VMware vCenter AppSpeed User's Guide

AppSpeed Server 1.5

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About This Book

This book describes the user interface for the VMwarevCenter™ AppSpeed virtual machine.

Intended Audience

This book is intended for IT administrators who use AppSpeed to monitor the performance, usage, and dependencies of multitier applications running across virtual and physical infrastructure.

This document is written to support VMware vCenter AppSpeed, running on vCenter Server.

This document assumes a basic understanding of VMware management and the VMware vSphere™ Client.

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1 AppSpeed Overview

VMware vCenter AppSpeed provides performance management and service-level reporting for services running within virtual appliances. AppSpeed analyzes the traffic that flows between users, Web applications, and back-end servers. This analysis provides visibility into multitier services. The analysis enables you to rapidly identify performance problems that originate from inadequate resource allocation and service problems.

AppSpeed probes capture ingoing and outgoing traffic servers that are running on hosts on which the probes are deployed. This feature enables AppSpeed to monitor the real-time user experience for all transaction requests, analyzing performance through all layers.

AppSpeed establishes baselines based on service behavior over time and compares real-time metrics to service-level targets. In addition, AppSpeed maintains historical monitoring data that you can use to analyze trends and for troubleshooting purposes. You can identify which component is responsible for a performance problem and identify the likely solution. You can also configure AppSpeed to generate real-time events in response to transaction-level performance and availability problems. Optionally, you can send email notifications when events are generated.

AppSpeed includes a wide range of predefined viewing options to facilitate the analysis of performance data. The predefined views incorporate different combinations of data, presented in tabular and graphical format. Different sets of views are available when you select a server object, a service object, or a transaction object.

This chapter includes the following topics:

Access the AppSpeed User Interface

You access AppSpeed from the VMware vSphere Client.

Prerequisites

Verify that the AppSpeed plug-in is enabled in the **Plug-ins** menu.

Procedure

1 In the VMware vSphere Client, click an object in the Inventory tree.

If an AppSpeed probe is deployed on the object, a new **Services** tab is added to the user interface.

2 Click the **Services** tab.

Data related to services that AppSpeed detects for the selected vSphere object appears.

3 (Optional) In the **Open AppSpeed in** list, select either **Browser** or **vSphere Client** and click **Go**, to open the AppSpeed user interface.

4 (Optional) In the VMware vSphere Client, click **Home** and in the Solutions and Applications area, click the ***<AppSpeed_namespace>*** icon.

If you have more than one AppSpeed Server, a namespace will appear for each instance.

The AppSpeed user interface opens. By default, the AppSpeed Overview portal appears.

If you access AppSpeed by clicking an object in the vSphere Client inventory, the displayed data relates to the selected object. If you access AppSpeed from the Solutions and Applications interface, the displayed data relates to all the data on the selected AppSpeed Server.

What to do next

If you are accessing the AppSpeed user interface for the first time, you must install probes. See "Deploy an AppSpeed Probe," on page 30.

AppSpeed User Interface Overview

The AppSpeed user interface is categorized into modules. You access the modules by clicking their name on the AppSpeed menu bar. You use different modules to perform different tasks.

Overview Portal	Displays a series of portlets where you can quickly analyse the state of AppSpeed Server. Each portlet contains one or more links that provide more detail about an item.
Inventory	Provides a list of servers or services that are running on AppSpeed Server. The displayed data includes the state of each object, its throughput, number of hits per second, and latency, communication protocol and creation time.
Mapping	Provides a list of unmapped servers or services and data related to their latency, hits, and throughput. From this module, you can manage your servers, services, and deleted objects. You can also add or update SSL keys and define SSL endpoints.
SLA & Events	Displays the events log of the changes in states that deviate from the Service Level Agreement. You can export the log as a CSV file and configure email notification settings. See "View the Events List," on page 44 and "Configure AppSpeed Email Notifications," on page 43. You can also access the Service Thresholds data.
Administration	Provides administrative functions, including deploying probes, and creating and viewing support information. See Chapter 4, "AppSpeed Administration," on page 29.

Navigating the AppSpeed Interface

Using the AppSpeed navigation aids, you can access increasingly detailed levels of information about an object. You can also move back and forth between pages, with the pages retaining the content they last had when you navigated away from them.

Key Navigation Points

When you click on a module on the AppSpeed menu bar, a page on the page selection bar, or a link in a table, breadcrumbs appear immediately under the AppSpeed menu bar to help you orient yourself in the application. Breadcrumbs indicate your current location, relative to the AppSpeed application.

You can click a breadcrumb to immediately jump to that page.

NOTE Breadcrumbs indicate your current location relative to the AppSpeed application, not necessarily the way you navigated to that location.

If you click a link, other than a title in a menu bar or a breadcrumb, the specific target page of that link appears. For example, if you click a service link in a portlet, the services page in the Inventory module appears.

Navigation History

When you use the **Back** and **Forward** buttons to move between pages, the settings of the page that you move from are retained. For example, assume that you are looking at the Analysis view of a service and have selected the **Latency Breakdown** tab. You move to the Events page in the SLA & Events module, then return to the Analysis view of the service, using the **Back** button. The **Latency Breakdown** tab appears again.

The history of data that you select from drop-down menus is not retained. For example, if you change the time frame when viewing data in the **Latency Breakdown** tab, that time frame is also applied to the page that appears when you click the **Back** button.

Search Navigation

When you use the Search field to search, you can use the **Back** and **Forward** buttons to move between your search results.

Viewing Performance Data 2

Performance data for services and servers is presented in different ways. The type of data that is presented depends on the object you select, the predefined or customized view that you select, and any filters that you apply.

AppSpeed provides you with multiple levels of data analysis. The Overview portal presents a high-level description of key performance indicators. With multiple links, you can perform a deeper analysis of specific performance elements.

This chapter includes the following topics:

Introduction to the Overview Portal

The portlets in the Overview portal provide you with a high-level view of the state of AppSpeed Server. The details include mapping and coverage data and the state of the monitored servers and services relative to their service level agreements (SLAs). They also provide links through which you can access more detailed data about an item.

Displayed Portlets

These portlets give you a comprehensive overview of AppSpeed Server.

- In some portlets, you can select the time frame from which data is collected.
- In some portlets, you can click **Show All** to display all the services in the AppSpeed inventory.

