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# ScienceLogic Classic Global Manager

SL1 version 11.1.0

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# Chapter

# 1

## Introduction

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
### Overview

**NOTE:** The classic SL1 Global Manager is no longer supported as of SL1 version 11.1. To use the classic SL1 Global Manager, you must be running version SL1 10.2 or below.

This manual describes how to use a classic Global Manager system to aggregate data from multiple SL1 systems.

**NOTE:** This manual applies only to the classic SL1 Global Manager. The classic Global Manager has different configuration requirements and capabilities than the current version of Global Manager. For more information about how these two versions compare, see the section [Comparing the Current and Classic Global Manager Versions](#). For more information about the current version of Global Manager, see the *Global Manager* manual.

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

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

This chapter includes the following topics:

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## What is Global Manager?

A Global Manager system is an All-In-One Appliance that is configured to aggregate data from multiple SL1 systems. A Global Manager system can aggregate data from either All-In-One Appliances, distributed systems, or both. A SL1 system from which data is aggregated by a Global Manager is referred to as a **stack**.

For example, suppose your enterprise includes four data centers. Suppose you have installed an All-In-One Appliance in each data center. Each All-In-One Appliance would monitor the devices in its data center and provide a user interface for SL1. You could then install a Global Manager system that aggregates data across all four of your data centers.

A Global Manager system provides the following functions:

- Dashboard widgets that display data aggregated from multiple SL1 Systems.
- From the available dashboard widgets, drill-down access to the user interface of the applicable SL1 system. The user interface is proxied by the Global Manager. This proxy allows the end user to view the SL1 system without requiring direct network access to that SL1 system.
- A global Event Console page for viewing and responding to events from multiple SL1 Systems.
- An interface for managing the installation of PowerPacks on multiple SL1 Systems.
- An interface for load-balancing for Global Manager systems that manage large numbers of SL1 systems
- An instance of the ScienceLogic API that responds with aggregated data from multiple SL1 Systems. This API instance provides read-only access to the same resources in the same structure as the API instance on a standard Administration Portal, Database Server, or All-In-One Appliance.

All data aggregation functions of a Global Manager are performed on-demand; a Global Manager system does not store aggregated data.

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## Comparing the Current and Classic Global Manager Versions

The current version of Global Manager is similar in many ways to the classic version of Global Manager, but there are also some configuration and functionality differences between the two versions.

**NOTE:** The classic SL1 Global Manager is no longer supported as of SL1 version 11.1. To use the classic SL1 Global Manager, you must be running version SL1 10.2 or below.

**NOTE:** For more information about the current version of Global Manager, see the **Global Manager** manual.

The following table compares the configuration requirements and capabilities of the two versions:

Configuration Requirements and Functionality	Global Manager	Classic Global Manager
Supported in SL1 version 11.1.0	Yes	No
Supported in SL1 version 10.2.x	Yes	Yes
Supported in SL1 versions 10.1.x and earlier	No	Yes
Requires installation of the <i>ScienceLogic Global Manager PowerPack</i>	Yes (v3.0.1 or later)	Yes
Can use an All-In-One Appliance as a stack entry point	Yes	Yes
Can use a Database Server as a stack entry point	Yes	Yes
Can use an Administration Portal as a stack entry point	No	Yes
Can be used in the current SL1 user interface ("ap2")	Yes	No
Can be used in the classic SL1 user interface	No	Yes
Requires access to TCP port 443 and UDP port 161	Yes	Yes
Requires the user's username and password to be the same on both the Global Manager system and its stacks	Yes	Yes (In addition, must also have the same user ID.)
Requires the Global Manager system and its stacks to all be on the same SL1 version/patch	Yes	Yes
Requires a wildcard DNS entry that can be resolved by users' browsers for SNMP discovery	No	Yes (see next row for caveat)
Allows users to define a stack-specific hostname for Global Manager proxies if wildcard domains cannot be used	No	Yes
Enables you to use run book actions for automatic stack discovery	Yes	Yes
Enables you to use SNMP and manual Dynamic Application alignment for stack discovery	Yes	Yes
Includes a button for manually adding stacks to the Global Manager system	No	Yes
Includes a page that lists all of the stacks in your Global Manager system	Yes	Yes

