the previous answers are retained. You can change the values as needed.

---

9   When prompted, review the setup summary and type **Y** to accept the settings and complete the setup process.

Installing the AppSpeed Plug-In and Probes

3

Before you can take advantage of the monitoring capabilities of AppSpeed, you must install the AppSpeed plug-in and deploy the AppSpeed probes.

This chapter includes the following topics:

- "Install the AppSpeed Plug-In" on page 13
- "Deploying the AppSpeed Probes" on page 13
- "Adding a License" on page 15
- "Verifying the Installation" on page 15
- "Managing SSL Keys" on page 16

Install the AppSpeed Plug-In

You must install the AppSpeed plug-in on each vSphere Client or VI Client that needs to connect to AppSpeed.

To install the AppSpeed plug-in

1   In the vSphere Client or VI Client, select **Plugins > Manage Plugins**.

2   Select the AppSpeed plug-in and click the **Download and install** button.

    A progress window indicates the progress until the installation is complete.

3   Click **Close** when the installation is complete.

4   Enable the plug-in:

    a   In a VI Client, click the **Installed** tab. In the entry for the AppSpeed Utility, select the **Enabled** check box.

    b   In a vSphere Client, right-click vCenter and click **Enabled** in the plug-ins list.

    The AppSpeed icon is added to the toolbar.

Deploying the AppSpeed Probes

Before the monitoring process can begin, you must install at least one AppSpeed probe on one or more hosts. Each probe can monitor up to three vSwitches. You can install more than one probe on the same host to monitor additional vSwitches. The probe settings, including the management network, storage device, and monitored vSwitches, are configured as part of the probe installation process.

You can add and remove probes. See "Install an AppSpeed Probe" on page 14 and "Delete Probes" on page 15.

To modify the probe configuration, see the *VMware vCenter AppSpeed User's Guide*.

NOTE   To configure the AppSpeed probe to monitor a vNetwork distributed switch, see "Configuring AppSpeed with vNetwork Distributed Switching" on page 19.

The AppSpeed probe deployment process automatically makes the following changes in the vCenter:

- Creates a snapshot of the AppSpeed server virtual machine if one does not already exist. (To save disk space, you can remove the AppSpeed snapshots after the probe installation is complete.)

- Creates the AppSpeed Probes folder if it does not already exist.

- Creates promiscuous port groups for the selected vSwitches.

- Creates a probe by creating a linked clone; If it is not successful, AppSpeed creates a new virtual machine and copies it. The virtual machine of the probe has the appropriate hardware settings, including CPU and memory reservation.

- Reconfigures the probe's cluster so that the probe is not subject to the Distributed Resource Scheduler (DRS) and High Availability (HA).

- Powers on the probe

- Edits and reconfigures the probe's settings

Install an AppSpeed Probe

You can install a probe on one host at a time, or you can install a probe on multiple hosts at the same time. You can also install more than one probe on the same host.

To install a probe

1 Access the AppSpeed user interface:

a In the vSphere Client, click **Home** > **Solutions and Applications** and click the **AppSpeed** icon.

b In the VI Client, click the **AppSpeed** icon on the toolbar.

NOTE If the **AppSpeed** icon does not appear, verify that the AppSpeed plug-in is selected in the Plugins menu.

2 Select the check boxes for the hosts or clusters on which to install a probe and click **Install Probes**.

A probe is installed on each selected host, regardless of whether another probe is already installed on the host.

NOTE When you select the check box for a cluster, the check boxes for each host that it contains are selected. Similarly, when you select a host, the probes already installed on it are selected.

The Probe Installation window displays a separate entry for each host that you select. Each entry appears in a separate pane.

NOTE When you install a probe in AppSpeed, distributed vSwitches do not appear in the Probe Installation window. To monitor these switches, you must configure the AppSpeed probe. See "Configuring AppSpeed with vNetwork Distributed Switching" on page 19.

3 (Optional) Configure the probe for each host entry.

a Type the name of the probe in the **Probe Name** text box.

If you do not specify a name, the AppSpeed server assigns a default name.

b From the **Storage** drop-down menu, select the storage device to which the probe connects.

c From the **Management Network** drop-down menu, select the network to use to manage the probes:

- Select **DHCP** to use dynamic address settings.

- Select **Static IP** to set a fixed IP address for the network management card. Enter the IP address and netmask details. Optionally, enter the gateway details.

