ScienceLogic

IT Services (Classic)

SL1 version 11.1.0

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Chapter

Introduction to IT Services (Classic)

Overview

This manual describes how to create and use IT Service policies in the Classic user interface for SL1.

NOTE: The "IT Services" found on the **IT Service Manager** page (Registry > IT Services > IT Services Manager > wrench icon > Schedule) and the **IT Service Dashboards** page (Registry > IT Services > IT Service Dashboards) in the Classic user interface of SL1 are *not* connected to the "IT Services" that are part of the new Business Services on the **Business Services** page of the new user interface. For more information, see the **Business Services** manual.

This chapter provides background information about IT Services. It includes the following topics:

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What is an IT Service?

An *IT Service* in the Classic user interface for SL1 is a technical service that is provided to internal or external customers. Some examples of IT Services include Internet access, website hosting, server co-location, remote backups, and remote storage. Usually an IT Service includes an associated Service Level Agreement (SLA) that specifies the terms of the service.

An IT Service policy allows you to define an IT Service, specify the devices that are included in the IT Service, and monitor the state, availability, and risk of the IT Service. SL1 evaluates the current state, availability, and risk of an IT Service based on user-defined metrics that trigger user-defined events about the IT Service. You can define how often SL1 evaluates the state, availability, and risk of each IT Service. When SL1 evaluates the state of an IT Service, SL1 generates a default event that specifies the state of the IT Service.

You can define metrics based on any performance data collected by SL1, including device availability, device latency, CPU usage, memory usage, swap usage, interface utilization, data collected by a Dynamic Application, and data about network interfaces, TCP/IP ports, system processes, Windows services, email round-trip time, web-content, SOAP/XML transactions, and DNS availability. You can specify that SL1 should evaluate the metric against all devices in the IT service or against one or more subsets in the IT service.

You can also create dashboards for IT Services that display information about the state, availability, risk, events, metrics, and other information about an IT Service.

To define an IT Service policy in SL1, you must perform the following tasks:

- Define a service name and basic settings. For example, we could define an IT Service policy that
 monitors Email service. We could call this IT Service "Email". The basic settings for an IT Service include how
 often SL1 will evaluate the state, availability, and risk of the IT Service and the data retention settings for the
 metrics associated with the IT Service.
- 2. Define a list of devices (the model) for the IT Service that includes all the devices associated with the IT Service. For example, if you want to monitor Email service, you could create a device group that includes Exchange servers, DNS servers, and devices that run Email round-trip policies. You can manually assign devices to the IT Service, or you can use membership rules, like you would for a dynamic device group.
- 3. **Optionally, define device subsets**. You can manually assign devices to a subset, or you can use membership rules, like you would for a dynamic device group. For example, you could define two subsets: Exchange Servers, defined by device class, and DNS servers, defined by the ports that are open on each device.
- 4. Define metrics. A metric is based on your business processes and examines all devices or one or more subsets to evaluate the state of the IT Service. For each IT Service, SL1 provides a default metric called Average Device Availability, based on the availability of all devices in the IT Service. You can define additional metrics, based on any performance data collected by SL1, including availability, latency, CPU usage, memory usage, swap usage, interface utilization, data collected by a Dynamic Application, and data about network interfaces, TCP/IP ports, system processes, Windows services, Email round-trip time, web content, SOAP/XML transactions, and DNS availability. You can specify that SL1 should evaluate the metric against all devices in the IT Service or against one or more subsets in the IT Service.
- 5. **Define Key Metrics.** Key Metrics are the standard method for describing the status of an IT Service. Key metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. The Key Metrics are Health, Availability, and Risk. When you define a Key Metric, you are specifying how the value for a metric you created in step 4 translates to one of the standard Key Metric values. By default, all three Key Metrics are based on the default Average Device Availability metric.
- 6. **Define alerts and associated events**. Each alert and its associated event is triggered by a metric. Although not all metrics must trigger an alert, all alerts and events for an IT Service are triggered by a metric.

Who Should Read this Manual?

The following sections are intended for users who define policies and users who monitor IT Services.

The following sections explain how to define a policy to monitor an IT Service, how to view information about an IT Service in SL1, and how to create IT Service Dashboards.

Chapter

2

Creating, Editing, and Deleting IT Services

Overview

To define an IT Service policy in SL1, you must perform the following tasks:

- Define a service name and basic settings. For example, we could define an IT Service policy that
 monitors Email service. We could call this IT Service "Email". The basic settings for an IT Service include how
 often SL1 will evaluate the state, availability, and risk of the IT Service and the data retention settings for the
 metrics associated with the IT Service.
- Define a list of devices (the model) for the IT Service that includes all the devices associated with the IT Service. For example, if you want to monitor Email service, you could create a device group that includes Exchange servers, DNS servers, and devices that run Email round-trip policies. You can manually assign devices to the IT Service, or you can use membership rules, like you would for a dynamic device group.
- Optionally, define device subsets. You can manually assign devices to a subset, or you can use membership rules, like you would for a dynamic device group. For example, you could define two subsets: Exchange Servers, defined by device class, and DNS servers, defined by the ports that are open on each device.
- 4. Define metrics. A metric is based on your business processes and examines all devices or one or more subsets to evaluate the state of the IT Service. For each IT Service, SL1 provides a default metric called Average Device Availability, based on the availability of all devices in the IT Service. You can define additional metrics, based on any performance data collected by SL1, including availability, latency, CPU usage, memory usage, swap usage, interface utilization, data collected by a Dynamic Application, and data about network interfaces, TCP/IP ports, system processes, Windows services, Email round-trip time, web content, SOAP/XML transactions, and DNS availability. You can specify that SL1 should evaluate the metric against all devices in the IT Service or against one or more subsets in the IT Service.

- 5. **Define Key Metrics.** Key Metrics are the standard method for describing the status of an IT Service. Key metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. The Key Metrics are Health, Availability, and Risk. When you define a Key Metric, you are specifying how the value for a metric you created in step 4 translates to one of the standard Key Metric values. By default, all three Key Metrics are based on the default Average Device Availability metric.
- 6. **Define alerts and associated events**. Each alert and its associated event is triggered by a metric. Although not all metrics must trigger an alert, all alerts and events for an IT Service are triggered by a metric.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (\equiv) .
- To view a page containing all the menu options, click the Advanced menu icon (…).

This chapter describes the following topics:

Prerequisites	
Basic Mode and Advanced Mode	
Sub-tabs	
Defining the Basic Properties of an IT Service Policy	
Creating a New IT Service Based on an Existing IT Service	
Defining the List of Devices for an IT Service	
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-/	

Prerequisites

To create an IT Service policy, you should first determine:

- the devices that affect the service.
- the conditions that you want to monitor. These will be based upon your business processes. For example, if you provide Email service, then a failure of your primary SMTP server and backup SMTP server would constitute a critical state.

Basic Mode and Advanced Mode

When you define the **basic properties for an IT Service policy**, you can specify **Configuration Mode**. Choices are:

- Basic Interface. The Basic Interface allows you to quickly set up an IT Service policy.
- Advanced Interface. The Advanced Interface displays additional tabs for more granular control when defining metrics, alerts, and device groups.

If you are unsure, you can select **Basic Interface** and use the **[Advanced]** button to change to **Advanced Interface** if necessary. You can use the **[Advanced]** button from any sub-tab in the **IT Service Editor** page to toggle between **Basic Interface** and **Advanced Interface**.

Sub-tabs

To create or edit an IT Service policy, you must access the **IT Service Editor** page (Registry > IT Services > IT Service Manager > Create).

The IT Service Editor page includes the following sub-tabs, in the upper-left, under the page title:

Summary Model Logs Events Tickets Administration	i i i i
IT Service Editor New IT Service G	Suide
Properties Model Metrics Schedule Adv	vanced
IT Service Name Sharing Permissions Icon	
Private (visible to you only)	
em7admin Change Owner EM7 System Administration	
Configuration Mode Grant All Basic Interface Basic Vier Privileges PowerPack Administration Provisioning Access Admin Portal UI Access	
Subscription Management	_
Data Collection	
Operational Status Aggregation Frequency Raw Data Retention Aggregation enabled Aggregation enabled	~
Hourty Rollup Retention Daily Rollup Retention	
Use system default retention setting V Use system default retention setting V	
Description	
	-/



- **Properties**. This sub-tab appears in both the **Basic Interface** mode and the **Advanced Interface** mode. This sub-tab allows you to define the basic parameters (name, access permissions, collection frequency, data retention) for an IT Service policy. For details, see the section on **Defining the Basic Properties of an IT Service Policy**.
- Model. This sub-tab appears in both the Basic Interface mode and the Advanced Interface mode. This tab allows you to define the list of devices (device group) to include in an IT Service policy and also allows you to define Device Subsets (smaller groups of devices within the device group), and Dependencies (relationship between one or more IT Service policies). For details, see the section on Defining Device Groups, Subsets, and Dependencies.
- **Collection**. This sub-tab appears only in the **Advanced Interface** mode. This sub-tab allows you to finetune the collection and aggregation for each metric. For details, see the section on **Editing Collection and Aggregation for a Metric in Advanced Mode**.

- Metrics. This sub-tab appears in both the Basic Interface mode and the Advanced Interface mode. This sub-tab allows you to define the performance parameters you want to monitor for a specific IT Service and also define alerts for that parameter. For example, you might want to monitor the availability of the DNS service on each DNS server and send an alert if the DNS service is not available. For details, see the section on Defining Metrics.
- Alerting. This sub-tab appears only in the Advanced Interface mode. This sub-tab allows you to add details to an existing alert. For details, see the section on Editing Alerts and Events in Advanced Mode.
- Schedule. This sub-tab appears in both the Basic Interface mode and the Advanced Interface mode. This sub-tab allows you to put the IT Service policy into "maintenance mode". SL1 will continue to collect information from the devices in the IT Service but will not collect and aggregate information specific to the IT Service policy. During maintenance mode, SL1 will not evaluate or generate events about the IT Service policy. For details, see the section on Scheduling Downtime for One or More Devices in an IT Service.

The following additional fields appear when you select Advanced Interface:

- In the *Model* sub-tab, the following additional panes appear in *Advanced Interface* mode:
 - Service Dependencies. A dependency is another IT Service policy.
 - Device Subsets. A sub-group of devices, selected from the list of all devices in the IT Service policy. You can manually assign devices to a subset, or you can use membership rules, like you would for a dynamic device group. For example, you could define a list of Exchange Servers, defined by device class, and then you could define a subset of unhealthy Exchange Servers, based on device state.
- In the Metrics sub-tab, when you edit an existing metric (select the wrench icon \mathscr{P}), the Service Metric Editor modal page appears.
 - In Advanced mode, the Service Metric Editor modal allows you to define a formula for the metric, using aggregation objects and arithmetic operators (for example, devices running DNS service / devices available). In Advanced mode, you can define a metric using a page like the one for alert objects or presentation objects.
 - In Advanced mode, you must separately edit the collection object (defines data to collect and devices to collect from), the aggregation object (defines how frequently to "crunch" collected data and what to calculate from crunched data), and the alert. You cannot edit the metric, its objects, and its alerts from a single page, like you can in Basic mode. To edit the collection object and the aggregation object, select the *Collection* sub-tab. To edit the alert, select the *Alerting* sub-tab

Defining the Basic Properties of an IT Service Policy

To define the basic properties of an IT Service policy:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the [Create] button.
- 3. Notice that by default the **[Administration]** tab is selected and the **[Properties]** sub-tab is selected. The **IT Service Editor** page is displayed:

Summary Model Logs Events Ticke	Administration
IT Service Editor New IT Service	Reset Guide
Properties Model Metrics Schedule	Advanced
IT Service Name	Sharing Permissions Icon
	Private (visible to you only)
IT Service Owner Change Owner Change Owner	Permission Keys EM7 System Administration
Configuration Mode	Grant All Basic User Privileges
Basic Interface	PowerPack Administration
	Provisioning Access Admin Portal UI Access
	Subassistian Managamant
Data Collection	
Operational Status Aggregation enabled V Every 15 minutes	Aggregation Frequency Raw Data Retention
Aggregation enabled	Daily Rolup Retention
Use system default retention setting V Use system default not	
Description	
	5010

- 4. To create a new IT Service policy, supply values in the following fields:
 - IT Service Name. Name of the IT Service policy.
 - IT Service Owner. Automatically populated with your username.
 - Change Owner. The [Change Owner] button allows you to change the owner of an IT Service. Selecting the [Change Owner] button opens the Select IT Service Owner modal where you can choose a new owner by selecting the blocks icon (). The owner of an IT Service policy and the Sharing Permissions setting defines the users that can view and use the IT Service policy.
 - Configuration Mode. Select Basic Interface or Advanced Interface.
 - ° The Basic Interface allows you to quickly setup an IT Service policy.
 - The Advanced Interface displays additional tabs for more granular control when defining metrics, alerts, and device groups.
 - If you are unsure, you can select Basic Interface and use the [Advanced] button to change to Advanced Interface if necessary. By default, each tab in the IT Service Editor page will use the configuring mode you select in this field. However, you can change the configuration mode for each individual tab.
 - Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. Choices are:
 - Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the owner.

- *Private (visible only to you)*. The IT Service policy can be viewed only by the owner and Administrator users.
- **Permission Keys**. If you selected Shared with users in your organization in the **Sharing Permissions** field, you can specify the required Permission Keys that an user must have to view the IT Service policy.
- Operational Status. Specifies whether aggregation is enabled or disabled.
- Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and aggregate the data for each metric into a single value.
- Raw Data Retention. Specifies how long SL1 should store the raw data for the IT Service policy. You can accept the default, system-wide setting from the Data Retention Settings page (System > Settings > Data Retention) or you can specify a custom value that applies only to this IT Service policy. The custom value will override the system-wide value.
- Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. You can accept the default, system-wide setting from the Data Retention Settings page (System > Settings > Data Retention) or you can specify a custom value that applies only to this IT Service policy. The custom value will override the system-wide value.
- **Daily Rollup Retention**. Specifies how long SL1 should store the "daily" normalized data for the IT Service policy. You can accept the default, system-wide setting from the **Data Retention Settings** page (System > Settings > Data Retention) or you can specify a custom value that applies only to this IT Service policy. The custom value will override the system-wide value.
- **Description**. Description of the IT Service policy.
- 5. Select the **[Save]** button to save the properties for the new IT Service policy.

Creating a New IT Service Based on an Existing IT Service

To define a new IT Service based on an existing IT Service, perform the following steps:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. In the **IT Service Manager** page, find the IT Service you want to use as a template to create a new IT Service. Select its wrench icon (*P*).
- 3. In the IT Service Editor page, supply a new value in the IT Service Name field.

CAUTION: If you do not enter a new value in the *IT Service Name* field, SL1 will save the new IT Service under the same name as the existing IT Service. In some cases, this could make management of IT Services difficult. Best practice is to supply a new name for the new IT Service.

- 4. Edit one or more fields, if desired.
- 5. Select the **[Save As]** button.
- 6. The new IT Service will appear in the **IT Service Manager** page.

Defining the List of Devices for an IT Service

After **Defining the Basic Properties of an IT Service Policy**, you must next determine the devices to include in your IT Service policy. You do this in the **[Model]** sub-tab. When you define the list of devices to include in your IT Service policy, that list of devices appears as a device group throughout SL1.

CAUTION: You must align at least one device or device group to your IT Service policy. Failure to do so could result in false negative health reports.

For example, if you want to monitor Email service, you could create a list of devices that includes Exchange servers, DNS servers, and devices that run Email round-trip policies.

You can manually assign devices and device groups to the IT Service device group, or you can use membership rules, like you would for a dynamic device group.

You can define optional device subsets. A device subset is a sub-group of devices from the list of all devices in the IT Service policy. You define device subsets in the **[Model]** sub-tab. A Device subset is helpful if you want to examine only some devices for a particular metric, for example, all database servers in a group of servers.

You can manually assign devices to a subset, or you can use membership rules, like you would for a dynamic device group. For example, you could define a list of Exchange Servers, defined by device class, and also define a device subset of unhealthy Exchange servers, based on device state.

Defining the List of Devices

There are three ways to add one or more devices to the list of devices for the IT Service policy:

- Add a device group to the list of devices for the IT Service policy.
- Add a static list of one or more devices to the list of devices for the IT Service policy.
- Add a dynamic list of one or more devices to the list of devices for the IT Service policy.

To create the list of devices for the IT Service policy:

- Go to the IT Service Manager page (Registry > IT Services > IT Service Manager). Either create a new IT Service policy ([Create] button) or edit an existing policy (wrench icon
- 2. After Defining the Basic Properties of an IT Service Policy, select the [Model] sub-tab.

Summary Model Logs	Events	Tickets Administration	1		
IT Service Editor New IT Service				Res	et Guide
Properties Model Metrics Schedule					Advanced
Device Groups [0]					Del Add
	Device Group Name	•		ID Devices Gr	oups Rules 🔽
	No	device groups in service.			
Static Devices [0]					Del Add
Device Name •		Class Sub-class	ID	Organization	
	No	static devices in service.			
Dynamic Device Rules [0]					Del Add
Selector Type		Selector Targets			Matched Devs
	No dyn	amic device rules in service.			

3. The following sections explain how to add device groups, a static list of devices, or a dynamic list of devices to an IT Service policy.

Adding Device Groups to the IT Service Policy

- 1. To add a device group to the list of devices for the IT Service policy, go to the **Device Groups** pane.
- 2. Select the **[Add]** button.

3. The **Device Group Alignment** modal page appears and displays a list of all devices in SL1.

vice Group Alignm							Rese
	Device Group Name *	<u>D</u>	Devices	Groups	Rules		Action
1. ACIVms		6			1	, Ini	
2. AWS EBS Volumes		2			1		
3. AWS EC2 Instances		1			1		
4. LayerX Appliances		7			1		
5. Microsoft Azure: Stor	age Disks	5			1		
6. Microsoft Azure: Virtu	al Machines	4			2		
7. Nutanix Clusters		9			1		
8. Servers		3			1	<	Add
9. SL1 Appliances		8			1		

- 4. In the **Device Group Alignment** modal, select the checkbox of each device group you want to include in the IT Service policy.
- 5. Select the [Add/Remove] button in the lower right.
- 6. The selected device groups will appear in the **Device Groups** pane.
- 7. To remove a device group from the list of devices for the IT Service policy, return to the **IT Service Editor** page, select the **[Model]** tab, select the checkbox for the device group, and then select the **[Del]** button.

Adding a Static List of Devices to the IT Service Policy

- 1. To add a static list of one or more devices to the list of devices for the IT Service policy, go to the **Static Devices** pane.
- 2. Select the [Add] button.
- 3. The **Device Alignment** modal page appears and displays a list of all devices in SL1:

	Device Name •	IP Address	Category	Class Sub-class	D	Organization		Action
1.	ni drdb1	10.64.166.255	EM7	ScienceLogic, Inc. EM7 M	8	SILO		
2.	m drdb2	10.64.167.0	EM7	ScienceLogic, Inc. EM7 Da	9	SILO		
3.	mcover-ap-213	10.64.166.213	EM7	ScienceLogic, Inc. EM7 Ac	102	System		
4.	mcover-cu-217	10.64.166.217	EM7	ScienceLogic, Inc. EM7 Al	100	System		
5.	mcover-cu-218	10.64.166.218	EM7	ScienceLogic, Inc. EM7 Da	98	System	✓	Add
6.	mcover-db-214	10.64.166.214	EM7	ScienceLogic, Inc. EM7 Da	97	System		
7.	mcover-db-215	10.64.166.215	EM7	ScienceLogic, Inc. EM7 Da	96	System		
8.	mcover-db-216	10.64.166.216	EM7	ScienceLogic, Inc. EM7 Di	101	System		
9.	mcover-mc-219	10.64.166.219	EM7	ScienceLogic, Inc. EM7 M	99	System		
0.	📶 support-pp-dev	10.64.166.23	EM7	ScienceLogic, Inc. EM7 Da	103	System		
1.	msupport-pp-dev-dr	10.64.166.18	EM7	ScienceLogic, Inc. EM7 Da	6	System		
2.	msupport-pp-dev-ha1	10.64.166.16	EM7	ScienceLogic, Inc. EM7 Da	2	System		
3.	msupport-pp-dev-ha2	10.64.166.17	EM7	ScienceLogic, Inc. EM7 Da	7	System		

- 4. In the **Device Alignment** modal, select the checkbox of each device group you want to include in the IT Service policy. Select the **[Add/Remove]** button in the lower right.
- 5. The selected devices will appear in the **Static Devices** pane.
- 6. To remove a device from the list of devices for the IT Service policy, go to the **IT Service Editor** page, select the **[Model]** tab, select the checkbox for the device group, and then select the **[Del]** button.

Adding a Dynamic List of Devices to the IT Service Policy

- 1. To add a dynamic list of one or more devices to the list of devices for the IT Service policy, go to the **Dynamic Device Rules** pane.
- 2. Select the [Add] button. The Device Group Rule Editor modal page appears.

3. In the **Device Group Rule Editor** modal page, define one or more criteria to include in the rule.

Add Rule					Close / Esc
Device Group Rule Editor Act	ive Selection				Reset
Active Selectors	Selector Definitions Device Name Operators allowed: term* Begins with "term" *term Ends with "term" term Is not "term", "teem" !term Is not "term" term1, term2 Is "term1" or "term2"				
Matched Devices [0]	<u>lame</u> • <u>Category</u>	<u>Class Sub-class</u> No devices matched.	D	Organization Select relat	Collection State

- 4. Select criteria from the Active Selectors field.
- 5. The selection appears in the **Selector Definitions** pane.
- 6. If you unselect a criteria in the **Active Selectors** field, the selection no longer appears in the **Selector Definitions** pane.
- 7. In the **Selector Definitions** pane, each criteria can include a list of selections and/or operators and wildcards:
 - Organization. Displays a list of all organizations in SL1.
 - ° To filter the list, you can enter a string in the field under the title.
 - If you select one or more organizations, SL1 will search for devices that are members of at least one the selected organization(s) and include those devices in the device group. For example, if you select two organizations, all devices from each organization will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* members of the selected organization(s) and include those devices in the device group.

- Device Class. Displays a list of all device classes in SL1.
 - ° To filter the list, you can enter a string in the field under the title.
 - If you select one or more device classes, SL1 will search for devices that are members of the selected device class(es) and include those devices in the device group. For example, if you select two device classes, all devices from each device class will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* members of the selected device class(es) and include those devices in the device group.
- Device Category. Displays a list of all device categories in SL1.
 - ° To filter the list, you can enter a string in the field under the title.
 - If you select one or more device categories, SL1 will search for devices that are members of the selected device categories and include those devices in the device group. For example, if you select two device categories, all devices from each device category will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* members of the selected device categories and include those devices in the device group.
- **Device Name**. Displays a field in which you can enter a string. SL1 will use the string to search for devices with matching device names. If you do not use wildcard characters, SL1 will return only devices with a device name that exactly matches the string. You can use the following syntax in the field:
 - *term**. SL1 searches for any device name that begins with "term".
 - ° *term. SL1 searches for any device name that ends with "term".
 - ° te?m. SL1 searches for any device name that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any device name that does not include the text "term".
 - ° term1, term2. SL1 searches for any device name that contains either "term1" or "term2".
- **Device IP**. Displays a field in which you can enter a string. SL1 will use the string to search for devices with matching IP addresses. If you do not use wildcard characters, SL1 will return only devices with a device IP that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any device IP that begins with "term".
 - ° *term. SL1 searches for any device IP that ends with "term".
 - *te?m*. SL1 searches for any device IP that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any device IP that does not include the text "term".
 - ° term1, term2. SL1 searches for any device IP that contains either "term1" or "term2".
 - If you select the *Invert* checkbox, SL1 will search for devices that do *not* have a matching IP address and include those devices in the device group.

- **Device State**. Displays a list of all device states in SL1 (Notice, Healthy, Minor, Major, Critical). Each device's state is the same as the highest severity event associated with the device.
 - To filter the list, you can enter a string in the field under the title.
 - If you select one or more device states, SL1 will search for devices that are members of the selected device states and include those devices in the device group. For example, if you select two device states, all devices from each device state will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that do *not* have the selected device state and include those devices in the device group.
- Collection State. Displays a list of all collection states in SL1 (Active, NOT Active, User-Disabled, NOT User-Disabled, Unavailable, NOT Unavailable, Maintenance, NOT Maintenance, System-Disabled, NOT System-Disabled)..
 - ° To filter the list, you can enter a string in the field under the title.
 - If you select one or more collection states, SL1 will search for devices that are members of the selected device states and include those devices in the device group. For example, if you select two collection states, all devices with the first collection state and all devices with the second collection state will be included in the device group.
- Collector Group. Displays a list of all Collector Groups in SL1.
 - To filter the list, you can enter a string in the field under the title.
 - If you select one or more Collector Groups, SL1 will search for devices that are members of the selected Collector Groups and include those devices in the device group. For example, if you select two Collector Groups, all devices from each Collector Group will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* members of the select Collector Group(s) and include those devices in the device group.
- Open TCP Ports. Displays a list of all open TCP ports that SL1 has discovered on at least one device.
 - To filter the list, you can enter a string in the field under the title.
 - If you select one or more ports, SL1 will search for devices have that have those ports open and include those devices in the device group. For example, if you select two collection ports, all devices where the first port is open and all devices where the second port is open will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that do *not* have the selected port(s) open and include those devices in the device group.

- **Running Process**. Displays a field in which you can enter a string. SL1 will use the string to search for devices that are running a matching system process. If you do not use wildcard characters, SL1 will return only devices running a process that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any process name that begins with "term".
 - *term. SL1 searches for any process name that ends with "term".
 - ° *te?m*. SL1 searches for any process name that contains the text "te[any single character]m".
 - ° Iterm. SL1 searches for any process name that does not include the text "term".
 - ° term1, term2. SL1 searches for any process name that contains either "term1" or "term2".
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* running the selected processes open and include those devices in the device group.
- Windows Service. Displays a field in which you can enter a string. SL1 will use the string to search for devices that are running a matching Windows service. If you do not use wildcard characters, SL1 will return only devices running a Windows services that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any Windows Service name that begins with "term".
 - ° *term. SL1 searches for any Windows Service name that ends with "term".
 - *te?m.* SL1 searches for any Windows Service name that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any Windows Service name that does not include the text "term".
 - ° term1, term2. SL1 searches for any Windows Service name that contains either "term1" or "term2".
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* running a matching Windows service and include those devices in the device group.
- Subscribed Product. Displays a list of all product SKUs in SL1.
 - To filter the list, you can enter a string in the field under the title.
 - If you select one or more SKUs, SL1 will search for devices that subscribe to at least one the selected SKU(s) and include those devices in the device group. For example, if you select two SKUs, all devices that subscribe to one of the two SKUs will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that do *not* subscribe to the selected SKU(s) and include those devices in the device group.
- Active Event. Displays a list of all active events in SL1.
 - ° To filter the list, you can enter a string in the field under the title.
 - If you select one or more active events, SL1 will search for devices for which that event is currently
 active and include those devices in the device group. For example, if you select two events, all
 devices for which one of the two events is active will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices for which the event is **not** currently active and include those devices in the device group.

- Aligned Dynamic App. Displays a list of all Dynamic Applications that are currently aligned with one or more devices.
 - ° To filter the list, you can enter a string in the field under the title.
 - If you select one or more aligned Dynamic Applications, SL1 will search for devices that are aligned with those Dynamic Applications and include those devices in the device group. For example, if you select two Dynamic Applications, all devices that are aligned with each of the Dynamic Applications will be included in the device group.
 - If you select the *Invert* checkbox, SL1 will search for devices that are *not* aligned with the selected Dynamic Application(s).
- Asset Make. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the Make field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a Make field that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any asset make that begins with "term".
 - ° *term. SL1 searches for any asset make that ends with "term".
 - ° te?m. SL1 searches for any asset make that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any asset make that does not include the text "term".
 - ° term1, term2. SL1 searches for any asset make that contains either "term1" or "term2".
- Asset Model. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the Model field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a Model field that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any asset model that begins with "term".
 - ° *term. SL1 searches for any asset model that ends with "term".
 - ° te?m. SL1 searches for any asset model that contains the text "te[any single character]m".
 - ° *!term*. SL1 searches for any asset model that does not include the text "term".
 - term1, term2. SL1 searches for any asset model that contains either "term1" or "term2".

- Asset Function. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the *Function* field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a *Function* field that exactly matches the string. You can use the following syntax in the field:
 - term*. SL1 searches for any asset function that begins with "term".
 - ° *term. SL1 searches for any asset function that ends with "term".
 - ° te?m. SL1 searches for any asset function that contains the text "te[any single character]m".
 - *!term*. SL1 searches for any asset function that does not include the text "term".
 - term1, term2. SL1 searches for any asset function that contains either "term1" or "term2".
- Asset Owner. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the Management Type field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a Management Type field that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any asset owner that begins with "term".
 - ° *term. SL1 searches for any asset owner that ends with "term".
 - te?m. SL1 searches for any asset owner that contains the text "te[any single character]m".
 - ° Iterm. SL1 searches for any asset owner that does not include the text "term".
 - ° term1, term2. SL1 searches for any asset owner that contains either "term1" or "term2".
- Asset Location. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the Facility/Data Center field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a Facility/Data Center field that exactly matches the string. You can use the following syntax in the field:
 - *term**. SL1 searches for any asset location that begins with "term".
 - ° *term. SL1 searches for any asset location that ends with "term".
 - te?m. SL1 searches for any asset location that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any asset location that does not include the text "term".
 - term1, term2. SL1 searches for any asset location that contains either "term1" or "term2".

- Asset Serial. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the Serial field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a Serial field that exactly matches the string. You can use the following syntax in the field:
 - term*. SL1 searches for any asset serial that begins with "term".
 - ° *term. SL1 searches for any asset serial that ends with "term".
 - *te?m*. SL1 searches for any asset serial that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any asset serial that does not include the text "term".
 - term1, term2. SL1 searches for any asset serial that contains either "term1" or "term2".
- Asset Tag. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value in the Asset Tag field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have an Asset Tag field that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any asset tag that begins with "term".
 - ° *term. SL1 searches for any asset tag that ends with "term".
 - *te?m*. SL1 searches for any asset tag that contains the text "te[any single character]m".
 - ° *!term*. SL1 searches for any asset tag that does not include the text "term".
 - ° term1, term2. SL1 searches for any asset tag that contains either "term1" or "term2".
- Software Version. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching Software Version field in their asset records (SL1 automatically creates an asset record for each device during nightly auto-discovery). If you do not use wildcard characters, SL1 will return only devices that have a Software Version field that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any software version that begins with "term".
 - ° *term. SL1 searches for any software version that ends with "term".
 - ° te?m. SL1 searches for any software version that contains the text "te[any single character]m".
 - ° !term. SL1 searches for any software version that does not include the text "term".
 - ° term1, term2. SL1 searches for any software version that contains either "term1" or "term2".
 - If you select the *Invert* checkbox, SL1 will search for devices that do *not* have a matching version number in the list of software and include those devices in the device group.

- Software Title. Displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching title in the list of software defined in the Licenses tab in the asset record for the device. If you do not use wildcard characters, SL1 will return only devices that have a Software Title field that exactly matches the string. You can use the following syntax in the field:
 - term*. SL1 searches for any software title that begins with "term".
 - ° *term. SL1 searches for any software title that ends with "term".
 - ° te?m. SL1 searches for any software title that contains the text "te[any single character]m".
 - *!term*. SL1 searches for any software title that does not include the text "term".
 - ° term1, term2. SL1 searches for any software title that contains either "term1" or "term2".
 - If you select the *Invert* checkbox, SL1 will search for devices that do *not* have a matching software title in the list of software and include those devices in the device group.
- **Custom Attribute**. The Active Selectors field includes an entry for each custom attribute defined in your SL1 system. When you select a custom attribute, the Selector Definitions pane displays a field in which you can enter a string. SL1 will use the string to search for devices that have a matching value for this custom attribute. If you do not use wildcard characters, SL1 will return only devices with a custom attribute that exactly matches the string. You can use the following syntax in the field:
 - ° term*. SL1 searches for any attribute value that begins with "term".
 - ° *term. SL1 searches for any attribute value that ends with "term".
 - ° te?m. SL1 searches for any attribute value that contains the text "te[any single character]m".
 - ° *!term*. SL1 searches for any attribute value that does not include the text "term".
 - term1, term2. SL1 searches for any attribute value that contains either "term1" or "term2".
- After you have selected an Active Selector and the Selector Definitions, you can specify that you want to include children devices, all descendent devices, parent devices, or all ancestor devices. To do this, do not select the [OK] button. Instead, select the Select related devices link next to the [OK] button.
- 9. If you selected the **Select related devices** link, the **Relationship Selection** modal page appears. In this modal page you can select devices by relationship. The **Matched Devices** pane displays all the devices that match all the criteria in the rule. The list of devices changes as you add and remove criteria.
- 10. The **[OK]** button saves the new dynamic rule or saves changes to an existing dynamic rule.
- 11. The new rule appears in the **Dynamic Rules** pane.
- **NOTE:** If a single dynamic rule includes multiple criteria, a device must match **all** the criteria to be included in the device group (like the SQL AND operator). If an IT Service policy includes multiple dynamic rules, a device must match only a single rule to be included in the device group (like the SQL OR operator). To view a list of devices that are currently included in the dynamic rules, select the wrench icon (*P*) for a dynamic rule.
- 12. To remove a dynamic rule from the list of devices for the IT Service policy, go to the **IT Service Editor** page, select the **[Model]** tab, select the checkbox for the rule, and then select the **[Del]** button.

The Relationship Selection Page

If you click the **Select related device link** in the **Device Group Rule Editor** page, the **Relationship Selection** page appears:

elationship Selectors	See	d Devices [20]								
Children of		Device Name •		Category	Clas	s Sub-class	ID	Organization	Collection State	
Descendants of	1.	///vol/EM7		NAS	NFS E	xport	969	Intel	Unavailable	
Parents of	2.	///vol/NetAppOSS		NAS	NFS E	xport	970	Intel	Unavailable	
Ancestors of	3.	///vol/NetAppOSS/ho	me	NAS	NFS E	xport	967	Intel	Unavailable	
Related by:	4.	///vol/vol1		NAS	NFS E	xport	966	Intel	Unavailable	
WS SNS Glacier Relationship	5.	///vol/vol2		NAS	NFS E	xport	968	Intel	Unavailable	
WS: Auto Scale Relationship	6.	//1 10.0.0.1		Pingable	Ping IC		924	Intel	Active	
WS: EC2 Subnet Relationship	7.	//1 10.0.0.101		Switches	Cisco S	Systems Cataly	1766	Intel	Active	
WS: EC2 VPC Relationship	8.	10.100.100.30		Pingable	Linux	ICMP	1511	Intel	Unavailable	
WS: ELB Relationship WS: EMR Relationship		10.100.100.31		Pingable	Linux	ICMP	1512	Intel	Unavailable	
WS. EMR Relationship		10.100.100.32		Pingable	Linux	ICMP	935	Intel	Unavailable	
Include seed devices		10.100.100.33		Pingable	Linux		934	Intel	Unavailable	
		10.100.100.34		Pingable	Linux		933	Intel	Unavailable	
	13.	10.100.100.35		Pingable	Linux	ICMP	929	Intel	Active	
Device Name •		<u>Category</u>		s Sub-class	ned.	ID	<u>Or</u>	ganization	Collection State	

The **Relationship Selection** page includes the following panes:

• **Relationship Selector**. You can choose to include child devices, all descendent devices (children, grandchildren, great grandchildren, etc.), parent devices, or all ancestor devices (parents, grandparents, great grandparents, etc.). You can also choose to further filter by including only the children, descendents, parents, and ancestors devices that are related to the "Seed Devices" through one or more selected Dynamic Applications.

NOTE: For details on building relationships with Dynamic Applications, see the **Dynamic Application Development** manual.

• Seed Devices. This is the list of devices you defined in the Device Group Rule Editor page. You can include these devices in the device group or include only the children, descendants, parents, ancestors.

• Matched Devices. This is the list of devices that will be included in the device group when you click the [OK] button.

NOTE: As SL1 discovers devices and component devices that meet the criteria for the dynamic device group, SL1 will automatically add those devices and component devices to the device group.

Relationship Selectors

In this pane, you can specify devices to include in the device group based on their relationships to the Seed Devices:

- **Children of**. If you select this checkbox, all child devices of the Seed Devices are included in the device group.
- **Descendents of**. This checkbox is enabled only if you select the **Children of** checkbox. If you select this checkbox, all child devices, grandchildren devices, great grandchildren devices, etc of the Seed Devices are included in the device group.
- **Parents of**. If you select this checkbox, all parent devices of the Seed Devices are included in the device group.
- Ancestors of. This checkbox is enabled only if you select the **Parents of** checkbox. If you select this checkbox, all parent devices, grandparent devices, great grandparent devices, etc of the Seed Devices are included in the device group.
- **Related by**. This checkbox is enabled only if you select the **Children of** checkbox or the **Parents of** checkbox. You can further filter the devices in the device group by including only the children, descendents, parents, and ancestors devices that are related to the Seed Devices through one or more selected Dynamic Applications. If you select this checkbox, you can select one or more Dynamic Applications from the list of Dynamic Applications that can create relationships. Only those devices that meet all the criteria will be included in the device group.
- Include seed devices. This checkbox is enabled only if you select the **Children of** checkbox or the **Parents** of checkbox. If you select this checkbox, the related Seed Devices are included in the device group. Seed Devices with no relationships are not included in the group.

Seed Devices

This is the list of devices you defined in the **Device Group Rule Editor** page. You can include these devices in the device group or include only the children, descendants, parents, and ancestors of these devices.

For each Seed Device, the **Relationship Selection** page displays.

TIP: To sort the list of devices, click on a column heading. The list will be sorted by the column value, in ascending order. To sort by descending order, click the column heading again.

• **Device Name**. Name of the device. For devices running SNMP or with DNS entries, the name is discovered automatically. For devices without SNMP or DNS entries, the device's IP address will appear in this field.