Configuration Requirements and Functionality	Global Manager	Classic Global Manager
Enables you to "drill down" to individual stacks from the <b>Stacks</b> page	No	Yes
Enables you to view devices from all of the stacks in your Global Manager system and "drill down" to manage devices on their native stacks	Yes (To manage a device, click <b>[Manage]</b> on the Device Investigator.)	Yes (To manage a device, click the graph icon (📊) or wrench icon (🔧) from the <b>Device Manager</b> page.)
Enables you to view and create dashboards that display data aggregated from all of the stacks in your Global Manager system	Yes	Yes
Enables you to view and respond to events from all of the stacks in your Global Manager system	Yes	Yes

## Requirements

Each **stack** from which data is being aggregated must include at least one **entry point**. An entry point is an Administration Portal, Database Server, or All-In-One Appliance that meets the following requirements:

- The Global Manager system must be able to communicate with the entry point over TCP port 443 (secure HTTP) and UDP port 161 (SNMP).
- The ScienceLogic API must be enabled on the entry point. Administration Portals, Database Servers, and All-In-One Appliances built using the 7.2.1 or earlier ISO did not have the API enabled by default.

The following are the recommended entry points for each architecture:

Architecture	Recommended Entry Point
Single All-In-One Appliance	All-In-One Appliance
All-In-One Appliances with Disaster Recovery	Primary All-In-One Appliance*
Two Database Servers configured for High Availability without an Administration Portal	Primary Database Server via the Virtual IP address
Two Database Servers configured for Disaster Recovery without an Administration Portal	Primary Database Server*
Three Database Servers configured for High Availability and Disaster Recovery without an Administration Portal	Primary Database Server via the Virtual IP address*
Distributed Architecture with at least one Administration Portal	Administration Portal

**NOTE:** For entry points with an asterisk (\*), if Disaster Recovery failover occurs, the discovered entry point in the Global Manager system must be updated to specify the Disaster Recovery appliance.

To use a Global Manager system, your environment must meet the following requirements:

- The Global Manager system requires a wildcard DNS entry that can be resolved by the browser for each user who will access the Global Manager user interface. The section on [Configuring Global Manager](#) describes how to define this DNS entry.
- The Global Manager system and all the SL1 Systems being aggregated must be running the same patch version.
- Users accessing the Global Manager system must have a user account with the same password on each SL1 system being aggregated. ScienceLogic recommends using LDAP or Active Directory authentication to ensure that user accounts are consistent across all the systems in your environment.

A standalone Global Manager system running on an All-In-One Appliance configuration can support approximately 20 stacks. You can enable this functionality with a tier of **worker nodes**. Any ScienceLogic appliance of type Administration Portal, All-In-One Appliance, or Database Server can be a worker node. Each worker node must include a ScienceLogic user interface. A stack that is monitored by the Global Manager system can also be a worker node.

The recommended sizing for worker nodes includes the following:

- The ratio of stacks to worker nodes should be approximately 10:1. For example, 30 stacks require three worker nodes.
- Each worker node should have four cores and 12 GB of RAM dedicated to Global Manager system functionality. Add these resources if the worker node is already in use for another purpose.

For more information about worker nodes, see the section on [Configuring Load Balancing for Global Manager](#).

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## Features in Classic Global Manager

Only those features described as Global Manager enabled are available in a Global Manager system. Not all features of SL1 and the ScienceLogic API are available for use in a Global Manager system.

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## Caveats

The following limitations apply to the Global Manager software:

- The Global Manager system discovers entry points only if the entry points are assigned either the Database Server or All-In-One Appliance device class. If you are using an Administration Portal as an entry point, you must manually assign one of those two device classes after discovering the Administration Portal.



- Only one entry point can be user per SL1 system. If a SL1 system is configured for high availability or disaster recovery, only one of the Database Servers or All-In-One Appliances can be used as an entry point. If failover occurs on a system, the devices monitored by that system will not be included in aggregated data until the entry point in that system is the primary appliance. Do not use SNMP-based discovery to discover more than one entry point per system.
- All themes must have the same ID number on the Global Manager system and all the SL1 Systems being aggregated and all users must be assigned the same theme in all systems.

## Configuring a Classic Global Manager System

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
### Overview

A Global Manager system is a standard All-In-One Appliance with additional configuration applied. To configure a Global Manager, you must have:

- An All-In-One Appliance operating a version of SL1 between 7.5 and 10.2.x on a supported hardware or virtualization platform.
- The ScienceLogic Global Manager PowerPack. This PowerPack is not included in the standard release and is provided separately by ScienceLogic.