- Select up to three monitoring vSwitches. The vSwitches sniff traffic on the configured management network. By default, the first three available vSwitches are selected.

4   (Optional) To add an additional probe to a host, click   **Install another probe on this host** at the bottom of the host entry and configure the probe as described in Step 3.

5   When you are done adding host-probe combinations, click **Install Probes**.

6   Review the installation information, and click **OK**.

      Alternatively, click **Back** to return to change any of the settings.

      The installation progress is indicated in the Probe Status column in the Probes Management window.

      Upon completion, the new probe is added to the **All Probes** folder. The probe is powered on and set up.

Power Probes On or Off

You can power probes on or off from the Probes Management window.

To power probes on or off

In the Probes Management window, select the check boxes for one or more probes, and click **Power On** or **Power Off**.

Delete Probes

If you do not want to monitor the traffic on a specific host, you can remove the probes from that host.

To delete probes from hosts

1   In the Probes Management window, select the check boxes for one or more probes on the same or multiple hosts, and click **Delete Probe**.

2   Click **OK** to confirm.

      The probe is removed from the selected hosts only.

Adding a License

You must have an AppSpeed license to monitor servers.

To add a license

1   Click **Licensing** in the navigation pane of the Administration module.

2   Click **Add License**.

3   Enter the license key provided by VMware in the text box and click **OK**.

      The license key is validated and its details are added in the License page.

Verifying the Installation

You can verify the successful installation and deployment of the probes by checking the probe status in any of the following locations:

■   **Recent Tasks** pane of the vSphere Client or VI Client

■   vCenter Probes Management window

■   **Servers** tab or **Transactions** tab of the Unmapped Traffic page

If the probe is successfully installed and deployed, the status of the probe is **Running**. In addition, if active traffic is present on the part of the network that the probe is monitoring, the traffic throughput is reflected accordingly.

NOTE   The traffic throughput can be **0** if there is no traffic on the monitored vSwitches or if a problem occurs with the installation. If the problem persists and you know that traffic is present, see Chapter 7, "Troubleshooting," on page 27.

View Unmapped Traffic

You can view information about the unmapped servers and transactions detected on the network. Unmapped objects have not yet been mapped to a specific server or application.

NOTE   The number of unmapped objects typically decreases as AppSpeed maps the environment.

To view unmapped traffic

1   In the navigation tree, select **Applications and Servers**.

2   Click **Unmapped Traffic** on the page selection bar.

You must configure the SSL keys for each endpoint where AppSpeed detects SSL traffic in order to view unmapped traffic on HTTP sites that incorporate SSL protection. See "Managing SSL Keys" on page 16.

3   View the status information for the unmapped traffic.

- **Name**: Name of the server or transaction.

- **Endpoint**: IP address and ports used by the server (**Servers** tab only).

- **Latency**: Average and standard deviation (STDEV) latency rates for the server or transaction.

- **Hits**: Average number of hits per second for the server or transaction, and the total number of hits in the specified timeframe.

- **Throughput**: Average throughput for the server or transaction, and the total throughput in the specified timeframe.

- **Errors**: Average rate of errors, as a percentage, for the server or transaction.

Managing SSL Keys

For AppSpeed to monitor traffic on HTTPS sites that incorporate SSL protection, you must configure the SSL keys for each endpoint (IP address and port pair) where AppSpeed detects SSL traffic.

View SSL Key Information

You can view the existing SSL key configuration in the AppSpeed user interface

To view SSL key information

1   Click **SSL Management** in the navigation pane of the Administration module.

2   View the secure site endpoints for which AppSpeed cannot monitor traffic without a key.

- The Pending SSL Endpoints table lists the endpoints for which valid SSL keys are required, including their IP addresses and ports. AppSpeed automatically identifies the SSL endpoints for which keys do not exist.

- The Monitored SSL Endpoints table lists the endpoints for which valid keys exist in AppSpeed, including the respective server name, where available, and IP address and ports. AppSpeed monitors traffic on these endpoints.

NOTE   AppSpeed supports the configuration and monitoring of SSL keys for HTTPS sites only.

Add an SSL Key

You can assign a key to a pending endpoint to enable AppSpeed to actively monitor its traffic.

If necessary, you can extract the SSL files from the Web server to obtain the key (see "Extracting SSL Files" on page 25).

To add an SSL key

1   In the SSL Management window, select the check boxes for the endpoints in the SSL Pending Endpoints table and click **Add/Update SSL key**.