- **Category**. The ScienceLogic category assigned to the device. Categories include servers, routers, switches, firewalls, printers, etc. The category is automatically assigned during discovery, at the same time as the Device-Class/Sub-Class.
- **Class / Sub-class**. The manufacturer (device class) and type of device (sub-class). The Device-Class/Sub-Class is automatically assigned during discovery, at the same time as the Category.
- *ID*. Device ID. This is a unique number automatically assigned to the device by SL1.
- Organization. The organization to which the device is assigned.
- **Collection State**. The current condition of data collection for the device. The device can have one or more of the following Collection States:
 - ° Active. SL1 is collecting data from the device.
 - Unavailable. SL1 cannot connect to the device, and will not collect data from the device until the device becomes available. A physical device falls back to executing the availability ping every five minutes, unless you have critical ping enabled. Component devices get their availability calculated by the component discovery Dynamic Application of the parent device.
 - User-Disabled. SL1 is not currently collecting data from the device because the user has disabled collection.
 - System-Disabled. SL1 is not currently collecting data from the device because the system has disabled collection.
 - Maintenance. SL1 is not currently collecting data from the device because it is currently in scheduled maintenance mode.
 - User-Initiated-Maintenance. SL1 is not currently collecting data from the device because it has manually been put into maintenance mode by a user.
 - Component Vanished. The component device has vanished, i.e. is not currently being reported by its root device. SL1 cannot collect data from the device at this time.

NOTE: Depending on the circumstances, more than one collection state might appear for a single device. For example, if a device is in a scheduled maintenance mode, the **Collection State** might be Unavailable / Maintenance / System-Disabled.

- Tools. Displays icons for managing devices. The choices are:
 - Device Management (IIII). Leads to the Device Summary page, where you can see reports and logs related to the device. From the Device Summary page, you can also access the other pages in the Device Management tools.

Matched Devices

This is the list of devices that match all the criteria in the **Relationship Selection** page.

For each Matched Device, the **Relationship Selection** page displays:

TIP: To sort the list of devices, click on a column heading. The list will be sorted by the column value, in ascending order. To sort by descending order, click the column heading again.

- **Device Name**. Name of the device. For devices running SNMP or with DNS entries, the name is discovered automatically. For devices without SNMP or DNS entries, the device's IP address will appear in this field.
- **Category**. The ScienceLogic category assigned to the device. Categories include servers, routers, switches, firewalls, printers, etc. The category is automatically assigned during discovery, at the same time as the Device-Class/Sub-Class.
- **Class / Sub-class**. The manufacturer (device class) and type of device (sub-class). The Device-Class/Sub-Class is automatically assigned during discovery, at the same time as the Category.
- ID. Device ID. This is a unique number automatically assigned to the device by SL1.
- Organization. The organization to which the device is assigned.
- **Collection State**. The current condition of data collection for the device. The device can have one or more of the following Collection States:
 - ° Active. SL1 is collecting data from the device.
 - Unavailable. SL1 cannot connect to the device, and will not collect data from the device until the device becomes available.
 - User-Disabled. SL1 is not currently collecting data from the device because the user has disabled collection.
 - System-Disabled. SL1 is not currently collecting data from the device because the system has disabled collection.
 - Maintenance. SL1 is not currently collecting data from the device because it is currently in scheduled maintenance mode.
 - User-Initiated-Maintenance. SL1 is not currently collecting data from the device because it has manually been put into maintenance mode by a user.
 - Component Vanished. The component device has vanished, i.e. is not currently being reported by its root device. SL1 cannot collect data from the device at this time.

NOTE: Depending on the circumstances, more than one collection state might appear for a single device. For example, if a device is in a scheduled maintenance mode, the **Collection State** might be Unavailable / Maintenance / System-Disabled.

- Tools. Displays icons for managing devices. The choices are:
 - Device Management (11). Leads to the Device Summary page, where you can see reports and logs related to the device. From the Device Summary page, you can also access the other pages in the Device Management tools.

Click the **[OK]** button to accept all changes and exit the Relationship Selection page.

Defining a Device Subset

If you select the **[Advanced]** button or are already in Advanced mode you can define device subsets for your IT Service policy. A device subset is a smaller group of devices from the list of all devices in the IT Service policy.

You can apply metrics to these device subsets, instead of applying a metric to all devices in the IT Service Policy. For example, you might want to examine only the status of the database servers in a specific IT Service. In this case, you could create a device subset that contains only the database servers. You could later apply a metric only to the database servers (for example, monitoring latency of the database servers).

To define a device subset:

- Go to IT Service Manager page (Registry > IT Services > IT Service Manager). Either create a new IT Service policy ([Create] button) or edit an existing policy (wrench icon *P*).
- 2. After **Defining the Basic Properties of an IT Service Policy**, select the **[Model]** sub-tab. If you are not already in Advanced mode, select the **[Advanced]** button:

Device Groups (H) Device Screekers (H)	Summary Mo	del Logs Events		Ticke	ts 🚺	dministratio	n	
bevice Groups (9) <u>Decise Data Name</u> <u>Decise Data Name <u>Decise Data Name</u> <u>Decise Data Name <u>Decise Data N</u></u></u>	T Service Editor IT Service	[1] Click "Save" to commit changes					New	Reset Guide
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No droke grups is service. In dependent services.	Device Groups [0]							
Static Devices (7) Teach Teach (7) 1. priling 20 30 175 Constant (1) 2. priling 20 30 175 Constant (1) 3. priling 20		Device Group Name *	1D	Devices	Groups	Rules 🗹	Service Name *	
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1. <u>Protections + Const Backan</u> <u>Const Die Const Die Con</u>								
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yymanic Device Rules (D) Saucur Tyse No dynamic device rules in service.		owned own	100	o juni			Device Subsets [1]	Del Add
Seaucor Type Seaucor Tagea Manined Dava 🖂							Device Subset Name •	# Devs [2]
Seaucor Type Seaucor Tagea Manined Dava 🖂								
No dynamic device núes in service.	Dynamic Device Rules [0]							
Reinsk	Selector Type	Selector Targets			Mato	hed Devs 📝		
		No dynamic device rules in servic	e.					
Save								Refresh
					Save		t.	

- 3. To add a device subset to the IT Service policy, go to the **Device Subsets** pane.
- 4. Select the [Add] button. The Device Subset Editor modal appears.

		Device Subse	et Name			
Static Devices					Del A	add
Device Name •	IP Address	Category	Class Sub-class	ID.	Organization	200
		tatic devices in	den fan in den se			
	No	static devices in	device subset.			
Dynamic Rules					Del A	٨dd
Dynamic Rules Selector Type		= Selector	r Targets		Del A Matched Devs	
· · · · · · · · · · · · · · · · · · ·		Selector	r Targets			
	No.					
	No	Selector				
	No o					
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	No c					
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Dynamic Rules Selector Type	No c					

5. To add a static list of one or more devices to the device subset, go to the **Static Devices** pane:

Device Name •	IP Address	Category	Class Sub-class	민	Organization	\checkmark	Action
1. 10-Forward	10.20.30.195	Servers	NET-SNMP FreeBSD	201	System		
2. 10.168.44.101	-	VMware	VMware Host Server	148	System		

- Select the **[Add]** button.
- The Device Alignment modal appears and displays a list of all devices in SL1.
- In the **Device Alignment** modal, select the checkbox of each device group you want to include in the IT Service policy. Select the **[Add/Remove]** button in the lower right.
- The selected devices will appear in the **Static Devices** pane.
- To remove a device from the list of devices in the device subset, select its checkbox and then select the **[Del]** button.
- 6. To add a dynamic list of one or more devices to the list of devices for the device subset, go to the **Dynamic Rules** pane:

Active Selectors	Selector Definitions				
Organization	Selector Definitions	\$			
Device Class					
Device Category					
Device Name					
Device IP					
Device State					
Collection State					
Open TCP Ports					
Running Process	1				
-					
Windows Service					
Windows Service					
Windows Service					
Windows Service	cateor	ny Class Sub-Pass	10	Omanization	Collection State
Windows Service Subscribed Deduct Matched Devices [8] Device Name			1 <u>D</u> 201	Organization	Collection State
Windows Service Subactional Product Matched Devices [8] Device Name 1. m[10-Forward	- Catego Servers VMwar	NET-SNMP FreeBSD	10 201 148	System	State
Windows Service Subsorihod Decture Matched Devices [8] Device Name	Servers	e VMware Host Server	201 148		State Active
Windows Service Withows device Technology Matched Devices [8] Device Name I. Infl0-Forward 2. Infl0.168.44.101	Servers VMwar	NET-SNMP FreeBSD VMware Host Server t Polycom Video Conferencir	201 148 1g 299	System System	Active Active
Windows Service Cuberched Product Matched Devices [8] <u>Device Name</u> 1. <u>m[10-Forward</u> 2. m[10.168.44.101 3. <u>m]AHA Pittaburgh, PA</u>	Servers VMwar Endpoin	NET-SNMP FreeBSD VMware Host Server t Polycom Video Conferencir	201 148 1g 299 int 116	System System System	Active Active Active
Windows Service	Servers VMwar Endpoin Bridge Bridge	NET-SNMP FreeBSD VMware Host Server Polycom Video Conferencir Cisco TelePresence Multipo	201 148 1g 299 int 116 int 498	System System System System	State Active Active Active Active
Windows Service	Servers VMwar Endpoin Bridge Bridge TelePres	NET-SNMP FreeBSD VMware Host Server VMware Host Server Polycom Video Conferencir Cisco TelePresence Multipo Cisco TelePresence Multipo	201 148 1g 299 int 116 int 498 01 470	System System System System System	State Active Active Active Active Active

- Select the [Add] button. The Device Subset Rule Editor modal appears.
- In the **Device Subset Rule Editor** modal, define one or more criteria to include in the rule. For details, see the section on Adding a Dynamic List of Devices to the IT Service Policy
- The new rule appears in the Dynamic Rules pane.
- To remove a dynamic rule from the list of devices for the IT Service policy, go to the **IT Service Editor** page, select the **[Model]**sub-tab, select the checkbox for the rule, and then select the **[Del]** button.

NOTE: If a single dynamic rule includes multiple criteria, a device must match **all** the criteria to be included in the device group (like the SQL AND operator). If an IT Service policy includes multiple dynamic rules, a device must match only a single rule to be included in the device group (like the SQL OR operator). To view a list of devices that are currently included in the dynamic rules, select the wrench icon () for a dynamic rule.

Defining a Service Dependency

A service dependency allows you to use a metric and list of devices from an external IT Service Policy when calculating the metrics in the current IT Service policy. In the *service dependency example*, the Acme company uses the device availability metric from an IT Service policy for Acme East Coast and the device availability metric from an IT Service policy for Acme West Coast to determine the device availability for all devices in all locations.

To define a Service Dependency:

- Go to IT Service Manager page (Registry > IT Services > IT Service Manager). Either create a new IT Service policy ([Create] button) or edit an existing policy (wrench icon *P*).
- 2. Select the [Model] sub-tab. If you are not already in Advanced mode, select the [Advanced] button.

3. To add a service dependency, go to the **Service Dependencies** pane.

Summary	Mode		Logs	Ever	its	Ticket	s 🛛	Administ	tration	n		
IT Service Editor	IT Service [2]	Click "Save	e" to commit o	changes							New	Reset Guide
Properties	Model C	ollection	Metrics	Alerting	Sched	ule			-			Advanced
Device Groups	[0]							Del A	dd	Service Dependencies [0]	Del Add
	1	Device Group N	lame •		<u>ID</u>	Devices	Groups	Rules	Ø		Service Name •	2
			No device grou	ups in service	в.						No dependent services	
Static Devices [2	1 I Adding [2]						-	Del A				
static bevices [Device Name •		Class	Sub-class	ID		Organizatio		20			
1. 10-Forwa	ard		NET-SNMP Fr	eeBSD	201	System		-	Ē			
2. 10.168.44	1.101		VMware Hos	t Server	148	System			E			
									4	Device Subsets [4]		Del Add
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										3. + PVideo Endpoint	\$	1 2
										4. + AVideo MCUs		2 🕅
Dynamic Device	Rules [2]							Del A	dd			
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4. Select the [Add] button. The Service Dependency Alignment Editor modal appears.

Add/Remove Service Dependencies			Close / Esc
Service Dependency Alignment			Reset
Service Name •	State	<u>ID</u>	Action
1. Video Active Calls	Healthy		
		Add	/Remove

- In the **Service Dependency Alignment Editor** modal, select the checkbox of each external IT Service policy you want to reference in the current IT Service policy. Select the **[Add/Remove]** button in the lower right.
- The selected IT Service policies will appear in the Service Dependencies pane.
- To remove an IT Service policy from the list of service dependencies, select its checkbox and then select the **[Del]** button.

You can now use the metrics in each service dependency when defining the metrics for your IT Service policy. For an example, see the *service dependencies example*.

Defining Metrics

A metric is a performance measurement associated with an IT Service. One or more metrics are used to define the Service Health, Service Availability, and Service Risk for an IT Service.

For each IT Service, SL1 provides a default metric called **Average Device Availability**. This metric tells SL1 to collect availability data from all the devices in the IT Service and calculate the average availability.

You can define additional metrics, based on any performance data collected by SL1, including:

- Device Availability
- Device Latency
- Overall CPU Usage
- Physical Memory Usage
- Swap Usage
- Device State (Condition of the device, based upon the most severe event generated by the device.)
- Device Count
- Presentation Objects from Dynamic Applications
- Network Interface Data
- TCP/IP Port Monitors
- System Process Monitors
- Windows Service Monitors
- Email Round-Trip Monitors
- Web Content Monitors
- SOAP/XML Transaction Monitors
- Domain Name Monitors
- An Aligned Service Dependency

NOTE: When SL1 evaluates a metric, it performs an aggregation, that is, SL1 evaluates the data for all devices specified in the definition of the metric, over a specified time period (the Aggregation Frequency). Depending on the definition of the metric, SL1 can calculate the average, maximum, minimum, sum, standard deviation, count value or percentile for all devices specified in the definition.

To create a new metric:

- Go to IT Service Manager page (Registry > IT Services > IT Service Manager). Either create a new IT Service policy ([Create] button) or edit an existing policy (wrench icon *P*).
- 2. After Defining the Basic Properties of an IT Service Policy and Defining the Devices for the IT Service Policy, select the [Metrics] sub-tab.

Service Metric Definitions [7] Unit State Val Alertica Device Metric Device Metric Device Metric Advance 1 Active Call: C5 Endopoints Enabled No - Sum Average 2 Average Maximum Jiterr Vales Endopoints Enabled No - Average 3 PMCU Active Portis Enabled No - Sum 4 Portal Maximum Band/with: Vdee Endopoints Enabled No - Sum 6 Portal Maximum Band/with: Vdee Endopoints Enabled No - Sum 6 Portal Maximum Band/with: Vdee MCUs Enabled No No - Sum 7 Pvideo Call Statistics: Active Call Count (Enabled No - Sum	ervice Metric Definitions [7]							
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3. Select the [Add] button. The Service Metric Editor modal page appears.

	Metric Type	Device Subset	Aggregation
	Internal 💌	(All Devices in Service)	Average
Metric Classification	Show only metrics available for this	IT Service	
Service Vital Metric	v	Device Metric	
Active State Enabled	Device Availability		
Lilabled	Device Availability: Percentage Value		
	Guide Text		
Metric Alerting	Alert Policy Name		Event Severity
No Alert Policy		Critical	
	Alert Threshold	70	Increasing
0	Healthy	75	Critical 100
	nealuty	A	Critical
lert Policy not defined.			
	Event Policy Description	n	
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	Format Font		Ar 10 CM

- 4. Supply a value in each field of the Service Metric Editor modal page.
 - Service Metric Name. Enter a name for the metric.
 - Metric Classification. Specifies whether the metric will be displayed in the IT Service Summary page in widgets that display vital metrics. Choices are:
 - ° Service Vital Metric. This metric will appear in widgets that display vital metrics.
 - ° Standard Metric. This metric will not appear in widgets that display vital metrics.
 - Active State. Specifies whether SL1 should currently collect data for the metric and evaluate alerts for the metric. Choices are:
 - ° Enabled. SL1 will collect data for the metric and evaluate alerts for the metric.
 - ° Disabled. SL1 will not collect data for the metric and evaluate alerts for the metric.
 - Metric Type. Specifies the type of performance data you want to use for the metric. Choices are
 - Internal. The metric will use data that SL1 automatically collects for each device (availability, latency, CPU usage, memory usage, swap usage, device state, and device count).
 - ^o Dynamic App. The metric will use data collected by a specified Dynamic Application.
 - Network Interface . The metric will use data collected from network interfaces. For an example that uses the Network Interface metrics, see the *interface tags example*.
 - TCP/IP Port Monitor. The metric will use data collected using a TCP/IP port monitoring policy.

- System Process Monitor. The metric will use data collected using a system process monitoring policy.
- Windows Service Monitor. The metric will use data collected using a Windows service monitoring policy.
- *Email Round-Trip Monitor*. The metric will use data collected using an Email round-trip monitoring policy.
- Web Content Monitor. The metric will use data collected from a using a Web Content monitoring policy.
- SOAP/XML Transaction Monitor. The metric will use data collected using a SOAP/XML Transaction monitoring policy.
- Domain Name Monitor. The metric will use data collected using a Domain Name monitoring policy.
- Aligned Service Dependency. The metric points to a metric and set of devices in an external IT Service policy. The external IT Service policy must first be defined as a Service Dependency in the current IT Service. To see an example of a metric that uses an Aligned Service Dependency, see the service dependency example.
- Dependency Key Metric. The metric will inherit the values from a Key Metric (Health, Availability, Risk) defined in another IT service policy. The other IT service policy has been aligned as a dependency to this IT service.
- **Device Subset**. If you have defined one or more **device subsets**, you can select one in this field. The metric will use data from only devices in the selected subset. This field is not applicable if you selected *Aligned Service Dependency* in the **Metric Type** field.
- Aggregation. Specifies how SL1 will aggregate ("crunch") the data collected from all the devices in the IT Service or in the specified **Device Subset** into a single value. Choices are:
 - ° Average
 - ° Maximum
 - ° Minimum
 - ° Sum
 - ° Std Dev
 - ° Count
 - *Percentile*. Aggregates data by percentile. Enter the percentile value you want to monitor in the field to the right of the **Aggregation** field. For example, if you select *Percentile* and enter 65 in the field to the right of the **Aggregation** field, this metric will contain the value that is at the 65th percentile for each collection of the metric.

- Show only metrics available for this IT Service. Filters the succeeding fields so that they display already-defined policies aligned with one or more of the devices in the IT Service or in the specified **Device Subset**. For example, if you selected *Dynamic App* in the **Metric Type** field, and then selected this checkbox, the **Dynamic Application** field would display only Dynamic Applications that are already aligned with one or more of the devices in the IT Service or in the specified **Device Subset**. This field is not applicable if you selected Aligned Service Dependency or Dependency Key Metric in the **Metric Type** field.
- Device Metric. Appears if you selected Internal in the Metric Type field. Choices are:
 - Device Availability. Specifies that the metric should be calculated using the availability statistics from all the devices in the IT Service or the devices specified in the **Device Subset**. To calculate a value for the metric, SL1 aggregates the availability value from each device using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count, or Percentile).
 - Device Latency. Specifies that the metric should be calculated using the latency statistics from all the devices in the IT Service or the devices specified in the **Device Subset**. To calculate a value for the metric, SL1 aggregates the latency value from each device using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count).
 - Overall CPU. Specifies that the metric should be calculated using the CPU usage statistics from all the devices in the IT Service or the devices specified in the **Device Subset**. To calculate a value for the metric, SL1 aggregates the CPU usage value from each device using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count, or Percentile).
 - Physical Memory Utilization. Specifies that the metric should be calculated using the physical memory utilization statistics from all the devices in the IT Service or the devices specified in the **Device Subset**. To calculate a value for the metric, SL1 aggregates the physical memory utilization value from each device using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count).
 - Swap Utilization. Specifies that the metric should be calculated using the swap utilization statistics from all the devices in the IT Service or the devices specified in the **Device Subset**. To calculate a value for the metric, SL1 aggregates the swap utilization value from each device using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count, or Percentile).
 - Device State. Specifies that the metric should be calculated using the device state of all the devices in the IT Service or the devices specified in the Device Subset. To calculate a value for the metric, SL1 aggregates the device state value from each device using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count).

NOTE: For each device, device state is determined by the most severe event that is currently active on the device. Each device severity has a numeric equivalent. 0=healthy, 1=notice, 2=minor, 3=major, 4=critical.

- Device Count. Device Count for an IT Service includes the number of devices in the IT Service or in the specified **Device Subset**.
- Dynamic Application. Appears if you selected Dynamic App in the Metric Type field. Select the
 Dynamic Application that includes the presentation object you want to use to aggregate data for this
 metric. If you selected the checkbox for Show only metrics available for this IT Service, this field
 displays a list of Dynamic Applications that are already aligned with one or more of the devices in the
 IT Service or in the specified Device Subset. If you did not select the checkbox, this field displays a list
 of all Dynamic Applications in SL1.
- **Presentation**. Appears if you selected *Dynamic App* in the **Metric Type** field. Displays a list of all presentation objects in the Dynamic Application that you specified in the **Dynamic Application** field. Select the presentation object that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates the value for this presentation object from each device using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count, or Percentile).
- Index/Label. For presentation objects that include multiple data series, specifies whether you want to select all the data for aggregation, select by index, or select by object label. The choices are:
 - All. Specifies that to calculate a value for this metric, SL1 should aggregate values for all indexes and labels for the presentation object you selected in the **Presentation** field for all the devices in the IT service or the devices specified in the **Device Subset**. When the data for this metric is aggregated, each index is treated as a separate data-point. For example, if you are creating a metric that will aggregate data from three devices and each device has five indexes for the selected presentation object, the aggregation will be based on the 15 separate data-points. If you select this option, the **SNMP Index** field is disabled.
 - Index. Specifies that to calculate a value for this metric, SL1 should aggregate one data-point from each device. If you select this option, you must specify the single numeric index in the SNMP Index field.
 - Label. Specifies that to calculate a value for this metric, SL1 should aggregate one data-point from each device. If you select this option, you must specify the single label in the **SNMP Index** field.
- **SNMP Index**. Appears if you selected *Dynamic App* in the **Metric Type** field. A single presentation object can include multiple data series for a given device. For example, a presentation object that displays CPU data might display a data series for each CPU on a device. In SL1, a data series is called an **index**. An index can be referenced by either a numeric ID or by a label string:
 - If you select All in the Index/Label field, the SNMP Index field is disabled. Specifies that to calculate a value for this metric, SL1 should aggregate values for all indexes for the presentation object you selected in the Presentation field for all the devices in the IT service or the devices specified in the Device Subset. When the data for this metric is aggregated, each index is treated as a separate data-point. For example, if you are creating a metric that will aggregate data from three devices and each device has five indexes for the selected presentation object, the aggregation will be based on the 15 separate data-points.
 - If you select *Index* in the *Index/Label* field, you must specify a single numeric index in the *SNMP Index* field. To calculate a value for this metric, SL1 will aggregate one data-point from each device.

- If you select Label in the Index/Label field, you must specify a single label string in the SNMP Index field. To calculate a value for this metric, SL1 will aggregate one data-point from each device.
- Interface Selection. Appears if you selected Network Interface in the Metric Type field. Select the network interfaces to include in the calculation for this metric. Choices are:
 - All Interfaces. Specifies that to calculate a value for this metric, SL1 should aggregate interface utilization statistics from all interfaces on all the devices in the IT Service or the devices specified in the **Device Subset**.
 - Management Interface. Specifies that to calculate a value for this metric, SL1 should aggregate interface utilization statistics from the management interface on all the devices in the IT Service or the devices specified in the **Device Subset**. The management interface is the network interface associated with the IP address that SL1 uses to communicate with a device.
 - Tagged Interfaces. Specifies that to calculate a value for this metric, SL1 should aggregate interface utilization statistics from the interfaces that are associated with a specific tag on all the devices in the IT Service or the devices specified in the **Device Subset**. You can manually align tags to an interface in the **Network Interfaces** page (Registry > Networks > Interfaces).
- Interface Tag. Appears if you selected Network Interface in the Metric Type field. Select the
 interface tag that must be associated with an interface for that interface to be included in the
 calculation for this metric. If you selected the checkbox for Show only metrics available for this IT
 Service, this field displays a list of Interface tags that are already aligned with one or more of the
 interfaces on the devices in the IT Service or in the specified Device Subset. If you did not select the
 checkbox, this field displays a list of all Interface tags that are associated with interfaces in SL1.
- Interface Metric. Appears if you selected Network Interface in the Metric Type field. Select the interface measurement that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates the value for this interface measurement from all interfaces that you included in this metric using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count). Choices are:
 - ° Inbound Traffic
 - Outbound Traffic
 - Inbound Errors
 - Outbound Errors
 - ° Inbound Discards
 - ° Outbound Discards

- TCP Port. Appears if you selected TCP/IP Port Monitor in the Metric Type field. Enter or select the TCP port that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates the availability value collected using the TCP port policy that monitors this port on each device. The availability values are aggregated using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count or Percentile). If you selected the checkbox for Show only metrics available for this IT Service, this field displays a list of port policies that are already aligned with one or more of the devices in the IT Service or in the specified Device Subset. If you did not select the checkbox, enter a TCP port number in this field.
- *Metric*. Appears if you selected *TCP/IP Port Monitor* in the *Metric Type* field. Specify which measurement determines the availability of a TCP port for this metric. Choice is *Port Open*.
- **Process Name**. Appears if you selected System Process Monitor in the **Metric Type** field. Enter or select the process name that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates the availability value collected using the system process policy that monitors this process on each device. The availability values are aggregated using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count). If you selected the checkbox for **Show only metrics available for this IT Service**, this field displays a list of system process policies that are already aligned with one or more of the devices in the IT Service or in the specified **Device Subset**. If you did not select the checkbox, enter a process name in this field.
- Metric. Appears if you selected System Process Monitor in the Metric Type field. Specify which measurement determines the availability of a process for this metric. Choices are:
 - ° Process Exists. The process is considered available if it exists on a device.
 - Process Running. The process is considered available if it is running on a device.
- Service Name. Appears if you selected Windows Service Monitor in the Metric Type field. Enter or select the service name that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates the availability value collected using the Windows service policy that monitors this service on each device. The availability values are aggregated using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count, or Percentile). If you selected the checkbox for Show only metrics available for this IT Service, this field displays a list of Windows service policies that are already aligned with one or more of the devices in the IT Service or in the specified Device Subset. If you did not select the checkbox, enter a Windows service name in this field.
- Metric. Appears if you selected Windows Service Monitor in the Metric Type field. Specify which measurement determines the availability of a Windows service for this metric. Choice is Service Running.

- Policy Name. Appears if you selected *Email Round-Trip Monitor* in the Metric Type field. Enter or select the Email Round-Trip policy that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates statistics collected using this Email Round-Trip policy on each device. The values for the statistic are aggregated using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count). If you selected the checkbox for Show only metrics available for this IT Service, this field displays a list of Email Round-Trip policies that are already aligned with one or more of the devices in the IT Service or in the specified Device Subset. If you did not select the checkbox, enter the name of an Email Round-Trip policy in this field.
- *Metric*. Appears if you selected *Email Round-Trip Monitor* in the *Metric Type* field. Specify the Email round-trip statistic to aggregate for this metric. Choices are:
 - Round-Trip Completed. Indicates whether or not the round-trip was successfully completed (1) or failed (0).
 - *Round-Trip Time*. Indicates the number of seconds for an Email message to be sent from SL1 to the external server and back to SL1.
- **Policy Name**. Appears if you selected Web Content Monitor in the **Metric Type** field. Enter or select the Web Content policy that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates statistics collected using this Web Content policy on each device. The values for the statistic are aggregated using the method specified in the **Aggregation** field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count, or Percentile). If you selected the checkbox for **Show only metrics available for this IT Service**, this field displays a list of Web Content policies that are already aligned with one or more of the devices in the IT Service or in the specified **Device Subset**. If you did not select the checkbox, enter a the name of a Web Content policy in this field.
- *Metric*. Appears if you selected Web Content Monitor in the *Metric Type* field. Specify the Web Content statistic to aggregate for this metric. Choices are:
 - Verification Succeeded. Indicates whether or not the content was found on the website (1) or was not found on the website (0).
 - ° Connection Time
 - Domain Name Lookup Time
 - Page Size
 - Download Speed
 - Transaction Time
- Policy Name. Appears if you selected SOAP/XML Transaction Monitor in the Metric Type field. Enter or select the SOAP/XML Transaction policy that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates statistics collected using this SOAP/XML Transaction policy on each device. The values for the statistic are aggregated using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count). If you selected the checkbox for Show only metrics available for this IT Service, this field displays a list of SOAP/XML Transaction policies that are already aligned with one or more of the devices in the IT Service or in the specified Device Subset. If you did not select the checkbox, enter the name of a SOAP/XML Transaction policy in this field.

- Metric. Appears if you selected SOAP/XML Transaction Monitor in the Metric Type field. Specify the SOAP/XML Transaction statistic to aggregate for this metric. Choices are:
 - Transaction Verification Succeeded. Indicates whether the transaction was successfully verified (1) or was not successfully verified (0).
 - ° Connection Time
 - ° Domain Name Lookup Time
 - Download Size
 - Download Speed
 - Transaction Time
- Domain Name. Appears if you selected Domain Name Monitor in the Metric Type field. Enter or select the Domain Name policy that SL1 should use to calculate the value for this metric. To calculate a value for the metric, SL1 aggregates statistics collected using this Domain Name Transaction policy on each device. The values for the statistic are aggregated using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, Device Count or Percentile). If you selected the checkbox for Show only metrics available for this IT Service, this field displays a list of Domain Name Transaction policies that are already aligned with one or more of the devices in the IT Service or in the specified Device Subset. If you did not select the checkbox, enter the name of a Domain Name Transaction policy in this field.
- *Metric*. Appears if you selected *Domain Name Monitor* in the *Metric Type* field. Specify the Domain Name statistic to aggregate for this metric. Choices are:
 - Domain Lookup Succeeded. Indicates whether the domain lookup was successful (1) or failed (0).
 - ° Domain Lookup Time. Indicates the lookup time, in seconds, for a specified record.
- **Dependent Service**. Appears if you selected Aligned Service Dependency or Dependency Key Metric in the **Metric Type** field. Select the IT Service that includes the metric you want to use.
- Service Metric. Appears if you selected Aligned Service Dependency or Dependency Key Metric in the Metric Type field. Select a metric aligned with the IT Service policy you selected in the Dependent Service field. This metric will inherit its values from the selected metric. If you selected Dependency Key Metric in the Metric Type field, the choices are the Key Metrics:
 - *Health*. The health of the dependent IT services. Health values are represented by integers 0 (healthy) through 4 (critical).
 - Availability. The availability of the dependent IT services. Availability values are 0 (unavailable) and 1 (available).
 - ° Risk. The risk of the dependent IT services. Risk values are percentages (0 100).
- Guide Text. Optionally, enter a description for the metric.
- 5. Select the [Save] button to save your new metric.

NOTE: You can define advanced metrics. Advanced metrics allow you to perform arithmetic operations on the aggregated data and combine multiple sources of aggregated data together. For example, you could specify an advanced metric that combines the download speed from the web content monitors and the SOAP/XML transaction monitors associated with the devices in the IT Service policy. For details on advanced metrics, see the section *Defining Advanced Metrics*.

6. You can use the remaining fields to define an optional alert and optional event associated with the metric.

Edit Service Metric			Close / Esc
Service Metric Editor Editing Metric			Reset
Service Metric Name Active Calls: CTS Endpoints	Metric Type	Device Subset (All Devices in Service)	Aggregation
Metric Classification [Standard Metric]	Show only metrics available for thi	s IT Service Device Metric	
Active State	Device Availability Device Availability: Percentage Value		
	Guide Text		
			.::
Metric Alerting	Alert Policy Name		Event Severity
[No Alert Policy]	Alert Threshold	Critical	Increasing 👻
0 Alert Policy not defined.	Healthy		Critical 100
	Event Policy Description	on	
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	ОК		

- 7. To define an associated alert and event, supply a value in each of the following fields:
 - Metric Alerting. Specifies whether or not you want SL1 to generate an alert for this metric. Choices are:
 - No Alert Policy. SL1 will not trigger alerts for this metric.
 - Single Threshold. SL1 will trigger an alert when the metric meets or exceeds a specified threshold.
 SL1 will clear the alert when the metric no longer meets or exceeds the threshold.
 - Trigger/Reset Thresholds. SL1 will trigger an alert when the metric falls within the "Critical" threshold. SL1 will reset the alert when the metric falls within the "Healthy" threshold.

- Alert Policy Name. Name of the alert. When you define an alert, SL1 automatically creates an event policy that corresponds to this alert. This name will appear in the name of the event policy.
- **Event Severity**. When the alert is generated, SL1 will trigger an event with the selected event severity. Choices are: Critical, Major, Minor, Notice, or Healthy.
- **Decreasing/Increasing**. Toggles whether the alert is triggered when the value for the metric is above a specific threshold (Increasing) or below a specific threshold (Decreasing).
- Alert Threshold. Use sliders to define the threshold at which the alert should be generated and trigger an event and the threshold at which the alert should be reset and no longer trigger an event.
- Event Policy Description. Optionally enter cause and resolution text for the event. When SL1 automatically creates an event policy for this alert, the text you supply in this field will be used to populate the Policy Description field in the Event Policy Editor for the event. If this event is triggered, the text you supply in this field will be displayed in the Event Information modal page for the event.
- 8. Select the **[Save]** button to save your new alert.

Editing Metrics

You can edit one or more metrics from the Service Metric Editor modal page. To do so:

- 1. Go to **IT Service Manager** page (Registry > IT Services > IT Service Manager). Find the IT Service policy you want to edit. Select its wrench icon (*P*).
- 2. Select the [Metrics] sub-tab.
- 3. In the top pane, find the metric you want to edit, and select its wrench icon(\checkmark).

4. If you are editing in **Basic mode**, the **Service Metric Editor** modal page appears:

Edit Service Metric				Close / Esc
Service Metric Editor Editing Metric				Reset
Service Metric Name Active Calls: CTS Endpoints	Metric Type	Device Subset	Aggregation [Sum]	-
Metric Classification	Show only metrics available for thi			
Active State	Device Availability	Device Metric		•
[Enabled]	Device Availability: Percentage Value			
	Guide Text			
				.::
Metric Alerting	Alert Policy Name		Event Severity	
[No Alert Policy]		Critical		-
	Alert Threshold		Increasin	ng 🚽
0	Healthy	75	Critical	100
	пеашу	A	Chucai	100
Alert Policy not defined.				
	Event Policy Description			
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5. If you are editing in Advanced mode, the Service Metric Editor (Advanced) page appears:

Edit Service Metric	Close / Esc
Service Metric Editor Editing Metric	Reset
Service Metric Name	Metric Formula
Active Calls: CTS Endpoints	(o_6400)
Metric Classification	
[Standard Metric]	
Active State	
[Enabled]	
Metric is Percentage Value	Aggregation Objects (Double-click to insert)
Abbreviation / Suffix Data Unit Description	o_6399: Video Call Statistics: Active Call Count (Sum) o_6400: Video Call Statistics: Active Call Count (Sum)
	o_6403: Video Call Statistics: Active Call Count (Sum)
	o 6401: Video Call Statistics: Maximum Combined Bandwidth (Sum)
	Guide Text
	Guide lext
	ок

6. You can edit the values in one or more fields. Select the [Save] button to save your changes to the metric.

Key Metrics

Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. For example, you can define "health" for a remote backup service and also define "health" for an Internet bandwidth service, even though you would use different criteria to measure the health of those two services.

All IT Service policies define how SL1 should calculate the following Key Metrics for the IT Service:

- *Health*. The health of an IT Service can be one of the five standard severity values: Healthy, Notice, Minor, Major, or Critical.
- Availability. The availability of an IT Service can be either available or unavailable.
- *Risk*. The risk of an IT Service is a percentage value that indicates how close an IT Service is to being in an undesirable state.

The definition of a Key Metric specifies:

- The metric SL1 should examine to determine a value for the Key Metric.
- One or more threshold values. These thresholds translate values from the metric into values for the Key Metric. For example, "5 or greater" could translate to "critical".

SL1 collects and calculates the value for each Key Metric at the frequency specified in the **Aggregation** *Frequency* field in the **[Properties]** sub-tab in the **IT Service Editor** page.

SL1 generates an event if the Service Health Key Metric has a value of Notice, Minor, Major, or Critical.

To view the value for each Key Metric for an IT Service, see the corresponding column values in the **IT Service Manager** page (Registry > IT Services > IT Service Manager).

Each IT Service policy includes default definitions for each Key Metric. The default definition for each Key Metric uses the default metric **Average Device Availability** (automatically included with each new IT Service policy). You can edit the default definitions to suit your business needs.

To view and edit the definitions of each Key Metric for an IT Service policy:

- Go to the IT Service Manager page (Registry > IT Services > IT Service Manager). Either create a new IT Service policy ([Create] button) or edit an existing policy (wrench icon).
- 2. After Defining the Basic Properties of an IT Service Policy and Defining the List of Devices for an IT Service Policy, select the [Metrics] sub-tab.
- 3. In the top pane, you will see the default metric, **Average Device Availability**. If you have already defined additional custom metrics, they will also appear in the top pane.