**NOTE:** This chapter applies only to the classic SL1 Global Manager.

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

- To view a pop-out list of menu options, click the menu icon ()
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This chapter includes the following topics:

<i>Configuration on Each Entry Point</i> .....	11
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## Configuration on Each Entry Point

Each stack must include at least one **entry point**. An entry point is an Administration Portal, Database Server, or All-In-One Appliance that meets the requirements listed in the [Introduction to Global Manager](#) section. On each entry point, you must configure appropriate user accounts and permissions for each Global Manager user. The following authentication rules apply:

- To use the Global Manager system, a user must have a user account on Global Manager and on each SL1 system being aggregated. On Global Manager and each SL1 system being aggregated, the user accounts must use the same user name and password. ScienceLogic recommends using LDAP or Active Directory authentication to ensure that user accounts are consistent across all the systems in your environment.
- If a user accesses a Global Manager system with a username and password combination that is not valid on one of the systems being aggregated, the aggregated data provided by the Global Manager will exclude that system.
- In the Global Manager system, a user can view data based on the permissions the user has for each system being aggregated. For example, if a user's account on a SL1 system does not include permission to view events, then that user will not be allowed to view those events from the Global Manager system either.

For example, suppose:

- A Global Manager system is configured to aggregate data from three stacks, each monitoring 10 devices.
- A user logs in to the Global Manager system using a user account and password that is valid only on two of the stacks.
- Based on the organization memberships of the user account, the user has permission to view only two devices on each of the other two stacks.

In this example, the aggregated data provided to the user by the Global Manager system will include only four devices.

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## Classic Global Manager Configuration

The Global Manager system must have a wildcard DNS entry that can be resolved by the browser for each user who will access the Global Manager user interface. To meet this requirement, you must:

1. Create a **CNAME** entry in your DNS system.
2. This domain for this CNAME entry must start with "\*\*". This new domain, called the wildcard domain, can be your normal domain for the Global Manager system preceded by "\*\*"
3. For example, if the URL of your Global Manager is "MyAdministrationPortal.com", you might enter "\*\*MyAdministrationPortal.com"

**NOTE:** If your organization does not allow wildcard domains, see the section on [configuring hostname for each stack](#).

4. The CNAME entry must map to the IP address of the Global Manager system.
5. The browser for each user who views the data from Global Manager must be able to access the DNS CNAME entry.

To configure an All-In-One Appliance as a Global manager system, perform the following steps on the All-In-One Appliance:

1. Install the ScienceLogic Global Manager PowerPack. For details on installing PowerPacks, see the **Power Packs** manual.
2. Using SNMP-based discovery, discover an entry point for each stack. For details on discovery, see the **Discovery and Credentials** manual.

**NOTE:** All entry points must be assigned either the Database Server or the All-In-One Appliance device class.

3. If the device name of a discovered entry point is not the fully-qualified domain name of that entry point, configure an **IP Address Override** or **Host Name Override** for that entry point by following the steps in the [Stack Configuration Page](#) section.
4. Using SNMP-based discovery, discover the All-In-One Appliance that you are configuring as a Global Manager system. For details on discovery, see the **Discovery and Credentials** manual.
5. Assign the **ScienceLogic Global Manager** device class to the All-In-One Appliance that you are configuring as a Global Manager system and disable Auto-Update for the All-In-One Appliance. For details on how to perform these tasks, see the **Device Management** manual.
6. Create a SOAP/XML credential. Use the default settings for all fields except for the following settings:
  - **Profile Name.** Enter a name for the credential.
  - **URL.** Enter "https://%D".
  - **Username.** Enter a user account that has access to all API functions on the All-In-One Appliance that you are configuring as a Global Manager system.
  - **Password.** Enter the password for the user you entered in the **Username** field.

For details on how to create a SOAP/XML credential, see the **Discovery and Credentials** manual..