2   Browse to and open the key file.

    The key is assigned to the selected endpoints. The endpoint moves from the SSL Pending Endpoints table to the Monitored Endpoints table.

Configuring AppSpeed with vNetwork Distributed Switching

4

When you install a probe in AppSpeed the distributed switches do not appear in the Probe Installation window. You must manually configure AppSpeed to monitor these switches.

This chapter includes the following topics:

- "Configuring AppSpeed to Monitor a vNetwork Distributed Switch" on page 19
- "Configuring AppSpeed to Monitor Cisco Nexus 1000V Switches" on page 20
- "Create a Temporary vSwitch" on page 21

Configuring AppSpeed to Monitor a vNetwork Distributed Switch

AppSpeed is able to monitor vNetwork Distributed Switches. However, AppSpeed is unable to directly install a probe that will monitor such a vNetwork Distributed Switch.

To install a probe, you must specify an available vSwitch to monitor. Later on, you need to create a promiscuous dvPortGroup and change the network settings of the probe to monitor the vNetwork Distributed Switch. As with vSwitches, AppSpeed monitors only the virtual machines on hosts on which the probes are installed.

NOTE   To deploy a probe, there must be at least one available vSwitch on the host for the probe to monitor. If the host does not have any vSwitches configured, or if all other vSwitches are already being monitored by other probes, you must first create a new temporary vSwitch before you deploy the new probe. See "Create a Temporary vSwitch" on page 21.

Create a dvPortGroup

If you deploy a vNetwork Distributed Switch, it is recommended that you add a new port group.

To create a port group

1   In the vSphere Client or VI Client, select **Home > Networking**.

2   Create a new port group for the vNetwork Distributed Switch:

   a   Select the vNetwork Distributed Switch.

   b   From the Basic Tasks list, create a new port group.

Configure the dvPort Group

You must configure the vNetwork Distributed Switch ports to work in promiscuous mode so that the AppSpeed probe can monitor the switch.

To configure the dvPort group

1   In the vSphere Client or VI Client, select **Home > Networking**.

2   Right-click the corresponding port group in the vNetwork Distributed Switch and select **Edit Settings**.

3   Select **Security**.

4   Set the **Promiscuous mode** to **Accept**.

5   Select **VLAN**.

6   Set the **VLAN type** to **VLAN Trunking**.

7   Set the **VLAN trunk range** to **0-4094**.

8   Save your changes.

Configure the AppSpeed Probe to Monitor vNetwork Distributed Switches

Once the probe is deployed and set up (as described in "Deploying the AppSpeed Probes" on page 13), you can configure the AppSpeed probe to monitor the distributed vSwitches.

To configure a probe to monitor a vNetwork distributed switch

1   In the vSphere Client or VI Client, select **Home > Hosts and Clusters**.

2   Right-click the corresponding probe virtual machine and select **Edit Settings**.

3   Select the required network adapter.

4   From the **Network** drop-down menu, select the relevant port group (by default, dvPortgroupX).

5   Verify that both the **Connected** and **Connect at power on** check boxes are selected.

Configuring AppSpeed to Monitor Cisco Nexus 1000V Switches

If only Nexus 1000V switches are configured in the vCenter or if all other vSwitches are already being monitored by other probes, you need to create a new vSwitch before you deploy the probe.

NOTE   To deploy a probe, there must be at least one available vSwitch on the host for the probe to monitor. If the host does not have any vSwitches configured, or if all other vSwitches are already being monitored by other probes, you must first create a new temporary vSwitch before you deploy the new probe. See "Create a Temporary vSwitch" on page 21.

Configure Port Mirroring

You must configure port mirroring on the Cisco Nexus 1000V vSwitch ports so that the AppSpeed probe can monitor a Nexus 1000V vSwitch.

To configure port mirroring

1   Set the server ports that you want to monitor as the source ports.

2   Set an unused port as the destination port.

3   Enable port mirroring on the switch.

Configure the AppSpeed Probe to Monitor Cisco Nexus 1000V Switch

After the probe is deployed and set up, you can configure it to monitor the Nexus 1000V switches.

To configure the AppSpeed probe to monitor a distributed vSwitch

1   In the vSphere Client or VI Client, select **Home > Hosts and Clusters**.

2   Right-click the corresponding probe virtual machine and select **Edit Settings**.

3   Select the required network adapter.

4   From the **Network** drop-down menu, select the relevant port with port mirroring configured.

5   Verify that both the **Connected** and **Connect at power on** check boxes are selected.

Create a Temporary vSwitch

To deploy a probe, there must be at least one available vSwitch on the host for the probe to monitor. If the host does not have any vSwitches configured, or if all other vSwitches are already being monitored by other probes, you must first create a new temporary vSwitch before you deploy the new probe.