4. In the bottom pane, you will see the three Key Metrics:

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Properties Model Collection Metrics	Alert	ting Sc	chedule				Advanc
Service Metric Definitions [7]							Del Ad
Service Metric Name *	Unit	State	Vital	Alerting	Device Metric	Device Subset	Aggregation
 Active Calls: CTS Endpoints 		Enabled	No	No	-		Sum
 Average Maximum Jitter: Video Endpoints 		Enabled	No	No	-		Average
 Active Ports 		Enabled	No	No	-		Sum Sum Sum Sum
Protal Maximum Bandwidth: CTS Endpoints		Enabled	No	No	-	-	Sum
5. ATotal Maximum Bandwidth: Video Endpoints		Enabled	No	No	-		Sum
 Protal Maximum Bandwidth: Video MCUs 		Enabled	No	No	-		Sum
7. Active Call Statistics: Active Call Count (Enabled	No	No	-	-	Sum
						[Select Action]	▼ Ga
y Metrics						[Select Action]	▼ G
	t (
	t (2		<u>₽</u>	4	
rvice Health Video Call Statistics: Active Call Coun	t (2	Minor			
vice Health Video Call Statistics: Active Call Coun	Notice		2	Minor	B Major	4 Critical	 Increasing 5
vice Health Video Call Statistics: Active Call Coun	Notice		Ť	Minor	Major	4 Critical	 Increasing 5
vice Health Video Call Statistics: Active Call Coun Health	Notice		Ť	Minor	Major	4 Critical	 Increasing 5
vice Health Video Call Statistics: Active Call Coun Health	Notice		Ť	Minor	Major	4 Critical	 Increasing 5
Video Cal Statistics: Active Cal Coun Heathy Nice Availability [[use Service Heath metric, Critical If	Notice nreshold)]		Ť	Minor	Major	4 Critical	Increasing Increasing S S
Video Cal Statistics: Active Cal Coun Heathy Video Availabity [(use Service Heath metric, Critical It Video Risk] [(use Service Heath metric, Heathy It Video Risk] [(use Service Heath metric, Heathy It	Notice nreshold)]		Ť	Minor	Major	4 Critical	Increasing 5 Increasing
Video Call Statistics: Active Call Coun Heathy (Use Service Heath metric, Critical It vice Risk ((use Service Heath metric, Heathy it vice Risk () D 1 1 1 1 1 1 1 1 1 1 1 1	Notice nreshold)]		Ť	Mnor	Major	4 Critical	Increasing Increasing S S
Video Cal Statistics: Active Cal Coun Heathy Heathy Video Cal Statistics: Active Cal Coun Heathy Video Cal Statistics: Active Cal Coun (use Service Heath metric, Critical II Video Cal Statistics: Active Cal Count (use Service Heath metric, Heathy II (use Service Heath metric, Heathy II) (use Service Heathy II)	Notice nreshold)]		Ť	liner	Major	4 Critical	Increasing
	Notice nreshold)]		Ť	Minor Save	Major	4 Critical	Increasing

- Service Health. Appears in the Health column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Healthy, Notice, Minor, Major, and Critical.
 - By default, the Service Health metric is aligned with the Average Device Availability metric.
 - By default, the **Service Health** metric has a range of 0 100 and has thresholds set at 25, 50, 75, 90, and 100.
 - To align the **Service Health** metric with another **custom metric**, select that custom metric from the drop-down list that appears above the **Service Health** Key Metric.
 - To change the minimum range, enter a new value in the field the to the far left of the threshold slider. To change the maximum range, enter a new value in the field to the far right of the threshold slider.
 - To customize the thresholds, use the sliders or manually enter values to align with Healthy, Notice, Minor, Major, and Critical.

- Service Availability. Appears in the Availability column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Available and Unavailable.
 - By default, this Key Metric is aligned with the same metric as **Service Health**, converting Critical **Service Health** to Unavailable and all other **Service Health** values to Available.
 - By default, the **Service Availability** metric has a range of 0 100 and has a single threshold set at 25.
 - To align the **Service Availability** metric with another **custom metric**, select that custom metric from the drop-down list that appears above the **Service Availability** Key Metric.
 - To customize the thresholds, use the sliders or manually enter values to align with Unavailableand Available.
 - To change the minimum range, enter a new value in the field the to the far left of the threshold slider. To change the maximum range, enter a new value in the field to the far right of the threshold slider.
- Service Risk. Appears as a percentage in the Risk column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are 0% 100%.
 - By default, this Key Metric is aligned with the same metric as **Service Health**, converting the threshold between *Health* yand *Notice* **Service Health** to 100% and the healthiest possible value to 0%.
 - By default, the Service Risk metric has a range of 0 100 and has a single threshold set at 90.
 - To align the **Service Risk** metric with another **custom metric**, select that custom metric from the drop-down list that appears above the **Service Risk** Key Metric.
 - To customize the thresholds, use the sliders or manually enter values to align with Critical Risk (red colored) and Acceptable Risk (all other colors).
 - You can also customize the thresholds for how SL1 translates the value for the selected metric into a percentage value.
 - To change the minimum range, enter a new value in the field to the far left of the threshold slider. To change the maximum range, enter a new value in the field to the far right of the threshold slider.

Defining Advanced Metrics

After defining a metric, you can edit the metric in Advanced mode. In Advanced mode, you can perform arithmetic operations on the aggregated data for a metric and combine multiple sources of aggregated data together. The formula for an advanced metric is similar to the formulas you would define for an alert object or a presentation object in a Dynamic Application.

- The Service Metric Editor (Advanced) page does not appear when you create a new metric. When you create a new metric, the Service Metric Editor page appears.
- The Service Metric Editor (Advanced) page appears only when you edit an existing metric in Advanced

mode. To toggle on and off Advanced mode, select the [Advanced] button.

• After you save a metric with advanced features, you can no longer edit that metric in [Basic] mode.

To define an advanced metric:

- 1. Go to **IT Service Manager** page (Registry > IT Services > IT Service Manager). Find the IT Service policy you want to edit. Select its wrench icon (*P*).
- 2. In the IT Service Editor page, select the [Metrics] sub-tab.
- 3. If you have not yet created a metric, perform the steps to create a metric.
- 4. In the Service Metric Definitions pane, select the [Advanced] button to enable Advanced mode.
- 5. In the **Service Metric Definitions** pane, in the top pane, find the metric you want to edit, and select its wrench icon (*P*).
- 6. The Service Metric Editor (Advanced) page appears:

Edit Service Metric	Close / Esc
Service Metric Editor Editing Metric	Reset
Service Metric Name	Metric Formula
Active Calls: CTS Endpoints	(0_6400)
Metric Classification	
[Standard Metric]	
Active State	
[Enabled]	
Metric is Percentage Value	Aggregation Objects (Double-click to insert)
Abbreviation / Suffix Data Unit Description	o_6399: Video Call Statistics: Active Call Count (Sum) o_6400: Video Call Statistics: Active Call Count (Sum)
	o_6403: Video Call Statistics: Active Call Count (Sum)
	o 6401: Video Call Statistics: Maximum Combined Bandwidth (Sum)
	Guide Text
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- 7. You can edit the values in one or more fields:
 - Service Metric Name. Enter a name for the metric.

- *Metric Classification*. Specifies whether the metric will be displayed in the **IT Service Summary** page in widgets that display vital metrics. Choices are:
 - Service Vital Metric. This metric will appear in widgets that display vital metrics.
 - ° Standard Metric. This metric will not appear in widgets that display vital metrics.
- Active State. Specifies whether SL1 should currently collect data for the metric and evaluate alerts for the metric. Choices are:
 - Enabled. SL1 will collect data for the metric and evaluate alerts for the metric.
 - ° Disabled. SL1 will not collect data for the metric and evaluate alerts for the metric.
- *Metric is Percentage Value*. If selected, the next two fields are populated automatically. If not selected, you can supply custom values in the next two fields.
- Abbreviation/Suffix. Abbreviation for the unit of measure used in the metric.
- Data Unit Description. Description of the unit of measure used in the metric.
- *Metric Formula*. Area where you can perform arithmetic operations on one or more aggregation objects. For details, see the section on the **Metric Formula** pane.
- Aggregation Objects. After you define a metric, SL1 creates a collection object and an aggregation object for the metric. The aggregation object tells SL1 the type of performance data to aggregate, the devices for which data will be aggregated, and the method of aggregation (average, maximum, minimum, sum, standard deviation, count) to perform on the data.
- Guide Text. Optionally, enter a description for the metric.
- 8. Select the **[Save]** button to save your changes to the metric. The metric will now appear as an Advanced Metric. You can no longer edit this metric in **Basic** mode.

Metric Formula pane

The **Metric Formula** pane allows you to define which aggregation object(s) SL1 will use for each metric and also allows you to perform manipulations on those aggregation object(s).

- The scrolling list below the **Metric Formula** pane contains a list of all aggregation objects in the current IT Service policy. To include an object in the **Metric Formula** pane, double-click on it.
- To use the calculated value of an aggregation object, you can enter only the aggregation object ID in the **Metric Formula** pane.
- SL1 can perform additional processing to calculate the values for the metric. To specify additional calculations, you can use any combination of arithmetic operations, numeric values, and aggregation object IDs. Parentheses are used to group and set precedence for operators.
- You can use the PHP ternary operator when applying calculations to a metric.

For example, suppose you want a metric that shows the percentage of database servers that are up and running.

• Suppose object o_4095 specifies the sum of all mysqld processes running on all devices in the Database subset.

- Suppose object o_4096 specifies the device count for all devices in the Database subset.
- You could enter the following in the Metric Formula pane:

((o_4095/o_4096) * 100)

• This formula allows you to use aggregation objects to calculate a ratio and convert the ratio to a percentage.

Suppose you want assign a secondary value to a metric, based on the current value of the aggregation object, o_ 10187. For example, suppose you want to assign values like this:

- If o 10187 > 95% then value = 1
- If o 10187 > 75 % but < 95% then value = 0.8
- If o 10187 > 50 % but < 75% then value = 0.5
- Else value = 0

You could use ternary operators to do this:

(o_10187 > 95) ? 1 : ((o_10187 > 75) ? 0.8 : ((o_10187 > 50) ? 0.5 : 0))

Editing Collection and Aggregation for a Metric in Advanced Mode

When you define and save a metric, SL1 creates the following objects for the metric:

- **Device Metric Collection object**. A collection object for a metric specifies the type of performance data that will be aggregated for the metric and the devices in the IT Service for which data will be aggregated.
- Aggregation object. An aggregation object for a metric specifies the collection object and the method of aggregation (average, maximum, minimum, sum, standard deviation, count, and percentile) to perform on the collected values.
- Metric definition. The metric definition (which can be edited in the Service Metric Editor (Advanced) page) specifies the name of the metric, the active state for the metric, the unit of measure for the metric, the aggregation object to include in the metric, and any advanced calculations for the metric.

In **Advanced** mode, you can edit the collection object and aggregation object for an existing metric. In **Advanced** mode, you can add and edit collection objects, aggregation objects, and the metric formula independently of each other. You can edit the device metric collection object and/or aggregation object for a metric even if you don't want to define an advanced metric formula.

Editing a Collection Object for a Metric

To add or edit a device metric collection object for an existing metric:

1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager). Find the IT Service policy you want to edit. Select its wrench icon (*P*).

- 2. Select the [Metrics] tab.
- 3. In the **Service Metrics Definitions** pane, find the metric for which you want to edit the collection object. Note the value in the **Device Metric** column.
- 4. Select the **[Advanced]** button to enable **Advanced** mode.
- 5. Select the **[Collection]** tab.

operties Model Collection Metrics	-				New Reset Gu
	Alerting Sched	ule			Adva
rice Metric Collections [6]					Del
Device Me	etric •		Metric Type	Unit	Device Subset
Video Call Statistics: Usage			Dynamic App		-
₽Video Call Statistics: Usage			Dynamic App		-
PVideo Conference Statistics: Usage			Dynamic App	hours	-
PVideo Conference Statistics: Usage			Dynamic App	hours	_
PVideo Conference Statistics: Usage			Dynamic App	hours	-
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regation Objects [6] Modifying [2] Aggregation Name -	Aggregation	n Unit	Device	Metric	Del Device Subset
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Agregation Name • PVideo Call Statistics: CTS Endpoint Usage (Sum) PVideo Call Statistics: Video Endpoint Usage (Sum) PVideo Conference Statistics: Usage (Sum)	Sum Sum Sum	 hours	Video Call Statistics: Usage Video Call Statistics: Usage		Device Subset

6. In the **Device Metric Collections** pane, find the collection object you want to edit. It will have the same name as the value you previously noted from the **Device Metric** column. Select its wrench icon (*P*). If you want to create a new device metric collection object, select the **[Add]** button.

evice Metric Collection Editor			Reset
Metric Type		Device Subset	
Internal	💌 (All De	vices in Service)	-
Show only metrics available for	r this IT Service		
	Device Metric		
Device Availability			-
Device Availability: Percentage Va	lue		

- 7. The **Device Metric Collection Editor** modal page appears. In this page, you can define or edit one or more of the following fields:
 - Metric Type. Specifies the type of performance data you want to use for the metric. For a description of each choice, see the section on Defining Metrics.
 - **Device Subset**. If you have defined one or more **device subsets**, you can select one in this field. The metric will use data from only devices in the selected subset.
 - Show only metrics available for this IT Service. Filters the succeeding fields so that they display already-defined policies aligned with one or more of the devices in the IT Service or in the specified **Device Subset**. For example, if you selected Dynamic App in the **Metric Type** field, and then selected this checkbox, the **Dynamic Application** field would display only Dynamic Applications that are already aligned with one or more of the devices in the IT Service or in the specified **Device Subset**.
 - The remaining fields provide further parameters for the *Metric Type*. For a detailed description of each possible field and field option, see the section on *Defining Metrics*. If you want to change the parameters of a metric, you can do so in these fields.
- 8. Select the **[OK]** button to save your changes to the collection object.
- 9. Select the **[Reset]** button to clear your changes from the device metric collection object and return to the previous values.
- 10. Select the [Save] button in the IT Service Editor page to save your changes.

Editing an Aggregation Object for a Metric

To add or edit an aggregation object for an existing metric:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager). Find the IT Service policy you want to edit. Select its wrench icon (*P*).
- 2. Select the [Metrics] tab.
- 3. In the **Service Metrics Definitions** pane, find the metric for which you want to edit the aggregation object. Note the value in the **Device Metric** column.
- 4. Select the [Advanced] button to enable Advanced mode.

5. Select the **[Collection]** tab.

	ges				New Reset O	Guid
roperties Model Collection Metrics Al	erting Schedu	ıle			Ad	vano
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. AVideo Call Statistics: Usage			Dynamic App			
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Agregation Name •					Device Subset	Ac
Accession Name • . (#Video Call Statistics: CTS Endpoint Usage (Sum) 2. (#Video Call Statistics: Video Endpoint Usage (Sum) 2. (#Video Conference Statistics: Usage (Sum)	Sum Sum		Video Call Statistics: Usage Video Call Statistics: Usage		Device Subset	Ac
<u>Accessation Name</u> <u>Avvideo Call Statistics: CTS Endpoint Usage (Sum) <u>Avvideo Call Statistics: Video Endpoint Usage (Sum) <u>Avvideo Conference Statistics: Usage (Sum) </u> <u>Avvideo Conference Statistics: Usage (Sum) </u></u></u>	Sum Sum Sum	 hours	Video Call Statistics: Usage Video Call Statistics: Usage		Device Subset 	A
ggregation Objects [6] Modifying [2] <u>Accession Name</u>	Sum Sum Sum Sum	 hours hours	Video Call Statistics: Usage Video Call Statistics: Usage		Device Subset 	A
Accessation Name Accessation Name Avideo Call Statistics: CTS Endpoint Usage (Sum) Avideo Call Statistics: Visage Endpoint Usage (Sum) Avideo Conference Statistics: Usage (Sum)	Sum Sum Sum Sum Sum	 hours hours hours	Video Call Statistics: Usage Video Call Statistics: Usage		Device Subset	Ac

6. In the **Aggregation Objects** pane, find the aggregation object you want to edit. The name for the aggregation object will begin with the value you previously noted from the **Device Metric** column. Select its wrench icon (*P*). If you want to create a new aggregation object, select the **[Add]** button.

dd Metric Collection		Close / Esc
Device Metric Collection Editor		Reset
Metric Type	 (All Devices in Servi 	ce Subset ce)
Show only metrics available for t Device Availability	bis II Service Device Metric	
Device Availability: Percentage Value	•	
	ок	

- 7. The **Device Metric Aggregation Editor** modal page appears. In this page, you can edit one or more of the following fields:
 - *Metric Collection*. Displays the name of the device metric collection object and the associated device subset in parentheses. You can select from a list of all device metric collection objects in the current IT Service policy.
 - **Aggregation**. Specifies how SL1 will aggregate ("crunch") the data specified in the device metric collection object into a single value. Choices are:
 - ° Average
 - ° Maximum
 - ° Minimum
 - ° Sum
 - ° Std Dev
 - ° Count
 - *Percentile*. Aggregates data by percentile. Enter the percentile value you want to monitor in the field to the right of the **Aggregation** field. For example, if you select *Percentile* and enter 65 in the field to the right of the **Aggregation** field, this metric will contain the value that is at the 65th percentile for each collection of the metric.
 - Aggregation Name. The name of the aggregation object. You can edit this value. By default, the value is the name of the collection object and the value from the Aggregation field in parentheses.
- 8. Select the **[OK]** button to save your changes to the aggregation object.
- 9. Select the **[Reset]** button to clear your changes from the aggregation object and return to the previous values.
- 10. Select the **[Save]** button in the **IT Service Editor** page to save your changes.

Editing Alerts and Events in Advanced Mode

In Advanced mode, you can edit or define an alert separately from its associated metric.

- If you created an alert for a metric (when you created the metric), you can **edit the alert** in **Advanced** mode.
- If you did not create an alert for a metric when you created the metric, you can **add an alert** in **Advanced** mode.

To edit an existing alert or create an alert for an IT Service policy:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager). Find the IT Service policy you want to edit. Select its wrench icon (*P*).
- 2. Select the **[Advanced]** button to enable **Advanced** mode.

- 3. Select the [Alerting] tab.
- 4. To edit an existing alert, select its wrench icon (*P*).
- 5. To create a new alert, select the [Add] button. The Service Alert Policy Editor modal page appears:

Add Alert Policy				Close / Esc
Service Alert Policy Editor				Reset
Alert Policy Name			Service Metric Name	
		CTS Endpoint Usage		•
Policy State	Thresh Single Threshold	old Type	Event Severity Critical	-
Enabled	Single Threshold	•	Chucai	•
	Alert Threshold		75	Increasing 💌
0	Healthy		Critical	100
Trigger alert when CTS Endpoint Usage is greater than or	equal to 75. Reset alert when	n CTS Endpoint Usage is stric	tly less than 75.	
	Event Policy	Description		
🔲 🗟 🔛 🖻 Source 🖺 🐰 🗈 💼	1 📾 🍯 🎌 🔳	0 🐁 🦚 🗖 🚝	◎ 월 월 8 8 8 8	
B I U Style - Format	- Font	- Size	• Ta• 🌆• 🔊	CH I
		к		
	C	NK		

- 6. To edit an alert, edit the value in one or more of the following fields. To create an alert, supply a value in each of the following fields.
 - Alert Policy Name. Name of the alert. When you define an alert, SL1 automatically creates an event policy that corresponds to this alert. The value from this field will appear in the name of the event policy.
 - Service Metric Name. Name of the metric associated with the alert. You can select from a list of all metrics in the current IT Service policy.
 - **Policy State**. Specifies whether SL1 will evaluate this alert every time data is aggregated for the metric. Choices are:
 - ° Enabled. SL1 will evaluate this alert.
 - $^\circ$ $\,$ Disabled. SL1 will not evaluate this alert.

- Threshold Type. Specifies how SL1 will trigger an alert and reset the alert.
 - Single Threshold. SL1 will trigger an alert when the metric meets or exceeds a specified threshold. SL1 will clear the alert when the metric no longer meets or exceeds the threshold.
 - *Trigger/Reset Thresholds*. SL1 will trigger an alert when the metric falls within the "Critical" threshold. SL1 will reset the alert when the metric falls within the "Healthy" threshold.
- **Event Severity**. When the alert is generated, SL1 will trigger an event with the selected event severity. Choices are: Critical, Major, Minor, Notice, or Healthy.
- **Decreasing/Increasing**. Toggles whether the alert is triggered when the value for the metric is above a specific threshold (Increasing) or below a specific threshold (Decreasing).
- Alert Threshold. Use sliders to define two thresholds: the threshold at which the alert should be generated and trigger an event and the threshold at which the alert should be reset and no longer trigger an event. You can edit the maximum and minimum values for the threshold by editing the fields that appear at each end of the threshold slider.
- Event Policy Description. Optionally enter cause and resolution text for the event. When SL1 automatically creates an event policy for this alert, the text you supply in this field will be used to populate the Policy Description field in the Event Policy Editor for the event. If this event is triggered, the text you supply in this field will be displayed in the Event Information modal page for the event.
- 7. Select the **[OK]** button to save your changes to the alert.
- 8. Select the [Reset] button to clear your changes from the alert and return to the previous values.
- 9. Select the [Save] button in the Alert Policies page to save your changes.

NOTE: To view the event policy associated with an alert, go to the **Event Policy Manager** page (Registry > Events > Event Manager). In the **Event Policy Name** column, search for the value from the **Alert Policy Name** field for the current alert.

Scheduling Downtime for an IT Service

During maintenance mode, SL1 will not aggregate data for the IT Service or generate alerts and events about the IT Service. SL1 will continue to collect information from the devices in the IT Service but will not collect and aggregate information specific to the IT Service policy.

Viewing the Schedule Manager

The **Schedule Manager** page (Registry > IT Services > IT Services Manager > wrench icon > Schedule) displays the following information about each scheduled or recurring maintenance period for an IT Service period:

Summary Model Logs Events Tickets l'Service Editor IT Service [5]	Administration	New Reset Guide
Properties Model Metrics Schedule		New Reset Guide
Service Maintenance Schedule		
Schedule Manager Schedules Found [2]		Create Reset
	te <u>Start.Time Duration</u> MC 2017-01-20 000:000 300 mitj	Last Run Owner Orcanization Visibility Enabled [2]
 Z Reculting service reculting test service to2 0 it betrices Attendary 	w_nc2017-01-10 03.00.00 B0 minu Every 310 wears	Danicetion System Organizites
		[Select Action] Go
<		•
	Save Save As	

- Schedule Summary. Displays the name assigned to the scheduled process.
- Schedule Description. Displays a description of the scheduled process.
- **Event ID**. Displays a unique, numeric ID for the scheduled process. SL1 automatically creates this ID for each scheduled process.
- sch id. Displays a unique, numeric ID for the schedule. SL1 automatically creates this ID for each schedule.
- Context. Displays the area of SL1 upon which the schedule works.
- Timezone. Displays the time zone associated with the scheduled process.
- Start Time. Displays the date and time at which the scheduled process will begin.
- Duration. Displays the duration, in minutes, which the scheduled process occurs.
- Recurrence Interval. If applicable, displays the interval at which the scheduled process recurs.
- End Date. If applicable, displays the date and time on which the scheduled process will recur.
- Last Run. If applicable, displays the date and time the scheduled process most recently ran.
- Owner. Displays the username of the owner of the scheduled process.
- **Organization**. Displays the organization to which the scheduled process is assigned.

- Visibility. Displays the visibility level for the scheduled process. Possible values are "Private", "Organization", or "World".
- Enabled. Specifies if the scheduled process is enabled. Possible values are "Yes" or "No".

To edit a scheduled or recurring maintenance period for an IT Service, click its wrench icon (*P*) and update the information as needed on the **Schedule Editor** modal page. (For more information, see the section **Defining a Scheduled or Recurring IT Service Maintenance Period**.)

Defining a Scheduled or Recurring IT Service Maintenance Period

You can schedule an maintenance period for an IT Service on the **Schedule Manager** page. SL1 will automatically set the service to maintenance mode at the scheduled time.

To define a scheduled or recurring IT Service maintenance period:

- 1. Go to the IT Service Manager page (Registry > IT Services > IT Service Manager).
- 2. Click the wrench icon (🎤) for the IT Service for which you want to schedule maintenance.
- 3. Click the [Schedule] sub-tab. The Schedule Manager modal page appears.
- 4. Click [Create]. The Schedule Editor modal page appears.
- 5. On the Schedule Editor modal page, enter values in the following fields:

Schedule Editor Creating New schedu	le		Reset
Basic Settings			
Schedule Name		Schedule Type	
	IT Services		
√isibility	Organization	Owner	
[World]	[System]	[banderton]	•
	Description		
[
Time Settings			
Time Settings Start Time	End Time	Time Zone	All Day
Time Settings Start Time YYYY-MM-DD HH:MM:SS	End Time	Time Zone	All Day
Start Time			All Day
Start Time YYYY-MM-DD HH:MM:SS			All Day
Start Time YYYY-MM-DD HH:MM:SS Recurrence		[America/New_ V	All Day
Start Time (YYYY-MM-DD HH:MM:SS Recurrence By Interval	(YYYY-MM-DD HH:MM:SS	[America/New_ ▼	
Start Time (YYYY-MM-DD HH:MM:SS Recurrence (By Interval Recur Until		[America/New_ ▼	
Start Time VYYY-MM-DD HH:MM:SS Recurrence By Interval Recur Until	(YYYY-MM-DD HH:MM:SS	[America/New_ ▼	

Basic Settings

- Schedule Name. Type a name for the scheduled process.
- Schedule Type. Indicates the scheduled process type (such as Tickets, Reports, or Devices).
- Visibility. Select the visibility for the scheduled process. You can select one of the following:
 - *Private*. The scheduled process is visible only to the owner selected in the **Owner** field.

- Organization. The scheduled process is visible only to the organization selected in the **Organization** field.
- World. The scheduled process is visible to all users.
- Organization. Select the organization to which you want to assign the scheduled process.
- **Owner**. Select the owner of the scheduled process. The default value is the username of the user who created the scheduled process.
- **Description**. Type a description of the scheduled process.

Time Settings

- Start Time. Click in the field and select the date and time you want the scheduled process to start.
- End Time. Click in the field and select the date and time you want the scheduled process to end.
- Time Zone. Select the region or time zone for the scheduled start time.

NOTE: If you want SL1 to automatically adjust for daylight savings time (if applicable), then you must select a named region (such as *America/New York*) in the **Time Zone** field. If you select a specific time zone (such as *EST*) or a specific time offset (such as *GMT-5*), then SL1 will not automatically adjust for daylight savings time.

- All Day. Select this checkbox if the scheduled process occurs all day rather than during a specific period of time. If you do so, the **End Time** field becomes disabled.
- **Recurrence**. Select whether you want the scheduled process to occur once or on a recurring basis. You can select one of the following:
 - None. The scheduled process occurs only once.
 - ° By Interval. The scheduled process recurs at a specific interval.
 - Every Xth day of the Week. The scheduled process occurs at a monthly interval based on a day of the week. The day of the week displayed in this option matched the day selected in the Start Time field. For example, if you set the Start Time to Thursday, August 5th and that day is the first Thursday of the month, then the recurrence option will be Every 1st Thursday, and the scheduled process will occur monthly on the first Thursday of the month.

If you select By Interval, the following additional fields appear:

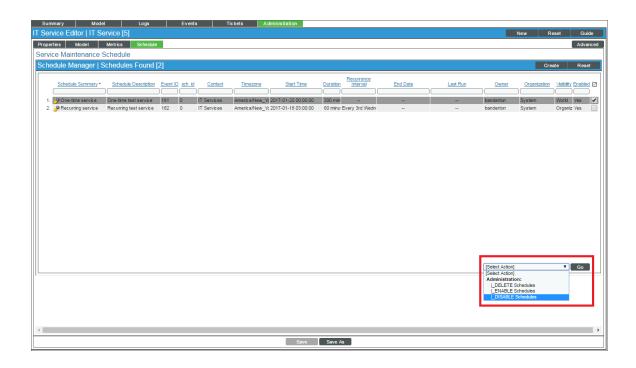
- Interval. In the first field, enter a number representing the frequency of the scheduled process, then select the time interval in the second field. Choices are *Minutes*, *Hours*, *Days*, *Weeks*, or *Months*. For example:
 - If you specify "6 Hours", then the scheduled process recurs every six hours from the time listed in the **Start Time** field.
 - If you specify "10 Days", then the scheduled process recurs every 10 days from the date listed in the **Start Time** field.

- If you specify "2 Weeks", then the scheduled process recurs every two weeks, on the same day of the week as the **Start Time**.
- If you specify "3 Months" the ticket recurs every three months, on the same day of the month as the **Start Time**.
- **Recur Until**. Specifies when the scheduled process stops recurring. You can select one of the following:
 - ° No Limit. The scheduled process recurs indefinitely until it is disabled.
 - Specified Date. The scheduled process recurs until a specific date and time. If you select Specified Date, you must select a date and time in the **Last Recurrence** field.
- Last Recurrence. Click in the field and select the date and time you want the scheduled process to stop recurring.
- 6. Click [Save].

Enabling or Disabling One or More Scheduled IT Service Maintenance Periods

You can enable or disable one or more scheduled or recurring IT Service maintenance periods from the **Schedule Manager** page (Registry > IT Services > IT Services Manager > wrench icon > Schedule). To do this:

 Go to the Schedule Manager page (Registry > IT Services > IT Services Manager > wrench icon > Schedule).



- 2. Select the checkbox icon for each scheduled process you want to enable or disable.
- 3. Click the Select Action menu and choose Enable Schedules or Disable Schedules.
- 4. Click the [Go] button.

Deleting One or More Scheduled IT Service Maintenance Periods

You can delete one or more scheduled or recurring IT Service maintenance periods from the **Schedule Manager** page (Registry > IT Services > IT Services Manager > wrench icon > Schedule). To do this:

 Go to the Schedule Manager page (Registry > IT Services > IT Services Manager > wrench icon > Schedule).

Summary	fodel Log	gs Events	Tic kets Administration			
IT Service Editor I	Service [5]					New Reset Guide
Properties Model	Metrics Sch	edule				Advanced
Service Maintenan	ce Schedule					
Schedule Manage	r Schedules Fou	ind [2]				Create Reset
				Recurrence		
Schedule Summ	ry • <u>Schedule Descri</u>	ption Event ID sch id	Context Timezone Start Time	Duration Interval End Date	Last Run Owner	Organization Visibility Enabled
1. 🤌 One-time servi	e One-time test serv	/ice 181 0 IT Se	rvices America/New_Y(2017-01-20 00:00	00 300 min	banderton	System World Yes 🖌
2. A Recurring serv			rvices America/New_Yc 2017-01-18 03:00		banderton	System Organiz Yes
					[Select Acti	
					[Select Acti Administr	
					I DELET	E Schedules
					ENABL	LE Schedules
4						•
			Save	Save As		
L			Save	Our on Ma		

- 2. Select the checkbox icon for each scheduled process you want to delete.
- 3. Click the **Select Action** menu and choose Delete Schedules.
- 4. Click the **[Go]** button.

Editing an IT Service Policy

To edit the properties of an IT Service policy:

1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).



- 2. Find the IT Service policy you want to edit. Select its wrench icon (\checkmark).
- 3. The **IT Service Editor** page is displayed:

Summary Model Logs	Events	Tickets Administrati	on		
IT Service Editor IT Service [2]				New	Reset Guide
Properties Model Metrics Schedule					Advanced
IT Service Name			Sharing Perm	issions	Icon
New IT Service Policy		[Private (visible to you only)]			
IT Service Owner			Permission		63
em7admin	Change Owner	EM7 System Administration Grant All			53
Configuration Mode [Basic Interface]	•	Basic User Privileges Power-Pack Administration		E	
[basic interface]		Power-Pack Administration Provisioning Access			
		Admin Portal UI Access		+	
		(17 Survivae			
Data Collection					
Operational Status		Aggregation Frequency		Raw Data Reten	
[Aggregation enabled]	 Every 15 minutes 	•]	-	[Use system default retention setting]	
Frequent Rollup Retention	_	Hourly Rollup Retention		Daily Rollup Reter	
[Use system default retention setting]	 Use system defa 	ult retention setting]	-	[Use system default retention setting]	
Description					
Hi					
	I	Save Save As			

- 4. Notice that by default the **[Administration]** tab is selected and the **[Properties]** sub-tab is selected.
- 5. You can edit one or more fields in the **IT Service Editor** page, its sub-tabs, or any of the main tabs for the IT Service.

Deleting an IT Service Policy

To delete one or more IT Service policies:

- 1. Go to the IT Service Manager page (Registry > IT Services > IT Service Manager).
- 2. Find the IT Service policy you want to delete. Select its checkbox \square).
- 3. Select the checkbox for each IT Service policy you want to delete.
- 4. Go to the Select Action field in the lower right of the page. Select Delete IT Services. Select the [Go] button.



5. Each selected IT Service policy is removed from SL1.

System Settings that Affect IT Services

Some of the parameters in the Data Retention Settings page affect IT services in SL1.

To define or edit the settings that affect discovery in the Data Retention Settings page:

- 1. Go to the **Data Retention Settings** page (System > Settings > Data Retention).
- 2. In the Data Retention Settings page, edit the values in one or more of the following fields:
 - **Raw ITSM Data**. Before the value for a metric in an IT service policy is calculated, a copy of all the device data that will be aggregated is saved. This setting is the number of days to retain the unaggregated copies of device data associated with each IT service. The default value is 14 days.

- **ITSM Service Metrics Data**. Number of days to retain values for metrics in IT service policies. The default value is 30 days.
- Hourly Rollup ITSM Service Metrics Data. Number of days to retain hourly normalized values for metrics in IT service policies. The default value is 120 days.
- Daily Rollup ITSM Service Metrics Data. Number of days to retain daily normalized values for metrics in IT service policies. The default value is 365 days.
- **ITSM Key Metrics Data**. Number of days to retain values for key metrics in IT service policies (Health, Availability, and Risk). The default value is 120 days.
- Hourly Rollup ITSM Key Metrics Data. Number of days to retain hourly normalized values for key metrics in IT service policies (Health, Availability, and Risk). The default value is 365 days.
- Daily Rollup ITSM Key Metrics Data. Number of days to retain daily normalized values for key metrics in IT service policies (Health, Availability, and Risk). The default value is 720 days.
- 3. Select the **[Save]** button to save changes in this page.

IT Service Policies in PowerPacks

IT Service policies can be included in PowerPacks for export and import between SL1 systems.

When an IT Service policy is included in a PowerPack, the following properties of the IT Service policy are included:

- The settings defined in the **[Properties]** sub-tab in the **IT Service Editor**. However, the following system-specific values are substituted when the PowerPack is installed:
 - The *IT Service Owner* field is set to the user that installed the PowerPack.
 - The values that were selected in the **Permission Keys** field are removed.
- The dynamic device rules defined in the [Model] sub-tab in the IT Service Editor. Statically aligned devices, device groups, and service dependencies are not included.
- The device subsets defined in the **[Model]** sub-tab in the **IT Service Editor**. However, only dynamic device rules are included in those subsets. Statically aligned devices are not included.
- All settings defined in the [Metrics], [Collection], and [Alerting] sub-tabs in the IT Service Editor.

When a PowerPack that includes an IT Service policy is installed on a SL1 system, the following items are also installed by the PowerPack:

- All event policies associated with the IT Service policy.
- All interface tags that are specified in a metric in the IT Service policy.

Additionally, if a metric uses a Dynamic Application that is not included in the same PowerPack, SL1 will automatically include the Dynamic Application in the PowerPack. When the PowerPack is installed on a SL1 system, SL1 will install the Dynamic Application (with their aligned PowerPack GUIDs). However, if SL1 discovers one or more of the Dynamic Applications in the PowerPack already exists on the SL1 system, SL1 will not overwrite the existing Dynamic Applications.

Chapter



Viewing IT Services

Overview

This chapter describes the pages in which you can view information about an IT Service.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (三).
- To view a page containing all the menu options, click the Advanced menu icon (•••).

This chapter includes the following topics:

Viewing the List of IT Service Policies	
Filtering the List of IT Services	
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Other Views for IT Services	75
Viewing Events for an IT Service	77
Filtering the List of Events	79
Viewing the Logs for an IT Service	80
Viewing Tickets for an IT Service	

Viewing the List of IT Service Policies

The **IT Service Manager** page (Registry > IT Services > IT Service Manager) displays the following about each IT Service policy:

- Service Name. Name of the policy.
- *Health*. This is a default Key Metric for each IT Service policy. This metric specifies the overall health of the IT Service. Possible values are: critical, major, minor, notice, and healthy.
- Availability. This is a Key Metric for each IT Service policy. This metric specifies the overall availability of the IT Service. Possible values are: available or unavailable.
- **Risk**. This is a Key Metric for each IT Service policy. This metric specifies the overall risk to the IT Service. Possible values are 0% 100%, in integer values.
- ID. Unique numeric identifier, automatically assigned to the policy by SL1.
- Owner. User who created the policy.
- Access. Specifies whether other users can view and use the policy. Shared policies can be viewed by other users who belong to the same organization as the creator. A private policy can be viewed only by the creator of the policy and administrators.
- Edited By. User who created or last edited the policy.
- Last Edited. Date and time the policy was created or last edited.

Filtering the List of IT Services

The following describes each filer on the **IT Service Manager** page:

- Service Name. Filter by the name of the IT service policy. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching service name.
- **Operation**. Specifies whether the IT service policy is enabled or disabled. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching operational state (Enabled or Disabled).
- *Health*. This is a default Key Metric for each IT service policy and specifies the overall health of the IT service. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching health status.
- Availability. his is a Key Metric for each IT service policy and specifies the overall availability of the IT service. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching availability status.
- **Risk**. This is a Key Metric for each IT service policy and specifies the overall risk to the IT service, in percent. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching risk status.

- *ID*. Unique numeric identifier, automatically assigned to the policy by EM7. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching policy ID.
- **Owner**. User who created the policy. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching value for owner.
- Access. Specifies whether other EM7 users can view and use the policy. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching value for access.
- *Edited By*. EM7 user who created or last edited the policy. You can enter text to match, including special characters, and the IT Service Manager page will display only IT service policies that have a matching value for edited by.
- Last Edited. Date and time the IT service policy. You can select from a list of time periods. The IT Service Manager page will display only IT service policies that have been edited within that time period.

Special Characters

You can include the following special characters to filter by each column except those that display date and time:

NOTE: When searching for a string, SL1 will match substrings by default, even if you do not include any special characters. For example, searching for "hel" will match both "hello" and "helicopter". When searching for a numeric value, SL1 will not match a substring unless you use a special character.

String and Numeric

• , (comma). Specifies an "OR" operation. Works for string and numeric values. For example:

"dell, micro" matches all values that contain the string "dell" OR the string "micro".

• & (ampersand). Specifies an "AND " operation. Works for string and numeric values. For example:

"dell & micro" matches all values that contain both the string "dell" AND the string "micro", in any order.

• ! (exclamation point). Specifies a "not" operation. Works for string and numeric values. For example:

NOTE: You can also use the "!" character in combination with the arithmetical special characters (min-max, >, <, >=, <=, =) described below.

• * (asterisk). Specifies a "match zero or more" operation. Works for string and numeric values. For a string, matches any string that matches the text before and after the asterisk. For a number, matches any number that contains the text. For example:

"hel*er" would match "helpers" and "helicopter" but not "hello".

"325*" would match "325", "32561", and "325000".