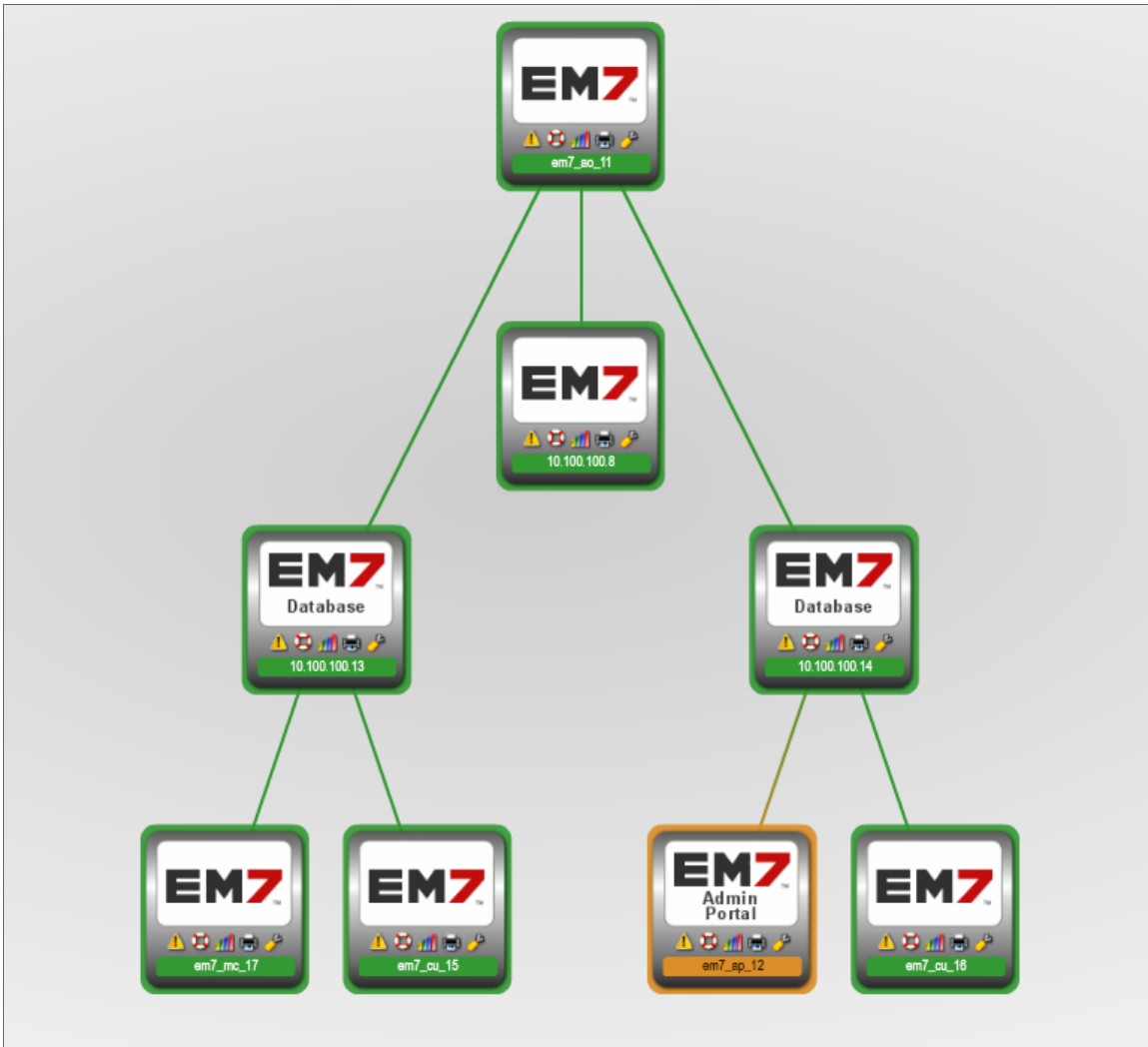
7. Align the **ScienceLogic: GM Root Stack Inventory** Dynamic Application to the device record that was created in step 4. Use the credential you created in step 6 with this Dynamic Application. For details on aligning a Dynamic Application with a device, see the chapter *Managing Dynamic Applications* in the **Device Management** manual.

**NOTE:** If you are using a self-signed certificate, you must edit the snippet in the **ScienceLogic: GM Root Stack Inventory** Dynamic Application to set `USING_TRUSTED_CERT` to `False`.

8. When collection is performed for the **ScienceLogic: GM Root Stack Inventory** Dynamic Application, a component device will be created for each entry point.
9. In the **Device Manager** page (Registry > Devices > Device Manager), select the **[Actions]** button and then select *Merge Devices*. The **Device Bulk Merge** page is displayed. Merge the SNMP-based device records for each entry point with the equivalent component device records. To do this:
  - Select the *Names Match* checkbox in the **Device Bulk Merge** page.
  - The page should display a row for each entry point for which the name of the SNMP-based device record matches the name of the component device record.
  - Select the radio button for each pair of entry points.
  - Select the **[Merge]** button.