Mapping & Coverage	Data about the number of AppSpeed probes that are deployed and how they are mapped. If AppSpeed cannot map a server, for example if a server is in a pending state while waiting for you to assign SSL keys, a warning message appears.
SLA Breakdown	State of services or servers in relation to compliance with SLAs. You can click the **Services** or **Servers** links to view details of the SLA state of specific objects.
Last 10 Events	Lists the ten most recent SLA events that occurred on the AppSpeed Server. You can click an object in the Event List to view the details of the event.
Top 5 Services by CPU	Lists the five services that had the highest CPU use in the specified time frame. You can click a service in the list to view its CPU use details.
Top 5 by Memory	Lists the five services that consumed the most memory in the specified time frame. You can click a service in the list to view its memory consumption details.
Top 5 by Usage	Lists the five services that had the greatest throughput in the specified time frame. You can click a service in the list to view its usage details.

AppSpeed Views

When you double-click an object in the Inventory module to analyze a service or server, several predefined views appear. You can use these views to investigate different cross-sections of performance data.

Select a Service or Server for Analysis

The Inventory module lists the services and servers detected on the network. When you select a service or server in the inventory, you can access its in-depth data.

The views that are available depend on whether you selected a service or a server.

Procedure

- Double-click a service or server, or select the object and click the **Analyze** icon.

  The Summary view page for the selected object appears.

In the Summary view, portlets provide information about the object you selected. See "Summary View," on page 13.

Summary View

The Summary view is the default view when you select a service or server in the Inventory module. The portlets that appear depend on whether you select a service or a server.

Summary View Portlets for Services

These portlets are available when you are viewing the summary for a service.

Latency Trends

Graphs data related to latency of the selected service, including the total length of time the service exceeded its SLA during the specified time frame.

See More shows latency over time.

Latency Breakdown

Graphs latency data, broken down by server, network, and retransmissions. If the service is an Oracle database, Client Fetch is included in the breakdown. The portlet also includes the average latency time and standard deviation during the selected time frame.

See More shows more service latency breakdowns.

Usage

Graphs data related to the average hit rate in comparison to the average throughput.

See More links to usage over time.

Database/Domains

Lists the domains or databases on which the service is running, depending on the type of service that is selected.

Servers

Lists the servers on which the service is running, and the latency state of the service.

Dependencies

A list of services that are dependent on the selected service, and the services on which the selected service is dependent.

Summary View Portlets for Servers

These portlets are available when you are viewing the summary for a server. The portlets that appear depend on whether the virtual machine is running inside or outside vCenter.

Latency per Service

Graphs data related to latency of each service running on the selected server, including its latency during the specified time frame.

See More links to services latency.

Usage

Graphs data related to the average hit rate on the server, in comparison to the average throughput.

See More links to server usage.

System

For servers running in vCenter, charts CPU use and memory consumption over time.

This data is also accessible from vCenter.

Services

Lists the services that are running on the selected server, and their latency state, endpoint, and protocol.

Dependencies

A list of servers that are dependent on the selected server, and the servers on which the selected server is dependent.

Analysis View

The Analysis view provides graphical and tabular information for the selected service or server. You can select views and timeframes to highlight the specific information to view. The Analysis view is available for service and server objects.

Analysis data appears in graph and table forms. On the tabs on the graphical and tabular forms, you can define the detail of the view.

Each table appears on a separate tab. A row appears at the bottom of every tab, showing summary data for the selected object. The data summarizes the entire time frame that you select. This row does not change when you navigate between tabs.

An eye icon displayed next to an object in a table indicates that the object is selected.

You can perform the following actions on the tabular display data.

- View data on the chart for specific services, servers, or transactions.
- View dependency data for the specific service or server.
- Navigate a specific service, server, or transaction to view additional data.
- Sort data in the table and rearrange the order of the columns.
- Search for specific services or servers.
- Highlight the data for a specific object on the corresponding graph by selecting its row in the table.
- Export the data to a CSV file.

When you select an Analysis view from the drop-down menu, the resulting data appears in default format in the table and the graph. If you then click a tab in the graph pane, a new graph appears with data that is relevant to the tab you clicked. The data in the table does not change, only that in the graph. You can compare the different sets of data in the graph and the table, to analyze performance.

Performance View

You can use the Performance view to compare performance indicators of all services on a selected server, or to analyze a specific server.

You can display key performance indicators for services and servers. For example, you might see that latency is above SLA for a service. You want to analyze the performance of the individual servers on which this service is running to detect the cause of the problem. By performing this analysis, you can see how components on a selected server were performing.

When you double-click the service in the Overview portal or in the Inventory module, the Summary view for the service appears.

When you select the Performance view, a graph displays KPI data for the server on which the service is running. If the service is running on more than one server, option buttons appear for each server name. If you select a different server, the data changes accordingly.

You can customize the view by adding or removing KPIs related to the scenario you are analyzing. You can also hide KPI data on the graph by clicking the relevant KPI on the legend.

You can use the slider under the graph to focus on a specific time within your chosen time period.

Thresholds View

In the Thresholds view, you can see the service level agreement (SLA) state of the service that you selected in the Inventory. You can also enable and disable SLA monitoring and change the SLA threshold settings. The thresholds that you specify affect when events are generated.

Thresholds are the service performance values that you specify that should not be exceeded if service level agreements SLAs are to be met. You must have thresholds defined for an object before you can monitor its performance.

By default, AppSpeed specifies threshold values. AppSpeed monitors performance of services and servers and defines thresholds based on the monitored data. You can manually define thresholds. You can also change thresholds that AppSpeed specifies or that you specify manually.

See "SLA Monitoring," on page 40.

Events View

The Events view provides a list of instances when SLA states for a selected service or server changed from one state to another.

After SLA thresholds are specified for a service, and SLA monitoring is enabled, deviations from the SLA thresholds generate events. Events are listed in a table that is available in the Events view of the Inventory module.

See "Viewing Events," on page 44.

Define the Time Frame for Data Collection

You can select a predefined time frame, such as a day or week, or you can specify the start and end times and dates for which performance data is displayed.

The specific units of time in which the data is displayed depend on the data time frame that you select.

The length of time that aggregated data is stored in the AppSpeed internal database depends on the selected time period.

Table 2-1. Aggregated Data Storage Times

Time Frame	Time Retained in AppSpeed Database
5 Minutes	1 Day
30 Minutes	1 Week
2 Hours	1 Month
1 Day	1 Year

Procedure

1 In a view in the Inventory module, for example the Summary view or the Analysis view, click the time period link.

A pop-up window provides you with time period choices.

The default time periods are the same as those available in the vCenter user interface.

2 Choose a time period and click **OK**.

3 (Optional) In the time period pop-up window, select **Manual**, specify the **To** and **From** dates and times, and click **OK**.

Your changes are saved.

The new time period applies to all of the modules and views.

View Service Data

You can view information on a specific service, such as its properties, threshold settings, real-time states, and generated events.