NOTE   If an available vSwitch exists on the host, you do not need to create a temporary switch.

To create a temporary vSwitch

1   In the vSphere Client or VI Client, select **Home > Hosts and Clusters**.

2   Select the destination host on which you want to install the probe.

3   Select **Configuration > Networking > Add Networking Wizard**.

4   In the Connection Type window, select the **Virtual Machine** option and click **Next**.

5   Deselect the check boxes for the NICs and click **Next**.

6   Name the vSwitch in the **Network label** text box and click **Next**.

7   Click **Finish**.

Upgrading AppSpeed

5

If a new version of AppSpeed is available, you can upgrade to that version.

This chapter includes the following topics:

Overview of the Upgrade Process

The AppSpeed upgrade process uses an ISO image and is fully automated. The ISO image is provided by VMware.

You upgrade AppSpeed by connecting the ISO image with the new version to the AppSpeed server machine and running a command-line interface (CLI) command. The CLI command performs the following actions:

1 Upgrades the AppSpeed server and performs two sequential reboots.

2 Sets up the AppSpeed server with the new version, keeping all configurations and monitoring data of the previous version.

3 Creates a recovery virtual machine snapshot on the AppSpeed server machine to which you can revert at any time.

4 Creates a backup copy of all the configuration and monitoring data to enable the upgrade to restore existing data.

5 Distributes the upgraded version to all probes.

You can observe the progress of the AppSpeed server upgrade and set up processes from the console. You can observe the redeployment of the probes in the AppSpeed user interface.

Upgrade AppSpeed

You upgrade AppSpeed version using the ISO image provided by VMware.

To upgrade AppSpeed

1 Save the ISO file provided by VMware to a location on your network.

2 In the vSphere Client or VI Client, connect the AppSpeed server to the ISO file.

   a Select the AppSpeed server machine in the inventory tree.

   b Click **Connect CD/DVD** and select **Connect to ISO image** from the drop-down menu.

   c Browse to the location of the ISO file.

3 Log in to the AppSpeed server console as the console user.

4 From the default console shell, run the command `upgrade_AppSpeed`.

5   Press Enter to run the upgrade script.

The upgrade process reboots the AppSpeed server and recreates all AppSpeed probes. This might take a long time.

NOTE If an error occurs during the script execution, an error message appears indicating the nature of the error.

After the AppSpeed server boots from the ISO image, it continues the upgrade process. This process can take up to one hour.

When the process is complete, the ISO image reboots the system and starts a second upgrade script.

A message appears indicating that the AppSpeed server upgrade is complete.

You are prompted to disconnect the ISO file.

6   Disconnect the ISO file in the Client.

The script recreates the probes in the new version. You can monitor the redeployment process from the AppSpeed Probes Deployment window.

7   Verify the redeployment of the probes, as described in "Verifying the Installation" on page 15.

Extracting SSL Files

6

You can extract the SSL files from the Web server to obtain the SSL keys. The procedure varies according to the type of Web server.

Extract SSL Files from an Apache Server

You can extract the SSL files from an Apache server.

To extract SSL files from an Apache server

1   In the Apache conf directory, open the `http.conf` file. The filename is either
    `/etc/httpd/conf.d/ssl.conf` or `/etc/httpd/conf/httpd.conf`.

2   Locate the `SSLCertificateKeyFile` command on the SSL site.

3   Save a copy of the file that appears under `SSLCertificateKeyFile as [cluster].key` and transfer it
    to the vSphere Client machine.

    You can select and upload the key file to the AppSpeed server (see "Add an SSL Key" on page 17).

Extract SSL Files from a Microsoft IIS 6.0 Server

You can extract the SSL files from a Microsoft IIS 6.0 server.

To export the IIS key file

1   Select **Start Programs > Administrative Tools > Internet Information System (IIS) Manager**.

2   Expand the COMPUTERNAME (local computer) tree in the left pane, and then expand the Web Site tree.

3   Right-click **Default Web Site** and select **Properties**.

4   Select the **Directory Security** tab, and then select the **Server Certificate** button.

5   Select **Next**, select **Export the current certificate to a PFX file**, and select **Next** again.

6   Select a file for the exported certificate and key to be written, and select **Next**.

7   Enter the password with which the key is to be encrypted.

    During the export process, a password is requested to protect the key. If a password is assigned, remember
    this password. This password is required when importing the key into AppSpeed.