"*000" would match "1000", "25000", and "10500000".

• ? (question mark). Specifies "match any one character". Works for string and numeric values. For example:

"I?ver" would match the strings "oliver", "levers", and "lover", but not "believer".

"135?" would match the numbers "1350", "1354", and "1359", but not "135" or "13502"

String

• ^ (caret). For strings only. Specifies "match the beginning". Matches any string that begins with the specified string. For example:

"^ sci" would match "scientific" and "sciencelogic", but not "conscious".

- "^happy\$" would match only the string "happy", with no characters before or after.
- "! ^ micro" would match all values that do not start with "micro".
- "! ^ \$" would match all values that are not null.
- "! ^ " would match null values.
- \$ (dollar sign). For strings only. Specifies "match the ending". Matches any string that ends with the specified string. For example:

"ter\$" would match the string "renter" but not the string "terrific".

"^happy\$" would match only the string "happy", with no characters before or after.

"!fer\$" would match all values that do not end with "fer".

"! ^ \$" would match all values that are not null.

"!\$" would match null values.

NOTE: You can use both ^ and \$ if you want to match an entire string and only that string. For example, "^ tern\$" would match the strings "tern" or "Tern" or "TERN"; it would not match the strings "terne" or "cistern".

Numeric

• min-max. Matches numeric values only. Specifies any value between the minimum value and the maximum value, including the minimum and the maximum. For example:

"1-5 "would match 1, 2, 3, 4, and 5.

• - (dash). Matches numeric values only. A "half open" range. Specifies values including the minimum and greater or including the maximum and lesser. For example:

"1-" matches 1 and greater. So would match 1, 2, 6, 345, etc.

- "-5" matches 5 and less. So would match 5, 3, 1, 0, etc.
- > (greater than). Matches numeric values only. Specifies any value "greater than". For example:

">7" would match all values greater than 7.

• < (less than). Matches numeric values only. Specifies any value "less than". For example:

"<12" would match all values less than 12.

• >= (greater than or equal to). Matches numeric values only. Specifies any value "greater than or equal to". For example:

"=>7" would match all values 7 and greater.

• <= (less than or equal to). Matches numeric values only. Specifies any value "less than or equal to". For example:

"= < 12" would match all values 12 and less.

• = (equal). Matches numeric values only. For numeric values, allows you to match a negative value. For example:

"=-5 " would match "-5" instead of being evaluated as the "half open range" as described above.

Examples

- "!dell" matches all values that do not contain the string "dell".
- "! ^ micro" would match all values that do not start with "micro".
- "!fer\$" would match all values that do not end with "fer".
- "! ^ \$" would match all values that are not null.
- "! ^ " would match null values.
- "!\$" would match null values.
- "!*" would match null values.
- "happy, !dell" would match values that contain "happy" OR values that do not contain "dell".
- "aio\$". Matches only text that ends with "aio".

- "^ shu". Matches only text that begins with "shu".
- "^silo\$". Matches only the text "silo", with no characters before or after.
- "!silo". Matches only text that does not contains the characters "silo".
- "! ^ silo". Matches only text that does not start with "silo".
- "!0\$". Matches only text that does not end with "0".
- "! ^ silo\$". Matches only text that is not the exact text "silo", with no characters before or after.
- "! ^ ". Matches null values, typically represented as "--" in most pages.
- "!\$". Matches null values, typically represented as "--" in most pages.
- "!^\$". Matches all text that is not null.
- silo, laggr". Matches text that contains the characters "silo" and also text that does not contain "aggr".
- "silo, 02, !aggr". Matches text that contains "silo" and also text that contains "02" and also text that does not contain "aggr".
- "silo, 02, laggr, 101". Matches text that contains "silo" and also text that contains "02" and also text that does not contain "aggr" and also text that does not contain "01".
- "^s*i*l*o\$". Matches text that contains the letter "s", "i", "l", "o", in that order. Other letters might lie between these letters. For example "sXiXIXo" would match.
- "!^ s*i*l*o\$". Matches all text that does not that contains the letter "s", "i", "l", "o", in that order. Other letters might lie between these letters. For example "sXiXIXo" would not match.
- "!vol&!silo". Matches text that does not contain "vol" AND also does not contain "silo". For example, "volume" would match, because it contains "vol" but not "silo".
- "!vol&02". Matches text that does not contain "vol" AND also contains "02". For example, "happy02" would match, because it does not contain "vol" and it does contain "02".
- "aggr,!vol&02". Matches text that contains "aggr" OR text that does not contain "vol" AND also contains "02".
- "aggr,!vol&!infra". Matches text that contains "aggr" OR text that does not contain "vol" AND does not contain "infra".
- "*". Matches all text.
- "!*". Matches null values, typically represented as "--" in most pages.
- "silo". Matches text that contains "silo".
- "!silo". Matches text that does not contain "silo".
- "!^silo\$". Matches all text except the text "silo", with no characters before or after.
- "-3,7-8,11,24,50-". Matches numbers 1, 2, 3, 7, 8, 11, 24, 50, and all numbers greater than 50.
- "-3,7-8,11,24,50-,a". Matches numbers 1, 2, 3, 7, 8, 11, 24, 50, and all numbers greater than 50, and text that includes "a".
- "?n". Matches text that contains any single character and the character "n". For example, this string would match "an", "bn", "cn", "1n", and "2n".
- "n*SAN". Matches text the contains "n", zero or any number of any characters and then "SAN". For example, the string would match "nSAN", and "nhamburgerSAN".

• "^?n*SAN\$". Matches text that begins with any single character, is following by "n", and then zero or any number of any characters, and ends in "SAN".

Viewing an IT Service Dashboard

The **IT Service Summary** page allows you to view the IT Service Dashboards that have been configured for the selected IT Service. For more information about creating and customizing IT Service Dashboards, see the **Creating and Editing IT Service Dashboards** section.

To view an IT Service dashboard in SL1:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the View IT Service Icon (^A) for the IT Service you want to view. The **IT Service Summary** page is displayed with the default dashboard for this IT Service selected:

IT Service Summary IT	Service [3]				Actions Reset Guide
[IT Service Details]					
Service Name	IT Service Example	Service Health	Unknown		Problem Management -
Service Owner	em7admin	Service Availability	Unknown	6	Logs 46 Q Active Events 0 4 Active Tickets 0 2
Service Visibility	System, T8855Org1, T8855Org2	Service Risk	Unknown		Active Events 0
Maintenance State	Service Active				
Service Vitals		No Matching Date	a (Last 12 hours)		•
		oekoo Activity Log	08:00	10 ¹ 00 12 ¹ 00 — No Matching Data	14°00 16°00
		Date/Time 2013-02-18 17:2			Added Static Device 0 : 10.168.44.202 (74)
		2013-02-18 17:2			Added Static Device 0 : 10.166.44.202 (74) Added Static Device 1 : 10-Forward (201)
		2013-02-18 17:2			Added Static Device 2 : 10 20 30 108 (225)
		2013-02-18 17:2			Added Static Device 3 : 10.20.30.135 (316)
il .		2013-02-18 17:2	8:12 Log	ITSM UI: em7admin Updated IT Service: A	Added Static Device 4 : 10.20.30.201 (106)
		2013-02-18 17:2	7:43 Log	ITSM UI: em7admin Created IT Service: R	lange 0 : Threshold 1 : 90
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	tange 0 : Threshold 2 : 75
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2	-	ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R ITSM UI: em7admin Created IT Service: R	
		2013-02-18 17:2		ITSM UI: em7admin Created IT Service: R	

- 3. The main pane of the dashboard will display one or more graphs, charts, and tables, called **widgets**. The widgets in an IT Service dashboard are configured to automatically display information about the IT Service you selected.
- SL1 includes the following widgets that are specifically designed for IT Service dashboards:

- IT Service Details. Displays the following information about an IT Service:
 - Service Name
 - Service Owner
 - Service Visibility
 - Maintenance State
 - Service Health
 - Service Availability
 - Service Risk
- IT Service Vitals. Displays the current value for each Key Metric defined for an IT Service.
- IT Service Problem Management. Displays the number of logs, active events, and active tickets associated with an IT Service.
- IT Service Health Last 12 Hours. Displays a graph of the Availability metric. The y-axis displays percent availability. The x-axis displays time in one-hour increments.
- IT Service Activity Log. Displays a list of all current and past alerts and events associated with an IT Service.

The **[Actions]** menu allows you to perform many dashboard-related tasks, directly from the current page. The **[Actions]** menu looks like a button and is located in the upper right of the page.

The [Actions] menu in the IT Service Summary page contains the following entries:

- Configure dashboard.... Displays the Dashboard Settings modal page, where you can edit the layout properties and Access Keys for the currently displayed dashboard. For a full description of the Dashboard Settings modal page, see the Creating and Editing IT Service Dashboards section.
- Set as default. Sets the current dashboard as the default dashboard for this IT Service.
- Use system default. If the default dashboard for this IT Service is not the system default, this option appears. This option sets the system default IT Service dashboard as the default dashboard for this IT Service.
- **Create Dashboard**. Creates a new IT Service dashboard. The new dashboard is configured to be viewable only for the current IT Service by default.
- Copy Dashboard (Save As). Saves a copy of the currently selected dashboard.

Other Views for IT Services

The IT Service Model View page allows you to view:

- A list of all devices that are currently members of an IT Service and a list of devices in each subset of the IT Service.
- A simplified, sortable view of the of all devices that are currently members of an IT Service.
- A relational map of the subsets and metrics that have been defined for an IT Service.

To view the IT Service Model View page for an IT Service:

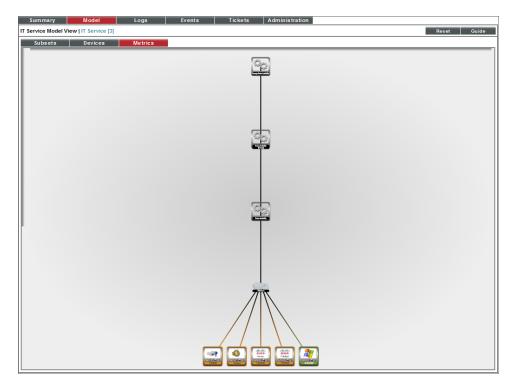
- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the View IT Service icon (🎝) for the IT Service you want to view.
- 3. Select the **[Model]** tab.
- 4. Select one of the following sub-tabs:
 - [Subsets]. Displays a list of all devices that are currently members of an IT Service and a list of devices in each subset of the IT Service:

IT Service [3]			Tickets	Administration				
							Reset	Guide
Devices	Metrics							
		Device Subse	t Name •			Device Co	unt Collected	d Device Metrics
Service)						5	1	
	Name •	IP Address	Category	Class Sub-class	ID		Organization	
ird		10.20.30.195	Servers	NET-SNMP FreeBSD	201	System		
.202		10.168.44.202	Pingable	Microsoft ICMP	74	System		
108		10.20.30.108	Router	Cisco Systems 2501	225	System		
135		10.20.30.135	Switches	Cisco Systems Catalyst 3508G-XL	316	System		
201		10.20.30.201	Unknown	Generic SNMP	106	System		
	Service)	Service) <u>Device Name</u> * rd 202 108 135	Device Subar Device Subar Device Name IP.Address ord 10.20.30.195 12.202 10.168.44.202 108 10.20.30.195 1035 10.20.30.135	Device Subset Name Device Name IP Address Category rd 10 20 30 195 Servers 202 10 168 44 202 Pingable 108 10 20 30 108 Router 105 10 20 30 108 Switches	Device Subset Name IP. Address Category Category	Device Subset Name IP. Address Critocov Class I Sub-class ID rd 10.20.30.195 Servers NET-SNMP FreeBSD 201 1202 10.168.44.202 Pinpable Microsoft CMP 74 108 10.20.30.106 Router Cisco Systems 2501 225 135 10.20.30.135 Switches Cisco Systems Catayist 3508G-XiL 316	Device Subset Name • Device Subset Name • Device Color Device Name • 12 Address Category Class L Sub-class D rd 10 20 30 195 Servers NET-SNIP FreeBSD 201 System 202 10 168 44 202 Pingable Microsoft CMP 74 System 108 0 20 30 108 Router Class Q Systems 2501 225 System 105 10 20 30 135 Switches Class Systems Catalyst 3506G-XL 316 System	Device Name • Device Subset Name • Device Count Collecter Device Name • IP Address Category Class I Sub-class IQ Ocamization rd 10.203.0195 Servers NET-SNMP FreeBSD 201 System 202 10.168.44.202 Pingable Microsoft CMP 74 System 108 0.02.03.108 Router Cisco Systems 2501 225 System 103 0.02.03.103 Switches Cisco Systems 2dayst 3500G-XL 316 System

• **[Devices]**. Displays a simplified, sortable view of all devices that are currently members of an IT Service:

Summary Model Log	Events	Tickets Administration	
IT Service Model View IT Service [3]			Reset Guide
Subsets Devices Metr	ics		
		Search (name or IP):	[Group devices by Severity] 💽 Actions
Major			
・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	<u>小 袋 州 市 タ</u> 10.20.30.201	L P nl ⊫ 2 10-Forward	
Healthy			
▲ 谷 州 岡 多 10 168.44 202			

• [Metrics]. Displays a relational map of the subsets and metrics that have been defined for an IT Service:



Viewing Events for an IT Service

To view the events associated with an IT Service:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the View IT Service icon (🎝) for the IT Service you want to view.
- 3. Select the **[Events]** tab.



- 4. The IT Service Events page displays the following about each event:
- **TIP**: To sort the list of events, click on a column heading. The list will be sorted by the column value, in ascending order. To sort by descending order, click the column heading again. The *Last Detected* column sorts by descending order on the first click; to sort by ascending order, click the column heading again.
 - **Event Message | Severity**. Message generated for the event. The Message is color-coded fro severity.
 - Acknowledged. If the event has been acknowledged, this column displays a red checkmark character and specifies the user who acknowledged the event. If the event has not been acknowledged, this field displays a gray checkmark character. To acknowledge an event, click in this column.
 - Ticket. If a ticket has been created for the event, this column displays the ticket ID of that ticket.
 - **External Ticket**. The numeric ID associated with a ticket from an external ticketing system (that is, a ticket that was not created in SL1). If this field displays a value, you can click on that value to spawn a new window and view the external ticket.

NOTE: To link an external ticket to an event, you must create a custom Run Book Automation policy and a custom Run Book Action or use the ScienceLogic APIs. For help with these tasks, contact ScienceLogic Customer Care.

- Aged/Elapsed. Number of days, hours, and minutes since the last occurrence of the event.
- Last Detected. Date and time the event last occurred on this entity.
- **EID**. Unique ID for the event, generated by SL1.
- Source. System or application that generated this event. Choices are:
 - Syslog. Event was generated from system log generated by a device.
 - *Email*. Event was generated by an Email from an external agent, for example, Microsoft Operations Manager (MOM).
 - Internal. Event was generated by SL1.
 - Trap. Event was generated by an SNMP trap.
 - Dynamic. Event was generated by a Dynamic Application collecting data from the device.
 - API. Event was generated by another application.
 - Count. Number of times this event has occurred.

You can perform the following actions from the IT Service Events page:

• To acknowledge an event, select the checkmark icon (2) in the Acknowledged column.

- To add or edit a note to an event, select the wrench icon (*P*) in the **Notes** column. Select the disk icon (*I*) to save your changes to the note.
- To view a summary of an event, select the information icon (🔍).
- To view a summary of the automation actions that were triggered by an event, select the notification icon (
- To create a new ticket about an event, select the life-ring icon (43).

Filtering the List of Events

The **IT Service Events** page includes a filter for each column, except **Age/Elapsed**. You can specify one or more parameters to filter the display of events. Only events that meet all the filter criteria will be displayed in the **IT Service Events** page.

The list of events is dynamically updated as you select each filter.

TIP: To return to the default list of events, select the [Reset] button.

- For each filter (except *Last Detected*), you must enter text to match against. SL1 will search for events that match the text, including partial matches. Text matches are not case-sensitive. You can use the following special characters in each filter:
 - $^\circ\;$, (comma). Specifies an "or" operation. For example:

"dell, micro" matches all values that contain the string "dell" OR the string "micro".

• & (ampersand). Specifies an "and" operation. For example:

"dell & micro" matches all values that contain the string "dell" AND the string "micro".

• ! (exclamation mark). Specifies a "not" operation. For example:

"!dell" matches all values that do not contain the string "dell".

- **Event Message**. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the **IT Service Events** page will display only events that have a matching event message.
- Acknowledged. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the IT Service Events page will display only events that have been acknowledged by a matching user account.
- *Ticket*. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the **IT Service Events** page will display only events that have a matching ticket ID.
- **External Ticket**. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the **IT Service Events** page will display only events that have a matching external ticket name or ID.

- Last Detected. Only those events that match the specified detection date will be displayed. The choices are:
 - All. Display all events that match the other filters.
 - Last Minute. Display only events that have been detected within the last minute.
 - ° Last Hour. Display only events that have been detected within the last hour.
 - ° Last Day. Display only events that have been detected within the last day.
 - Last Week. Display only events that have been detected within the last week.
 - Last Month. Display only events that have been detected within the last month.
 - ° Last Year. Display only events that have been detected within the last year.
- *EID*. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the **IT Service Events** page will display only events that have a matching event ID.
- **Source**. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the **IT Service Events** page will display only events that have a matching source.
- **Count**. You can enter text to match, including special characters (comma, ampersand, and exclamation mark), and the **IT Service Events** page will display only events that have a matching count number.

You can also apply advanced filters to the list of events. To apply advanced filters:

- 1. Click on the funnel icon (V).
- 2. In the advanced filter fields, supply values.
- 3. Select the [Apply] button to apply the filters.

Viewing the Logs for an IT Service

To view the logs that SL1 has generated about an IT Service:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the View IT Service icon (🐴) for the IT Service you want to view.

3. Select the **[Logs]** tab.

ervice Logs IT Servic	a [9]	Reset Guid
Log Timestamp •	Source	Message
. 2013-02-19 11:15:14	ITSM Event	IT Service State Notice: IT Service Example
2013-02-19 11:10:14	ITSM Event	IT Service State Notice: IT Service Example
2013-02-19 11:05:14	ITSM Event	IT Service State Notice: IT Service Example
2013-02-19 11:00:07	ITSM Event	IT Service State Notice: IT Service Example
2013-02-19 10:55:06	ITSM Event	IT Service State Notice: IT Service Example
2013-02-19 10:50:06	ITSM Event	IT Service State Notice: IT Service Example
2013-02-18 17:28:12	ITSM UI	em7admin Updated IT Service: Added Static Device 0 : 10.168.44.202 (74)
3. 2013-02-18 17:28:12	ITSM UI	em7admin Updated IT Service: Added Static Device 1 : 10-Forward (201)
. 2013-02-18 17:28:12	ITSM UI	em7admin Updated IT Service: Added Static Device 2 : 10.20.30.108 (225)
. 2013-02-18 17:28:12	ITSM UI	em7admin Updated IT Service: Added Static Device 3 : 10.20.30.135 (316)
. 2013-02-18 17:28:12	ITSM UI	em7admin Updated IT Service: Added Static Device 4 : 10.20.30.201 (106)
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Threshold 1 : 90
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Threshold 2 : 75
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Threshold 3 : 50
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Threshold 4 : 25
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Presentation ID -1
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Max Value 100
3. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 0 : Scale Type 1
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 1 : Threshold 0 : 25
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 1 : Max Value 100
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 1 : Scale Type 1
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 1 : Default Target 1
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 2 : Threshold 0 : 100
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 2 : Threshold 100 : 90
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 2 : Max Value 100
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Range 2 : Scale Type 1
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Keys 0 : 1
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: IT Service Owner 1
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Icon_generic_cloud.png
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Sharing Permission 1
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Collection 0: Name Device Availability (Average)
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Collection 0: OID Type -1
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Collection 0: OID avg
2013-02-18 17:27:43 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Collection 0: Class 2
	ITSM UI	em7admin Created IT Service: Collection 0: Unit %
2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Presentation 0 : Name Average Device Availability
2013-02-18 17:27:43	ITSM UI ITSM UI	em7admin Created IT Service: Presentation 0 : Formula (o1) em7admin Created IT Service: Presentation 0 : Suffix %
3. 2013-02-18 17:27:43 3. 2013-02-18 17:27:43	ITSM UI	
2013-02-18 17:27:43 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Presentation 0 : Gauge 1
. 2013-02-18 17:27:43	ITSM UI	em7admin Created IT Service: Presentation 0 : Unit percentage em7admin Created IT Service: Request 0 : Name Device Availability
2013-02-18 17:27:43	ITSM UI	em/admin created II Service: Request 0: Name Device Availability am/admin created II Service: Request 0: Namesnace internal

- 4. The **IT Service Logs** page displays the following about each log entry:
 - Log Timestamp. The date and time the entry was made in the log.
 - Source. The process that generated the log entry. This column will contain the value ITSM Event.
 - Message. The text of the log entry.

Viewing Tickets for an IT Service

To view the tickets associated with an IT Service:

- 1. Go to the IT Service Manager page (Registry > IT Services > IT Service Manager).
- 2. Select the View IT Service icon (🎝) for the IT Service you want to view.
- 3. Select the **[Tickets]** tab.

Summary Model Service Tickets IT Service [3]	Logs	Events	Tickets	Administration		Actions	Reset Gu	ide
ervice fickets [11 Service [5]						Actions		liure
I. GTICKET FOR IT SERVICE: IT Service	E Example LID: 3	iption / Severity •			2 <u>TID</u>	Queue Asset Management	Status Open	
TICKET FOR IT SERVICE: IT Service	e Example ID: 3				3	Asset Management	Open	
								_

4. The **IT Service Tickets** page displays the following about each ticket:

TIP: To sort the list of tickets, click on a column heading. The list will be sorted by the column value, in ascending order. To sort by descending order, click the column heading again.

- **Description/Severity**. Description of the problem or request. This field is color coded based on the ticket's severity.
- TID. Unique ID assigned to the ticket by SL1.
- Queue. Ticket Queue to which the ticket is assigned.
- Status. Status of the ticket.
- 5. You can perform the following actions from the **IT Service Tickets** page:
 - To view a summary of a ticket, select the information icon (🔨).
 - To open the **Ticket Editor** for a ticket, select the life-ring icon (⁴).
 - To create a new ticket about the IT Service, select the [Actions] menu, and then select Create Ticket.

Chapter

4

Creating and Editing IT Service Dashboards

Overview

The **IT Service Summary** page allows you to view one or more dashboards that have been configured for the selected IT Service. A dashboard is a page that displays one or more graphical reports, called widgets. Each widget is displayed in its own page.

SL1 includes a default IT Service dashboard that displays general information that is available for all IT Services. You can create additional IT Service dashboards that can be made available in the **IT Service Summary** for one, multiple, or all IT Services.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (\equiv) .
- To view a page containing all the menu options, click the Advanced menu icon (…).

This chapter includes the following topics:

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Creating an IT Service Dashboard	84
Configuring Dashboard Settings	85
Context in IT Service Dashboards	87
Adding Widgets to a Dashboard	87
Editing the Widgets in a Dashboard	91
Setting a Dashboard as the System Default Dashboard	91
Editing an IT Service Dashboard	92
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Viewing the List of IT Service Dashboards

The **IT Service Dashboards** page (Registry > IT Services > IT Service Dashboards) displays the following about each IT Service dashboard in your SL1 system:

- Dashboard Name. Name of the dashboard.
- Service Association. Specifies the IT Services associated with this dashboard. If a dashboard is associated with an IT Service, the dashboard can be viewed in the **IT Service Summary** page for that IT Service. The possible values in this field are:
 - System Default. The dashboard is associated with all IT Services and is displayed when the **IT Service Summary** page loads.
 - All Services. The dashboard is associated with all IT Services.
 - Selected Services. The dashboard is associated with multiple, but not all, IT Services.
 - The name of a specific IT Service. The dashboard is associated with only the IT Service specified in this field.
- Edited By. User who created or last edited the dashboard.
- Last Edited. Date and time the dashboard was created or last edited.

Creating an IT Service Dashboard

To create an IT Service dashboard:

- 1. Go to the IT Service Dashboards page (Registry > IT Services > IT Service Dashboards).
- 2. Select the [Create] button.

3. The **IT Service Dashboard Editor** page is displayed:

Service Dashboard Editor Created New Dashboard Editing Dashboard [8]	[IT Service Example] 🗸 Actions Reset Guide

4. The following sections describe how to configure an IT Service dashboard.

Configuring Dashboard Settings

If you want to edit the name, layout, or IT Service association for an IT Service dashboard, you can edit the general settings for that dashboard. To do this from the **IT Service Dashboard Editor** page:

1. Select the [Actions] menu and choose Configure dashboard....

Dashboard Settings		Close / Esc
Dashboard Title	IT Service	
New IT Service Dashboard	(All Services)	-
Minimum Size (current: 1062x772)	Excluded Services	
Screen Width Screen Height	Video Active Calls	×
800 600	Video Usage	
Lock dashboard layout	IT Service Example	
V Merge adjacent borders		-
	egory	
Configuration	,901)	
CUCM		-
Events		
Filters/Controls		
IT Services		Ŧ
Keywords (cor	nma separated)	
Sa	ave	

- 2. In the **Dashboard Settings** modal page, supply a value in the following fields:
 - **Dashboard Title**. Enter a name for the dashboard. This name is displayed in the **Select Dashboard** field in the top-left of the **IT Service Summary** page.
 - Screen Width. Enter the minimum screen width required to view the whole dashboard at once. If a user views the dashboard at a resolution that has a smaller screen width than the value in this field, a horizontal scroll bar will be displayed. For convenience, the current size of the dashboard as viewed in your monitor is displayed in parentheses above the Screen Width and Screen Height fields.
 - Screen Height. Enter the minimum screen height required to view the whole dashboard at once. If a user views the dashboard at a resolution that has a smaller screen height than the value in this field, a vertical scroll bar will be displayed. For convenience, the current size of the dashboard as viewed in your monitor is displayed in parentheses above the Screen Width and Screen Height fields.
 - Lock Dashboard Layout. Select this checkbox to prevent the dashboard from being edited. When this checkbox is selected, a user viewing the dashboard cannot add, move, or modify widgets while viewing the dashboard. To edit a dashboard that has the Lock Dashboard Layout checkbox selected, a user must access the Dashboard Settings page and uncheck the Lock Dashboard Layout checkbox. This option is most useful for preventing users from accidentally modifying a dashboard.
 - Merge Adjacent Borders. If the Lock Dashboard Layout checkbox is selected, this option is available. If you select this checkbox, widgets that appear next to each other will share a border. If this checkbox is not selected, a gap appears between each widget. If this checkbox is selected, the borders of adjacent widgets are merged.

- IT Service. Select how this dashboard will be associated with IT Services. If a dashboard is associated with an IT Service, the dashboard can be viewed in the IT Service Summary page for that IT Service. Choices are:
 - All Services. Select this option to associate the dashboard with all IT Services. You can
 optionally select one or more IT Services that will be excluded from this association in the *Excluded Services* field.
 - Selected Services. Select this option to associate the dashboard with multiple, but not all, IT Services. If you select this option, select one or more IT Services to associate with this dashboard in the *Included Services* field.
 - ° The name of a specific IT Service. Select a single IT Service to associate with the dashboard.
- **Category**. Select one or more categories to associate with the dashboard. To select multiple categories, hold down the **<Ctrl>** key (or **Command** on Apple computers) when you select the categories.
- Keywords (comma separated). Enter a comma-delimited list of keywords to associate with the dashboard.
- 3. Select the [Save] button to save your changes to the dashboard settings.

Context in IT Service Dashboards

The **context** of a dashboard is a set of values that control what is displayed in one or more widgets on the dashboard. Widgets can be configured to:

- Define the context, by allowing a user to select one or more values.
- Read the context, by updating to include only information about the selected values.
- Both define and read the context.

When a user views an IT Service dashboard in the **IT Service Summary** page, the selected IT Service is automatically defined in the context, i.e. all widgets in the dashboard that are configured to read the context will automatically include only information about the selected IT Service.

For example, suppose an instance of the **Leaderboard/Top-N** widget is included on an IT Service dashboard. Suppose that in the **Widget Configuration** page for the widget, the **Use Device-related Context** checkbox is selected. If you view the IT Service dashboard in the **IT Service Summary** page for an IT Service, the **Leaderboard/Top-N** widget will include only devices in that IT Service. If the IT Service dashboard is configured to display for multiple IT Services, the **Leaderboard/Top-N** widget will display different data for each IT Service.

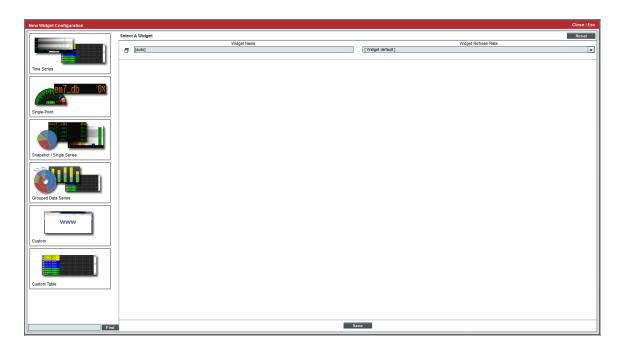
Adding Widgets to a Dashboard

To add a widget to an IT Service dashboard from the **IT Service Dashboard Editor** page left-click and drag with your mouse to draw a rectangle in the main dashboard pane. This shape will determine the initial size and position of the widget in your dashboard.

- 1. On the **Classic Dashboards** page (Dashboards > Classic Dashboards), in the selection field in the upper left of the page, select the dashboard to which you want to add a widget.
- 2. Click the [Actions] button, and then select Add Widget.

Or:

- 1. On the **Classic Dashboards** page (Dashboards > Classic Dashboards), in the selection field in the upper left of the page, select the dashboard to which you want to add a widget.
- 2. In the **Dashboards tab** page, left-click and drag with your mouse to draw a rectangle. This shape will determine the initial size and position of the widget in your dashboard.
- 3. The New Widget Configuration modal page is displayed:



4. To configure a new widget, use the left NavBar to navigate to the widget you want to include in the dashboard.

NOTE: If you are editing an **existing widget**, the **Widget Configuration** page displays the configuration panel for the widget with the **left NavBar and data type selection buttons automatically hidden**. If you want to select a new widget, you can show the left NavBar and data type selection buttons by clicking the window icon to the left of the **Widget Name** field.

- The left NavBar includes an icon for each type of data that can be displayed in a widget:
 - ° **[Time Series]**. Expands a list that includes widgets that display one or more metrics over time.

- ° [Single-Point]. Expands a list that includes widgets that display a single metric.
- **[Snapshot/Single Series]**. Expands a list that includes widgets that display single instances of a metric for multiple entities.
- **[Grouped Data Series]**. Expands a list that includes widgets that display a single metric for multiple entities, with each metric sub-divided between multiple entities of another types. For example, a grouped data series could display a bar graph of the number of tickets in each state, with each bar in the graph divided by organization.
- ° **[Custom]**. Expands a list that includes widgets that display custom HTML content.
- [Custom Table]. Expands a list that includes widgets that display tabular data.
- When you expand the list of widgets that display a type of data, the NavBar displays a list of categories that are associated with the widget definitions in your system. You can expand a category to view the list of all widgets associated with that category. If a widget is associated with multiple categories, the widget will appear under each category it is associated with.
- You can search the list of widgets by entering a search term in the field that appears in the bottom-left of the page. When you click the **[Find]** button, the widgets that have a name or associated keywords that match your search term are highlighted in the left NavBar. The categories in the left NavBar will be automatically expanded and collapsed so that only categories that include a matching widget are expanded.
- 5. When you select a widget in the left NavBar, the right pane of the **Widget Configuration** page displays the configuration fields for the selected widget. Each widget definition has a different list of configuration fields.

TIP: After you select a widget, you can hide the left NavBar and data type selection buttons by selecting the window icon to the left of the *Widget Name* field.

- 6. The following fields appear in **all** widget configuration panes:
 - Widget Name. Enter a title for the widget. This title is displayed in the header that appears at the top of the widget. If you leave the default value of "{auto}" in this field, SL1 will automatically generate a title for the widget based on what is currently being displayed in the widget.
 - Widget Refresh Rate. Specify how frequently the widget will be automatically updated with new data. The choices are:
 - Widget Default. The widget will refresh at its default refresh rate, as defined by the widget developer. You can view and edit the default refresh rate in the Dashboard Widgets page (System > Customize > Dashboard Widgets) by clicking the wrench icon (*P*) for a widget.
 - ° Auto-refresh disabled. The widget will not automatically refresh.
 - ° 1 minute. The widget will automatically refresh every minute.
 - ° 5 minutes. The widget will automatically refresh every 5 minutes.
 - ° 10 minutes. The widget will automatically refresh every 10 minutes.
 - ° 15 minutes. The widget will automatically refresh every 15 minutes.
 - ° 30 minutes. The widget will automatically refresh every 30 minutes.

- ° 45 minutes. The widget will automatically refresh every 45 minutes.
- ° 1 hour. The widget will automatically refresh once an hour.
- Create Template. When selected, this checkbox allows you to save the current configuration as a Quick-Add option.
- 7. Each widget contains additional fields.
- **NOTE**: In widgets that allow you to filter the list of devices by the device class or device category, merged devices include special behavior. For merged devices, you can select either the device class or device category of the physical device or the device class or device category of the component device. If both device classes or device categories are selected, a merged device will appear twice in a single widget.

SL1 includes several widgets that are specifically designed for IT Service dashboards. The configuration panels for these widgets include only the default fields in the **Widget Configuration** page. These widgets always read the IT Service value from the dashboard context. The widgets for IT Services are:

- IT Service Details. Displays the following information about an IT Service:
 - Service Name
 - Service Owner
 - Service Visibility
 - Maintenance State
 - Service Health
 - Service Availability
 - ° Service Risk
- IT Service Vitals. Displays the current value for each Key Metric defined for an IT Service.
- IT Service Problem Management. Displays the number of logs, active events, and active tickets associated with an IT Service.
- IT Service Health Last 12 Hours. Displays a graph of the Availability metric. The y-axis displays percent availability. The x-axis displays time in one-hour increments.
- IT Service Activity Log. Displays a list of all current and past alerts and events associated with an IT Service.

You can also use any other widgets that are installed in your SL1 system in an IT Service dashboard. For a description of the other default widgets supplied by ScienceLogic, see the **Dashboards** manual. To ensure that a user viewing the dashboard can view only information that they have access to, you should configure all the widgets on an IT Service dashboard to read the IT Service value from the context.

For example, suppose that on an IT Service dashboard that will be used for multiple IT Services, you want to include a line graph that displays the Health, Availability, and Risk values for an IT Service over time. To do this, you would add an instance of the **Multi-series Performance** widget to the IT Service dashboard. To ensure that the widget displays only information about the IT Service for which a user is viewing the dashboard, you would make the following selections for the **Series Selections** option in the configuration panel for the **Multi-series Performance** widget:

- Type. Select IT Service.
- **Element**. Select Contextual Service 1. Selecting this option tells the widget to read the IT Service value that is set in the context.
- **Collection**. Select Service Availability. The widget will display the availability values for the IT Service that is set in the context.

To add Service Health and Service Risk values to the graph, you can select the **Add another series** button, select the same **Type** and **Element** values, and then select the appropriate value in the **Collection** field.

Editing the Widgets in a Dashboard

You can edit the size and position of the widgets in a dashboard by manipulating the pane in which that widget appears:

- To move a widget, click and hold on the header of the widget, then drag the widget to a new position on the dashboard.
- To resize a widget, click and hold on the border of the widget, then drag the border to adjust the size.

Each widget has an options menu that appears in the top-right corner of the widget. The widget options menu includes the following options for editing a widget:

- **Configure**. Leads to the **Widget Configuration** modal page, where you can edit the parameters of the widget.
- Copy To.... Leads to the Copy Widget modal page, where you can copy the widget to another dashboard. To copy the widget to another dashboard, select the dashboard you want to copy the widget to in the Copy Widget To drop-down list and select the [Copy] button.
- Lower. If widgets are stacked on top of each other in the dashboard, this option sends the widget to the bottom of the stack.
- **Duplicate**. Creates a copy of the widget in the current dashboard, using the same widget definition and same parameters as the original widget.
- *Remove*. Deletes the widget from the dashboard.

Setting a Dashboard as the System Default Dashboard

In SL1, there is always a default dashboard for IT Services. The default dashboard is initially displayed when a user views the **IT Service Summary** page. The default IT Service dashboard must be visible for all IT Services. If the dashboard you want to set as the default is not currently visible for all IT Services, perform the following steps from the **IT Service Dashboard Editor** page for that dashboard:

- 1. Select the [Actions] menu and choose Configure dashboard....
- 2. In the **Dashboard Settings** modal page, select All Services in the **IT Service** field.
- 3. Select the **[Save]** button.

After you have configured the dashboard to be visible for all IT Services, select the **[Actions]** menu in the **IT** Service Dashboard Editor page and choose Set as system default.

Editing an IT Service Dashboard

To edit an IT Service dashboard:

- 1. Go to the **IT Service Dashboards** page (Registry > IT Services > IT Service Dashboards).
- 2. Find the IT Service dashboard you want to edit. Select its wrench icon (🌮).
- 3. The **IT Service Dashboard Editor** page is displayed. For a description of the **IT Service Dashboard Editor** page, see the **Creating an IT Service Dashboard** section.

Deleting an IT Service Dashboard

To delete one or more IT Service dashboards:

- 1. Go to the **IT Service Dashboards** page (Registry > IT Services > IT Service Dashboards).
- 2. Find the IT Service dashboard you want to delete. Select its checkbox.
- 3. Select the checkbox for each IT Service dashboard you want to delete.
- 4. Go to the **Select Action** field in the lower right of the page. Select Delete Dashboards. Select the **[Go]** button.
- 5. Each selected IT Service dashboard is removed from SL1.

Chapter

5

SLA Definitions, Reports, and Widgets

Overview

For service providers, an SLA is a Service-Level Agreement. An SLA is a contract between a service provider and a customer. The contract specifies the service that the provider will deliver to the customer. Some SLAs include penalties for non-compliance.

For example, an Internet service provider might guarantee 99.99% uptime for all customers.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (\equiv) .
- To view a page containing all the menu options, click the Advanced menu icon (…).