The component devices for each entry point are automatically subscribed to the **ScienceLogic: GM Distributed Appliance Discovery** Dynamic Application. The **ScienceLogic: GM Distributed Appliance Discovery** Dynamic Application will examine each entry point; if the entry point is part of a distributed system, the Dynamic Application will create a component device record for each additional appliance in the distributed SL1 System.

For example, the component view for a Global Manager system that aggregates data from an All-In-One Appliance and two distributed system might look like this:



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## The Stack Configuration Page

The **GM Stacks** page (System > Manage > GM Stacks) displays a list of stacks that have been added to the Global Manager system. In the **GM Stacks** page, you can edit the properties of each stack.

There are two ways you can add a stack to a Global Manager system:

- **Discovery.** You can use the Discovery tool to discover each entry point. Later, the Global Manager system will discover each entry point as a component device. You can then merge the SNMP records and the component device records.
- **Manually adding a stack.** You manually add an entry point in the GM Stacks page.

## Viewing the List of Stacks

To view the list of stacks, go to the **GM Stacks** page (System > Manage > GM Stacks).



Stack ID	Stack Name	Aligned Device	IP Address Override	Host Name Override	Connection Timeout	EM7 Version	State
2	varuolo-ai0	varuolo-ai0	--	--	--	Stack Unavailable	Disabled
3	h2-ai0	.182	--	--	--	Stack Unavailable	Disabled
4	h-ai0	.160	--	--	--	Stack Unavailable	Enabled
5	sfp-ai0-29	sfp-ai0-29	--	--	--	Stack Unavailable	Enabled
6	sfp-dst-db-42	sfp-dst-db-42	--	--	--	Stack Unavailable	Enabled
7	ernesto-35	ernesto-35	--	--	--	Stack Unavailable	Enabled
8	trevor-34	trevor-34	--	--	--	Failed to Respond	Enabled
9	sfp-ai0-37	sfp-ai0-37	--	--	--	Stack Unavailable	Disabled
10	vivek-36	vivek-36	--	--	--	Stack Unavailable	Enabled
11	bobbie-ai0-30	bobbie-ai0-30	--	--	--	Stack Unavailable	Enabled
12	uri-39	uri-39	--	--	--	Stack Unavailable	Disabled
13	sfp-ai0-8x-master-27	sfp-ai0-8x-master-27	--	--	--	Stack Unavailable	Disabled
14	sfp-automation-45	sfp-automation-45	--	--	--	Stack Unavailable	Disabled
15	lakshmi-40	lakshmi-40	--	--	--	Stack Unavailable	Disabled
16	29-ayoung-demo	29-ayoung-demo	--	--	--	Stack Unavailable	Disabled
17	todd-ai0-29	todd-ai0-29	--	--	--	Stack Unavailable	Disabled
18	cisco-hsbc-db-02	cisco-hsbc-db-02	--	--	--	Stack Unavailable	Disabled
19	--	--	--	todd-ai0-29	--	Stack Unavailable	Disabled
20	sebi-gm-stack-31	sebi-gm-stack-31	--	--	99 9999	8.10.0_jenkins_master - Build 090	Enabled

The page displays the following information about each stack:

- **Stack ID.** The numeric ID assigned to the stack by the Global Manager system.
- **Stack Name.** The name of the stack. This name defaults to the device name of the discovered entry point.
- **Aligned Device.** The device record of the discovered entry point.
- **IP Address Override.** By default, the Global Manager system will use the device name of the discovered entry point (i.e. the host name or IP address of the entry point) to communicate with that entry point. Global Manager will communicate with each entry point via the API for that entry point. If you want the Global Manager to access the API on the entry point for the stack using an IP address that is different from the device name of the device selected in the **Aligned Device** field, enter the IP address in this field.
- **Host Name Override.** By default, the Global Manager system will use the device name of the discovered entry point (i.e. the host name or IP address of the entry point) to communicate with that entry point. Global Manager will communicate with each entry point via the API for that entry point. If you want the Global Manager to access the API on the entry point for the stack using a host name that is different from the device name of the device selected in the **Aligned Device** field, enter the host name in this field.
- **Connection Timeout.** The maximum time, in seconds, before a request from the Global Manager to the stack times out. If timeout occurs, the Global Manager widgets (TopN, Custom Table, Finder) will display a blue "i" icon in the upper right corner of the widget. If all stacks timeout, the Global Manager widgets display an error message.
- **EM7 Version.** Specifies the version of SL1 running on a stack. You can update the version of one or more stack from the System Updates page (System > Tools > Updates).