8   Re-enter the password in the **Confirm Password** text box.

9   Select **Finish**.

    The PFX file should be transferred to the vSphere Client machine and uploaded to the AppSpeed server
    (see "Add an SSL Key" on page 17).

Extract SSL Files from a Microsoft IIS 7.0 Server

This section describes how to extract the SSL files from a Microsoft IIS 7.0 server.

To export the IIS 7.0 key file

1 Select **Start Programs > Administrative Tools > Internet Information System (IIS) Manager**.

2 Expand the COMPUTERNAME (local computer) tree in the left pane and then double-click the **Server Certificates** icon in the middle pane.

3 Right-click the certificate and select **Export**.

A PFX file is created.

During the export process, a password is requested to protect the key. If a password is assigned, remember this password. This password is required when importing the key into AppSpeed.

The PFX file should be transferred to the vSphere Client machine and uploaded to the AppSpeed server (see "Add an SSL Key" on page 17).

Troubleshooting

7

If you encounter problems when using AppSpeed, use this troubleshooting information to try and resolve the problem.

This chapter includes the following topics:

- "AppSpeed Setup Errors" on page 27
- "AppSpeed User Interface Loading Problems" on page 28
- "General Errors While Using AppSpeed" on page 30

AppSpeed Setup Errors

If you have problems while setting up AppSpeed, try these troubleshooting suggestions.

Problem

Setup fails and the following error message appears:

Connection timed out. Verify the vCenter address and try again.

Cause

You entered an incorrect vCenter Server IP address during setup.

Solution

1 Verify the accuracy of the vCenter Server IP address.

2 Run setup again and enter the correct IP address.

Problem

Setup fails and the following error message appears:

Connection timed out. Verify the vCenter address and try again.

Cause

The vCenter HTTPS Web Service port is not configured to work with the default port 443.

Solution

1 Check the vCenter Web Service port.

2 Run setup again and enter **<vCenter_IP>:<HTTPS_Port>** in the vCenter parameters section.

Problem

Setup fails and the following error message appears:

Connection timed out. Verify the vCenter address and try again.

Cause

The vCenter HTTPS Web Service port is blocked to traffic between the AppSpeed server and vCenter Server.

Solution

1   Verify with IT that the vCenter HTTPS Web Service port on the firewall is open from the AppSpeed server to vCenter Server.

2   Run setup again.

3   If the problem persists, try running Telnet to the vCenter IP with the vCenter HTTPS Web Service configured to port 443 to verify that the port is open.

Problem

The following error message appears:

The remote server returned an error: Server Unavailable

Cause

The vSphere Client or VI Client uses HTTP to download the AppSpeed user interface from the AppSpeed server. If the firewall between the vSphere Client or VI Client and the AppSpeed server is closed for port 80, the download fails.

Solution

1   Verify that port 80 is open on the firewall.

2   If the problem persists, log in to the AppSpeed server virtual machine as the console user and run `restart_AppSpeed`.

Problem

The following error message appears:

The application failed to initialize properly, click OK to terminate the application.

Cause

A problem occurred in the AppSpeed server.

Solution

1   Log in to the AppSpeed server virtual machine as the console user.

2   From the console, run `restart_AppSpeed`.

AppSpeed User Interface Loading Problems

If you have problems loading the AppSpeed user interface, try these troubleshooting suggestions.

Problem

After clicking the AppSpeed plug-in **Download and Install** link, the following message appears:

The remote server returned an error: (404) Not Found.

Cause

The AppSpeed plug-in fails to install if vCenter is not configured to work with port 80.

Solution

1   Manually download the `setup.exe` file from:
    `http://<vCenter_IP>:<HTTPS_Port>/AppSpeed/static/setup.exe`

2   Run the `setup.exe` file. (Close the vCenter before performing the installation)

3   On the machine running the vCenter Client, go to `C:\Program Files\VMware\Infrastructure\Virtual Infrastructure Client\Plugins\AppSpeed`.

4   Open the `Settings.config` file in a text editor.

5   Replace the line `<!--ConductorURL>http://<hostname>/</ConductorURL-->` with the line:
    `<ConductorURL> http://<vCenter_IP>:<HTTPS_Port>/AppSpeed/</ConductorURL>`.