This chapter includes the following topics:

What is an SLA Definition?	.94
Creating an SLA Definition	.94
Viewing the List of SLA Definitions	94
Using an SLA Widget in a Dashboard	.95
Create the Dashboard	. 95
Configure the SLA Widget	.99
Generating an SLA Report	101

What is an SLA Definition?

In SL1, you can create an SLA Definition. The SLA Definition is a threshold. The threshold is applied to the Availability Key Metric of an IT Service policy.

Creating an SLA Definition

To create an SLA Definition:

- 1. Go to the Service Level Agreement Definitions page (Registry > IT Services > SLA Definitions).
- 2. In the Service Level Agreement Definitions page, select the [Create] button.
- 3. The **SLA Definition Editor** page is displayed.
- 4. In the **SLA Definition Editor** page, supply values in the following fields:
 - **SLA Definition Name**. The name of the SLA Definition. Can be any combination of numbers, letters, and symbols.
 - **SLA Availability**. The threshold that will be evaluated using this SLA definition. You can select from six predefined percentage values or specify a custom value. If you select *Custom* in the drop-down list, enter a percentage value in the text field. You can evaluate an IT Service policy using this threshold; you can do this in a dashboard widget or in an SLA report.
- 5. Click the [Save] button to save your new SLA Definition.

Viewing the List of SLA Definitions

The **Service Level Agreement Definitions** page displays the list of existing SLA definitions. To view the list of existing SLA definitions:

- 1. Go to the Service Level Agreement Definitions page (Registry > IT Services > SLA Definitions).
- 2. The Service Level Agreement Definitions page displays the following about each SLA Definition:
 - SLA Definition Name. The name of the SLA Definition.
 - Availability. The availability, in percent, specified in the service level agreement.
 - ID. Unique numeric ID for the SLA Definition, generated by SL1.
 - Edited By. Name of the user who created or last edited the SLA Definition.
 - Last Edited. Date and time the SLA Definition was created or last edited.

Using an SLA Widget in a Dashboard

You can use a Dashboard Widget to evaluate an existing IT Service policy using an existing SLA Definition. The Dashboard Widget will then display the results. To do this, you must perform two steps:

- Create the Dashboard
- Configure the SLA Widget

The following sections describe how to perform these two tasks.

Create the Dashboard

To use the SLA widget in a dashboard:

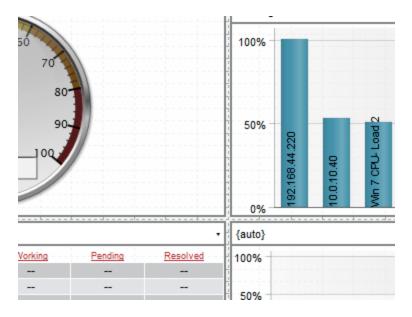
- 1. Select the [Dashboards] tab.
- 2. Select the [New] button. The system will create a blank dashboard with a default name.
- 3. Select the **[Actions]** menu, then select Configure Dashboard... The **Dashboard Settings** modal page is displayed, where you can configure the basic settings for the dashboard:

Dashboard Settings			Close / Esc
Dashbo	ard Title	Access Control	
System Administrator's	New Dashboard	[Private dashboard]	-
Minimum Size (d	current: 1588x616)	Access Keys	
Screen Width	Screen Height	EM7 System Administration	*
1200	600	Grant All	
Lock dashboard la	vout	Basic User Privileges Power-Pack Administration	
Merge adjacent bo	-	Provisioning Access	Ŧ
	Cate	egory	
Configuration			*
CUCM			
Events			
Filters/Controls			-
IT Services	Konworde (co	mma separated)	
	Reywords (cor	inna separateu)	
	S	ave	

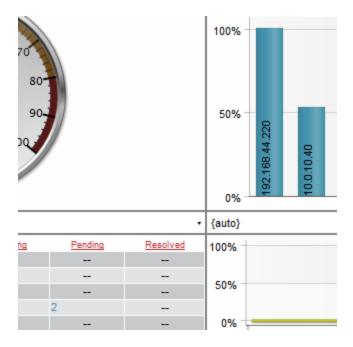
- 4. You can enter values in one or more of the following fields, or you can accept the default values:
 - Dashboard Title. Enter a name for the dashboard. This name is displayed in the Select Dashboardfield in the top-left of the Dashboards tab page.

- Screen Width. Enter the minimum screen width required to view the whole dashboard at once. If a user views the dashboard at a resolution that has a smaller screen width than the value in this field, a horizontal scroll bar will be displayed. For convenience, the current size of the dashboard as viewed in your monitor is displayed in parentheses above the Screen Width and Screen Height fields.
- Screen Height. Enter the minimum screen height required to view the whole dashboard at once. If a user views the dashboard at a resolution that has a smaller screen height than the value in this field, a vertical scroll bar will be displayed. For convenience, the current size of the dashboard as viewed in your monitor is displayed in parentheses above the Screen Width and Screen Height fields.
- Lock Dashboard Layout. Select this checkbox to prevent the dashboard from being edited. When this checkbox is selected, a user viewing the dashboard cannot add, move, or modify widgets while viewing the dashboard. To edit a dashboard that has the Lock Dashboard Layout checkbox selected, a user must access the Dashboard Settings page and uncheck the Lock Dashboard Layout checkbox. This option is most useful for preventing users from accidentally modifying a dashboard.

- Merge Adjacent Borders. If the Lock Dashboard Layout checkbox is selected, this option is available. If you select this checkbox, widgets that appear next to each other will share a border.
 - ° If this checkbox is not selected, a gap appears between each widget:



° If this checkbox is selected, the widget borders are merged:



- Access Control. Specifies whether the dashboard is viewable only by the creator or if the dashboard is viewable by other users. Choices are:
 - Share with organizations. Allows other members of the creator's organizations to view the dashboard.
 - ° Private dashboard. Only the dashboard's creator and administrators can view the dashboard.
- Access Keys. This field is applicable only if the dashboard is Shared. Specifies the Access Keys required to view the dashboard. If you don't select any Access Keys, no specific keys are required to view the dashboard.

If you select an Access Key in the **Required Keys** field, each user must meet the following criteria to use the dashboard:

- The user must have at least one of the Access Keys selected in the **Required Keys** field for the dashboard.
- The user must be granted an Access Key that includes the "Dash:View" and "Dash:View Shared" Access Hooks.
- $^{\circ}$ The user and the creator of the dashboard must be members of the same organization.

If you do not select any Access Keys in the **Required Keys** field, any user meeting the following two requirements may access the dashboard:

- The user must be granted an Access Key that includes the "Dash:View" and "Dash:View Shared" Access Hooks.
- ° The user and the creator of the dashboard must be members of the same organization.

CAUTION: If a user meets the above requirements and also has been granted an Access Key that includes the "Dash:Edit Shared" Access Hook, that user will be able to edit the shared dashboard. If a user has been granted an Access Key that includes the "Dash:Add/Rem Shared" Access Hook, that user may delete shared dashboards.

- **Category**. Select one or more categories to associate with the dashboard. To select multiple categories, hold down the **[Ctrl]** key (or **[Command]** on Apple computers) when you select the categories. Categories are used to arrange the dashboard selection drop-down list in the **Dashboards tab** page. If you do not select a category in this field, the dashboard will appear under the "Other" category in the drop-down list.
- Keywords (comma separated). Enter a comma-delimited list of keywords to associate with the dashboard.
- 5. Select the **[Save]** button to save your changes to the dashboard settings.

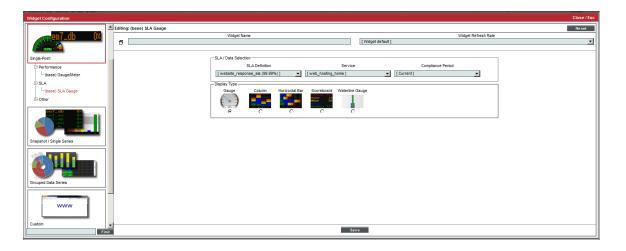
Configure the SLA Widget

To add the SLA widget to your dashboard:

- 1. In the **Dashboards tab** page ([**Dashboards**] tab), in the selection field in the upper left of the page, select the dashboard to which you want to add a widget.
- 2. Select the [Actions] button, and then select Add Widget.

Or:

- 1. In the **Dashboards tab** page ([**Dashboards**] tab), in the selection field in the upper left of the page, select the dashboard to which you want to add a widget.
- 2. In the **Dashboards tab** page, left-click and drag with your mouse to draw a rectangle. This shape will determine the initial size and position of the widget in your dashboard.
- 3. The New Widget Configuration modal page is displayed:



- 4. In the NavBar, expand the Single Point icon. Expand the SLA category. Select the (base) SLA Gauge.
- 5. Enter the values in the following fields:
 - Widget Name. Enter a title for the widget. This title is displayed in the header that appears at the top of the widget. If you leave the default value of "{auto}" in this field, SL1 will automatically generate a title for the widget based on what is currently being displayed in the widget.

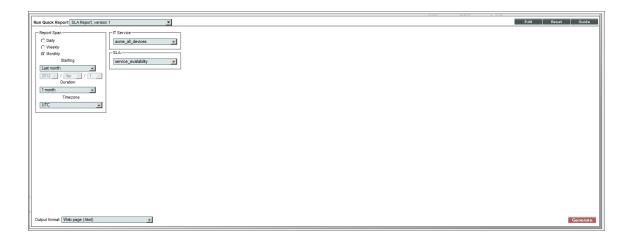
- Widget Refresh Rate. Specify how frequently the widget will be automatically updated with new data. The choices are:
 - Widget Default. The widget will refresh at its default refresh rate, as defined by the widget developer. You can view and edit the default refresh rate in the Dashboard Widgets page (System > Customize > Dashboard Widgets) by selecting the wrench icon (*P*) for a widget.
 - Auto-refresh disabled. The widget will not automatically refresh.
 - 1 minute. The widget will automatically refresh every minute.
 - ° 5 minutes. The widget will automatically refresh every 5 minutes.
 - 10 minutes. The widget will automatically refresh every 10 minutes.
 - ° 15 minutes. The widget will automatically refresh every 15 minutes.
 - ° 30 minutes. The widget will automatically refresh every 30 minutes.
 - ° 45 minutes. The widget will automatically refresh every 45 minutes.
 - ° 1 hour. The widget will automatically refresh once an hour.
- SLA Definition. Select the SLA you want to use as a threshold and monitor with this widget.
- Service. Select the IT Service you want to monitor with this widget.
- Compliance Period. Specify the time period you want to monitor with this widget. Choices are:
 - ° Current.
 - Last (most recently ended).
 - Last (ending in context range).
- Display Type. Select how the metric will be displayed in the widget:
 - ° Gauge
 - ° Column
 - ° Horizontal Bar
 - ° Scoreboard
 - Waterline Gauge
- 6. You should see a report like the following:



Generating an SLA Report

You can use a Quick Report to evaluate an existing IT Service policy using an existing SLA Definition. The Quick Report will then display the results. To do this:

1. Go the **Run Quick Report** page (Reports > Create Report > Quick Report).



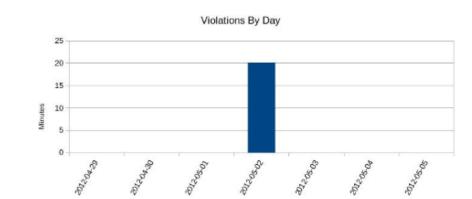
- 2. In the Run Quick Report drop-down list, select the report SLA Report.
- 3. Enter a value in each of the following fields:
 - Report Span. Specify a Daily, Weekly, or Monthly span to include in the report.
 - **Starting**. This field allows you to choose a start date. Selecting a different **Report Span** will change the options in this drop-down list.
 - **Duration**. This field allows you to specify the duration for the report. Selecting a different **Report Span** will change the options in this drop-down list.
 - Timezone. Specify the time zone to display in the report.
 - IT Service. Select the IT Service you want to monitor with this report.
 - SLA. Select the SLA you want to use as a threshold and monitor with this report.
 - Output Format. Specify an output format for the report.
- 4. Select the [Generate] button to generate the report.
- 5. The generated SLA report displays the target threshold and the percentage of polls that were successful. The report displays the days violations occurred and the number of minutes each violation lasted.

Sheet 1: SLA Report

.... ScienceLogic

SLA Report

	Sum	mary	
Agreement Name	IT Service Name	Target %	Compliance %
website_response_sla	web_hosting_home	99.99000%	99.80159%
	Violatio	n Perioda	
Start Date/Time	End Date/Time	Duration	Cumulative
2012/05/02 19:00:00	2012/05/02 19:20:00	00:20	00:20
Total Violation Time:			00:20



Date

23:59

23:59

23:59

23:59

	Excludo	d Perioda	
Start Date/Time	End Date/Time	Duration	Туре
No Excluded Periods			
Total Downtime:		00:00	
	Effectiv	re Times	-
Day		re Times Start	End
	r.	Start	End 23.59
Day Sunday Monday	r.	Start 00:00	

00:00

Generated On: 05/03/2012

00:00

00:00

00:00

Sheet 2: Control

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Control – SLA Report

Description:	SLA compliance metrics
Report Version:	1
Generated On:	05/05/2012
SLA:	webaite_scaperat_ala.
IT Service:	web_hosting_home
Start Date:	Age 28, 2012
Duration:	1 work

Generated On: 05/05/2012

Chapter

6

Events and Run Book Policies for IT Services

Overview

This chapter describes events and Run Book policies for IT services.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (三).
- To view a page containing all the menu options, click the Advanced menu icon (…).

This chapter includes the following topics:

Events for IT Services	103
Run Book Automation for IT Services	104

Events for IT Services

SL1 includes event definitions that can be triggered when the state of an IT Service is examined. These events are generated in addition to any custom events that you create for an IT Service.

If the state of an IT Service becomes non-healthy (notice, minor, major, or critical), the following events will be generated and displayed in the **Event Console** (**[Events]** tab):

- IT Service State Critical: Name of IT Service
- IT Service State Major: Name of IT Service
- IT Service State Minor: Name of IT Service
- IT Service State Notice: Name of IT Service

In the Event Console, you will see something like this:

	Custom View:	re Delete 🥄 > Se	arch: Organization 💌									Actic < +	Refresh Tim	sk R Mr. 👪 Pa	eset Iuse	Guide Refresh
	Annalusta a		Contact Information							Severity Counts						Ð
- Custom	Organization •	8	Control Provention		0 Healthy	0 Nation	01	Vince	3 Major	Deveny Courts	ritical					
	Name	2011		Event Message			ieverty -	Asknowledged	Ticket	Age / Elepsed	Last Detected •	EID	Source	Court	Netty	Ø
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	Lessing	Device	Device Failed Availability Check: Compo							21 hrs 38 mins	2013-02-19 12:47:05	16924	filinternal	1.299	_	
	. disuarCRM	Device	Device Faled Availability Check: Compo Device Faled Availability Check: Compo				lajor 🛛		-	21 hrs 38 mins 21 hrs 38 mins	2013-02-19 12:47:05 2013-02-19 12:47:05	16924	Dinternal	1,299	-	
	wApp_em7admin_7	Device	Device Failed Availability Check: Compo				lajor E	1		21 hrs 38 mins	2013-02-19 12:47:05	16923		1,299		5 % H
								-								Ack Del
									2 Major	-						ACK DEI
a rnhTest		preston			0 Healthy			Minor								
	Name	7/88		Event Message			everty +	Acknowledged	Ticket	Age / Elapsed	Last Detected •	EID	Source	Count	Netty	
						1	[>HH(AI					
1.	. 17.2.2.3_VWware_test	Device	Device Failed Availability Check: Compo				tajor 🛛			1 day 18 hrs	2013-02-19 12:47:03	12716	finternal	2,532	- (3 💥 🗌
2.	7.2.2_vmware_test	Device	Device Failed Availability Check: Compo	ment device 282 is not available		M	lajor 🛛	3	-	1 day 18 hrs	2013-02-19 12:47:03	12719	1 internal	2,532	- (3 2 🗆
																Ack Del
- Science	el osís DM	8		_	0 Masthy	0 Nation	0	lliner	1 Major	00	Winal					
() pockation			-	Event Meanage	o monthly	0110100				Age / Depend	Last Detected +					
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- 1.	. 🙏 🛙 Service Example	IT Service	IT Service State Notice: IT Service Exam	nple		N	lotice 🛛 🗄	- I		1 hr 57 mins	2013-02-19 12:45:03	21508	Internal	24	- (3 🍀 🖂
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				0 (+4) Healthy 1 (+1)	Notice 0 (+51) Minor	6 (+509)	Major	0 (+11) Critics	al				(Select Actio	1		60
													Contraction Process	4		

- 📥 Leads to the **IT Service Summary** page for the IT Service.
- Name. Name of IT Service.
- Type. Type of IT Service.
- Event Message. IT Service State [severity]: [name of IT Service].

If the state of an IT Service becomes healthy after being in a non-healthy state, the event "IT Service State Healthy: Name of IT Service" will be generated and will clear the event for the non-healthy state.

NOTE: Events are not generated when the availability and risk values for an IT Service change.

If you have defined alerts for metrics, additional events for IT services will appear in the **Event Console**.

Run Book Automation for IT Services

In an Automation Policy (Automation Policy Manager), you can select an IT Service and trigger an automated action when a specified event occurs on that IT Service.

	nation Policy [2]		Reset		
Policy Name Email_EM7_Health Criteria Logic [Severity >=] ▼ [Healthy,] ▼ [and 5 minutes has elapsed,] ▼ [and event is NOT cleared] ▼	[Only once]	Policy State [Enabled] [Green Service at Time Time Titles other than devi	Organization [System] Match Syntax Align With [[T Services] ▼ ces (organizations, assets, etc.)		
Available IT Services RMC		Aligned IT Services EM7 Health K	*		
Available Events Aligned Events Critical: AKCP: AC Voltage sensor detects no current Critical: AKCP: DC Voltage sensor Low Critical Critical: AKCP: DC Voltage sensor Low Critical Critical: AKCP: Dry Contact Sensor Low Critical Critical: AKCP: Smoke Detector Alert! >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>					
SNMP Trap: EM7 Event Trap Snippet: EM7 Ping Snippet Snippet: Windows Restart Service		» « Save As			

For details on defining Run Book Automation policies and Run Book Actions, see the manual **Run Book Automation**.

Example

Example Using Device Availability, Device Latency, and Process Availability

Overview

This chapter provides a working example of an IT Service policy.

This example monitors two hosted, mission-critical, MS SQL database servers for availability and latency. The MS SQL database servers are leased by the company Acme and hosted by a service provider.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (三).
- To view a page containing all the menu options, click the Advanced menu icon (…).

This example includes the following topics:

Creating an IT Service Policy	107
Defining the Name of the IT Service Policy and its Basic Properties	
Defining a List of Devices for the IT Service Policy	
Defining Metrics for the IT Service Policy	
Device Availability Metric	112
Device Latency Metric	114
System Process Metric	
Defining Key Metrics for the IT Service Policy	117
Events for the IT Service Policy	
IT Service Dashboard	

Creating an IT Service Policy

To define an IT Service policy, you must:

- 1. **Define a service name and basic properties**. This example monitors two MS SQL database servers. The name of the IT Service policy will be "Acme: MS SQL Database Servers".
- 2. Define a list of devices (model) for the IT Service that includes all the devices associated with the IT Service. This example includes two MS SQL servers in the IT Service.
- 3. Optionally, define service sets. A service set is a sub-group of devices. This example does not use service sets.
- 4. Define metrics. A metric is based on your business processes and examines all devices or one or more service sets to evaluate the state of the IT Service. For each IT Service, SL1 provides a default metric called Average Device Availability, based on the availability of all devices in the IT Service. You can define additional metrics, based on default data collected by SL1 (availability, latency, CPU usage, memory usage, swap usage, device state, and device count), data collected by a Dynamic Application, and data about network interfaces, TCP/IP ports, system processes, Windows services, Email round-trip time, web content, SOAP/XML transactions, and DNS availability.

NOTE: When SL1 evaluates a metric, it performs an aggregation, that is, SL1 evaluates the data for all devices specified in the definition of the metric, over a specified time period (the Aggregation Frequency). Depending on the definition of the metric, SL1 calculates the average, maximum, minimum, sum, standard deviation, or count value for all devices specified in the definition of the metric.

- 5. **Define Key Metrics.** Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. The Key Metrics are Health, Availability, and Risk. When you define a Key Metric, you are specifying how the value for a metric you created in step 4 translates to one of the standard Key Metric values. By default, all three Key Metrics are based on the default Average Device Availability metric.
- 6. **Define alerts and associated events**. Each alert and its associated event is triggered by a metric. In our example, we will define alerts for each metric.

Defining the Name of the IT Service Policy and its Basic Properties

To define the basic parameters of our example IT Service policy:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the [Create] button. The IT Service Editor page appears, with the [Administration] tab and [Properties] sub-tab selected:

Summary Model Logs	Events	Tickets Administration					
IT Service Editor IT Service [3]			New Reset Gu	ide			
Properties Model Metrics Schedule			Adva	anced			
IT Service Name		Sharing Permissions Icon					
Acme: MS SQL database_servers		[Shared with users in your organizations]	•				
IT Service Owner		Permission Keys					
em7admin	Change Owner	EM7 System Administration	- KS				
Configuration Mode [Basic Interface]		Basic User Privileges		- 11			
[basic interface]	-	Power-Pack Administration Provisioning Access					
Admin Portal UI Access							
		IT Service					
Data Collection							
Operational Status		Aggregation Frequency	Raw Data Retention				
[Aggregation enabled]	 Every 3 minutes 		[Use system default retention setting]				
Frequent Rollup Retention		Hourly Rollup Retention	Daily Rollup Retention				
[Use system default retention setting]	 Use system defa 	will retention setting]	[Use system default retention setting]				
Description							
bescription							
		Save Save As					

- 3. Supply the following values in the following fields:
 - IT Service Name. Name of the IT Service policy. We entered "Acme: MS SQL database_servers".
 - IT Service Owner. Automatically populated with your username.
 - **Configuration Mode**. We selected Basic Interface. The Basic Interface allows you to quickly setup an IT Service policy.
 - Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. We selected Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the creator.
 - Permission Keys. We did not select any permission keys.
 - Operational Status. We selected Aggregation enabled.
 - Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and "crunch" the data for each metric into a single value. We specified Every 3 minutes.
 - **Raw Data Retention**. Specifies how long SL1 should store the raw data for the IT Service Policy. We accepted the default value.
 - Frequent Rollup Retention. Deprecated field no longer used by SL1.
 - Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. We accepted the default value.

- **Daily Rollup Retention**. Specifies how long SL1 should store the "daily" normalized data for the IT Service policy. We accepted the default value.
- **Description**. We did not enter a description.
- 4. Select the **[Save]** button to save the values in the **[Properties]** tab.

Defining a List of Devices for the IT Service Policy

After defining the name and basic properties of an IT Service Policy, you must next determine the devices to include in your IT Service policy. You do this in the **[Model]** sub-tab.

For example, if you want to monitor Email service, you could create a list of devices that includes Exchange servers, DNS servers, and devices that run Email round-trip policies.

You can manually assign devices and device groups to the IT Service device group, or you can use membership rules, like you would for a dynamic device group.

When you define the list of devices to include in your IT Service policy, that list of devices appears as a device group throughout SL1.

There are three ways to add a device to the list of devices for the IT Service policy.

- Add a device group to the list of devices for the IT Service policy.
- Add a static list of one or more devices to the list of devices for the IT Service policy.
- Add a dynamic list of one or more devices to the list of devices for the IT Service policy.

In our example, we will add a static list of devices that includes two MS SQL servers to the IT Service policy.

To create the list of devices for the IT Service policy.

- 1. After performing the tasks in the previous section, select the [Model] sub-tab.
- 2. To add a static list of one or more devices to the list of devices for the IT Service policy, go to the **Static Devices** pane.
- 3. Select the **[Add]** button. The **Device Alignment** modal page appears and displays a list of all devices in SL1.

							Close / Esc
vice Alignment							Reset
3. 1/1110.2.2.34	10.2.2.34	Router	LISCO SYSTEMS I / ZUBYXR	156	System	-	
4. 10.20.30.108	10.20.30.108	Router	Cisco Systems 2501	168	System		^
5. 10.20.30.201	10.20.30.201	Unknown	Generic SNMP	124	System		
6. 10.20.30.53	10.20.30.53	Unknown	Generic SNMP	139	System		
	10.20.30.59	Unknown	Generic I SNMP	143			
	10.20.30.76			111		(m)	
	10.4.1.2	Router	Cisco Systems 7206VXR	93			
	10.4.1.246	Unknown		81			
11. 10.4.1.62	10.4.1.62	Servers	NET-SNMP Linux	88			
12. 110.4.1.72	10.4.1.72	Unknown		96	System		
	10.4.1.73			97	System		
	10.4.1.77	Switches		101			
	10.2.2.37	Router	Cisco Systems 2612	150	System		
	10.4.1.247	Unknown					
	10.20.30.45	Router	Cisco Systems 7301	127			E
	10.20.30.79	Broadband		112			
	10.4.1.75	Unknown		99			
	10.4.1.204	Servers		11			
	10.4.1.203	Servers					Add
		Unknown		78			
		Router		54			
24. AOPC-MDJ23-3-01	10.2.2.12	Router	Cisco Systems 1750	109	System		
25. MAU-ADC3	10.4.1.11	Servers	Microsoft Windows 2003 Dom	23	System		
	10.4.1.15	Servers					
	10.4.1.17	Servers	Microsoft Windows 2003 Dom	18			
	10.4.1.14	Servers					
	10.4.1.66	Servers			System		Add
30. MBLADE1	10.4.1.86	Servers	Microsoft Windows 2003 Serv	5	System		
31. BOTTORFF	10.4.1.87	Workstatio	Microsoft Windows XP	1	System		
32. BOTTORFF	10.4.1.92	Workstatio	Microsoft Windows XP	13	System		
33. BOTTORFF	10.4.1.90	Workstatio	Microsoft Windows XP	14	System		
34. MBOTTORFF	10.4.1.91	Workstatio	Microsoft Windows XP	15	System		
36. Moristol	10.4.1.205			12	System		-
	3. m119.4.4.34 4. m119.20.30.108 5. m10.20.30.108 5. m10.20.30.201 6. m110.20.30.53 7. m110.20.30.59 8. m1.0.20.30.76 9. m10.4.12 10.4.12 11. m10.4.172 12. m110.4.172 13. m110.4.172 14. m10.4.172 15. m16812 16. m1585 State 17. m1230-DS3 18. m156c341474 19. m15812 19. m15812 19. m1582 19.	3. 10.2.2.34 4. n/10.20.30.108 10.20.30.108 5. n/10.20.30.108 10.20.30.108 6. n/10.20.30.201 10.20.30.201 6. n/10.20.30.53 10.20.30.201 7. n/10.20.30.53 10.20.30.53 8. n/10.20.30.55 10.20.30.59 9. n/10.20.30.76 10.20.30.76 10.21.21 10.4.1.22 10.4.1.22 10.41.22 10.4.1.22 10.4.1.22 10.41.1.246 10.4.1.72 10.4.1.72 10.4.1.72 10.4.1.72 10.4.1.72 11.4.1.426 10.2.2.37 10.4.1.72 11.4.1.72 10.4.1.72 10.4.1.72 11.4.1.72 10.4.1.72 10.4.1.72 11.4.1.72 10.2.2.37 10.4.1.72 11.7.7.7 10.4.1.72 10.4.1.72 11.7.8.7.8.5.5.168 10.4.2.47 12.0.3.0.45 10.2.2.37 12.1.7.7.7.10.4.1.72 10.2.2.37 12.1.7.7.7.10.4.1.72 10.4.1.72 14.1.4.4.4.74	3 H10-2-3-9 H02-2-34 H00/FF 4 r10-20-30-108 10-20-30-108 Router 7 110-20-30-108 10-20-30-108 Router 7 110-20-30-53 10-20-30-53 10-20-30-53 7 110-20-30-53 10-20-30-58 Unknown 8 r110-20-30-59 10-20-30-58 Unknown 9 r10-20-30-76 10-20-30-76 Unknown 9 r10-20-30-76 10-20-30-78 Unknown 9 r10-20-30-76 10-20-30-78 Unknown 9 r10-20-30-76 10-4-12 10-4-12 10-41-12 10-4-12 10-4-12 Unknown 11-11 r10-4-12 10-4-12 Unknown 11-11 r10-4-17 10-4-17 Unknown 11-11 r10-4-17 10-4-17 Unknown 11-11 r10-4-175 Unknown 10-4-175 11-11 r10-4-175 Unknown 10-4-175 11-11 r10-40-175 Unknown 10-4-175	J. IIII.42.4.34 IIII.42.4.34 Nouter Listo Systems / Advertixed 4. r[10.20.30.108 10.20.30.108 Router Cisto Systems / Advertixed 6. r[10.20.30.108 10.20.30.108 Router Cisto Systems / Advertixed 6. r[10.20.30.53 10.20.30.53 Unknown Generic (SMMP 6. r[10.20.30.59 10.20.30.54 Unknown Generic (SMMP 8. r[10.20.30.59 10.20.30.76 Unknown Generic (SMMP 9. r[10.41.22 10.41.24 Unknown Generic (SMP 11. r[10.41.22 10.41.22 Unknown Generic (SMP 11. r[10.41.22 10.41.24 Unknown Generic (SMP 11. r[10.41.22 10.41.72 Unknown Generic (SMP 11. r[10.41.72 10.41.73 Unknown Generic (SMP 11. r[10.41.77 10.41.73 Unknown Generic (SMP 12. r[10.41.77 10.41.74 Unknown Generic (SMP 14.	J. ITULE_2.4 Notifier Listo Systems ZobVAK Tob 4 rt10.23.35.108 10.2.0.30.108 Router Listo Systems ZobVAK Tob 5. rt10.20.35.108 10.2.0.30.108 Router Listo Systems ZobVAK Tob 6. rt10.20.30.108 10.20.30.108 Router Cisto Systems ZobVAK 124 6. rt10.20.30.53 10.20.30.53 Linknown Generic SNIP 138 7. 10.20.30.59 10.20.30.76 Linknown Generic SNIP 148 8. rt10.20.30.76 Linknown Generic SNIP 181 9. rt10.41.22 Linknown Generic SNIP 81 11. rt10.41.22 Linknown Generic SNIP 81 11. rt10.41.22 Linknown Generic SNIP 91 11. rt10.41.72 Linknown Generic SNIP 91 11. rt10.41.77 Linkt.77 Sinkt.77 10.41.72 Linknown Generic SNIP 12.	IIII	Interaction Notice Notice Notice Notice Notice 4 rt10.20.30.108 10.2.0.30.108 Notice Clicco Systems 2501 168 System 6 rt10.20.30.53 10.2.0.30.101 Notice Clicco Systems 2501 168 System 7 110.20.30.53 10.2.0.30.101 Unknown Generic SMMP 134 System 8 rt10.20.30.53 10.2.0.30.76 Unknown Generic SMMP 134 System Image: National Natinteral Natinteral National National Natinteral National Natinte

- 4. In the **Device Alignment** modal page, we selected the checkbox for devices "ALLIANCECOPIA" and "BDC-TMS01". Each is a device running the Windows operating system and MS SQL database server.
- 5. Select the [Add/Remove] button in the lower right.

6. The selected devices appear in the **Static Devices** pane:

Summary Mode	el Logs	Events	Tickets	Administration						
IT Service Editor Created IT S	Service IT Service [3] C	lick "Save" to comm	nit changes				Net	N	Reset	Guide
Properties Model	Metrics Schedule									Advanced
Device Groups [0]									De	Add
		Device Gro	oup Name •				<u>ID</u>	<u>Devices</u>	Groups	Rules 🗸
			No device groups	in service.						
Static Devices [2] Adding [2]]								De	Add
	Device Name •			Sub-class	ID	-		Organization		
1. ALLIANCECOPIA 2. BDC-TMS01			icrosoft Windows 200 icrosoft Windows 200		17 85	System System				
Dynamic Device Rules [0]									De	Add
Selector Type			Selector	Targets					Match	ed Devs 🖉
			No dynamic device ru	les in service.						
			Save							

7. Select the **[Save]** button to save the list of devices.

Defining Metrics for the IT Service Policy

A metric is a measurement that helps determine the status of an IT Service.

SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The Average Device Availability metric aggregates the current availability value (0 or 1) of all devices in the IT Service and calculates the average value. The aggregation is performed at the frequency specified in the **Aggregation Frequency** setting in the basic properties for the IT Service policy. The availability of a device is determined every 5 minutes.

Before you can define a metric, you must determine what parameters you want to monitor for the IT Service policy. You can use data from the following sources to monitor the IT Service:

- Device Availability
- Device Latency
- Overall CPU Usage
- Physical Memory Usage
- Swap Usage

- Device State (Condition of the device, based upon the most severe event generated by the device.)
- Device Count
- Presentation Objects from Dynamic Applications
- Network Interface
- TCP/IP Port Monitor
- System Process Monitor
- Windows Service Monitor
- Email Round Trip Monitor
- Web Content Monitor
- SOAP/XML Transaction Monitor
- Domain Name Monitor

Our example includes three metrics:

- Device Availability
- Device Latency
- System Process availability

We will create our metrics in **Basic mode**. We will edit the default metric and create two additional metrics. We will also define an alert/event for each metric.

Device Availability Metric

- 1. After performing the tasks in the previous section, select the [Metrics] sub-tab.
- 2. Ensure that you are in **Basic mode**. If you see the **[Alerting]** sub-tab, you are not in **Basic mode**. Click on the **[Advanced]** button to toggle to **Basic mode**.

3. First, we will edit the default metric. In the **Service Metric Definitions** pane, find the metric **Average Device Availability** and select its wrench icon (*P*).

Summary	Model Logs		Events		Tickets	Administra	tion				
IT Service Editor	Created IT Service IT Service [] Click "Sa	ve" to com	mit chang	jes				New Rese	t Gu	ide
Properties	Model Metrics Sche	lule								Adva	inced
Service Metric D	efinitions [1]									Del /	Add
	Service Metric Name •	Unit	State	Vital	Alerting		Device Metric		Device Subset	Aggregation	
1 🥜 Average 🛙	Device Availability	%	Enabled	No	No	Device Availability			(All Devices in Service)	Average	
								[Selec	t Action]		Go
Key Metrics											
Service Health	[Average Device Availability]					_				[Decreasing	1
	2	5			50			75	90		
0	Critical	4	Majo	r		м	inor		Notice Hea		
Service Availability	[(use Service Health metric, Critic									[Decreasing	- [t
	2	∇									
0		Available								10	
Service Risk	[(use Service Health metric, Health	hy range)]								[Decreasing	•] –
									90	100	
0									100%	0% 10	0
					Sav	re .					
L											

4. The Service Metric Editor modal page appears:

Edit Service Metric			Close / Eso								
Service Metric Editor Editing Metric			Reset								
Service Metric Name	Metric Type	Device Subset	Aggregation								
Average DB Device Availability Netric Classification	[Internal]		[Average]								
[Standard Metric] Device Metric											
[Enabled]											
	Guide Text										
			.::								
Metric Alerting	Alert Policy Nan		Event Severity								
Single Threshold	DB_availability_too_low Alert Threshold	Critical	Decreasing 🚽								
		75									
Trigger alert when Average DB Device Availability is les	Critical s than or equal to 75%. Reset alert	when Average DB Device Availability									
	Event Policy Descr	iption									
🔲 🛕 🔛 🗊 Source 🖺 🐰 📭 (6 6 5 11 0	🍓 🐢 📼 듣 🥹 듣									
B Z U Style Form	at 🔽 🔻 Font	▼ Size ▼	Tg • 💁 🗠 🖂								
	ОК										

- 5. In the Service Metric Editor page, edit the following field:
 - Service Metric Name. Enter Average DB Device Availability. This lets us know that the metric is measuring the device's availability, not the database server's availability.
- 6. In the lower pane, we'll define an alert for the metric. This alert specifies that when the availability of the two database servers falls below 75%, trigger an event with a severity of *Critical*. To define this alert and event, supply values in the following fields:
 - Metric Alerting. Select Single Threshold.
 - Alert Policy Name. Enter "DB availability too low".
 - Event Severity. Select Critical.
 - Increasing/Decreasing. Select Decreasing.
 - Threshold. Drag the slider to 75.
 - Select the **[OK]** button to save the metric.

Device Latency Metric

Next, we will define a new metric that examines the **latency of the devices** where the MS SQL servers reside. To do this:

- 1. Go to Service Metric Definitions pane and select the [Add] button.
- 2. The **Service Metric Editor** modal page appears. In this page, we'll define a metric that measures the latency of the two devices in our IT Service policy. We'll also define an alert that will trigger an event if the average latency of the two devices is greater than 30 milliseconds.

Add Service Metric			Close / Esc
Service Metric Editor Creating Metric			Reset
Service Metric Name	Metric Type	Device Subset	Aggregation
Average DB device latency	Internal 💌	(All Devices in Service)	 Average
Metric Classification	Show only metrics available for t	his IT Service	
Service Vital Metric 🗸		Device Metric	
Active State	Device Latency		•
Enabled	Device Latency: Measurement (ms); u	nits: milliseconds	
	Guide Text		
			.::
Metric Alerting Single Threshold	Alert Policy Name db_too_slow	Critical	Event Severity
	Alert Threshold	ormour	Increasing 👻
30	Alert Threshold		Increasing 👻
0 Heathy		Critical	100
Trigger alert when Average DB device latency is greater	r than or equal to soundefined. Reset a	alert when Average DB device later	ncy is strictly less than soundefined.
	Event Policy Descripti	on	
] 🔲 👌 🔛 🗊 Source 🗎 🐰 🗈	6 6 5 🖤 🗉 0	🍓 🐢 📼 듣 🥥 🏣	
B Z U Style - Form	nat 🔹 Font	▼ Size ▼	Tar 💁 က က
	ок		
L	OK		

- 3. To create the new metric, supply the following values in the fields:
 - Service Metric Name. Enter "Average DB device latency".
 - Metric Type. Select Internal.
 - Device Metric. Select Device Latency.
 - For all other fields in the top pane, you can accept the default values.
- 4. In the lower pane, we'll define an alert for the metric. This alert specifies that when the average latency of the two devices where the database servers reside is greater than 30 milliseconds, it will trigger an event with a severity of *Critical*. To define this alert and event, supply values in the following fields:
 - Metric Alerting. Select Single Threshold.
 - Alert Policy Name. Enter "db_too_slow".
 - Event Severity. Select Critical.
 - Increasing/Decreasing. Select Increasing.
 - *Threshold*. Drag the slider to 30.
- 5. Select the **[OK]** button to save the metric.