Procedure

1 In the AppSpeed menu bar, click **Inventory**.

2 Double-click a service.

3 Select the **Analysis** view.

4 (Optional) Select a view from the **Select Analysis View** menu to change how the service data is displayed.

View Server Data

You can view performance analysis data, including charts and tables, for a server and its related services and dependent servers.

Procedure

1 In the AppSpeed menu bar, click **Inventory**.

2 In the page selection bar, click **Servers**.

3 Double-click the server for which to display data.

The data appears in the Summary view.

View Transaction Data

The transaction data that you can view includes its analysis, properties, and generated events.

Procedure

1 In the AppSpeed menu bar, click **Inventory**.

2 Double-click the service for which you want to view a transaction.

3 Select the **Analysis** view.

4 In the tabular data pane, click **Transactions**.

5 Double-click a transaction to view its data.

The graph displays data based on the Usage vs. Latency view. You can select an alternative view from the **Select Analysis View** menu.

View Full Transaction Name

The full name of a transaction is often truncated, because of space restrictions. You can display the full name of a transaction from the Analysis view.

Procedure

1 In the **Transaction** tab of the Analysis view for the relevant service, double-click the transaction for which you want to view the full name.

The name of the transaction appears in the header area of the Analysis page, just below the time picker.

2 Place your pointer over the name.

A pop-up window displays the full name of the transaction. For example, a URL appears for an HTTP transaction, and a database query appears for a database transaction.

Customize Table for Servers and Services Data

You can customize the layout of servers and services data tables by selecting the columns that you want to view. You can also specify the order in which columns are displayed and the criteria by which the content is sorted.

You can choose and sort columns when you are analyzing data about an object to focus on the most important content.

Prerequisites

Changes that you make to a table, and then save, affect all AppSpeed users. Ensure that your changes will not negatively affect other users before you save changes to the table.

You can apply changes to a table, without saving them. These changes are only visible to you and remain in effect until you close your session with AppSpeed server.

Procedure

1 In the AppSpeed menu bar, click **Inventory**.

2 Click the **Customize** link adjacent to the **Column Selection** menu.

The Customize Columns dialog box appears.

3 Select the type of table data to customize from the drop-down menu.

By default, **Summary** is selected.

4 Select the columns to appear in your table, using the horizontal arrows to move them between the left pane and the right pane.

The left pane lists all the valid column items for the type of table you selected. The right pane lists the column items that you selected to appear in the table.

When you click a column item in the left pane, information about that item appears below the pane.

You can select a group of columns by selecting the group item. For example, the **Usage** group includes the following columns: **Total hits**, **Hits per second**, **Total throughput (KB)**, and **Throughput rate (KBps)**.

5 (Optional) Use the vertical arrows above the right pane to change the order in which the columns appear in the table.

6 (Optional) Click **Save** to save your changes.

When you click **Save**, you have the following options:

- You can overwrite the existing layout with your customized layout by selecting **Update the current layout**.
- You can select **Create a new layout** to save your customized layout with a new name. If you do not enter a name, the layout name is saved as `Copy of <name of current layout>`.

7 Click **Apply** to apply your customized layout, without saving.

The layout is visible only to you, and remains in effect until you close your AppSpeed session.

The table appears, showing the columns that you defined.

Performance Charts and Graphs

The graphs and charts displayed depend on the selected view and object type. Charts or graphs are available in the Analysis view for services and servers, and the Thresholds view for services.

You can perform actions from the graphic display pane.

- Show or hide latency standard deviation indicators on the graph.
- Export the graph or the graph data.

Chart and Graph Types

Charts and graphs are provided to display information about different performance indicators.

Table 2-2 describes the graphs and charts that are available.

Table 2-2. Chart and Graph Types

Chart/Graph Type	Description
Usage vs. Latency	Compares the latency and usage behaviors for the selected object type.
Latency	Displays the latency behavior during a selected period of time.
Usage	Reports the use during the selected time frame for the objects selected in the display area.
Latency Breakdown	Displays a chart that reports the end-to-end latency analysis for the selected service or transaction. The content of this chart is not linked to your selections in the tabular display area.
Latency vs. Baseline	Shows the average usage and latency for either services or servers, with the corresponding baseline.
Throughput Breakdown of Servers	Reports the analysis of throughput for servers for the selected service.
Availability	Reports trends in error behavior for the selected time frame and selected object type.

For details on the performance indicators shown in each of the charts and graphs, see "Performance Indicators," on page 19.

Filter the Graphic Display

You can view data for specific objects in the chart or graph.

NOTE You cannot filter the Latency Breakdown and Throughput Breakdown graphs.

Procedure

- Select or deselect the check boxes in the table in the lower portion of the data display pane.

The data in the graphic display changes according to the filter you apply.

Display or Hide Latency Standard Deviation Indicators

Latency indicators show the standard deviation for latency on graphs in some views. By default, this feature is hidden.

Procedure

- In the tabular display pane, click the graph icon on the right to display or hide latency standard deviation indicators.

What to do next

You can view the standard deviation values in a pop-up window by placing your pointer on a deviation indicator.

Performance Indicators

Performance is monitored by AppSpeed across a wide range of metrics. The performance indicators displayed vary according to the selected view.

Table 2-3 lists the performance indicators that AppSpeed monitors.

Table 2-3. AppSpeed Performance Indicators

Performance Indicator	Description
Average Latency	Measured time between the start of the client request to the end of the server reply, averaged across all hits in the specified time frame. A greater value means a slower server response.
Average Reply Size	Average size, in bytes, of a single server reply, averaged across all hits in the specified time frame.
Average Throughput	Average number of reply bytes per second in the specified time frame.
Error Percentage	Percentage of error hits as a portion of the total hits in the specified time frame.
Execution Time	Sum of all latencies in the specified time frame. This value reflects the total amount of time of all server replies in the specified time frame.
Hit Rate	Average number of hits per second in the specified time frame.
Latency Baseline	Average latency of all hits since the time AppSpeed Server started running.
Latency Breakdown	■ Server: Latency measured from the time the server receives a request until it starts to transmit a reply. ■ Network Time: Cost of transmitting packets in the network without failures. ■ Network Retransmissions: Cost of packet retransmissions, errors, and drops. ■ Client Fetch: Time from when the client receives a reply until it transmits the next Oracle Client Fetch request.
Latency % of Baseline	Percentage of latency above or below the baseline.
Latency STDEV	Standard deviation of the latency of all of the hits in the specified time frame.
Max. Latency	Latency of the slowest hit in the specified time frame.
SLA percentage	Percentage of hits that were not errors and that had latency within SLA levels.
Total Errors	Total number of hits identified as errors in the specified time frame.
Total Hits	Total number of hits in the specified time frame.
Total Throughput	Total number of reply bytes in the specified time frame.