6   Replace the line `<VCProxyNamespace>AppSpeed</VCProxyNamespace>` with
    `<!--VCProxyNamespace>AppSpeed</VCProxyNamespace-->`.

    For example, for vCenter 1.2.3.4 and port 8080, use:
    `<ConductorURL>http://1.2.3.4:8080/AppSpeed/</ConductorURL`.

7   Save and close the file.

8   Restart the vSphere Client or VI Client and enable the AppSpeed plug-in in the **Plugin** tab.

Problem

You click the AppSpeed icon in the vSphere Client or VI Client, but the AppSpeed view does not load.

Cause

A connection to the server cannot be established or there is an issue with proxy settings. This type of error is usually preceded by one of the following messages: *Received a connectivity error* or *URL Error received.*

Solution

1   Log in to the AppSpeed server virtual machine as the console user.

2   From the console, run `restart_AppSpeed`.

3   Verify with IT that port 80 is open on the firewall.

4   Restart the vSphere Client or VI Client.

5   Wait a few minutes for the AppSpeed user interface to load.

6   If the user interface still does not load, reinstall the user interface from the plug-in window.

    See "Install the AppSpeed Plug-In" on page 13.

Problem

The following error appears in the user interface:

Unable to communicate with AppSpeed server: failed to download UI module from http://<vCenter address>/AppSpeed>, consult your system administrator.

Cause

An HTTP connection to the AppSpeed server is refused due to certificate authorization issues.

Solution

1   In Internet Explorer or Firefox, go to http://<AppSpeed server IP>.

    A message appears indicating that the server's certificate must be approved before the machine allows HTTP connections.

2   Approve the certificate using the Web browser.

3   Restart the VI Client.

4   Click the **AppSpeed** button.

5   If the problem persists, go to http://<AppSpeed server_ip>/AppSpeed/static/setup.exe and download `setup.exe` from the AppSpeed Brain.

     If you succeed, the server is accessible.

6   If the problem persists and the *503 Service Unavailable* message appears, log in to the AppSpeed server virtual machine as the console user and run `restart_AppSpeed` from the console.

Problem

The user interface cannot connect to AppSpeed.

Cause

Storage used by the AppSpeed server was disconnected for a while causing the file system to respond as a read-only file system.

Verify the cause by logging into the console on the AppSpeed virtual machine and running commands such as `start_AppSpeed` or `restart_AppSpeed`. The resulting error message will indicate that the file system is read-only. For example, a message similar to the following one might appear:

OS Error: [Error 30] Read-only file system: 'twistd.pid'

Solution

1   Validate that the storage is up.

2   From the vSphere Client or VI client, reboot the AppSpeed server's virtual machine to reinitialize the file system.

General Errors While Using AppSpeed

If you have problems while using AppSpeed, try these troubleshooting suggestions.

Problem

A virtual machines is not in the AppSpeed inventory tree.

Cause

No AppSpeed probe is configured to monitor the virtual machine.

Solution

1   Verify that an AppSpeed probe is running and located together with the virtual machine on the same host.

2   In the host networking configuration, verify that the AppSpeed probe is connected to the vSwitch that the virtual machine uses for traffic handling.

Cause

The virtual machine is not mapped due to a low volume of traffic.

Solution

1   In the Analysis module, select **Applications and Servers** in the inventory tree.

2   Click **Unmapped Traffic** on the page selection bar.

3   Click the **Servers** tab and search for the virtual machine.

     A low number of hits indicates that the virtual machine is not yet mapped.

Cause

The virtual machine is not displayed because SSL private keys need to be loaded.

Solution

1   In the user interface, select **SSL Management** in the Administration module and verify that the server appears on the list.

2   If the server is on the list, load the corresponding private keys.

      See "Managing SSL Keys" on page 16.

Problem

Your application does not appear in the AppSpeed user interface.

Solution

1   In the Analysis module, select **Applications and Servers** in the inventory tree.

2   Select **Unmapped Traffic** on the page selection bar.

3   Click the **Servers** tab and search for the server that runs the application under the relevant protocol.

      A low number of hits indicates that the application is not yet mapped. In the **Transactions** tab, you can see the transactions that are not mapped to an application due to a low number of hits.

4   If the server is not discovered, verify that the AppSpeed probe is running and connected to the same vSwitch that the server uses for traffic handling.

Index