System Process Metric

Next, we will define a metric that makes sure that the process **sqlservr.exe** is running on both devices where the MS SQL databases reside.

- 1. Before we can define this metric in the **IT Service Editor**, we must tell SL1 to monitor the sqlservr.exe process, outside of the IT Service policy. To do this:
- 2. Go to the **Device Processes** page (Registry > Devices > Processes).
- 3. Use the **Device Name** column to search for the device ALLIANCECOPIA.
- 4. Use the **Process** column to search for the process sqlservr.exe.
 - Select the checkbox for sqlservr.exe running on ALLIANCECOPIA.
 - Select the Select Actions menu. Select Enable (Create Policy).
 - Select the **[Go]** button.
- 5. Use the **Device Name** column to search for the device BDC-TMS01.
- 6. Use the **Process** column to search for the process sqlservr.exe.
 - Select the checkbox for sqlservr.exe running on BDC-TMS01.
 - Select the Select Actions menu. Select Enable (Create Policy).
 - Select the **[Go]** button.
- 7. Go back to the **IT Service Manager** page (Registry > IT Services > IT Service Manager). Find the IT Service policy **Acme: MS SQL database server**. Select its wrench icon (*P*).

- 8. Select the [Metrics] tab. Select the [Add] button.
- 9. The Service Metric Editor modal page appears. In this page, we'll define a metric ensures that the process sqlservr.exe is running on both devices where the MS SQL database resides. We'll also define an alert that will trigger an event if the availability of the process sqlservr.exe is less than 99%. In other words, with the exceptions of very, very brief outages, the process sqlservr.exe should be running.

Service Metric Name Metric Type Device Subset Aggregation SQL Server process System Process Montor (All Devices in Service) Average • Metric Classification Show only metrics available for this IT Service Process Name Metric Service Vital Metric • Process Name Metric Active State sigliserver.exe Processes Running • Enabled • Processes Running • • Metric Alerting Alert Policy Name Event Severity	ervice Metric Editor Creating Metric				Reset						
Metric Classification Show only metrics available for this IT Service Service Vital Metric Process Name Active State Equiprover.exe Enabled Processes Running: Raw Value; units; processes Guide Text Image: Single Threshold SOL Server process is not running Critical Image: Single Threshold Image: Single Threshold SOL Server process is not running Critical Image: Single Threshold Image: Single Threshold SOL Server process is not running Critical Image: Single Threshold Image: Single Threshold Image: Single Threshold Image: Single Threshold SOL Server process is not running Critical Image: Single Threshold Image: Single Threshold Image: Single Threshold Image: Source Image: Single Threshold Image: Source Image: Single Threshold Image: Source Image: Single Threshold Image: Single Threshold Image: Single Threshold <tr< td=""><td>Service Metric Name</td><td></td><td></td><td></td><td></td></tr<>	Service Metric Name										
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- 7. To create the new metric, supply the following values in the fields:
 - Service Metric Name. Enter SQL Server process.
 - Metric Type. Select System Process Monitor.
 - Process Name. Enter sqlservr.exe.
 - Metric. Select Process Running.
 - For all other fields in the top pane, you can accept the default values.
- 11. In the lower pane, we'll define an alert for the metric. This alert specifies that if the process **sqlservr.exe** is not running on both devices in the IT Service policy, trigger an event with a severity of *Critical*. To define this alert and event, supply values in the following fields:
 - Metric Alerting. Select Single Threshold.
 - Alert Policy Name. Enter "SQL Server process is not running".
 - Event Severity. Select Critical.
 - Increasing/Decreasing. Select Increasing.
 - Threshold. Drag the slider to 99.

12. Select the **[OK]** button to save the metric.

Defining Key Metrics for the IT Service Policy

Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. For example, you can define "health" for a remote backup service and also define "health" for an Internet bandwidth service, even though you would use different criteria to measure the health of those two services.

All IT Service policies define how SL1 should calculate the following Key Metrics for the IT Service:

NOTE: SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The **Average Device Availability** metric specifies that SL1 should aggregate the availability data for all the devices in the policy and calculate the average availability.

- Service Health. The health of an IT Service can be one of the five standard severity values: Healthy, Notice, Minor, Major, or Critical. By default, the Service Health metric is aligned with the Average Device Availability metric.
- Service Availability. The availability of an IT Service can be either available or unavailable. By default, the Service Availability metric is aligned with the same metric as Service Health, converting Critical Service Health to Unavailable and all other Service Health values to Available.
- Service Risk. The risk of an IT Service is a percentage value that indicates how close an IT Service is to being in an undesirable state. By default, the Service Risk metric is aligned with the same metric as Service Health, converting the threshold between Healthyand Notice Service Health to 100% and the healthiest possible value to 0%.

SL1 generates an event if the **Service Health** Key Metric has a value of Notice, Minor, Major, or Critical, and/or if the **System Availability** key metric has a value of *unavailable*.

For more details on Key Metrics, see the main section on Key Metrics.

Using the three metrics we created in the *previous section*, we'll define the Key Metrics for our IT Service Policy:

- 1. Select the [Metrics] sub-tab.
- 2. In the top pane, you will see the default metric, **Average Device Availability**. If you have already defined additional custom metrics, they will also appear in the top pane.

3. In the bottom pane, you will see the three Key Metrics:

Summary Model	Logs	Events		ckets	Administration		
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Service Metric Name •	Unit	State	Vital	Alerting	Device Metric	Device Subset	Aggregation
Average DB Device Availability	%	Enabled	No	Yes	Device Availability	(All Devices in Service)	Average
Average DB device latency	ms	Enabled	Yes	Yes	Device Latency	(All Devices in Service)	Average
PSQL Server process		Enabled	Yes	Yes	sqlserver.exe: Processes Running	(All Devices in Service)	Average
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- 4. To edit each metric, supply the following values:
 - Service Health. Appears in the Health column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Healthy, Notice, Minor, Major, and Critical. By default, the Service Health Key Metric is based on the metric for Average Device Availability, with values set at 0-24 is Critical, 25-49 is Major, 50-74 is Minor, 75-89 is Notice, and 90 and above is Healthy.
 - In the drop-down list that appears above the **Service Health** Key Metric, select Average DB device latency.
 - Select Increasing.
 - Enter the following thresholds: *30, 40, 50, 60*.
 - If average latency is below 30 milliseconds, the IT Service policy will have a Health value of *Healthy*.
 - If average latency is between 30 40 milliseconds, the IT Service policy will have a Health value of Notice.
 - If average latency is between 40 50 milliseconds, the IT Service policy will have a Health value of *Minor*.
 - If average latency is between 50 60 milliseconds, the IT Service policy will have a Health value of Major.

- If average latency is greater than 60 milliseconds, the IT Service policy will have a Health value of *Critical*.
- Service Availability. Appears in the Availability column in IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Available and Unavailable. By default, the Service Availability Key Metric is based on the same metric as is used for the Service Health Key Metric. By default, 0 24 is Unavailable and 25 100 is Available.
 - In the drop-down list that appears above the **Service Availability** Key Metric, select Average DB Device Availability.
 - Select Decreasing.
 - Enter the threshold 75.
 - If the average availability of the two devices in the IT Service policy falls below 75%, the IT Service policy will have an Availability value of *Unavailable*.
- Service Risk. Appears as a percentage in the Risk column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are 0% 100%. By default, the Service Risk Key Metric is based on the same metric as is used for the Service Health Key Metric. By default, 0 89 is Critical and 90 100 is Healthy.
 - In the drop-down list that appears above the **Service Risk** Key Metric, select SQL Server process.
 - Select Decreasing.
 - ° Enter the threshold 99.
 - If the process sqlservr.exe is not running an average of 99% of the time, the IT Service policy will have a Risk value of 100%.
- 5. Select the [Save] button to save your changes to the Key Metrics.

Events for the IT Service Policy

To see the definitions for the events associated with each metric, go to the **Event Policy Manager** page (Registry > Events > Event Manager).

To find the event definitions, filter the *Event Policy Name* field by the name of the IT Service policy.

When an event for an IT Service is triggered, it displays the following message in the Event Console:

Console	Events Found [154]											Action	IS 160	sk Res	t Ge
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[name of metric] has violated threshold (%T) currently (%V).

where %T is the threshold you defined for the alert and %V is the current value for the metric.

SL1 generates an event if the **Service Health** key metric has a value of *Notice, Minor, Major, or Critical*. In the event above the metric that we associated with the Service Health Key Metric exceeded the threshold for the metric.

IT Service Dashboard

If you select the **[Summary]** tab for our example IT Service policy, you'll see something like the following:

	Events Tickets	Admir	nistration
Service Summary IT Service [3]			Actions Reset Guid
T Service Details] 💌			
Service Name Acme: MS SQL database_servers	Service Health Critical		Problem Management
Service Owner em7admin	Service Availability Unavaila	able	Logs 249
Service Visibility System	Service Risk 100%		Active Events 2
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ervice Vitals	No Matching Data (Last	12 hours)	
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The **IT Service Summary** page displays the following:

- IT Service Details. Displays the following information about an IT Service:
 - Service Name
 - Service Owner
 - ° Service Visibility
 - Maintenance State
 - Service Health
 - Service Availability
 - ° Service Risk
- IT Service Vitals. Displays the current value for each Key Metric defined for an IT Service.
- IT Service Problem Management. Displays the number of logs, active events, and active tickets associated with an IT Service.
- IT Service Health Last 12 Hours. Displays a graph of the Availability metric. The y-axis displays percent availability. The x-axis displays time in one-hour increments.
- IT Service Activity Log. Displays a list of all current and past alerts and events associated with an IT Service.

Example

2

Example Using Device Availability and Interface Monitoring

Overview

This chapter describes an example of an IT Service policy.

This example monitors a leased WAN circuit. The example IT Service policy includes two routers that are at the two ends of the circuit.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (三).
- To view a page containing all the menu options, click the Advanced menu icon (…).

This example includes the following topics:

Creating an IT Service Policy	
Defining the Name of the IT Service Policy and its Basic Properties	
Defining a List of Devices for the IT Service Policy	
Defining Interface Tags for Interface Metrics	
Defining Metrics for the IT Service Policy	
Defining Alerts for the IT Service Policy	
Defining Key Metrics for the IT Service Policy	
Viewing Information about the IT Service Policy	
IT Service Manager	
IT Service Summary	

Creating an IT Service Policy

To define an IT Service policy, you must:

- 1. **Define a service name and basic properties**. In this example, we will monitor the routers at both ends of a leased WAN circuit. The name of the IT Service policy will be "wan circuit 1".
- 2. Define a list of devices (model) for the IT Service that includes all the devices associated with the IT Service. For example, if you want to monitor a WAN circuit, you could create a device group that includes the routers at each end of the circuit. You could create another device group that includes that are connected to those routers. In our example, we'll select two routers to monitor.
- 3. **Optionally, define service sets. A service set is a sub-group of devices**. You can manually assign devices to a service set, or you can use membership rules, like you would for a dynamic device group. For example, you could define two service sets: Exchange Servers, defined by device class, and DNS servers, defined by the DNS Server running on each device. We don't use service sets in this example.
- 4. **Define Interface Tags for Interface Metrics**. If your IT Service policy will include interface metrics, you can use interface tags to create groups of interfaces. You can then apply a metric to a group of interfaces. Each interface can belong to multiple interface tags.
- 5. Define metrics. A metric is based on your business processes and examines all devices or one or more service sets to evaluate the state of the IT Service. For each IT Service, SL1 provides a default metric called Average Device Availability, based on the availability of all devices in the IT Service. You can define additional metrics, based on default data collected by SL1 (availability, latency, CPU usage, memory usage, swap usage, device state, and device count), data collected by a Dynamic Application, and data about network interfaces, TCP/IP ports, system processes, Windows services, Email round-trip time, web content, SOAP/XML transactions, and DNS availability. For our example, we'll examine the traffic and errors on the interfaces on the routers at each end of the WAN circuit.

NOTE: When SL1 evaluates a metric, it performs an aggregation, that is, SL1 evaluates the data for all devices specified in the definition of the metric, over a specified time period (the Aggregation Frequency). Depending on the definition of the metric, SL1 calculates the average, maximum, minimum, sum, standard deviation, or count value for all devices specified in the definition of the metric.

- 6. Define Key Metrics. Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. The Key Metrics are Health, Availability, and Risk. When you define a Key Metric, you are specifying how the value for a metric you created in step 4 translates to one of the standard Key Metric values. By default, all three Key Metrics are based on the default Average Device Availability metric.
- 7. **Define alerts and associated events**. Each alert and its associated event is triggered by a metric. In our example, we will define alerts for each metric.

Defining the Name of the IT Service Policy and its Basic Properties

To define the basic parameters of our example IT Service policy:

- 1. Go to the IT Service Manager page (Registry > IT Services > IT Service Manager).
- 2. Select the [Create] button.
- 3. The IT Service Editor page appears, with the [Administration] tab selected.

4. Select the **[Properties]** sub-tab. Supply the following values in the following fields:

Summary	Model	Logs	Events	Tickets Administr	ation					
IT Service Editor Cr	eated IT Service I	T Service [5]				New	Reset Guide			
Properties Mo	odel Metrics	Schedule					Advanced			
	IT Servi	ice Name		s	haring Permis	ssions	lcon			
WAN_circiuit_1				[Shared with users in your organizations]						
	IT Servic	ce Owner			Permission K		63			
em7admin			Change Owner	EM7 System Administration Grant All		<u>^</u>				
[Basic Interface]	Configura	ation Mode	•	Basic User Privileges Power-Pack Administration		=				
[Date internet]				Provisioning Access						
				Admin Portal UI Access		-				
Data Collection										
[Aggregation enabl	Operational Status		Every 2 minutes	Aggregation Frequency	-	Raw Data Retentio [Use system default retention setting]	on 💌			
			Every 2 minutes							
[Use system defau	Frequent Rollup Reten It retention setting 1		 Use system def 	Hourly Rollup Retention ault retention setting]	-	Daily Rollup Retenti [Use system default retention setting]	on 🔽			
Description										
							.::			
				Save Save As						

- IT Service Name. Name of the IT Service policy. We entered "wan circuit 1"
- IT Service Owner. Automatically populated with your username.
- **Configuration Mode**. We selected Basic Interface. The Basic Interface allows you to quickly setup an IT Service policy.
- Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. We selected Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the creator.
- Permission Keys. We did not select any permission keys.
- Operational Status. We selected Aggregation enabled.
- Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and "crunch" the data for each metric into a single value. We specified Every 2 minutes.
- **Raw Data Retention**. Specifies how long SL1 should store the raw data for the IT Service Policy. We accepted the default value.
- Frequent Rollup Retention. Deprecated field no longer used by SL1.

- Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. We accepted the default value.
- **Daily Rollup Retention**. Specifies how long SL1 should store the "daily" normalized data for the IT Service policy. We accepted the default value.
- **Description**. We did not enter a description.
- 5. Select the **[Save]** button to save the values in the **[Properties]** tab.

Defining a List of Devices for the IT Service Policy

After defining the name and basic properties of an IT Service Policy, you must next determine the devices to include in your IT Service policy. You do this in the **[Model]** sub-tab.

For example, if you want to monitor Email service, you could create a list of devices that includes Exchange servers, DNS servers, and devices that run Email round-trip policies.

You can manually assign devices and device groups to the IT Service device group, or you can use membership rules, like you would for a dynamic device group.

When you define the list of devices to include in your IT Service policy, that list of devices appears as a device group throughout SL1.

There are three ways to add a device to the list of devices for the IT Service policy.

- Add a device group to the list of devices for the IT Service policy.
- Add a static list of one or more devices to the list of devices for the IT Service policy.
- Add a dynamic list of one or more devices to the list of devices for the IT Service policy.

In our example, we will create a static list of devices.

To create the list of devices for the IT Service policy:

1. After performing the tasks in the previous section, select the [Model] sub-tab.

2. We will statically add two routers to our policy. To add a static list of one or more device to the list of devices for the IT Service policy, go to the **Static Devices** pane:

Summary Model	Logs Ever	nts Tickets	Administration						
IT Service Editor Created IT Service	ce IT Service [4]				New		Reset	Guide	
Properties Model Met	trics Schedule							Advanc	ed
Device Groups [0]							Del	Add	
	Devic	e Group Name •			<u>ID</u>	Devices	Groups	Rules	
		No device groups in s	ervice.						
									_
Static Devices [0]		Class Su					Del	Ade	
De	vice Name •	Class Su	<u>>-class</u>	ID	ç	rganization			2
		No static devices in s	ervice.						
Dynamic Device Rules [0]							Del	Add	
Selector Type		Selector Targ	ets					d Devs	_
									-
		No dynamic device rules	in service.						
		Save							

3. Select the **[Add]** button. The **Device Alignment** modal page displays a list of all devices in SL1.

vice	e Alignment							Res	et
	Device Name •	IP Address	Category	Class Sub-class	ID	Organization		Action	
1.			VMware	VMware Host Server	340	Svstem			ł
	10.168.44.102	-	VMware		343	System			ĩ
	10.168.44.103		VMware		338	System			ü
	10.168.44.104		VMware	VMware Host Server	336	System			ĩ
	10.168.44.105		VMware		389	System			ä
	10.2.2.18	10.2.2.18	Router		110	System			1
	110.2.2.27	10.2.2.27	Router	Cisco Systems 7206VXR	198	System			ä
8.	10.2.2.30	10.2.2.30	Unknown		149	System			1
9.		10.2.2.34	Router		156	System	Ē		ä
0.	10.20.30.101	10.20.30.101	Unknown		189	System			ī
	10.20.30.108	10.20.30.108	Router	Cisco Systems 2501	168	System			ä
2	10.20.30.123	10.20.30.123	Router	Cisco Systems 7206VXR	233	System			ĩ
3.	10.20.30.135	10.20.30.135	Switches	Cisco Systems Catalyst 3508	219	System			ä
14.	10.20.30.141	10.20.30.141		Cisco Systems Catalyst WS-0		System			
15.	10.20.30.146	10.20.30.146		Netopia Netopia 3346 v8.2r1		System			
16.	10.20.30.147	10.20.30.147	Broadband	Netopia Netopia 3381 v8.0.10	287	System			
17.	10.20.30.148	10.20.30.148	Broadband	Netopia Netopia (R3100, R45>	291	System	V	Add	I.
18.	10.20.30.149	10.20.30.149	Broadband	Netopia R7200-T	292	System		Add	i
19.	10.20.30.201	10.20.30.201	Unknown	Generic SNMP	124	System			ī
20.	10.20.30.208	10.20.30.208	Unknown	Generic SNMP	220	System			
21.	10.20.30.209	10.20.30.209	Telephony	Quintum Tenor	177	System			i
22.	10.20.30.222	10.20.30.222	Unknown	Generic SNMP	201	System			
23.	10.20.30.53	10.20.30.53	Unknown	Generic SNMP	139	System			ï
24.	10.20.30.59	10.20.30.59	Unknown	Generic SNMP	143	System			
25.	10.20.30.61	10.20.30.61	Unknown	Generic SNMP	269	System			ï
6.	10.20.30.76	10.20.30.76	Unknown	Generic SNMP	111	System			
27.	10.20.30.8	10.20.30.8	Printers	Oki Data Corporation OKI OkiL	185	System			ï
	10.20.30.85	10.20.30.85	Access Po	D-Link Access Point (DWL-60	224	System			
29.	10.20.30.94	10.20.30.94	Broadband	Netopia Netopia 3386 v8.4.2rd	252	System			i
30.	10.20.30.96	10.20.30.96	Unknown	Generic SNMP	250	System			ĩ

- 4. In the **Device Alignment** modal page, we selected the checkbox for devices "10.20.30.148" and "10.20.30.149". Each is a Netopia router with one WAN (ATM) interface and one Ethernet interface.
- 5. Select the **[Add/Remove]** button in the lower right. The selected devices will appear in the **Static Devices** pane.
- 6. Select the **[Save]** button to save the list of devices.

Defining Interface Tags for Interface Metrics

You can define interface metrics that monitor the following:

- Inbound Traffic
- Outbound Traffic
- Inbound Errors
- Outbound Errors
- Inbound Discards
- Outbound Discards

You can apply these metrics to:

- All Interfaces
- Management Interface
- Tagged Interfaces

Interface Tags allow you to create one or more groups of interfaces. You can then apply an interface metric to that group. If *All Interfaces* or *Management Interface* doesn't suit your needs, you can define and apply interface tags.

In our example, we will create an interface tag for the interfaces at each end of the WAN link. When we define a metric, we will specify that interface tag to include only data from the interfaces at each end of the WAN link. To create the interface tags:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager). Find the device where the interface resides. In our example, we'll search for **10.20.30.148** and **10.20.30.149**.

2. In the **Device Manager** page, find the first device (**10.20.30.148**). In the **IP Address** column, click on the interface icon (**W**). The **Device Interfaces** page appears.

Device Name •	IP Address	Device Category	Device Class Sub-class	DID	Organization	Current State	Collection Group	Collection State	SNMP Credential	SNMF Versio	
						>=Health 🚽					
2 10.168.44.101		Servers.VMware	VMware Host Server	340	System	Healthy	CUG	Active	SNMP Public V1	V1	H
Am 7 10.168.44.102	- W	Servers, VM ware	VMware Host Server	343	System	Healthy	CUG	Active	SNMP Public V1	V1	m11 @
Am + + 10.168.44.103		Servers.VMware	VMware Host Server	338	System	AHeathy	CUG	Active	SNMP Public V1	V1	
A 10.168.44.104		Servers.VMware	VMware Host Server	336	System	Healthy	CUG	Active	SNMP Public V1	V1	
P m 4 4 10.168.44.105	- W	Servers, VM ware	VMware Host Server	389	System	AMajor	CUG	Active	SNMP Public V1	V1	m11 @
9 10.2.2.18	10.2.2.18	Network.Router	Cisco Systems 7206VXR	110	System	(1)Major	CUG	Unavailable	SNMP Public V1	V1	m118
9 10 2 2 27	10.2.2.27	Network Router	Cisco Systems 7206VXR	198	System	/ Major	CUG	Unavailable	SNMP Public V1	V1	
9 10 2 2 30	10.2.2.30	Unknown	Generic I SNMP	149	System	Major	CUG	Unavailable	SNMP Public V1	V1	
9 10 2 2 34	10.2.2.34	Network Router	Cisco Systems 7206VXR	156	System	(1) Major	CUG	Unavailable	SNMP Public V1	V1	
9 10 20.30.101	10.20.30.101	Unknown	Generic SNMP	189	System	Alleathy	CUG	Active	SNMP Public V1	V1	
2 10.20.30.108	10.20.30.108		Cisco Systems 2501	168	System	AHeathy	CUG	Active	EM7 Default V3	V3	
9,110.20.30.123	10.20.30.123		Cisco Systems 7206VXR	233	System	A Minor	CUG	Active	SNMP Public V1	V1	m11 %
9 10.20.30.135	10.20.30.135		Cisco Systems Catalyst 3508G-XL	219	System	AHeathy	CUG	Active	SNMP Public V1	V1	
2 10.20.30.141	10.20.30.141		Cisco Systems Catalyst WS-C6009-CatOS	285	System	AHealthy		Active	SNMP Public V1	V1	
2 110.20.30.146	10.20.30.146		Netopia Netopia 3346 v8.2r1	288	System	Healthy		Active	SNMP Public V1	V1	
A m10.20.30.147	0.20.30.147		Netopia Netopia 3381 v8.0.10	287	System	AHeathy		Active	SNMP Public V1	V1	
2 110.20.30.148	11.20.30.148	Network Broadba	Netopia Netopia (83100 845xx 87xx0 89	291	System	AHealthy	CUG	Active	SNMP Public V1	V1	1000
2 10 20.30.149	0.20.30.149	Network Broadba	Netopia 87200-T	292	System	Healthy	CUG	Active	SNMP Public V1	V1	HB11 %
2 10.20.30.201	10.20.30.201		Generic I SNMP	124	System	AHeathy	CUG	Active	SNMP Public V1	V1	
2 10 20.30 208	10.20.30.208		Generic SNMP	220	System	Healthy	CUG	Active	SNMP Public V1	V1	11 N
2 10 20.30 209	10.20.30.209		Quintum Tenor	177	System		CUG	Active	SNMP Public V1	V1	
2 10.20.30.222	10.20.30.222		Generic I SNMP	201	System	AHealthy	CUG	Active	SNMP Public V2	V2	
2 110 20.30.53	10.20.30.53		Generic SNMP	139	System	Heathy	CUG	Active	SNMP Public V1	V1	100 N
2 110 20.30.59	10.20.30.59		Generic SNMP	143	System	Heathy		Active	SNMP Public V2	V2	B28
2 10.20.30.61	10.20.30.61		Generic SNMP	269	System	1 Healthy		Active	SNMP Public V2 SNMP Public V1	V2 V1	
2 110 20.30.76	10.20.30.76		Generic SNMP	111	System	Heathy	CUG	Active	EM7 Default V3	V3	B10
A 10 20.30.8	10.20.30.8		Oki Data Corporation OKI OkiLAN 8100e Rev.02.1		System	1 Minor	CUG	Active	SNMP Public V1	V3 V1	100 N
A 110 20.30.85	10.20.30.85		D-Link Access Point (DWL-6000AP)	224	System	AHealthy	CUG	Active	SNMP Public V1	V1 V1	
2 110 20.30.95	10.20.30.94		Netopia Netopia 3386 v8.4.2r0	252	System	Heathy	CUG	Active	SNMP Public V1 SNMP Public V1	V1 V1	100 100
	10.20.30.94	Unknown	Generic I SNMP	252	System	AHeathy	CUG	Active	SNMP Public V1 SNMP Public V2	V1 V2	
2 10.20.30.96 2 10.20.30.97					System	AHealthy	CUG	Active	SNMP Public V2 SNMP Public V1	V2 V1	
2.m10.20.30.97 2.m110.20.30.98	10.20.30.97 10.20.30.98		McData Corporation Edge-24 Model 001 Fibre Ch Netopia Netopia 4622 v5.3.9r4	251 254	System		CUG		SNMP Public V1 SNMP Public V1		
2.110.4.1.2	10.20.30.98		Cisco Systems I 7206VXR	254 93	System	Healthy		Active	SNMP Public V1 SNMP Public V1	V1 V1	
								Active	SNMP Public V1 SNMP Public V1	V1 V1	- 1
2 m 10.4.1.246	10.4.1.246	Servers	Generic SNMP	81 88	System	AHealthy	CUG	Active	SNMP Public V1 SNMP Public V1	V1 V1	
A 110.4.1.62	910.4.1.62		NET-SNMP Linux	96	System		CUG				
A 110.4.1.72	9 10.4.1.72		Generic SNMP		System			Active	SNMP Public V2	V2	B 28
A 110.4.1.73	10.4.1.73	Unknown	Generic SNMP	97	System	Healthy	CUG	Active	SNMP Public V2	V2	BRS
Ani 10.4.1.77	10.4.1.77		Cisco Systems Catalyst WS-C6009-CatOS	101	System	Healthy	CUG	Active	SNMP Public V1	V1	
A 12612	9 10.20.30.109		Cisco Systems 2612	259	System	A Major	CUG	Active	SNMP Public V1	V1	B 20
9,12612	10.2.2.37		Cisco Systems 2612	150	System	Major	CUG	Unavailable	SNMP Public V1	V1	8 <u>5</u> 8
35S.State	\$10.4.1.247	Unknown	Generic SNMP	82	System	/Major	CUG	Active	SNMP Public V1	V1	
<u>A</u>	910.20.30.122		Cisco Systems 7010	234	System	Healthy	CUG	Active	SNMP Public V1	V1	BUN
9.m[7301-DS3	10.2.2.44	Network.Router	Cisco Systems 7301	268	System	// Major	CUG	Unavailable	SNMP Public V1	V1	8 <u>8</u> 8

Close	Properties	Thresholds	Collections	Monitors					
Schedule	Logs	Toolbox	Interfaces	Relationships	Tickets	Redirects	Notes		
	10.00.00.110				Disaster Desites				
	10.20.30.148				Physical Device Network.Broadband				
	Netopia				Netopia (R3100, R45xx,	070 00		ne	topia.
Organization					0 days, 00:00:00	R7XXU, R9			
Collection Mode					2013-02-19 17:20:00			4 13	al 🖶 🤌
	Netopia R7200-T v4.9.3	3			CUG em7_ao_206				20.30.148
	1000000111200111100	•		ordap / concertor	00010007000				
Device Interface	s Interfaces Found	[2]					Actions	Reset	Guide
Eth0	WAN 1								
Etho									
		and the second second							
	Layer 2								
	The second								

3. In our example, we will add the tag *wan_link* to the WAN interface on **10.20.30.148**. Click on the WAN interface. The **Interface Properties** page appears.

4. In the Interface Properties page, find the Interface Tags field. Select the wrench icon (*P*) to the right of the field.

Interface Properties	Close / Es
For Interface [50598]	Report Purge Reset
[Editing: WAN 1]	×
Interface Name WAI	N1
Port Description WAI	
	00:C5:8E:42:00 / FarallonCo
IANA Type atmf	
Speed & Counter 0.76	37938 Mbps. [Counter 32]
Position & IfIndex 3/3	
Admin/Oper Status Up /	Up 👻
	_
Interface Name	WAN 1 Disable Discovery Name Update
Naming	Set Name As: [WAN 1:0/3]
Interface Tags	
Interface Speed	767938 [Bits] Disable Interface Speed Update
Linked-Device	
Linked-Interface	
Linked-Interface	
Collect State / Frequency	[Enabled] 🗸 / [15 Min.]
Alerting / Rollovers	[Enabled] V [Disabled]
Event Severity Adjust	
Errors / Discards	[Disabled]
Measurement / Percentile	[Mega]
Display on Summary	
	Save
	Jave
Inbound % Threshold	65 % (Default: 85%)
Outbound % Threshold	65 % [Default: 85%]
Inbound Mbps 👻 Thresh.	Mbps. [Default: 0 Mbps.]
Outhound Mhna Throok	

5. The Edit Network Interface Tags modal page appears. In this page, enter the following:

Edit Network Interface Tags	Close / Esc
Network Interface Tags	
Tags (comma seperated)	
wan_link	
Save	
[

- Tags (comma separated). Enter wan_link.
- Select the **[Save]** button.
- Select the **[Close]** button.

6. In the Interface Properties page, notice that the Interface Tags field contains the entry wan_link.

erface Properties	Close /
or Interface [50598]	Report Purge Reset
Editing: WAN 1]	Report Fuige Reset
Louing. WANT IJ	
Interface Name WAt	N1 🔺
Port Description WAN	
	0:C5:8E:42:00 / FarallonCo
IANA Type atm	Layer 2 Layer 2 Layer 2
	7938 Mbps. [Counter 32]
Position & IfIndex 3/3	
Admin/Oper Status Up /	Up 👻
Interface Name	WAN 1 Disable Discovery Name Update
Naming	Set Name As: [WAN 1:0/3]
Interface Tags	wan_link 🤌
Interface Speed	767938 [Bits] 💽 Disable Interface Speed Update
Linked-Device	[None]
Linked-Interface	
Collect State / Frequency	[Enabled]
Alerting / Rollovers	[Enabled] V [Disabled] V
Event Severity Adjust	[Default Severity]
Errors / Discards	[Disabled]
Measurement / Percentile	[Mega] V [Accumulative] V
Display on Summary	
	Save
Inbound % Threshold	65 % [Default: 85%]
Outbound % Threshold	65 % (Default: 65%)
Inbound Mbps 🖵 Thresh.	Mbps. [Default: 0 Mbps.]

7. Repeat steps 1-6 for the WAN interface on the second device (10.20.30.149).

Defining Metrics for the IT Service Policy

A metric is a measurement that helps determine the status of an IT Service.

SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The **Average Device Availability** metric examines the availability of all devices in the IT Service. By default, the **Average Device Availability** metric is collected from every device every minute and "crunched" and averaged every 15 minutes.

Before you can define additional metrics for an IT Service policy, you must determine what parameters you want to monitor for the IT Service policy. You can use data from the following sources to monitor the IT Service:

- Device Availability
- Device Latency
- Overall CPU Usage
- Physical Memory Usage
- Swap Usage
- Device State (Condition of the device, based upon the most severe event generated by the device.)
- Device Count
- Presentation Objects from Dynamic Applications
- Network Interface
- TCP/IP Port Monitor
- System Process Monitor
- Windows Service Monitor
- Email Round Trip Monitor
- Web Content Monitor
- SOAP/XML Transaction Monitor
- Domain Name Monitor

Our example uses data from **Network Interface** monitoring. We will create our metrics in **Basic mode**. We will create a metric called **wan_inbound_errors** that will examine specified (tagged) interfaces for errors. We will also define an alert that tells SL1 to generate an event when the interfaces exceed the threshold for acceptable errors.

- 1. After performing the tasks in the previous sections, select the [Metrics] sub-tab.
- 2. Ensure that you are in **Basic mode**. If you see the **[Alerting]** sub-tab, you are not in **Basic mode**. Click on the **[Advanced]** button to toggle to **Basic mode**.
- 3. Select the [Add] button.

4. The Service Metric Editor modal page appears.

d Service Metric			Close /
ervice Metric Editor Creating Metric			Reset
Service Metric Name	Metric Type	Device Subset	Aggregation
dev_wan_inbound_errors	Network Interface 👻	(All Devices in Service)	Average 🗸
Metric Classification	Show only metrics available for	this IT Service	
Service Vital Metric	Interface Selection	Interface Tag	Interface Metric
Active State	Tagged Interfaces 🗨	wan_link 💌	Inbound Traffic
Enabled	 Inbound Traffic: Measurement (B/s); 	units: bytes/second	
	Guide Text		
			.:
Metric Alerting	Alert Policy Name		Event Severity
No Alert Policy		Critical	
	Alert Threshold		Increasing -
		75	
0	Healthy		Critical 100
lert Policy not defined.			
-			
	Event Policy Descripti		
📗 🗟 🔛 🖭 Source 🖺 🐰	h 🔒 📾 🥔 🖤 🔳 🖉	🍓 🚳 📼 🗄 😳 🚝	E E E E E
B I U Style -	Format 👻 Font	▼ Size ▼	Тат 🌆т 🗠 🖂
	ОК		
	OK		

- 5. We will create the metric **wan_inbound_errors**. This metric will measure the number of inbound errors on the interfaces at each end of the WAN link. To create this metric, enter the following values in the **Service Metric Editor** modal page:
 - Service Metric Name. Enter "wan inbound errors".
 - *Metric Classification*. Specifies whether the metric will be displayed in the **IT Service Summary** page in widgets that display vital metrics. Select *Service Vital Metric*. The metric will appear in widgets that display vital metrics.
 - Active State. Specifies whether SL1 should currently collect data for the metric and evaluate alerts for the metric. Select *Enabled*.
 - *Metric Type*. Specifies the type of performance data you want to use for the metric. Select *Network Interface*. Our metric will examine data from network interfaces.
 - Device Subset. We have not define any device subsets. Select All Devices in Service.
 - Aggregation. Specifies how SL1 will aggregate ("crunch") the data collected from all the devices in the IT Service into a single value. Select Average.

- Show only metrics available for this IT Service. Leave this checkbox unselected. This checkbox filters the succeeding fields so that they display already-defined policies aligned with one or more of the devices in the IT Service or in the specified **Device Subset**. For example, if you selected *Dynamic App* in the **Metric Type** field, and then selected this checkbox, the **Dynamic Application** field would display only Dynamic Applications that are already aligned with one or more of the devices in the IT Service or in the specified **Device Subset**.
- Interface Selection. Select the network interfaces to include in the calculation for this metric. Select Tagged Interfaces. To calculate a value for this metric, SL1 should aggregate interface utilization statistics from the interfaces that are associated with a specific tag on all the devices in the IT Service.
- Interface Tag. Appears if you selected Network Interface in the Metric Type field. Select wan_link. This is the interface tag that we assigned to the interfaces at each end of the WAN circuit.
- Interface Metric. Select the interface measurement that SL1 should use to calculate the value for this metric. Select Inbound Errors. To calculate a value for the metric, SL1 aggregates the value for this interface measurement from all interfaces that you included in this metric using the method specified in the Aggregation field (Average, Minimum, Maximum, Sum, Standard Deviation, or Device Count).
- 6. Select the **[Save]** button to save your new metric.

Defining Alerts for the IT Service Policy

For each metric in an IT Service policy, you can define an associated alert and event. In our example, we will create an alert for the metric we created in the *previous section*. The alert will trigger an event when the inbound errors on the development router exceed the threshold of acceptable errors.

- If the IT Service Editor page is not still open, go to the IT Service Manager page (Registry > IT Services > IT Service Manager). Find the policy WAN_circuit_1. Select its wrench icon (²).
- 2. In the IT Service Editor page, select the [Metrics] sub-tab.
- 3. Ensure that you are in **Basic mode**. If you see the **[Alerting]** sub-tab, you are not in **Basic mode**. Click on the **[Advanced]** button to toggle between **Basic mode** and **Advanced mode**.
- 4. In the Service Metrics Definitions pane, find the metric wan_inbound_errors. Select its wrench icon (*P*).

5. In the **Service Metric Editor** modal page, go to the bottom pane. We will use the fields in the bottom pane to define an optional alert and optional event associated with the metric.