Indicators by View

The type of object you select in the AppSpeed Inventory module determines the available views and the performance indicators included in each view.

Performance Indicators in Service Views

When you select a service in the AppSpeed Inventory module, you can view performance indicators that are relevant to the view you select.

Performance Indicators Description

Table 2-4 lists the performance indicators included in the views that are available when a service is selected in the AppSpeed Inventory module.

A plus sign (+) indicates that the performance indicator appears in the view.

Table 2-4. Performance Indicators in Service Views

	View Name (abbreviated)									
Perf. Indicator	**Usage vs. Latency**	**Slowest Trans.**	**Latency Over Time**	**Latency Break-down**	**Latency vs. Base-line**	**Most Used Trans.**	**Usage Over Time**	**Thru'-put Break-down of Servers**	**Latency Distr. Betw. Servers**	**Avail. Over Time**
Average Latency	+	+	+	+	+	+	+	+	+	+
Latency STDEV	+	+	+	+	+			+	+	
Max Latency	+	+	+	+					+	
Latency % of Baseline					+					
Latency Baseline					+					
Hit Rate	+					+	+	+		+
Total Hits	+	+	+		+	+	+	+	+	+
Average Throughput	+	+				+	+	+		+
Total Throughput						+	+	+		
Total Errors										+
Error Percentage			+			+	+	+	+	+
Execution Time		+	+		+				+	
Average Reply Size	+	+	+		+		+		+	+
Server				+						
Network Time				+						
Network Retrans-missions				+						

Performance Indicators in Server Views

When you select a server in the AppSpeed Inventory module, you can view performance indicators that are relevant to the view you select.

Performance Indicators Description

Table 2-5 lists the performance indicators included in the views that are available when a server is selected in the AppSpeed Inventory module.

A plus sign (+) indicates that the performance indicator appears in the view.

Table 2-5. Performance Indicators in Server Views

	View Name				
Performance Indicator	**Usage vs. Latency**	**Applications Latency**	**Latency Breakdown**	**Applications Usage**	**Applications Availability**
Average Latency	+	+	+	+	+
Latency STDEV	+	+	+		
Max Latency	+	+	+		
Hit Rate	+			+	+
Total Hits	+	+		+	+
Average Throughput	+			+	+
Total Throughput				+	+
Total Errors					+
Error Percentage		+		+	+
Execution Time		+			
Average Reply Size	+	+		+	+
Server			+		
Network Time			+		
Network Retransmissions			+		

Performance Indicators in Transaction Views

When you select a service, you can view performance indicators for its transactions that are relevant to the current service view.

Performance Indicators Description

Table 2-6 lists the performance indicators included in the views that are available when a transaction is selected.

A plus sign (+) indicates that the performance indicator appears in the view.

Table 2-6. Performance Indicators in Transaction Views

	View Name				
Performance Indicator	**Usage vs. Latency**	**Latency Over Time**	**Latency Breakdown**	**Usage Over Time**	**Availability Over Time**
Average Latency	+	+	+	+	+
Latency STDEV	+	+	+		
Max Latency	+	+	+		
Hit Rate	+			+	+

Table 2-6. Performance Indicators in Transaction Views (Continued)

	View Name				
Performance Indicator	**Usage vs. Latency**	**Latency Over Time**	**Latency Breakdown**	**Usage Over Time**	**Availability Over Time**
Total Hits	+	+		+	+
Average Throughput	+			+	+
Total Throughput				+	
Total Errors					+
Error Percentage		+		+	+
Execution Time		+			
Average Reply Size	+	+		+	+
Server			+		
Network Time			+		
Network Retransmissions			+		

Exporting Performance Data

You can save performance data in various formats for viewing and analysis in external applications.

- Export Table Data on page 22
  You can export performance data to a CSV file.
- Export a Graph as an Image or Data File on page 22
  You can save the currently displayed graph as a PNG image file or save the graph data as a CSV file.

Export Table Data

You can export performance data to a CSV file.

Procedure

1 In the tabular display pane, click the **CSV** icon.

2 Name the file, ensuring that the CSV extension is included in the file name.

3 Select the location to save the file and click **Save**.

Export a Graph as an Image or Data File

You can save the currently displayed graph as a PNG image file or save the graph data as a CSV file.

Procedure

1 In the graph display pane, click either the PNG or CSV icon.

2 Name the file, ensuring that the PNG or CSV extension is included in the file name.

3 Select the location to save the file and click **Save**.

View Unmapped Traffic

You can view the unmapped servers and transactions detected on the network. Unmapped objects are not yet mapped to specific services. The number of unmapped objects typically decreases over time, as AppSpeed maps the environment.

Prerequisites

To view unmapped traffic on HTTP sites that incorporate SSL protection, you must first configure the SSL keys for each endpoint where AppSpeed detects SSL traffic. See "Managing SSL Keys," on page 31.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Unmapped**.

3 View the status information for the unmapped traffic.

- **Server**: Name of the server. Available on the **Servers** tab only.
- **Name**: Name of transaction. Available on the**Transactions** tab only.
- **Endpoint**: IP address and ports used by the server. Available on the **Servers** tab only.
- **Latency**: Average and standard deviation (STDEV) latency rates for the server or transaction.
- **Hits**: Total number of hits in the specified time frame for the server or transaction, and rate of hits per second.
- **Throughput**: Total throughput in the specified time frame for the server or transaction, and the average throughput.
- **Errors**: Average rate of errors, as a percentage, for the server or transaction.

AppSpeed Topology Overview 3

The topology tables show the relationships between the services and servers detected on the network, and the dependencies between applications.

This chapter includes the following topics:

Analyze an Object

You can select an object in the AppSpeed topology and view its details on the Analysis page.

Procedure

- Select the object in the topology table and click **Analyze**.

The Analysis page for the selected service or server appears.

Scalability Considerations for AppSpeed Monitoring

AppSpeed is a real-time service performance tool that collects, analyzes, and stores substantial volumes of data per second. Various parameters affect AppSpeed performance.

- The number of probes deployed
- The number of monitored services
- The number of monitored servers
- The number of transactions
- The volume of monitored network traffic

The main factors affecting scalability in AppSpeed are the number of overall monitored objects and the number of transactions that are being monitored. AppSpeed reduces the number of transactions for each service as more services are mapped. This number can be reduced to as few as 50 transactions for each service. AppSpeed stops detecting new servers after the number of monitored servers exceeds 500, or the number of IP addresses and ports in the monitored network exceeds 3000. It also stops mapping new services if the number of monitored services exceeds 100.

Editing AppSpeed Topology

AppSpeed maps servers and services topology from the network traffic monitored on the deployed hosts. You might want to change the topology, for example, to merge two separately mapped services or to view a single mapped service as two separate services, depending on the servers on which it runs.

You can split, merge, remap, or delete services. If you split, merge, or remap a service, the historical monitoring and configuration data of the servers or service roots, such as thresholds, is reset.

You might also want to remove objects because they are obsolete or less relevant.

Split a Service

A service can be split so that it can be monitored as two separate services. For example, in a server-based scenario you might want to split the monitoring process of a service that is running on a staging server and on a production server, so that they are monitored as two separate services.

A service is split according to either the server on which it is running, or on its service roots. A service root is a transaction, usually a database or a domain, in the service that all subordinate transactions have in common. Each service can have multiple roots. For example, in a service root-based scenario, you might want to monitor two databases that were originally mapped under a single service, as two separate services. The roots are visible in the topology table for the service.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click the **Manage Services** tab.

4 Select the required service and click **Split**.

You can only split a single service.

5 In the confirmation dialog box, select the servers or service roots to split from the service.

6 Type a name for the new service and click **Split**.

Merge Services

You can merge two or more services so that you can monitor them as a single service. For example, you might want to monitor two individual database services as a single service.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Manage Services**.

4 Select two or more services and click **Merge**.

5 Select the base service into which you want to merge other services.

This base service retains all of its historical monitoring data and configuration.

6 (Optional) Name the new merged objects service.

7 Click **Merge**.

Remap a Service

Remapping a service is useful if the service structure changes significantly. Remapping a service deletes its current map. If the service is still monitored, it is remapped relative to the traffic pattern.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Manage Services**.

4 Select the required service and click **Remap**.

Delete Services

You might want to delete a service, for example, if it is obsolete, or to free resources for scalability reasons such as to enable another server to be mapped.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Manage Services**.

4 Select the services to be deleted and click **Delete**.

Deleted services are moved to the **Deleted Objects** tab and are no longer monitored.

Rename a Service

You can rename a services to provide it with a more appropriate name.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Manage Services**.

4 Select the required service and click **Rename**.

The Rename Service dialog box opens.

5 In the Type a new service name text box, type the new name.

6 Click **Rename**.

The service is renamed.

Rename a Server

You can rename servers. If a server is outside vCenter, you rename it in AppSpeed. If a server is in vCenter, rename it through the vSphere Client.

To rename a server that is in the vCenter environment, see the vSphere Client documentation.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Manage Servers**.

4 Select the required server and click **Rename**.

The **Rename** button is unavailable if the server is not outside the vCenter environment.

The Rename Server dialog box opens.

5 In the Type a new server name text box, type the new name.

6 Click **Rename**.

The server is renamed.

Delete a Server

You might want to delete a server, for example, if it is obsolete, or to free resources for scalability reasons such as to enable another server to be mapped. Multiple servers can be deleted simultaneously.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Manage Servers**.

4 Select the server to delete and click **Delete**.

The deleted server is moved to the **Deleted Objects** tab and is no longer monitored.

Restore a Deleted Service or Server

You can restore a deleted server or service object.

When you restore a deleted server or service object, monitoring data and certain service structures are reset. You can restore only a single service or server at a time.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Topology Management**.

3 Click **Deleted Objects**.

4 Select the required service or server and click **Restore**.

AppSpeed Administration 4

You can perform administrative functions in AppSpeed, including installing and deploying probes, adding or editing AppSpeed license keys, and creating and viewing support information.

This chapter includes the following topics:

Administration Module Overview

In the AppSpeed Administration module, you can perform deployment and support tasks.

Deployment	View information about existing probes, deploy new probes, power probes on or off, and delete probes that are no longer required.
Support	View logs and create a snapshot package that you can send to VMware technical support if assistance is required.

Managing 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 more vSwitches.

You initially configure the probe settings to monitor, including the management network, storage device, and specific vSwitches, as part of the probe installation process. After that, you can add and remove probes as needed.

You can perform these actions on probes.

- View Probe Information on page 30

  You can view the current probe configuration details.

- Deploy an AppSpeed Probe on page 30

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

- Power Probes On or Off on page 31

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

- Delete Probes on page 31

  If you do not want to monitor the traffic on a specific host, you can remove the probes. If you do not want to monitor specific vSwitches on a host, you can delete the probe that is monitoring those switches.

View Probe Information

You can view the current probe configuration details.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Deployment**.

3 Select the check box of the required probe and click **Install Probes**.

The probe configuration data appears in the Install Probes dialog box.

Deploy an AppSpeed Probe

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

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Deployment**.

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

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

  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, probes that are already installed on it are selected.

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

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

  a Type the name of the probe in the text box.

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

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

  c From the **Management Network** menu, select the network to use to manage the probes.

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

    The probe also connects to the management network that you specified, but it does not monitor the network.

5 (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 4.

6 When you finish adding host-probe combinations in the Probe Installation dialog box, click **Install Probes**.

7 Review the installation information and click **OK**.

8 (Optional) Click **Back** to change any of the settings.

9 (Optional) If you used an AppSpeed Server snapshot to optimize multiple probe deployment, delete the snapshot after you finish deploying all of the probes.

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

The probe is added to the `namespaceProbes` folder. The probe is powered on and set up.

What to do next

When the installation is complete, you can see the new probe in the vSphere Client by navigating to **Home > Inventory > VMs and Templates**.

Power Probes On or Off

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

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Deployment**.

3 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. If you do not want to monitor specific vSwitches on a host, you can delete the probe that is monitoring those switches.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Deployment**.

3 Select the check boxes for one or more probes on one or multiple hosts, and click **Delete Probe**.

4 Click **OK** to confirm.

The probe is removed from the selected hosts only.

Managing SSL Keys

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

AppSpeed supports SSL key monitoring only for HTTPS sites.

View SSL Key Information

You can view the existing SSL key configuration to determine for which endpoints you want to provide an SSL key.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **SSL Management**.

3 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.
- The Monitored SSL Endpoints table lists the endpoints for which valid keys exist and AppSpeed is monitoring.

Add an SSL Key

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

Prerequisites

You must extract the SSL files from the Web server to obtain the key.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **SSL Management**.

3 In the SSL Pending Endpoints table, select the endpoints and click **Add/Update SSL key**.

4 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.

Update an SSL Key

You can update the SSL key assigned to an endpoint, for example, to replace an older key with a new one.