Edit Service Metric				Close / Esc
Service Metric Editor Editing Metric				Reset
Service Metric Name	Metric Type	Device Sul	bset	Aggregation
dev_wan_inbound_errors	[Network Interface]	[(All Devices in Ser	vice)] 💌	[Average]
Metric Classification	Show only metrics available for	r this IT Service		
[Service Vital Metric]	Interface Selection	Interface	Tag	Interface Metric
Active State	[Tagged Interfaces]	[wan_link]	•	[Inbound Traffic]
[Enabled]	Inbound Traffic: Measurement (B/s	; units: bytes/second		
	Guide Text			
				.::
Metric Alerting	Alert Policy Nam			Event Severity
Single Threshold	dev_router_too_many_inbound_e		ritical	-
	Alert Threshold			Increasing 👻
25				
0 Healthy		Critical		100
Trigger alert when dev_wan_inbound_errors is greater	r than or equal to 25B/s. Reset alert	when dev_wan_inbound	d_errors is stric	ctly less than 25B/s.
	Event Policy Descri	tion		
🔲 🛕 🔛 🖾 Source 🖺 🐰 🗈	🔓 📾 🍯 🖤 🔳 🖉	🤹 🌍 🗔 👬	≣ 😳 🗄	
B I U Style - Fo	rmat 🗾 👻 Font	▼ Size	-	Tar 🌆r 🗠 🖓
The two interfaces on the development router (10.20.30.148) are receiving error	s in excess of 25B/s.		
	· · · · · · · · · · · · · · · · · · ·		1	
	ОК			
[<u></u>				

- 6. Enter values in the following fields:
 - Alert Policy Name. Enter "dev_router_too_many_inbound_errors". SL1 will automatically create an event policy that corresponds to this alert. This name will appear in the name of the event policy.
 - **Event Severity**. When the alert is generated, SL1 will trigger an event with the selected event severity. Select *Critical*.
 - **Decreasing/Increasing**. Toggles whether the alert is triggered when the value for the metric is above a specific threshold (Increasing) or below a specific threshold (Decreasing). Select Increasing.
 - Alert Threshold. Use sliders to define the threshold at which the alert should be generated and trigger an event and the threshold at which the alert should be reset and no longer trigger an event. Select 25.
 - Alert Range. Accept the default values.
 - Event Policy Description. Optionally enter cause and resolution text for the event. The text you supply in this field will be used to populate the **Policy Description** field in the **Event Policy Manager** for the event. If this event is triggered, the text you supply in this field will be displayed in the **Event Information** modal page for the event.

7. Select the **[Save]** button to save your new alert.

Defining Key Metrics for the IT Service Policy

Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services include metrics that aggregate very different performance data. For example, you can define "health" for a remote backup service and also define "health" for an Internet bandwidth service, even though you would use different criteria to measure the health of those two services.

All IT Service policies define how SL1 should calculate the following Key Metrics for the IT Service:

NOTE: SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The **Average Device Availability** metric specifies that SL1 should aggregate the availability data for all the devices in the policy and calculate the average availability.

- Service Health. The health of an IT Service can be one of the five standard severity values: Healthy, Notice, Minor, Major, or Critical. By default, the Service Health metric is aligned with the Average Device Availability metric.
- Service Availability. The availability of an IT Service can be either available or unavailable. By default, the Service Availability metric is aligned with the same metric as Service Health, converting Critical Service Health to Unavailable and all other Service Health values to Available.
- Service Risk. The risk of an IT Service is a percentage value that indicates how close an IT Service is to being in an undesirable state. By default, the Service Risk metric is aligned with the same metric as Service Health, converting the threshold between Healthyand Notice Service Health to 100% and the healthiest possible value to 0%.

For more details on Key Metrics, see the main section on Key Metrics.

To edit the definitions of each Key Metric for our example IT Service policy:

- If the IT Service Editor page is not still open, go to the IT Service Manager page (Registry > IT Services > IT Service Manager). Find the policy WAN_circuit_1. Select its wrench icon (²).
- 2. In the IT Service Editor page, select the [Metrics] sub-tab.

3. In the bottom pane, you will see the three Key Metrics:

Key Metrics									
Service Health	[Average Device Availability]								[Decreasing] 👻
		25		50		75		90	
0	Critical		Major	Ť	Minor	Ť.	Notice	Неа	althy 100
Service Availability	dev_wan_inbound_errors			<u> </u>					Increasing 💌
		25							
0	Availa	able Unavailable							100
Service Risk	dev_wan_inbound_errors								[Decreasing] 💌
		25							100
0	10	00%							0% 100
		<u> </u>							
			I	Save					

- 4. To edit the Key Metrics for our example IT Service policy:
 - Service Health. This example uses the default values for this Key Metric. This Key Metric appears in the Health column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Healthy, Notice, Minor, Major, and Critical.
 - Service Availability. This Key Metric appears in the Availability column in IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Available and Unavailable.
 - From the drop-down list that appears above the Service Availability Key Metric, select wan_ inbound_errors. The Service Availability Key Metric will now examine the metric wan_ inbound_errors to determine the availability of the IT Service.
 - From the drop-down list that appears to the right of the **Service Availability** Key Metric, select *Increasing*.
 - Move the slider to **25**. If there are more than 25 errors, the service will be considered unavailable.
 - ° Accept the default minimum range and maximum range.
 - Service Risk. This Key Metric appears as a percentage in the Risk column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are 0% - 100%.
 - From the drop-down list that appears above the Service Risk Key Metric, select wan_inbound_ errors. The Service Risk Key Metric will now examine the metric wan_inbound_errors to determine the risk to the IT Service.
 - From the drop-down list that appears to the right of the **Service Risk** Key Metric, select **Increasing**.
 - Move the 0% slider to **0**. Move the 100% slider to **25**. The **Service Risk** metric will now show how at risk the service is, with 0% risk being completely healthy (no errors) and 100% risk being unavailable (25 errors).
 - ° Accept the default minimum range and maximum range.
- 5. Select the **[Save]** button to save the changes to the Key Metrics.

Viewing Information about the IT Service Policy

IT Service Manager

The **IT Service Manager** page displays overview information each IT Service policy. To view the **IT Service Manager** page:

- 1. Go to the IT Service Manager page (Registry > IT Services > IT Service Manager).
- 2. Find the policy WAN_circuit_1.

Service Manager Services Found [4]									Crea	te Reset Gui	ide
Service Name •	Health	Availability	Risk	<u>ID</u>		Owner	Access		Edited By	Last Edited	6
1. + Acme: MS SQL database_servers	Critical Critical	Unavailable Unavailable		3	em7admin em7admin		Shared	em7admin em7admin		2013-02-19 14:15:54 2013-02-19 13:49:40	
2. + <u> </u>	Critical	Unavailable		2	em/admin em/admin		Shared Shared	em/admin em7admin		2013-02-19 13:49:40 2013-02-19 13:49:28	
4. + AWAN_circut_1	Healthy	Available	0%	4	em7admin		Shared	em7admin		2013-02-19 15:57:15	
									[Select Actio	n] 💌	Go

- 3. The IT Service Manager displays the following about the IT Service policy.
 - Service Name. Name of the policy. The color indicates the severity of the most severe event associated with the IT Service policy.
 - *Health*. This is a default Key Metric for each IT Service policy. This metric specifies the overall health of the IT Service. Possible values are: *Critical*, *Major*, *Minor*, *Notice*, and *Healthy*.
 - Availability. This is a Key Metric for each IT Service policy. This metric specifies the overall availability of the IT Service. Possible values are: Available or Unavailable.
 - *Risk*. This is a Key Metric for each IT Service policy. This metric specifies the overall risk to the IT Service. Possible values are 0% 100%, in integer values

IT Service Summary

The **IT Service Summary** page allows you to view the IT Service Dashboards that have been configured for the selected IT Service. By default, each IT Service Policy includes the *IT Service Details* dashboard. To access the **IT Service Summary** page:

To view the IT Service Summary page:

- 1. Go to the IT Service Manager page (Registry > IT Services > IT Service Manager).
- 2. Find the policy **WAN_circuit_1**. Select its map icon (4).
- 3. The **IT Service Summary** page for our example IT Service policy displays the default **IT Service Details** dashboard for the IT Service:

Summary Model Logs Event	s Tickets	Admi	inistration
IT Service Summary IT Service [4]			Actions Reset Guide
[IT Service Details]			
Service Name WAN_circuit_1	Service Health Healthy		Problem Management •
Service Owner em7admin	Service Availability Available	э	Logs 286
Service Visibility BK_Org1, BK_Org2, System	Service Risk 0%		Active Events 1 1
Maintenance State Service Active			
	1		
Service Vitals •	No Matching Data (Last 1	2 hours)	•
dev_wan_inbound_errors 0.14 B/s			
	06:00 08:	00	10:00 12:00 14:00 16:00
			No Matching Data
	Activity Log		
	Date/Time	-	•
	2013-02-19 17:38:32	Type Log	Description TSM UI: em7admin Updated IT Service: Added Range 0 : Threshold 1 : 25
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Range 0 : Max Value 100
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Range 0 : Presentation ID 1895
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Target 0 : Alert_Id -8
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Target 0 : Event ID -9
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Alert Name dev_router_too_mar
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Range Id -7
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Collection 0 : OID Type -4
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Collection 0 : OID avg
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Collection 0 : Name Interfaces tagged "wa
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Collection 0 : Class 4
	2013-02-19 17:38:32 2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Collection 0 : Unit B/s
	2013-02-19 17:38:32 2013-02-19 17:38:32	Log Log	ITSM UI: em7admin Updated IT Service: Removed Collection 0 : 6227 ITSM UI: em7admin Updated IT Service: Changed Presentation 1895 : Formula (o -5)
	2013-02-19 17:38:32	Log	TSM UI: em7admin Updated IT Service: Changed Presentation 1695 : Pormula (05) TSM UI: em7admin Updated IT Service: Added Alerts 0 : Formula result(p 1895) >= three
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Hormula result(p_1030) >= tilles ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Message dev wan inbound er
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Alerts 0 : Name dev_router_too_many_int
	2013-02-19 17:38:32	Log	ITSM UI: em7admin Updated IT Service: Added Request 0 : app_id 556

Viewing Additional Information

For instructions on how to view *information about the devices* in an IT Service policy, view the *events* associated with an IT Service policy, view the *tickets* associated with an IT Service, and view the *log messages* associated with an IT Service policy, see the section on *Viewing IT Services*.

Example



Example Using Service Dependencies

Overview

This chapter provides a working example of an IT Service policy.

This example will include a **Service Dependency**. The example will create a metric for availability for all devices in the Acme company. The example will use metrics from other IT Service policies to calculate device availability for all devices in the company. Specifically, the example policy **acme_all_devices**, will use the availability metrics and list of devices from the IT Service policies **acme_east_coast_devices** and **acme_west_coast_devices** to determine the availability of all devices in the Acme company.

This example is abbreviated and specifically highlights using a Service Dependency. For detailed examples of other aspects of IT Service policy, see the section on Creating, Editing, and Deleting IT Services or Example 1 or Example 2.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (三).
- To view a page containing all the menu options, click the Advanced menu icon (…).

This example includes the following topics:

Creating an IT Service Policy	141
Defining the Two External IT Service Policies	141
Defining "acme_east_coast_devices"	142
Defining "acme_west_coast_devices"	145
Defining the Name of the IT Service Policy and its Basic Properties	148
Defining a List of Service Dependencies for the IT Service Policy	150

Defining Metrics for the IT Service Policy	151
Defining east_coast_device_availability	152
Defining west_coast_device_availability	153
Defining all_devices_availability	154
Defining Key Metrics for the IT Service Policy	156

Creating an IT Service Policy

To define the example IT Service policy in this example, you must:

- 1. Define two simple IT Service policies to use as Service Dependencies.
- 2. **Define a service name and basic properties**. In this example, we will monitor the availability of devices at two corporate offices. The name of the IT Service policy will be acme_all_devices.
- 3. Define a list of Service Dependencies (model) for the IT Service that includes all the external IT Service policies you want to reference. In our example, we'll use the data from two different IT Service policies to create a metric in our example IT Service policy. The metric in our example IT Service policy will include all the devices and availability data from our two Service Dependencies.
- 4. Define metrics. A metric is based on your business processes and examines all devices or one or more service sets to evaluate the state of the IT Service. For our example, we'll examine the availability of multiple groups of devices and create a metric for availability of the sum of all devices.

NOTE: When SL1 evaluates a metric, it performs an aggregation, that is, SL1 evaluates the data for all devices specified in the definition of the metric, over a specified time period (the Aggregation Frequency). Depending on the definition of the metric, SL1 calculates the average, maximum, minimum, sum, standard deviation, or count value for all devices specified in the definition of the metric.

5. **Define alerts and associated events**. Each alert and its associated event is triggered by a metric. In our example, we will not define alerts and events. For examples of defining alerts and events, see the section on **Creating, Editing, and Deleting IT Services** or **Example 1** or **Example 2**.

Defining the Two External IT Service Policies

First, we must define the two IT Service policies that we will use as Service Dependencies. Each IT Service policy will monitor the availability of three devices.

To define the basic parameters of our two external IT Service policies, follow the steps in the following two subsections.

Defining "acme_east_coast_devices"

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the **[Create]** button. This new IT Service policy will monitor the availability of devices in a branch office of the Acme company.

3. The IT Service Editor page appears, with the [Administration] tab selected.

Projecties Model Metrics Schedular Intervice Name Schedular Intervice Name Schedular Intervice Name Intervice	Summary Model Logs	Events Tickets Administration	
If Service Name Sharing Permissions Icon Borne_east_coast_devices [Shared with users in your organizations] Permission Keys Im7 admin Change Owner Permission Keys [Basic Interface] Permission Keys If Service Owner Operational Status Aggregation Frequency Raw Data Retention [Laggregation enabled] If Service Frequency Raw Data Retention [Lue system default retention setting] If Use system default retention setting] If Use system default retention setting] Description If Use system default retention setting] If Use system default retention setting] Data Young Owner	Service Editor Created IT Service IT Service [6]		New Reset Guide
acrea_east_coast_devices [[Shared with users in your organizations] Permission Keys Permission Keys Configuration Mode Coast All Provised Administration Power and the status Permission Keys Permission Keys Basic Interface Permission Keys Image: Coast Administration Provision Provisi	Properties Model Metrics Schedule		Advanced
IT Service Owner IT Ser	IT Service Name	Sharing Pern	nissions Icon
em/admin Change Guntaria [[Basic Interface] Image: Change Guntaria [[Basic Interface] Image: Change Guntaria Provisioning Access Provisioning Access Admin Back Collection Image: Change Guntaria Operational Status Aggregation Frequency [[Aggregation enabled] Image: Change Guntaria Prequent Rolup Retention Hourly Rolup Retention [[Use system defaul retention setting] Image: Change Guntaria Operational Status Aggregation frequency Reserved Raw Data Retention [[Use system defaul retention setting] Image: Change Guntaria [[Use system defaul retention setting] Image: Change Guntaria Operational Status Image: Change Guntaria [[Use system defaul retention setting] Image: Change Guntaria [[Use system defaul retention setting	acme_east_coast_devices	[Shared with users in your organizations]	
Configuration Mode Grant All [[Basic Interface] Grant All Dever-Pack Administration Prover-Pack Administrati			
[Easic Interface] Power-Book Administration Prover-Book Administration Prover-Book Administration Prover-Book		Grant All	
		Basic User Privileges	=
Data Collection Operational Status Aggregation Frequency Raw Data Retention [Aggregation enabled] [Every 5 minutes] [Every 5 minutes] [Use system default retention setting] [Use sy		Provisioning Access	
Operational Status Aggregation Frequency Raw Data Retention [Aggregation enabled] [Every 5 minutes] [Use system default retention setting] Daly Rolup Retention Daly Rolup Retention Daly Rolup Retention Description Description			-
Operational Status Aggregation Frequency Raw Data Retention [Aggregation enabled] [Every 5 minutes] [Use system default retention setting] Daly Rolup Retention Daly Rolup Retention Base ription Bescription <l< td=""><td>Inte Collection</td><td></td><td></td></l<>	Inte Collection		
[Aggregation enabled] [Every 5 minutes] <l< td=""><td></td><td></td><td></td></l<>			
Frequent Rolup Retention Hourly Rolup Retention Daily Rolup Retention [[Use system default retention setting] • [[Use system default retention setting] • Description • • • • •			
[Use system default retention setting] [Use system default retention setting] [Use system default retention setting] bescription			
Save Save As		Save Save As	

- 4. Select the [Properties] sub-tab. Supply the following values in the following fields:
 - IT Service Name. Name of the IT Service policy. We entered "acme east coast devices".
 - IT Service Owner. Automatically populated with your username.
 - **Configuration Mode**. We selected Basic Interface. The Basic Interface allows you to quickly setup an IT Service policy.
 - Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. We selected Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the creator.
 - Permission Keys. We did not select any permission keys.
 - Operational Status. We selected Aggregation enabled.
 - Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and "crunch" the data for each metric into a single value. We specified Every 5 minutes.
 - **Raw Data Retention**. Specifies how long SL1 should store the raw data for the IT Service policy. We accepted the default value.
 - Frequent Rollup Retention. Deprecated field no longer used by SL1.
 - Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. We accepted the default value.
 - Daily Rollup Retention. Specifies how long SL1 should store the "daily" normalized data for the IT

Service policy. We accepted the default value.

- **Description**. We did not enter a description.
- 5. Select the **[Save]** button to save the values in the **[Properties]** tab.
- 6. Select the **[Model]** tab.
- 7. We will statically add three servers to our policy. To add a static list of one or more devices to the list of devices for the IT Service policy, go to the **Static Devices** pane.

Summary Mo	del Logs	Events	Tickets	Administration					
IT Service Editor Created IT	Service IT Service [4]					Nex	v	Reset	Guide
Properties Model	Metrics Schedule								Advanced
Device Groups [0]								Del	Add
		Device Group N	ame •			<u>10</u>	Devices	Groups	Rules 🗸
			No device groups in	service.					
Static Devices [0]								Del	Add
static bevices [0]	Device Name •		Class S	ub-class	ID		Organization	Del	Add
					_				-
			No static devices in	service.					
Dynamic Device Rules [0]								Del	Add
Selector Type			Selector Tar	gets				Matcher	i Devs 🗹
		No	dynamic device rules	s in service.					
			Save						
L			00.00						

8. Select the [Add] button. The Device Alignment modal page displays a list of all devices in SL1.

1.1 1.1 1.13 1.2 1.62	5, 10.4.1.86, 10.4 10.4.1.1 10.4.1.1 10.4.1.13 10.4.1.2	Router Router Unknown	Cisco Systems 7206VXR	461 7648	System System			
1.1 1.13 1.2	10.4.1.1 10.4.1.13	Router	Cisco Systems 7206VXR					
1.13 1.2	10.4.1.13			7648	System			
1.2		Unknown	Operation I Child D					
	10 4 1 2		Generic SNMP	239	System			
1.62	10.4.1.2	Router	Cisco Systems 7206VXR	456	System			
	10.4.1.62			445	System			
1.62	10.4.1.62	Servers	NET-SNMP Linux	7650	System			
1.77	10.4.1.77	Switches	Cisco Systems Catalyst WS-C6	989	System			
ANCECOPIA	10.4.1.204	Servers	Microsoft Windows 2008 Serve	216	System		V	Add
C-MDJ23-3-01	10.4.1.43	Router	Cisco Systems 1750	355	System			
C-MDJ23-3-01	10.4.1.43	Router	Cisco Systems 1750	7647	System			
ADC3	10.4.1.14	Servers	Microsoft Windows 2003 Doma	237	System			
ADC3	10.4.1.15	Servers	Microsoft Windows 2003 Doma	241	System		V	Add
ADC3	10.4.1.11	Servers	Microsoft Windows 2003 Doma	243	System			
ADC3	10.4.1.17	Servers	Microsoft Windows 2003 Doma	244	System			
DE1	10.4.1.86	Servers	Microsoft Windows 2003 Serve	985	System		V	Add
bl	10.4.1.205	Servers	NET-SNMP Solaris	220	System			
7RE-HHI_1B.hoag.org	10.4.1.69	Switches	Cisco Systems Catalyst 4507RE	459	System			
srv-esx1.ca.sophos.com	10.4.1.81	VMware	VMWare ESX	201	System			
_10.4.1.100	10.4.1.100	Router	Cisco Systems 7206VXR	401	System			
_10.4.1.20	10.4.1.20	Router	Cisco Systems 7206VXR	287	System			
_10.4.1.21	10.4.1.21	Router	Cisco Systems 7206VXR	296	System			
_10.4.1.22	10.4.1.22	Router	Cisco Systems 7206VXR	284	System			
_10.4.1.23	10.4.1.23	Router	Cisco Systems 7206VXR	285	System			
_10.4.1.24	10.4.1.24	Router	Cisco Systems 7206VXR	321	System			
0 10.4.1.25	10.4.1.25	Router	Cisco Systems 7206VXR	305	System			
	NNCECOPIA =MDJ23-3-01 =MDJ23-3-01 DC3 DC3 DC3 DC3 DC3 DC3 DC3 DC3	NUCECOPIA 16.4.1.204 >MD/23-3-01 10.4.1.43 >MD/23-3-01 10.4.1.43 DC3 10.4.1.43 DC3 10.4.1.43 DC3 10.4.1.14 DC3 10.4.1.14 DC3 10.4.1.11 DC3 10.4.1.17 DC3 10.4.1.17 DC4 10.4.1.00 RE-HH1_1B heag org 10.4.1.69 YN-essx1.ca.sophos.com 10.4.1.61 _10.4.1.20 10.4.1.21 _10.4.1.21 10.4.1.21 _10.4.1.22 10.4.1.21 _10.4.1.23 10.4.1.23	NUCECOPIA 10 4 1 204 Servers AMD/23-3-01 10 4.1.43 Router AMD/23-3-01 10 4.1.43 Router DC3 10 4.1.43 Router DC3 10 4.1.14 Servers DC3 10 4.1.14 Servers DC3 10 4.1.11 Servers DC3 10 4.1.17 Servers DC3 10 4.1.10 Servers RE 10 4.1.205 Servers RE-HH1 15 Roag org 10 4.1.69 Switches rvesx1 ca.sophos.com 10 4.1.10 Router 10 4.1.20 10 4.1.21 Router 10 4.1.21 10 4.1.21 Router 10 4.1.22 10 4.1.22 Router 10 4.1.23 Router 10 4.1.23	NUECCOPA 10.4 12.04 Servers Hicrosoft Windows 2005 Serve ADD23-3-01 10.4.1.43 Router Cisco Systems 1750 DC3 10.4.1.43 Router Cisco Systems 1750 DC3 10.4.1.14 Servers Microsoft Windows 2005 Dense DC3 10.4.1.14 Servers Microsoft Windows 2003 Doma DC3 10.4.1.11 Servers Microsoft Windows 2003 Doma DC3 10.4.1.11 Servers Microsoft Windows 2003 Doma DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma DC3 10.4.1.20 Servers Microsoft Windows 2003 Doma DC4 10.4.1.20 Servers Microsoft Windows 2003 Servers RE-HH1 Bhoag org 10.4.1.20 Servers Nicrosoft Vindows 2003 Servers 10.4.1.00 10.4.1.20 Router Cisco Systems 1/206VXR 10.4.1.21 Router Cisco Systems 1/206VXR 10.4.1.21 Router Cisco Systems 1/206VXR	NUESCOPIA E0.41.2024 Servers Microsoft Windows 2008 Server 515 AMD/23-3-01 10.4.1.43 Router Cisco Systems 1750 7647 ADD/23-3-01 10.4.1.43 Router Cisco Systems 1750 7647 DC3 10.4.1.14 Servers Microsoft Windows 2008 Doma 237 DC3 10.4.1.14 Servers Microsoft Windows 2003 Doma 241 DC3 10.4.1.11 Servers Microsoft Windows 2003 Doma 243 DC3 10.4.1.11 Servers Microsoft Windows 2003 Doma 243 DC3 10.4.1.12 Servers Microsoft Windows 2003 Doma 243 DC3 10.4.1.10 Servers Microsoft Windows 2003 Doma 243 DC3 10.4.1.10 Servers Microsoft Windows 2003 Doma 243 PG 10.4.1.205 Servers Microsoft Windows 2003 Doma 244 FH 10.4.1.205 Servers Microsoft Windows 2003 Doma 245 Prosexic.as optos.com 10.4.1.205 Servers Micr	NUECCOPA 10.4.1.20.4 Servers Hicrosoft Windows 2008 Serve 216 System AMD/23.3-01 10.4.1.43 Router Cisco Systems 1750 355 System AMD/23.3-01 10.4.1.43 Router Cisco Systems 1750 7647 System DC3 10.4.1.14 Servers Microsoft Windows 2003 Doma 237 System DC3 10.4.1.14 Servers Microsoft Windows 2003 Doma 244 System DC3 10.4.1.11 Servers Microsoft Windows 2003 Doma 244 System DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma 244 System DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma 244 System DC3 10.4.1.20 Servers Microsoft Windows 2003 Dema 245 System RE-H1 10.4.1.20 Servers Microsoft Windows 2003 Serve 265 System I 10.4.1.20 Servers Microsoft Windows 2003 Serve 265 System I 10.4.1.20 Router Cisco Systems 1/204/x1459 System I	NUCECOPIA 10.4.1.2024 Servers Microsoft Windows 2008 Servi 216 System 2MD/23-3-01 10.4.1.43 Router Cisco Systems 1750 355 System 2MD/23-3-01 10.4.1.43 Router Cisco Systems 1750 7647 System DC3 10.4.1.14 Servers Microsoft Windows 2003 Doma 237 System DC3 10.4.1.14 Servers Microsoft Windows 2003 Doma 241 System DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma 243 System DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma 244 System DC3 10.4.1.17 Servers Microsoft Windows 2003 Doma 245 System DC3 10.4.1.10 Servers Microsoft Windows 2003 Doma 245 System RE-HIL 10.4.1.205 Servers Microsoft Windows 2003 Doma 245 System I 10.4.1.00 10.4.1.00 Switches Cisco Systems Catayat 4507Ri 455 System I 10.4.1.00 I0.4.1.100 Router Ci	NUECCOPA 16.4.1.204 Bervers Nueccos 11 Windows 2005 Servi 216 System C ADD223-3-01 10.4.1.43 Router Cisco Systems 1750 7647 System C ADD223-3-01 10.4.1.43 Router Cisco Systems 1750 7647 System C DC3 10.4.1.14 Servers Microsoft Windows 2003 Dome 241 System C DC3 10.4.1.14 Servers Microsoft Windows 2003 Dome 243 System C DC3 10.4.1.11 Servers Microsoft Windows 2003 Dome 244 System C DC3 10.4.1.11 Servers Microsoft Windows 2003 Dome 244 System C DC3 10.4.1.15 Servers Microsoft Windows 2003 Dome 244 System C I 10.4.1.25 Servers Microsoft Windows 2003 Dome 244 System C I 10.4.1.20 Servers Microsoft Windows 2003 Dome 244 System C I 10.4.1.20 Servers Microsoft Windows 2003 Dome 244 System<

- 9. In the **Device Alignment** modal page, we selected the checkbox for devices ALLIANCECOPIA, AU-ADC3, and BLADE1. Each is a Windows server.
- 10. Select the **[Add/Remove]** button in the lower right. The selected devices will appear in the **Static Devices** pane.
- 11. Select the **[Save]** button to save the list of devices
- 12. We will use the default metric automatically created by SL1, **Average Device Availability**, so we don't have to create a custom metric.

Defining "acme_west_coast_devices"

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the **[Create]** button. This new IT Service policy will monitor the availability of devices in a branch office of the Acme company.
- 3. The IT Service Editor page appears, with the [Administration] tab selected.

Summary Model Logs	Events	Tickets Administra	tion		
IT Service Editor Created IT Service IT Service [7]				New Reset Guid	e
Properties Model Metrics Schedule				Advand	_
					<u>, e u</u>
IT Service Name acme_west_coast_devices		Shi Shared with users in your organi	aring Permis zations 1	ssions Icon	
IT Service Owner			ermission K		11
mantone	Change Owner	EM7 System Administration			81
Configuration Mode		Grant All Basic User Privileges		=	41
[Basic Interface]		Power-Pack Administration Provisioning Access			
		Admin Portal UI Access			
		IT Services		×	-
Data Collection					
Operational Status		Aggregation Frequency		Raw Data Retention	!
[Aggregation enabled]	 Every 5 minutes 		-	[Use system default retention setting]	•
Frequent Rollup Retention		Hourly Rollup Retention		Daily Rollup Retention	
[Use system default retention setting]	👻 [Use system de	fault retention setting]	[Use system default retention setting]	-	
					-
Description					
					.:
		Save Save As			

- 4. Select the [Properties] sub-tab. Supply the following values in the following fields:
 - IT Service Name. Name of the IT Service policy. We entered "acme west coast devices".
 - IT Service Owner. Automatically populated with your username.
 - **Configuration Mode**. We selected Basic Interface. The Basic Interface allows you to quickly setup an IT Service policy.
 - Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. We selected Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the creator.
 - Permission Keys. We did not select any permission keys.
 - Operational Status. We selected Aggregation enabled.
 - Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and "crunch" the data for each metric into a single value. We specified Every 5 minutes.
 - **Raw Data Retention**. Specifies how long SL1 should store the raw data for the IT Service policy. We accepted the default value.
 - Frequent Rollup Retention. Deprecated field no longer used by SL1.
 - Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. We accepted the default value.
 - **Daily Rollup Retention**. Specifies how long SL1 should store the "daily" normalized data for the IT Service policy. We accepted the default value.
 - **Description**. We did not enter a description.

- 5. Select the **[Save]** button to save the values in the **[Properties]** tab.
- 6. Select the **[Model]** tab.
- 7. We will statically add three devices to our policy. To add a static list of one or more devices to the list of devices for the IT Service policy, go to the **Static Devices** pane.

Summary Model Logs	Events Tickets Adm	ninistration		
IT Service Editor Created IT Service IT Service [4]			New	Reset Guide
Properties Model Metrics Schedule				Advanced
Device Groups [0]				Del Add
	Device Group Name •		ID Devices	Groups Rules
	No device groups in service.			
Static Devices [0]				Del Add
Device Name •	Class Sub-class	ID	Organization	7
	No static devices in service.			
Dynamic Device Rules [0]				Del Add
Selector Type	Selector Targets			Matched Devs 📝
	No dynamic device rules in servi	ice.		
	Save			

8. Select the [Add] button. The Device Alignment modal page displays a list of all devices in SL1.

Device Name •	IP Address	Category	Class Sub-class	ID		Organization	1	Actio
	10.2.2							
12612	10.2.2.37	Router	Cisco Systems 2612	14037	System		V	Ado
mcon-cucm7	10.2.2.3			415	System			
mcvd-as5300-2.cisco.com	10.2.2.28	Access	Cisco Systems AS5300	361	System			
HQ-FW-PIX01.sciencelogic.com	10.2.2.173	Firewall	Cisco Systems PIX 515E	2171	System			
MUHQ-FW-PIX01.sciencelogic.com	10.2.2.175	Firewall	Cisco Systems PIX 515E	2176	System			
MNexus-5020-1	10.2.2.11	Switches	Cisco Systems N5K-C5020-P-B	293	System			
MPM-VMWARE	10.2.2.13	Servers	Microsoft Windows 2003 Serve	301	System		V	Ad
///SEP001DA23897CE	10.2.200.55	TelePresen	Cisco TelePresence CTS-3010	10288	System			
MSEP001DA23897CE	10.2.200.56	TelePresen	Cisco TelePresence CTS-500	10298	System			
MSEP001DA23897CE	10.2.200.57	TelePresen	Cisco TelePresence CTS-500	10299	System			
MServMod-37	10.2.2.17			289	System			
MServMod-37	10.2.2.6			406	System			
///Support	10.2.2.15	Unknown	Cisco Systems OEM	292	System			
///Switch	10.2.2.52	Switches	Cisco Systems Catalyst 3750-S	376	System			
///velocity	10.2.2.16	Unknown	Generic SNMP	288	System			
WAE-CORE.customerb.com	10.2.2.9	Software	Cisco Systems WAE-512	402	System		V	Add
WAE-CORE.customerb.com	10.2.2.8	Software	Cisco Systems WAE-512	403	System			

- 9. In the **Device Alignment** modal page, we selected the checkbox for devices "10.2.2.13", "10.2.2.37", and "10.2.2.9". Each is a Cisco network device.
- 10. Select the **[Add/Remove]** button in the lower right. The selected devices will appear in the **Static Devices** pane.
- 11. Select the **[Save]** button to save the list of devices
- 12. We will use the default metric automatically created by SL1, **Average Device Availability**, so we don't have to create a custom metric.

Defining the Name of the IT Service Policy and its Basic Properties

Our example IT Service policy, *acme_all_devices*, will examine the devices and metrics from the *two external IT* Service policies to calculate availability for all devices in the Acme company. To define the basic parameters of our example IT Service policy:

- 1. Go to the **IT Service Manager** page Registry > IT Services > IT Service Manager).
- 2. Select the [Create] button.
- 3. The IT Service Editor page appears, with the [Administration] tab selected.

4. Select the **[Properties]** sub-tab. Supply the following values in the following fields:

Summary Model Logs	Events	Tickets Administration		
IT Service Editor Created IT Service IT Service [8]			New	Reset Guide
Properties Model Metrics Schedule				Advanced
IT Service Name		Sharing Pern	nissions	Icon
acme_all_devices		[Shared with users in your organizations]		
IT Service Owner		Permission		5
mantone	Change Owner	EM7 System Administration Grant All	<u>^</u>	
Configuration Mode [Basic Interface]	-	Basic User Privileges Power-Pack Administration	E	
[base menace]		Provisioning Access		
		Admin Portal UI Access	*	
Data Collection				
Operational Status	_	Aggregation Frequency	Raw Data Rete	
	 Every 5 minutes 	s]	[Use system default retention setting]
Frequent Rollup Retention		Hourly Rollup Retention	Daily Rollup Rete	
[Use system default retention setting]	 Use system de 	fault retention setting]	[Use system default retention setting]
Description				
		Save Save As		
		Save Save As		

- IT Service Name. Name of the IT Service policy. We entered "acme all devices".
- IT Service Owner. Automatically populated with your username.
- **Configuration Mode**. We selected Basic Interface. The Basic Interface allows you to quickly setup an IT Service policy.
- Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. We selected Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the creator.
- Permission Keys. We did not select any permission keys.
- Operational Status. We selected Aggregation enabled.
- Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and "crunch" the data for each metric into a single value. We specified Every 5 minutes.
- Raw Data Retention. Deprecated field no longer used by SL1.
- **Frequent Rollup Retention**. Specifies how long SL1 should store the "frequent" normalized data for the IT Service policy. We accepted the default value.
- Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. We accepted the default value.
- **Daily Rollup Retention**. Specifies how long SL1 should store the "daily" normalized data for the IT Service policy. We accepted the default value.
- **Description**. We did not enter a description.

5. Select the **[Save]** button to save the values in the **[Properties]** tab.

Defining a List of Service Dependencies for the IT Service Policy

After defining the name and basic properties of the example IT Service policy, we next define the Service Dependencies. You do this in the **[Model]** sub-tab.

To create the Service Dependencies for the IT Service policy:

- 1. After performing the tasks in the previous sections, go to the **IT Service Editor** page for the example IT Service policy and select the **[Model]** sub-tab.
- 2. Select the [Advanced] button.
- 3. Go to the Service Dependencies pane. Select the [Add] button.

Details	Model	Logs	Events	Tic	kets	Administr	ation			
IT Service Editor Crea	ated IT Service	IT Service [26] Click	"Save" to comm	it changes				New	Reset	Guide
Properties Mode	el Collect	tion Metrics	Alerting Sch	edule						Advanced
Device Groups [0]					De	Add	Service Dependencies [0]		Del	Add
	Device G	roup Name •	<u>10</u>	Devices	Groups	Rules 🗹		Service Name •		V
		No device groups i	n service.				No	dependent services		
					_					
Static Devices [0]	e Name •	Class Sub	class ID		D e Organization	Add				
	<u>a rune</u>	00000 1000	<u></u>							
		No static devices i	service							
							Device Subsets [1]		Del	
							1. + (All Devices in Servic	vice Subset Name • e)		<u># Devs</u> ⊘
Dynamic Device Rules	s [0]				De	Add	1			
Selector Type		Selector T	argets		Match	ed Devs 🖉				
		No dynamic device rul	es in service.							
										Refresh
					Save		1			
				_						

4. The Service Dependency Alignment Editor modal page appears. The Service Dependency Alignment Editor modal page displays a list of all IT Services in SL1 that you are allowed to view.

Add/Remove Service Dependencies		Close / Esc
Service Dependency Alignment		Reset
Service Name •	<u>State ID</u>	Action
1. acme_east_coast_devices	Critical 24	Add
2. acme_west_coast_devices	Healthy 25	✓ Add
	Add: [2	Add/Remove

- 5. To align the two external IT Services in this example, we selected the checkbox for "acme_east_coast_ devices " and "acme_west_coast_devices"
- 6. Select the **[Add/Remove]** button in the lower right. The selected IT Service policies will appear in the **Service Dependencies** pane.
- 7. Select the **[Save]** button to save the list of service dependencies.

Defining Metrics for the IT Service Policy

A metric is a measurement that helps determine the status of an IT Service.

SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The **Average Device Availability** metric examines the availability of all devices in the IT Service. By default, the **Average Device Availability** metric is collected from every device every minute and "crunched" and averaged every 15 minutes.

Our example uses data from two external IT Service policies (acme_east_coast_devices and acme_west_coast_devices) to determine the availability of all devices in the Acme network.

- We will define a metric for **east_coast_device_availability** that is a link to the **acme_east_coast_devices** IT Service policy.
- We will define a metric for **west_coast_device_availability** that is a link to the **acme_west_coast_devices** IT Service policy.

• We will define a metric for *all_devices_availability* that will examine *east_coast_device_availability* and *west_coast_device_availability* and calculate the average availability for the sum of all devices on the east coast plus all the devices on the west coast.

Defining east_coast_device_availability

- 1. Go to the IT Service Editor page and select the [Metrics] sub-tab.
- 2. Ensure that you are in **Basic mode**. If you see the **[Alerting]** sub-tab, you are not in **Basic mode**. Click on the **[Advanced]** button to toggle to **Basic mode**.
- 3. Select the [Add] button.
- 4. The Service Metric Editor modal page appears.

Edit Service Metric			Close / Esc
Service Metric Editor Editing Metric			Reset
Service Metric Name east_coast_device_availability Metric Classification [Service Vtal Metric] Active State [Enabled]	Metric Type [Aligned Service Dependency] Service Dependency] Service Dependency [acme_east_coast_devices] acme_east_coast_devices. Average Do Guide Text	etric	Aggregation [[Maximum] Presentation e Availability]
Metric Alerting	Alert Policy Name	Critical	Event Severity
	Alert Threshold	75	Increasing 🚽
0	Healthy	le la	Critical 100
Alert Policy not defined.			
	Event Policy Description	n	
B Z U Style - Forma		 Image: Size Image:	
	ок		

- 5. We will create the metric east_coast_device_availability. This metric will point to the service dependency for acme_east_coast_devices and calculate the average device availability of the devices in that external IT Service policy. Because we defined acme_east_coast_devices as a service dependency, SL1 will use the availability metric defined in the acme_east_coast_devices IT Service policy and will use the list of devices in the acme_east_coast_devices IT Service policy.
- 6. To create this metric, enter the following values in the **Service Metric Editor** modal page:
 - Service Metric Name. Enter "east_coast_device_availability".
 - Metric Classification. Specifies whether the metric will be displayed in the IT Service Summary page in widgets that display vital metrics. Select Service Vital Metric. The metric will appear in widgets that display vital metrics.