Procedure

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **SSL Management**.

3 Select the check boxes for the endpoints in the Monitored Endpoints table and click **Add/Update SSL key**.

4 Browse to and open the new key file.

The new key replaces the key that was previously assigned to the selected endpoints.

Extracting SSL Files

To obtain the SSL keys, you can extract SSL files from the Web server. The extraction procedure varies according to the type of Web server.

AppSpeed supports Apache, Microsoft IIS 6.0, and Microsoft IIS 7.0 servers.

Extract SSL Files from an Apache Server

You can extract the SSL files from an Apache server.

Procedure

1 In the `Apache conf` directory, open the `http.conf` file.

The file name depends on the version of Apache Server that you have installed, for example, `/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.

What to do next

Upload the key file to the AppSpeed Server.

Extract SSL Files from a Microsoft IIS 6.0 Server

You can extract the SSL files from a Microsoft IIS 6.0 server. Files are extracted by exporting the IIS key file.

During the export process, a password is requested to protect the key. If a password is assigned, note this password. The password is required when you import the key into AppSpeed.

Procedure

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

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

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

4 Select the **Directory Security** tab and click **Server Certificate**.

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

6 Select a file to write the exported certificate and key to and click **Next**.

7 Type the password with which to encrypt the key.

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

9 Click **Finish**.

What to do next

Transfer the PFX file to the vSphere Client machine and upload it to the AppSpeed Server.

Extract SSL Files from a Microsoft IIS 7.0 Server

You can extract the SSL files from a Microsoft IIS 7.0 server. Files are extracted by exporting the IIS key file.

Prerequisites

During the export process, a password is requested to protect the key. If a password is assigned, note this password. The password is required when you import the key into AppSpeed.

Procedure

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

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

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

A PFX file is created.

What to do next

Transfer the PFX file to the vSphere Client machine and upload it to the AppSpeed Server.

Managing AppSpeed Licenses

AppSpeed provides you with licenses that have some flexibility. You can remove a license from one server and apply it to another, as long as the new server matches the licensing criteria.

If you have multiple AppSpeed Servers, each server requires a license.

The licensing process that you use depends on the versions of vCenter Server and AppSpeed server that you are using. Use the information in Table 4-1 to locate information related to your licensing model.

Table 4-1. AppSpeed Licensing Requirements

vCenter Server Version	AppSpeed Server Version	Comments
vCenter 4.1.x	AppSpeed 1.5	See "Managing AppSpeed Licenses on vCenter 4.1," on page 34
vCenter 4.1.x	AppSpeed 1.2	See "Managing AppSpeed Licenses on vCenter 4.1," on page 34
vCenter 4.0	All	See "Managing AppSpeed Licenses on vCenter 4.0," on page 35

Managing AppSpeed Licenses on vCenter 4.1

Every AppSpeed Server virtual machine you install on vCenter 4.1 is managed as a licensable asset. Each AppSpeed virtual machine requires a separate license. You manage licenses in vCenter.

AppSpeed 1.5 Running on vCenter 4.1

Each AppSpeed 1.5 Server virtual machine that you install on vCenter is managed by vCenter as a licensable asset.

For more information about licensing in vCenter, go to the VMware Product Licensing Center at `http://www.vmware.com/support/licensing/`.

Upgrading to vCenter 4.1 When AppSpeed Is Already Installed

When you have an existing installation of AppSpeed and you upgrade vCenter 4.1, AppSpeed licensing continues to be managed using the AppSpeed user interface. For more information about managing licenses using AppSpeed, see "Managing AppSpeed Licenses on vCenter 4.0," on page 35.

Upgrading AppSpeed or Running AppSpeed Setup on a vCenter 4.1 Server

When you run AppSpeed `setup` to reinstall, upgrade, and so on, on a vCenter 4.1 server, licensing management moves to vCenter. For more information about licensing in vCenter, go to the VMware Product Licensing Center at `http://www.vmware.com/support/licensing/`.

Managing AppSpeed Licenses on vCenter 4.0

You use the AppSpeed user interface to manage licenses for AppSpeed Servers running on vCenter 4.0.

When AppSpeed is installed on vCenter 4.0, you can perform these actions on AppSpeed licenses.

View Existing Licenses

AppSpeed provides you with an overview of all of your licenses and their coverage to assist you in their management.

Prerequisites

You must have an AppSpeed license to monitor traffic.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **License**.

The total licensed processors, the total of all licenses, and the total of monitored processors appear in the summary at the top of the page.

The table shows details for existing licenses. The Processors column lists the maximum number of physical chips on physical hosts that have virtual machines that AppSpeed monitors.

Expired licenses appear in red.

Add Licenses

You can add licenses, for example, to implement AppSpeed monitoring on servers that existing licenses do not cover.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **License**.

3 Click **Add License**.

4 Type the license key in the text box and click **OK**.

5 (Optional) If an error message appears immediately above the license key table, indicating that the key is invalid, check the license key and try again.

View Individual License Details

You can view the details of an existing license, including the permitted number of servers, the date the license was issued, the date the license is scheduled to expire, and the number of days left until that expiry date.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **License**.

3 Select a license key and click **View Details**.

4 Click **OK** to return to the License page.

The Probes Management window displays the existing host clusters, hosts, and the probes installed on them, in a hierarchical format.

Remove a License

You can remove an existing AppSpeed license.

If you remove a valid license before its expiry, the number of permitted processors decreases accordingly.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **License**.

3 Select a license key and click **Remove License**.

4 When you are prompted to confirm the deletion, click **OK**.

The license is removed.

Accessing Technical Support

The Support page in the Administration module enables you to download diagnostic snapshots and an event log that you can download and send to VMware technical support to enable swifter resolutions to problems you encounter with AppSpeed.

You can perform actions to optimize your technical support call.

- Download the Event Log on page 36

  The event log is a text file that includes information that you can use to analyze problems.

- Download the Client Log on page 37

  AppSpeed technical support might request that you send them your client log to assist them in analyzing a problem.

- Create an AppSpeed Snapshot on page 37

  An AppSpeed snapshot is a collection of logs, configuration files, and internal databases.

Download the Event Log

The event log is a text file that includes information that you can use to analyze problems.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Support**.

3 Under Event Log, click the **Click here** link.

4 Specify a location to save the event log and click **OK**.

The event log is downloaded.

Download the Client Log

AppSpeed technical support might request that you send them your client log to assist them in analyzing a problem.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Support**.

3 Under Client Log, click the **Click here** link.

4 Specify a location to save the client log and click **OK**.

The client log is downloaded.

Create an AppSpeed Snapshot

An AppSpeed snapshot is a collection of logs, configuration files, and internal databases.

Procedure

1 In the AppSpeed menu bar, click **Administration**.

2 In the page selection bar, click **Support**.

3 Under Snapshot, select a snapshot option.

Option	Description	
Default	Collects all of the logs, configuration, and server databases of the AppSpeed Server and its probes for the previous four days.	
Custom	Specify which type of information is collected.	
	Server only	Snapshot of the server excluding probes.
	Commands only	Includes server commands, but excludes probe data, logs, and database data.
	Time delineated	Enables you to select a period of time in hours.

Event Management 5

You can monitor Service Level Agreement (SLA) compliance based on the performance of services and transactions. AppSpeed monitors these latency thresholds for services and transactions. When a threshold is exceeded for a sustained period, AppSpeed generates an event.

You can monitor events or you can configure AppSpeed to send email notifications whenever an event is generated.

This chapter includes the following topics:

SLA States

AppSpeed uses changes in SLA states to generate events. The state of a service or transaction is based on its compliance to the defined latency thresholds.

You can view the real-time states for all services or for the transactions of a selected service.

The state of a service does not reflect the individual states of its transactions.

Configuring SLA Thresholds

You can define the levels at which state changes occur in response to unsatisfactory performance as measured by latency. AppSpeed configures thresholds for each service and transaction, or you can manually configure thresholds.

When a performance level exceeds a defined threshold for a sustained period, a change in state occurs. Specific thresholds are defined for each state based on the level of a service's compliance with or deviation from target SLA levels. The transition between states occurs according to deviation from the thresholds defined for warning, SLA violation, and unavailable states for the given transaction.

You can enable or disable performance monitoring for each service or for each transaction. By default, performance monitoring is enabled. See "Enable or Disable SLA Monitoring of a Service," on page 40 and "Enable or Disable SLA Monitoring of Transactions," on page 40.

View Thresholds and Monitoring Settings

You can view the thresholds and SLA monitoring settings.

Procedure

1 In the AppSpeed menu bar, click **Inventory**.

2 Double-click a service.

By default, the Summary view of the service appears.

3 In the View selection bar, click **Thresholds**.

The SLA Monitoring view appears.

4 If SLA Monitoring is enabled, you can view the monitored transactions.

A separate entry appears for each transaction.

SLA Monitoring

You can enable or disable SLA monitoring for each service or for each transaction. When disabled, thresholds are not monitored and events are not generated for state changes.

- Enable or Disable SLA Monitoring of a Service on page 40

  If you enable SLA monitoring for a service, monitoring is enabled for the service and for all of its transactions. If you disable SLA monitoring for a service, you cannot set SLA thresholds for its transactions.

- Enable or Disable SLA Monitoring of Transactions on page 40

  You can enable or disable SLA monitoring for all transactions or for specific transactions. To monitor a transaction, SLA monitoring must be enabled for the service to which it belongs.

Enable or Disable SLA Monitoring of a Service

If you enable SLA monitoring for a service, monitoring is enabled for the service and for all of its transactions. If you disable SLA monitoring for a service, you cannot set SLA thresholds for its transactions.

You can configure AppSpeed to send email notifications regarding state changes. See "Configure AppSpeed Email Notifications," on page 43.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Service Thresholds**.

3 Click the **On** or **Off** button for the service for which you want to enable or disable monitoring.

Thresholds must be specified for the service, before you can enable monitoring.

4 (Optional) In the page selection bar, click **Mail Notification Settings** to configure AppSpeed to send email notifications regarding state changes.

Enable or Disable SLA Monitoring of Transactions

You can enable or disable SLA monitoring for all transactions or for specific transactions. To monitor a transaction, SLA monitoring must be enabled for the service to which it belongs.

Disabling SLA monitoring of a transaction does not remove saved threshold settings. However, the transaction is no longer monitored for changes in performance levels based on those thresholds.

If SLA monitoring is disabled for a service, you cannot enable SLA monitoring of its transactions.

Procedure

1 In the AppSpeed menu bar, click **Inventory**.

2 In the page selection bar, click **Services**.

3 Double-click the service that contains the transactions for which you want to enable or disable thresholds.

4 Select a transaction and click **Thresholds** in the view selection bar.

5 (Optional) To enable or disable monitoring of a specific transaction, click the **On** or **Off** icon in the Monitor column.

Only transactions that have thresholds specified can be enabled.

6 (Optional) To enable or disable monitoring of all transactions, click **Monitor All** or **Unmonitor All**.

Setting Thresholds

The threshold value determines the performance level that triggers a change in the state of a transaction or service. By default, AppSpeed calculates and specifies threshold values, based on performance trends over time.

You can set your own threshold values, instead of having AppSpeed calculate them, or you can change the values that AppSpeed calculates.

Thresholds for transactions might be calculated within a number of minutes. Threshold calculations are based on the average latency of the actual transaction.

Thresholds for services require at least one week for AppSpeed to calculate final values.

You can perform these actions on thresholds.

- Define Thresholds on page 41

  You can set the SLA thresholds for latency for a specific transaction.

- Implement Appspeed Suggested Values For All Thresholds on page 42

  You can use suggested threshold values for transactions. AppSpeed calculates these threshold values based on performance trends over time.

- Implement Appspeed Suggested Values For Undefined Thresholds on page 42

  AppSpeed can calculate threshold values for service transactions for which no values exist.

Define Thresholds

You can set the SLA thresholds for latency for a specific transaction.

Procedure

1 In the Thresholds view page, select the row of the transaction for which you want to define thresholds.

The threshold settings appear in the Threshold pane below the table. The performance of the transaction relative to the thresholds is indicated on the accompanying histogram. The thresholds are indicated by color-coded lines. A black line indicates the performance trend for the defined time frame.

2 Type the threshold value in the appropriate SLA state field.

When the threshold value is exceeded, the transaction status changes to the selected state.

The threshold line on the histogram is adjusted according to your setting so that you can view the performance data relative to the proposed threshold.

3 (Optional) Click **Revert All** to revert values that you specified for a transaction, but did not save, to the previously saved values.

4 When you finish setting the thresholds, click **Update Table**.

The values are updated in the Threshold Settings table.

5 Click **Apply Changes** to accept the changes.

Implement Appspeed Suggested Values For All Thresholds

You can use suggested threshold values for transactions. AppSpeed calculates these threshold values based on performance trends over time.

When you use the suggested threshold settings for all transactions, you can still disable monitoring for specific transactions. You can also edit values for a specific transaction. See "Define Thresholds," on page 41.