- Active State. Specifies whether SL1 should currently collect data for the metric and evaluate alerts for the metric. Select *Enabled*.
- Metric Type. Specifies the type of performance data you want to use for the metric. Select Aligned Service Dependency. Our metric will examine devices in a service dependency. Because the metric is based on a metric that is defined in another IT Service policy, the Device Subset, Aggregation, and Show only metrics available for this IT Service fields are not applicable and are grayed out.
- Service Dependency Metric. This field displays a list of service dependencies for the current IT Service policy. Select acme_east_coast_devices.
- **Presentation**. This field displays a list of all metrics in the **acme_east_coast_devices** IT Service policy . Select Average Device Availability.
- 7. Select the [Save] button to save your new metric.

Defining west_coast_device_availability

- 1. Go to the IT Service Editor page and select the [Metrics] sub-tab.
- 2. Ensure that you are in **Basic mode**. If you see the **[Alerting]** sub-tab, you are not in **Basic mode**. Click on the **[Advanced]** button to toggle to **Basic mode**.
- 3. Select the [Add]button.
- 4. The Service Metric Editor modal page appears.

Edit Service Metric				Close / Esc
Service Metric Editor Editing Metric				Reset
Service Metric Name west_coast_device_availability Metric Classification [Service Vital Metric] Active State [Enabled]	Show only metrics available for thi Service Dependency Me [[acme_west_coast_devices] acme_west_coast_devices: Average D	etric	Ce)] [Maximum] Presentation Average Device Availability]	ggregation
	Guide Text			
Metric Alerting	Alert Policy Name		Event Severi	.::
[No Alert Policy]		Cr	itical	.
	Alert Threshold		75	Increasing -
0	Healthy		Critical	100
Alert Policy not defined.				
	Event Policy Description	in		
B Z U Style - Forma		 Size 		2
	ОК			
L				

- 5. We will create the metric west_coast_device_availability. This metric will point to the service dependency for acme_west_coast_devices and calculate the average device availability of the devices in that external IT Service policy. Because we defined acme_west_coast_devices as a service dependency, SL1 will use the availability metric defined in the acme_west_coast_devices IT Service policy and will use the list of devices in the acme_west_coast_devices IT Service policy.
- 6. To create this metric, enter the following values in the Service Metric Editor modal page:
 - Service Metric Name. Enter "west coast device availability".
 - Metric Classification. Specifies whether the metric will be displayed in the IT Service Summary page in widgets that display vital metrics. Select Service Vital Metric. The metric will appear in widgets that display vital metrics.
 - Active State. Specifies whether SL1 should currently collect data for the metric and evaluate alerts for the metric. Select *Enabled*.
 - Metric Type. Specifies the type of performance data you want to use for the metric. Select Aligned Service Dependency. Our metric will examine devices in a service dependency.

NOTE: Because this metric is based on a metric that is defined in another IT Service policy, the **Device** Subset, Aggregation, and Show only metrics available for this IT Service fields are not applicable and are grayed out.

- Service Dependency Metric. This field displays a list of service dependencies for the current IT Service policy. Select acme west coast devices.
- **Presentation**. This field displays a list of all metrics in the **acme_west_coast_devices** IT Service policy . Select Average Device Availability.
- 7. Select the **[Save]** button to save your new metric.

Defining all_devices_availability

- 1. Go to the IT Service Editor page and select the [Metrics] sub-tab.
- 2. Select the **[Advanced]** button. Ensure that you are in **Advanced** mode. If you see the **[Alerting]** sub-tab, you are in **Advanced** mode.
- 3. Select the **[Add]**button.
- 4. The Service Metric Editor modal page appears.

Edit Service Metric	Close / Es
Service Metric Editor Editing Metric	Reset
Service Metric Name	Metric Formula
all_devices_availability	((o_37103 + o_37104)/2)
Metric Classification [Service Vital Metric]	
Active State	1
[Enabled]	
Metric is Percentage Value	Aggregation Objects (Double-click to insert)
Abbreviation / Suffix Data Unit Description	o_37102: Device Availability (Average)
% percentage	o_37103: acme_east_coast_devices: Average Device Availability (Maximum) o_37104: acme_west_coast_devices: Average Device Availability (Maximum)
	Guide Text
	ОК

- 5. We will create the metric **all_devices_availability**. This metric will use the aggregation objects from the metrics **east_coast_device_availability** and **west_coast_device_availability** to calculate the average availability for the sum of all devices on the east coast plus all the devices on the west coast
- 6. To create this metric, enter the following values in the Service Metric Editor modal page:
 - Service Metric Name. Enter "all_devices_availability".
 - Metric Classification. Specifies whether the metric will be displayed in the IT Service Summary page in widgets that display vital metrics. Select Service Vital Metric. The metric will appear in widgets that display vital metrics.
 - Active State. Specifies whether SL1 should currently collect data for the metric and evaluate alerts for the metric. Select *Enabled*.
 - Metric is Percentage Value. If selected, the next two fields are populated automatically. If not selected, you can supply custom values in the next two fields.
 - Abbreviation/Suffix. Populated automatically.
 - Data Unit Description. Populated automatically.
 - Metric Formula. Enter:

 $((o_XXXX + o_YYYY)/2)$

Where XXXX is the number displayed for east_coast_devices in the **Aggregation Objects** field and YYYY is the number displayed for the west_coast_devices in the **Aggregation Objects** field. This formula tells SL1 to add the average for all devices in the east_coast_availability metric with the average for all devices in the west_coast_availability metric and divide the sum by two.

NOTE: If you don't want to manually enter the object ID for each aggregation object, you can add the object ID for by double-clicking on the aggregation object in the **Aggregation Objects** field.

- Guide Text. Leave blank.
- 7. Select the **[Save]** button to save your new metric.

NOTE: We didn't define any custom alerts for this example IT Service policy. You could optionally define alerts in the **[Alerts]** tab.

Defining Key Metrics for the IT Service Policy

Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services include metrics that aggregate very different performance data. For example, you can define "health" for a remote backup service and also define "health" for an Internet bandwidth service, even though you would use different criteria to measure the health of those two services.

All IT Service policies define how SL1 should calculate the following Key Metrics for the IT Service:

NOTE: SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The **Average Device Availability** metric specifies that SL1 should aggregate the availability data for all the devices in the policy and calculate the average availability.

- Service Health. The health of an IT Service can be one of the five standard severity values: Healthy, Notice, Minor, Major, or Critical. By default, the Service Health metric is aligned with the Average Device Availability metric.
- Service Availability. The availability of an IT Service can be either available or unavailable. By default, the Service Availability metric is aligned with the same metric as Service Health, converting Critical Service Health to Unavailable and all other Service Health values to Available.
- Service Risk. The risk of an IT Service is a percentage value that indicates how close an IT Service is to being in an undesirable state. By default, the Service Risk metric is aligned with the same metric as Service Health, converting the threshold between Healthyand Notice Service Health to 100% and the healthiest possible value to 0%.

For more details on Key Metrics, see the main section on Key Metrics.

We will edit the definition of the Service Health metric. We will accept the default value of the other metrics.

To edit the definition of the **Service Health** key metric:

- If the IT Service Editor page is not still open, go to the IT Service Manager page (Registry > IT Services > IT Service Manager). Find the policy *all_devices_availability*. Select its wrench icon (*P*).
- 2. In the IT Service Editor page, select the [Metrics] sub-tab.
- 3. In the bottom pane, you will see the three Key Metrics:

Key Metrics								
Service Health	[all_devices_availability]							[Decreasing] 💌
	25		50		75		90	
0	Critical	Major		Minor	Ť	Notice	Hea	Ithy 100
Service Availability	[(use Service Health metric, Critical threshold)]		A					[Decreasing] 👻
	25							
0	Unavailable							100
Service Risk	[(use Service Health metric, Healthy range)]							[Decreasing] 👻
	-						90	100
0						1	00%	0% 100
							Δ	
			Save					

- 4. To edit the Key Metrics for our example IT Service policy:
 - Service Health. This Key Metric appears in the Health column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Healthy, Notice, Minor, Major, and Critical.
 - From the drop-down list that appears above the **Service Health** Key Metric, select **all_devices_ availability**. The **Service Health** Key Metric will now examine the metric **all_devices_availability** to determine the availability of the IT Service.
 - From the drop-down list that appears to the right of the **Service Availability** Key Metric, select *Decreasing*.
 - Service Availability. This Key Metric appears in the Availability column in IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Available and Unavailable. For this example, the default values are accepted.
 - Service Risk. This Key Metric appears as a percentage in the Risk column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are 0% - 100%. For this example, the default values are accepted.

Example

4

Example Using an SLA Definition with an IT Service Policy

Overview

In this example, we will define a policy to monitor web content, define an IT Service policy that uses the webcontent monitor, define an SLA Definition, and then generate a dashboard report and a quick report for the IT Service policy and the SLA Definition.

In our example:

- We will create an IT Service policy that monitors a web server. We want to ensure that the web server will return a request within 8 seconds. We want to see this type of performance 99.99% of the time.
- We will first create a web-content monitoring policy. This policy will be aligned with the web server we want to monitor. We will search a web site for a string and monitor the time it takes to send the request and receive a reply.
- We will create an IT Service policy. This policy will monitor the web server that we aligned with the web content monitoring policy.
- The IT Service policy will include a metric that is based on the web content monitoring policy.
- The IT Service policy will use the metric (based on the web content monitoring policy) to define availability of the IT Service.
- We will define an SLA that says "the web server should return a request within 8 seconds. We want to see this type of performance 99.99% of the time".
- 99.99% uptime allows for 432 minutes of downtime per month.
- Because our IT Service policy has a polling frequency of 5 minutes, the web servers can be unavailable (transaction time is greater than 8 seconds) no more than 86 polling periods per month (and still meet 99.99% uptime).

- We will define a dashboard widget and generate a report that shows whether the IT Service policy is complying with the SLA.
- We will define and generate a spreadsheet that shows whether the IT Service policy is complying with the SLA.

Use the following menu options to navigate the SL1 user interface:

- To view a pop-out list of menu options, click the menu icon (三).
- To view a page containing all the menu options, click the Advanced menu icon (…).

This example includes the following topics:

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Defining a List of Devices for the IT Service Policy	165
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Creating the Web-Content Monitoring Policy

SL1 allows users to create policies that monitor a web site for specific content. This is helpful:

- To determine if a web site is up and running.
- To determine if the connection between a webserver and a database is up and running.
- To monitor system tools that can be accessed through a browser.
- To monitor content on a web site.

If SL1 cannot match the expression in the content policy with the text on the web site, SL1 generates an event.

SL1 uses cURL to send and receive data from the web site.

There are two places in SL1 from which you can define a policy for monitoring web content:

- 1. From the **Device Manager** page (Registry > Devices > Device Manager):
 - In the **Device Manager** page, find the device that you want to associate with the monitoring policy. Select the wrench icon () for the device.

- In the Device Administration panel, select the [Monitors] tab.
- From the [Create] menu in the upper right, select Create Web Content Policy.

Or:

- 2. From the **Web Content Monitoring** page (Registry > Monitors > Web Content):
 - In the Web Content Monitoring page, select the [Create] button.

3. The **Web Content Policy** modal page appears.

ting Policy [3]		New Rese
[he	Select Device -w2k3-jump01]	1
Policy Name website_response_policy	Uniform Resource Locator (URL)	HTTP Auth Username:Password
State Port [Enabled]	Post String	SSL Encryption [Disabled] Expression Check #1 (Case Sensitive)
Timeout [3 Sec.]		sciencelogic Expression Check #2 (Case Sensitive)
[n/a]	Cookie Value	Referrer String
Proxy Username:Password		Host Resolution
Page size (Kb) Max Page size (Kb)	Browser Emulation	Save Isec) Max overall transaction time (msec)

- 4. In the Web Content Policy modal page, supply a value in the following fields:
 - **Select Device**. From this drop-down list, select a device to align with this policy. By default, the current device is selected in this field. We selected the web server "hq-w2k3-jump01".

NOTE: Before you can define a content policy, you must decide which managed device you want to associate with the policy. You might want to associate the policy with the device where the referenced web server resides, but you aren't required to do so. Alternately, you might want to create a virtual device to associate with a content policy (for details on defining a virtual device, see the manual *Device Management*). Although SL1 will not use the device name to determine where to send the policy data, the reports that result from the policy will be aligned with the device you specify in the *Select Device* field.

- **Policy Name**. Name of the new policy. Can be any combination of letters and numbers. We entered "website response policy".
- **State**. Specifies whether SL1 should start collecting data specified in this policy from the device. We selected *Enabled*.
- Port. Port on web server to which SL1 will send queries. We left this blank.
- **Timeout**. After a specified number of seconds, SL1 should stop trying to connect to the server. We accepted the default value.
- *Error Codes*. Specify the HTTP status code you expect to receive in the response. We accepted the default value.

- **Proxy Server:Port**. For companies or organizations that use proxy servers, enter the URL and port for the proxy server in this field. We left this field blank.
- **Proxy Username: Password**. For companies or organizations that use proxy servers, enter the username and password for the proxy server in this field. we left this field blank.
- Uniform Resource Locator (URL). URL or URI of the server to send the transaction to. For this example, we wanted to use a web site we knew we could always reach and that would always have content. We entered "http://www.cnn.com/US".
- **Post String**. If the URL is very long or requires data that cannot be transferred with a standard "GET" request (that is, data that cannot be included in the URL), you can enter a POST string in this field. We left this field blank.
- **Cookie Value**. For pages that require a cookie value to be set, enter the cookie value in this field. We left this field blank.
- **Browser Emulation**. Specifies how to format the query. Select the agent that is compatible with the web server. We accepted the default value.
- HTTP Auth Username: Password. For web sites that pop up a dialog box asking for username and password, use this field. We left this field blank.
- **SSL Encryption**. Specifies whether SL1 should use SSL when communicating with the web site. If login for the web site is forms-based, enable this option. We accepted the default value.
- **Expression Check #1**. Regular expression to search for. For this example, we wanted to search for a word that would appear within a news web site. We entered "Obama"
- Expression Check #2. Another regular expression to search for. We left this field blank.
- **Referrer String**. URL of the web site. Some load-balanced configurations will not allow a request for a specific IP address. If you entered a specific IP address in the URL field, you can spoof a URL in this field. We left this field blank.
- Host Resolution. Host name of the web site. Some load-balanced configurations will not allow a request for a specific IP address. If you entered a specific IP address in the URL field, you can spoof a fully-qualified host name in this field. We left this field blank.
- Min Page size (Kb). Page size means the size of the page, in Kb, specified in the URL of the policy. If the returned page is not at least the size specified in this field, SL1 generates an event. This threshold triggers the event "Page size below minimum threshold." We left this field blank.
- Max Page size (Kb). Page size means the size of the page, in Kb, specified in the URL of the policy. If the returned page is larger than the size specified in this field, SL1 generates an event. This threshold triggers the event "Page size above maximum threshold." We left this field blank.
- Min Download speed (kb/s). Download speed is the speed, measured in Kb/s, at which data was downloaded from the server (specified in the policy) to SL1. If the download speed is not at least the speed specified in this field, SL1 generates an event. This threshold triggers the event "Download speed below threshold."
- Max nslookup time (msec). NSlookup speed is the speed at which your DNS system was able to resolve the name of the server specified in the policy. If the lookup time exceeds the value in this field, SL1 generates an event. This threshold triggers the event "DNS hostname resolution time above threshold." We left this field blank.

- Max TCP connect time (msec). TCP connect time is the time it takes for SL1 to establish communication with the external server. In other words, the time it takes from the beginning of the HTTP request to the TCP/IP connection. If the connection time exceeds the value in this field, SL1 generates an event. This threshold triggers the event "TCP connection time above threshold." We left this field blank.
- Max Overall transaction time (msec). Overall transaction time is the total time it takes to make a connection to the external server, send the HTTP request, wait for the server to parse the request, receive the requested data from the server, and close the connection. If the overall transaction time exceeds the value in this field, SL1 generates an event. This threshold triggers the event "Total transaction time above threshold." Because our SLA requires that the home page respond within 8 seconds, we entered "8000".
- 5. Select the **[Save]** button to save the new policy.

Creating the IT Service Policy

To define an IT Service policy, you must:

- 1. **Define a service name and basic properties**. This example monitors a single web server . The name of the IT Service policy will be "web_hosting_home".
- 2. Define a list of devices (model) for the IT Service that includes the web server we want to monitor.. This example includes the web server that is also associated with the web-content monitoring policy we created in the previous section.
- 3. **Optionally, define service sets. A service set is a sub-group of devices**. This example does not use service sets.
- 4. Define metrics. A metric is based on your business processes and examines all devices or one or more service sets to evaluate the state of the IT Service. For each IT Service, SL1 provides a default metric called Average Device Availability, based on the availability of all devices in the IT Service. You can define additional metrics, based on default data collected by SL1 (availability, latency, CPU usage, memory usage, swap usage, device state, and device count), data collected by a Dynamic Application, and data about network interfaces, TCP/IP ports, system processes, Windows services, Email round-trip time, web content, SOAP/XML transactions, and DNS availability. Our example will use data collected by a web-content monitoring policy.

NOTE: When SL1 evaluates a metric, it performs an aggregation, that is, SL1 evaluates the data for all devices specified in the definition of the metric, over a specified time period (the Aggregation Frequency). Depending on the definition of the metric, SL1 calculates the average, maximum, minimum, sum, standard deviation, or count value for all devices specified in the definition of the metric.

- 5. **Define Key Metrics.** Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. The Key Metrics are Health, Availability, and Risk. When you define a Key Metric, you are specifying how the value for a metric you created in step 4 translates to one of the standard Key Metric values. By default, all three Key Metrics are based on the default Average Device Availability metric.
- 6. Define alerts and associated events. This example does not include alerts and events.

Defining the Name of the IT Service Policy and its Basic Properties

To define the basic parameters of our example IT Service policy:

- 1. Go to the **IT Service Manager** page (Registry > IT Services > IT Service Manager).
- 2. Select the [Create] button. The IT Service Editor page appears, with the [Administration] tab and [Properties] sub-tab selected:

Summary Model Logs	Events	Tickets Administration		
IT Service Editor Created IT Service IT Service [9]			New Reset	Guide
Properties Model Metrics Schedule				Advanced
IT Service Name		Sharing Permissions Icon		
web_hosting_home		[Shared with users in your organizations		
IT Service Owner		Permissio		3
em7admin	Change Owner	EM7 System Administration Grant All		
Configuration Mode [Basic Interface]	-	Basic User Privileges Power-Pack Administration	E	
		Provisioning Access		
		Admin Portal UI Access	-	
Data Collection				
Operational Status		Aggregation Frequency	Raw Data Retention	
[Aggregation enabled]	 Every 5 minutes 		 [Use system default retention setting] 	•
Frequent Rollup Retention [Use system default retention setting]	[] line system dat	Hourly Rollup Retention fault retention setting]	Daily Rollup Retention Use system default retention setting]	II
[Use system default retention setting]	 Use system det 	rault retention setting j	[Use system default retention setting]	•
Description				
				.::
		Save Save As		

- 3. Supply the following values in the following fields:
 - IT Service Name. Name of the IT Service policy. We entered "web_hosting_home".
 - IT Service Owner. Automatically populated with your username.

- **Configuration Mode**. We selected Basic Interface. The Basic Interface allows you to quickly setup an IT Service policy.
- Sharing Permissions. Specifies whether other users can view and use the IT Service policy, in both the IT Service Manager page, IT Service Editor page, and in the pages in SL1 where the IT Service is visible. We selected Shared with users in your organization. The IT Service policy can be viewed and used by other users who belong to the same organization as the creator.
- Permission Keys. We did not select any permission keys.
- Operational Status. We selected Aggregation enabled.
- Aggregation Frequency. Frequency at which SL1 will collect data from all devices in the IT Service and "crunch" the data for each metric into a single value. We specified Every 5 Minutes.
- **Raw Data Retention**. Specifies how long SL1 should store the raw data for the IT Service policy. We accepted the default value.
- Frequent Rollup Retention. Deprecated field no longer used by SL1.
- Hourly Rollup Retention. Specifies how long SL1 should store the "hourly" normalized data for the IT Service policy. We accepted the default value.
- **Daily Rollup Retention**. Specifies how long SL1 should store the "daily" normalized data for the IT Service policy. We accepted the default value.
- **Description**. We did not enter a description.
- 4. Select the **[Save]** button to save the values in the **[Properties]** tab.

Defining a List of Devices for the IT Service Policy

After defining the name and basic properties of an IT Service policy, you must next determine the devices to include in your IT Service policy. You do this in the **[Model]** sub-tab.

For example, if you want to monitor Email service, you could create a list of devices that includes Exchange servers, DNS servers, and devices that run Email round-trip policies.

You can manually assign devices and device groups to the IT Service device group, or you can use membership rules, like you would for a dynamic device group.

When you define the list of devices to include in your IT Service policy, that list of devices appears as a device group throughout SL1.

There are three ways to add a device to the list of devices for the IT Service policy.

- Add a device group to the list of devices for the IT Service policy.
- Add a static list of one or more devices to the list of devices for the IT Service policy.
- Add a dynamic list of one or more devices to the list of devices for the IT Service policy.

In our example, we will add a static list of devices that includes a single web server to the IT Service policy.

To create the list of devices for the IT Service policy.

- 1. After performing the tasks in the previous section, select the [Model] sub-tab.
- 2. To add a static list of one or more devices to the list of devices for the IT Service policy, go to the **Static Devices** pane.
- 3. Select the **[Add]** button. The **Device Alignment** modal page appears and displays a list of all devices in SL1.

evice Alignment						Rese	et
612		VMware	VMware Virtual Machine	1497	System	Γ	
613HJH_DRBD_DB2_9.141		VMware	VMware Virtual Machine	1492	System		
614. MHJH_DRBD_DB2_9.141		VMware	VMware Virtual Machine	1639	System		
615. Mhost		VMware	VMware Folder	1552	System		
616. 📶 host		VMware	VMware Folder	1819	System		
617. ///host		VMware	VMware Folder	1894	System		
618. 📶 host		VMware	VMware Folder	1542	System		
619. ///host		VMware	VMware Folder	1555	System		
620host		VMware	VMware Folder	1545	System		
621. //host		VMware	VMware Folder	1548	System		
622. Mhost		VMware	VMware Folder	1396	System		
623. Mhost		VMware	VMware Folder	1395	System		
624. Mhost		VMware	VMware Folder	1402	System		
625. Mhost		VMware	VMware Folder	1400	System		
626. /// Hot Spare LUN 2046		Servers	EMC Corp EMC Lun	709	System		
627. Hot Spare LUN 2047		Servers	EMC Corp EMC Lun	710	System		
628. HQ-FW-PIX01.sciencelogic.com	10.2.2.4	Firewall	Cisco Systems PIX 515E	398	Potato Soup	<u> </u>	
629. HQ-FW-PIX01.sciencelogic.com	10.20.30.2	Firewall	Cisco Systems PIX 515E	145	Potato Soup	Ē	
630. HQ-FW-PIX01.sciencelogic.com	10.2.2.178	Firewall	Cisco Systems PIX 515E	344	Potato Soup		
631. HQ-FW-PIX01.sciencelogic.com	10.2.2.177	Firewall	Cisco Systems PIX 515E	349	Potato Soup		
632. HQ-FW-PIX01.sciencelogic.com	10.2.2.171	Firewall	Cisco Systems PIX 515E	347	Potato Soup		
633. HQ-FW-PIX01.sciencelogic.com	10.2.2.174	Firewall	Cisco Systems PIX 515E	352	Potato Soup		
634. HQ-FW-PIX01.sciencelogic.com	10.2.2.175	Firewall	Cisco Systems PIX 515E	351	Potato Soup		
635. HQ-FW-PIX01.sciencelogic.com	10.2.2.170	Firewall	Cisco Systems PIX 515E	348	Potato Soup	Ē	
636. HQ-FW-PIX01.sciencelogic.com	10.2.2.176	Firewall	Cisco Systems PIX 515E	350	Potato Soup		
637. HQ-FW-PIX01.sciencelogic.com	10.2.2.179	Firewall	Cisco Systems PIX 515E	343	System		
638. HQ-FW-PIX01.sciencelogic.com	10.2.2.173	Firewall		345	Potato Soup		
639. HQ-FW-PIX01.sciencelogic.com	10.2.2.172	Firewall		346	Potato Soup	<u> </u>	Ξ.
640. HQ-FW-PIX02.sciencelogic.com	10.20.30.1	Firewall		144	Potato Soup		
641. Mhg-lin-vmware01.sciencelogic.local	10.20.30.9	VMware		151	Potato Soup	Ē	Í.
642. HQ-PT-Dell1720n	10.20.30.3	Unknown		146	Potato Soup		
643. MHQ-PT-Dell2335	10.20.30.5	Unknown	Xerox OEM	148	Potato Soup	Ē	Í.
644. M HQ-W2K3-JUMP01	10.20.30.187	Servers	Microsoft Windows 2003 Server	137	NOC	Add V	
645. //HQ-W2K3-SBS02	192.168.10.21	Servers	Microsoft Windows 2003 Server	249	Potato Soup		
646. 11 i-7eb59f08		Servers	AWS EC2: Micro (t1.micro)	1327	aws dev		-

- 4. In the **Device Alignment** modal page, we selected the checkbox for devices "HQ-W2K3-JUMP01".
- 5. Select the [Add/Remove] button in the lower right.

6. The selected devices appear in the **Static Devices** pane:

IT Service Editor IT Service [59]		New	Reset Guide
Properties Model N	letrics Schedule		Advanced
Device Groups [0]			Del Add
	Device Group Name •	ID Devices	Groups Rules V
	No device groups in service.		
Static Devices [1]			Del Add
1. MHQ-W2K3-JUMP01	Device Name • Class Sub-class ID	Organization	
Dynamic Device Rules [0]			Del Add
Selector Type	Selector Targets		Matched Devs 🖉
	No dynamic device rules in service.		
1	Save		

7. Select the **[Save]** button to save the list of devices.

Defining Metrics for the IT Service Policy

A metric is a measurement that helps determine the status of an IT Service.

SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The Average Device Availability metric aggregates the current availability value (0 or 1) of all devices in the IT Service and calculates the average value. The aggregation is performed at the frequency specified in the **Aggregation Frequency** setting in the basic properties for the IT Service policy. The availability of a device is determined every 5 minutes.

Before you can define a metric, you must determine what parameters you want to monitor for the IT Service policy. In our example, we will create a single custom metric. We will use data from the following sources to monitor the IT Service:

• Web Content Monitor

Our custom metric is:

• website response (based on a Web Content Monitor created in a previous section)

We will create our metric in **Basic mode**. We will leave the default metric unchanged and create an additional metric.

- 1. After performing the tasks in the previous section, select the [Metrics] sub-tab.
- 2. Ensure that you are in **Basic mode**. If you see the **[Alerting]** sub-tab, you are not in **Basic mode**. Click on the **[Advanced]** button to toggle to **Basic mode**.
- Next, we will define a new metric that examines the *response time of a web-content policy*. The web content policy is associated with the web server we added in the [Model] tab. Go to Service Metric Definitions pane and select the [Add] button.
- 4. The **Service Metric Editor** modal page appears. In this page, we will define a metric that measures the latency of the two devices in our IT Service policy. We will also define an alert that will trigger an event if the average latency of the two devices is greater than 30 milliseconds.

Edit Service Metric					Close / Esc
Service Metric Editor Editing Metric					Reset
Service Metric Name website_response	Metric Type Device Subset Aggregation [Web Content Monitor] [(All Devices in Service)] [Average]				
[Service Vital Metric]	Show only metrics available for this IT Service Policy Name Metric website_response_policy Transaction Time: Measurement (s); units: seconds				•
	Guide Text				
Metric Alerting	Alert Policy Name website response greater than 8 sec	onds	[Critical]	Event Severity	
	Alert Threshold			8000	[Increasing]
0 Trigger alert when website_response is greater than or equ	Healthy ual to 8000s. Reset alert when website	_response is stricti	ly less than 8000s.	C	ritical 9000
	Event Policy Description	in			
🔲 📐 🔛 🖻 Source 🖺 🐰 🗈 👘					
B I U Style Format website response was greater than 8 seconds (8000 r		▼ Size	▼ T ₂	• @•• \$	
	ОК				

- 5. To create the new metric, supply the following values in the fields:
 - Service Metric Name. We entered "website response".
 - Metric Type. We selected Web Content Monitor.
 - **Device Metric**. We entered "website_response_policy". This is the policy we created in a **previous** section of this chapter.
 - Metric. We selected Transaction Time.
 - For all other fields in the top pane, you can accept the default values.

Defining Key Metrics for the IT Service Policy

Key Metrics are the standard method for describing the status of an IT Service. Key Metrics allow you to quickly gauge the status of multiple IT Services, even if those IT Services require very different metrics that aggregate very different performance data. For example, you can define "health" for a remote backup service and also define "health" for an Internet bandwidth service, even though you would use different criteria to measure the health of those two services.

All IT Service policies define how SL1 should calculate the following Key Metrics for the IT Service:

NOTE: SL1 automatically includes a default metric with each IT Service policy. The default metric is called **Average Device Availability**. The **Average Device Availability** metric specifies that SL1 should aggregate the availability data for all the devices in the policy and calculate the average availability.

- Service Health. The health of an IT Service can be one of the five standard severity values: Healthy, Notice, Minor, Major, or Critical. By default, the Service Health metric is aligned with the Average Device Availability metric.
- Service Availability. The availability of an IT Service can be either Available or Unavailable. By default, the Service Availability metric is aligned with the same metric as Service Health, converting Critical Service Health to Unavailable and all other Service Health values to Available.
- Service Risk. The risk of an IT Service is a percentage value that indicates how close an IT Service is to being in an undesirable state. By default, the Service Risk metric is aligned with the same metric as Service Health, converting the threshold between Healthyand Notice Service Health to 100% and the healthiest possible value to 0%.

SL1 generates an event if the **Service Health** Key Metric has a value of Notice, Minor, Major, or Critical, and/or if the **System Availability** Key Metric has a value of *unavailable*.

For more details on Key Metrics, see the main section on Key Metrics.

Using the metric we created in the previous section, we'll define the Key Metrics for our IT Service policy:

1. Select the **[Metrics]** sub-tab.

- 2. In the top pane, you will see the default metric, **Average Device Availability**. If you have already defined additional custom metrics, they will also appear in the top pane.
- 3. In the bottom pane, you will see the three Key Metrics:

Key Metrics									
Service Health	[Average Device Availability]							-	[Decreasing]
	20		40		60		80		
0	Critical	Major	Ĭ	Minor	- Y	Notice	The second secon	Healthy	100
Service Availability	[website_response]						A	•	[Increasing]
								8000	
0							ł	Available Unavailabl	e 9000
ervice Risk	[(use Service Health metric, Heal	thy range)]							[Decreasing]
							80		100
0							100%		0% 100
				Save					

- 4. To edit each metric, supply the following values:
 - Service Health. Appears in the Health column in the IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Healthy, Notice, Minor, Major, and Critical. Accept the default values for this Key Metric.
 - Service Availability. Appears in the Availability column in IT Service Manager page (Registry > IT Services > IT Service Manager). Possible values are Available and Unavailable.
 - In the drop-down list that appears above the **Service Availability** Key Metric, select website_ response.
 - Select Increasing.
 - $^\circ~$ Set the bottom of the range to "0". Set the top of the range to "9000".
 - ° Enter the threshold 8000.
 - If the website_response metric has a transaction time greater than 8000 ms, the IT Service policy will have an Availability value of *Unavailable*.
 - Service Risk. Appears as a percentage in the Risk column in the IT Service Manager page (Registry
 IT Services > IT Service Manager). Possible values are 0% 100%. Accept the default values for
 this Key Metric.
- 5. Select the **[Save]** button to save your changes to the Key Metrics.

Creating an SLA Definition

In SL1, you can create an SLA Definition. The SLA Definition is a threshold. The threshold is applied to the Availability Key Metric of an IT Service policy.

To create an SLA Definition:

- 1. Go to the **Service Level Agreement Definitions** page (Registry > IT Services > SLA Definitions).
- 2. In the Service Level Agreement Definitions page, select the [Create] button.
- 3. The **SLA Definition Editor** page is displayed.

Edit SLA Definition	Close / Esc
SLA Definition Editor Editing Definition [2]	New Reset
SLA Definition Name	
website_response_sla	
SLA Availability	
Custom: 99.99%	
Save Save As	

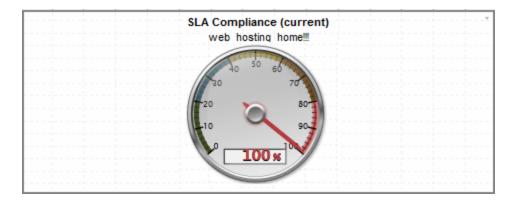
- 4. In the SLA Definition Editor page, supply values in the following fields:
 - **SLA Definition Name**. The name of the SLA Definition. Can be any combination of numbers, letters, and symbols. We entered "website response sla".
 - SLA Availability. The threshold that will be evaluated using this SLA Definition. You can select from six predefined percentage values or specify a custom value. If you select *Custom* in the drop-down list, enter a percentage value in the text field. You can evaluate an IT Service policy using this threshold; you can do this in a dashboard widget or in an SLA report. We selected *Custom* and then entered "99.99%".
- 5. Select the **[Save]** button to save your new SLA Definition.

Generating the SLA Widget

To add the SLA widget to your dashboard:

- 1. In the **Dashboards tab** page ([**Dashboards**] tab), in the selection field in the upper left of the page, select the dashboard to which you want to add a widget.
- 2. Select the [Actions] button, and then select Add Widget.
- 3. The New Widget Configuration modal page is displayed:
- 4. In the NavBar, expand the Single Point icon. Expand the SLA category. Select (base) SLA Gauge.
- 5. Enter values in the following fields:
 - Widget Name. Enter a title for the widget. This title is displayed in the header that appears at the top of the widget. If you leave the default value of "{auto}" in this field, SL1 will automatically generate a title for the widget based on what is currently being displayed in the widget. We left this field blank.

- Widget Refresh Rate. Specify how frequently the widget will be automatically updated with new data. We selected 5 minutes.
- **SLA Definition**. Select the SLA you want to use as a threshold and monitor with this widget. We selected website_response_sla.
- Service. Select the IT service you want to monitor with this widget. We selected web_hosting_home.
- **Compliance Period**. Specify the time period you want to monitor with this widget. We selected Last (most recently ended).
- **Display Type**. Select how the metric will be displayed in the widget. We selected Gauge.
- 6. You should see a widget like the following:



Generating the SLA Report

You can use a Quick Report to evaluate an existing IT Service policy using an existing SLA definition. The Quick Report will then display the results. To do this:

1. Go the **Run Quick Report** page (Reports > Create Report > Quick Report).

· · · · · · · · · · · · · · · · · · ·				
Run Quick Report SLA Report, versio	n1 💌			Edit Reset Guide
- Report Span	T Service			
C Daily	acme_all_devices			
C Weekly				
Monthly	_ SLA-			
Starting	service_availability			
Last month 💌				
2012 👽 / Apr 👽 / 1 💌				
Duration				
1 month 💌				
Timezone				
UTC				
]			
1				
Output format: Web page (html)	<u>*</u>			Generate

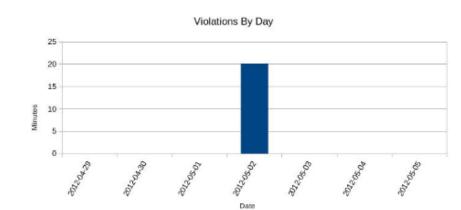
- 2. In the Run Quick Report drop-down list, select the report SLA Report.
- 3. Enter a value in each of the following fields:
 - **Report Span**. Specify a Daily, Weekly, or Monthly span to include in the report. We selected *Monthly*.
 - **Starting**. This field allows you to choose a start date. Selecting a different **Report Span** will change the options in this drop-down list. We selected *Last Month*.
 - **Duration**. This field allows you to specify the duration for the report. Selecting a different **Report Span** will change the options in this drop-down list. We selected 1 month.
 - Timezone. Specify the time zone to display in the report. We accepted the default value (UTC).
 - IT Service. Select the IT Service you want to monitor with this report. We selected web_hosting_ home.
 - **SLA.** Select the SLA you want to use as a threshold and monitor with this report. We selected website response_sla.
 - Output Format. Specify an output format for the report.
- 4. Select the [Generate] button to generate the report.
- 5. The generated SLA report displays the target threshold and the percentage of polls that were successful. The report displays the days violations occurred and the number of minutes each violation lasted.

Sheet 1: SLA Report

ScienceLogic

SLA Report

	Summary				
Agreement Name	IT Service Name	Target %	Compliance %		
website_response_sla	web_heating_home	99.9900016	99.8015916		
	Violatie	n Periods			
Start Date/Time	End Date/Time	Duration	Cumulative		
2012/05/02 19:00:00	2012/05/02 19:20:00	00:20	00:20		
Total Violation Time:			00:20		



Excluded Periods				
Start Date/Time	End Date/Time	Duration	Type	
No Excluded Periods				
Total Downtime:		00:00		
Effective Times				
De	7	Start	End	
Sunday		00:00	23:59	

Sunday	00:00	23:59
Monday	00:00	23:59
Tuesday	00:00	23:59
Wednesday	00:00	23:59
Thursday	00:00	23:59
Friday	00:00	23:59
Saturday	00:00	23:59

Generated On: 05/03/2012

Sheet 2: Control

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Control – SLA Report

Description:	SLA compliance metrics
Report Version:	1
Generated On:	05/03/2012
SLA:	website_sespense_sla
IT Service:	web_heating_heme
Start Date.	Apr 28, 2012
Duration:	1 week

Generated On: 05/03/2012

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