Procedure

1 On the Threshold Settings page for the service, click **Suggest for All** on the toolbar.

A progress bar appears while the process is performed, which might take several minutes.

When the process is complete, the calculated values overwrite previously set values in the Threshold Settings table. A flag icon next to the transaction name indicates that it is overwritten, but not yet applied.

2 (Optional) Click **Revert All** to revert values that you specified for a transaction, but did not save, to the previously saved values.

3 To edit a value for a specific transaction, select the row of the performance threshold and edit the value in the appropriate SLA state field.

4 Click **Apply Changes** to save the values in the Threshold Settings table.

The flag icon disappears.

Implement Appspeed Suggested Values For Undefined Thresholds

AppSpeed can calculate threshold values for service transactions for which no values exist.

Procedure

1 In the Thresholds view page, click **Suggest for Undefined** on the toolbar.

A progress bar appears while the process is performed, which might take several minutes.

A flag icon next to the transaction name indicates that the threshold has been overwritten, but not yet applied.

2 (Optional) Click **Revert All** to revert values that you specified for transactions, but did not save, to the previously saved values.

3 To edit a calculated value for a specific transaction, select the row of the transaction and edit the value in the appropriate SLA state field.

4 Click **Apply Changes** to save the values in the Threshold Settings table.

The flag icon disappears.

Configure AppSpeed Email Notifications

You can configure AppSpeed to send email notifications regarding events to one or more email addresses. An email notification includes a one-line summary of each generated event. The notification settings are configured globally and are identical for all monitored services.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Mail Notification Settings**.

3 Select the **Send mail notifications for events** check box.

4 In the **Recipient addresses** text box, type the email address to which to send notifications and click **Add**.

You can add additional email addresses.

5 In the **SMTP server** section, select how to route email messages.

6 (Optional) If you select **Forward all mails to the following smart host**, enter the address of the smart host in the adjacent text box.

7 In the **Outgoing Mail Definitions** section, configure the **Sender Account**, **Mail Subject**, and **Interval between Mails** parameters.

Option	Description
Sender Account	Email account from which event notification messages are to be sent.
Mail Subject	Subject text to appear in event notifications.
Interval between Mails	Interval, in seconds, between sending the event notifications. During the interval, event notifications are accumulated and sent as a single email notification.

8 In the DNS Server section, type the DNS server details in the respective text boxes or select the **Acquire Automatically** check box.

9 Click **Apply**.

A test email is sent to the defined recipients of mail notifications.

Remove an Email Address from the Notifications List

You can remove email addresses from the notifications list, to prevent a recipient from receiving AppSpeed notifications.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Mail Notification Settings**.

3 In the **Recipient addresses** list, select the email address to remove and click **Remove**.

4 Click **Apply**.

Enable or Disable Event Notifications

Disabling event notifications allows you to suspend email notifications, without affecting the notification configuration settings.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Mail Notification Settings**.

3 Select or deselect the **Send mail notifications for events** check box and click **Apply**.

Viewing Events

The Events list includes the events generated in the specified time frame.

Table 5-1 describes the parameters included in the Events list.

Table 5-1. Event List Parameters

Parameter	Description
ID	Event ID
Time	Time when the event was generated
Type	Type of object for which the event was generated (transaction or service)
Name	Name of the object for which the event was generated
From State	State of the object before the event was generated
To State	Updated state of the object for which the event was generated

View the Events List

You can access the Events list through the **SLA & Events** module.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Events**.

The Events list appears.

3 (Optional) To view events within a specific time frame, select the appropriate time period from the menu.

To specify a date and time, rather than a preset time period, select **Manual**.

4 (Optional) To view the events for a specific service, select the check box of the service in the table and click **View Details**.

a In the view selection bar, click **Events** to see additional information for the service event you selected.

b (Optional) To display or hide transaction-specific events, select or deselect the **Show Transactions** check box.

View Event Details

You can view the details of a single event, including the key performance indicators of the object for which the event was generated. This information includes the time when the event occurred and performance indicators.

For a description of the performance indicators, see "Performance Indicators," on page 19.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Events**.

The Events list appears.

3 Double-click an event to view its details.

When applicable, links to anticipated actions appear in the Next Steps pane.

Delete Events

You can delete events from the Events list at any time.

Procedure

1 In the AppSpeed menu bar, click **SLA & Events**.

2 In the page selection bar, click **Events**.

The Events list appears.

3 Select one or more events to delete and click **Delete**.

Troubleshooting Errors While Using AppSpeed 6

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

This chapter includes the following topics:

Virtual Machine Is Not Visible in the Inventory

You cannot find the required virtual machine in the inventory.

Problem

A virtual machine is not in the AppSpeed inventory.

Cause

The virtual machine does not appear in the inventory because of one of the following reasons:

- SSL private keys must be loaded
- Low traffic volume

Solution

- Determine the problem.

Option	Action
SSL private keys need to be loaded	a In the user interface, select **SSL Management** in the Mapping module and verify that the server appears on the list. b If the server is on the list, load the corresponding private keys. See "Managing SSL Keys," on page 31.
Low traffic volume	a In the Mapping module, select **Unmapped**. b On the **Servers** tab, search for the virtual machine. A low number of hits indicates that the virtual machine is not yet mapped.

Application Is Not Visible in the AppSpeed User Interface

You cannot find the application in the AppSpeed user interface.

Problem

The application does not appear in the AppSpeed user interface.

Cause

The application is not being mapped or an AppSpeed probe is not running on the server on which the application is installed.

Solution

1 In the AppSpeed menu bar, click **Mapping**.

2 In the page selection bar, click **Unmapped**.

3 On the **Servers** tab, search for the server that runs the service under the relevant protocol.

A low number of hits indicates that the service is not yet mapped. On the **Transactions** tab, you can see the transactions that are not mapped to a service because of a low number of hits.

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

AppSpeed Probe Deployment Shows In Progress But Deployment Failed

The AppSpeed probe deployment status bar shows that the probe deployment is in progress, but the deployment fails.

Problem

The AppSpeed deployment status bar continues to display `In Progress` when the deployment has failed.

Cause

A storage problem, such as long latencies or outages, prevents communication with AppSpeed.

Solution

- Select one of the following solutions.
  - If the vSphere Client returns the `Unable to access file` error, use the AppSpeed interface to delete the probe.
  - Verify that the storage problems do not recur or select different storage and redeploy the probes

What to do next

For detailed instructions about deleting and redeploying a probe, see "Delete Probes," on page 31. For more assistance with troubleshooting storage problems, contact your storage vendor.

A linked clone might remain visible in the inventory after you delete probes. It is removed when you start a new deployment.

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