- **State.** Indicates whether the Global Manager will include the stack when executing Global Manager features. Possible values are:
  - *Enabled.* The Global Manager will include the stack when executing Global Manager features. Results from the stack will be included in aggregated views and remote management features, e.g. PowerPack installation, will be enabled for the stack.
  - *Disabled.* The Global Manager will not include the stack when executing Global Manager features. Results from the stack will not be included in aggregated views and remote management features, e.g. PowerPack installation, will be disabled for the stack.

## Manually Adding a Stack

The Global Manager system automatically adds stacks when:

- an entry point is discovered using SNMP
- that entry point is assigned a correct device class.

If you are not able to discover an entry point for a stack using SNMP, you can manually add a stack.

To manually add stack:

1. Add a device record to the system that represents the entry point for the stack you are adding, either by discovering a pingable device or creating a virtual device.
2. Go to the **GM Stacks** page (System > Manage > GM Stacks)..
3. Select the plus icon (+) in the last row of the table.
4. In the same row, supply values in the following column fields:
  - **Stack Name.** Enter a name for the stack.
  - **Aligned Device.** Select the device record you added in step 1.
  - **IP Address Override.** If you want the Global Manager to access the API on the entry point for the stack using an IP address, enter the IP address in this field.
  - **Host Name Override.** If you want the Global Manager to access the API on the entry point for the stack using a host name, enter the host name in this field.
  - **Connection Timeout.** The maximum time, in seconds, before a request from the Global Manager to the stack times out. If timeout occurs, the Global Manager widgets (TopN, Custom Table, Finder) will display a blue "i" icon in the upper right corner of the widget. If all stacks timeout, the Global Manager widgets display an error message.
  - **EM7 Version.** Specifies the version of SL1 running on a stack. You can update the version of one or more stacks from the System Updates page (System > Tools > Updates).
  - **State.** Select whether the Global Manager will include the stack when executing Global Manager features. Possible values are:
    - *Enabled.* The Global Manager will include the stack when executing Global Manager features. Results from the stack will be included in aggregated views and remote management features, e.g. PowerPack installation, will be enabled for the stack.





- *Disabled*. The Global Manager will not include the stack when executing Global Manager features. Results from the stack will not be included in aggregated views and remote management features, e.g. PowerPack installation, will be disabled for the stack.

5. Select the save icon () for the row.

## Editing the Properties of a Stack

To edit the properties of a stack:

1. Go to the **GM Stacks** page (System > Manage > GM Stacks).
2. Select the edit icon () for the stack you want to edit.
3. In the same row, change the value(s) in one or more of the following column fields:
  - **Stack Name**. Enter a name for the stack.
  - **Aligned Device**. Select the device record that represents the entry point for the stack.
  - **IP Address Override**. By default, the Global Manager system will use the device name of the discovered entry point (i.e. the host name or IP address of the entry point) to communicate with that entry point. Global Manager will communicate with each entry point via the API for that entry point. If you want the Global Manager to access the API on the entry point for the stack using an IP address that is different from the device name of the device selected in the **Aligned Device** field, enter the IP address in this field.
  - **Host Name Override**. By default, the Global Manager system will use the device name of the discovered entry point (i.e. the host name or IP address of the entry point) to communicate with that entry point. Global Manager will communicate with each entry point via the API for that entry point. If you want the Global Manager to access the API on the entry point for the stack using a host name that is different from the device name of the device selected in the **Aligned Device** field, enter the host name in this field.
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  - **EM7 Version**. Specifies the version of SL1 running on a stack. You can update the version of one or more stacks from the System Updates page (System > Tools > Updates).
  - **State**. Select whether the Global Manager will include the stack when executing Global Manager features. Possible values are:
    - *Enabled*. The Global Manager will include the stack when executing Global Manager features. Results from the stack will be included in aggregated views and remote management features, e.g. PowerPack installation, will be enabled for the stack.
    - *Disabled*. The Global Manager will not include the stack when executing Global Manager features. Results from the stack will not be included in aggregated views and remote management features, e.g. PowerPack installation, will be disabled for the stack.
4. Select the save icon () for the row.

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## Configuring Stack-Specific Hostnames for Global Manager Proxies (Instead of Using a Wildcard Domain)

If your organization does not allow wildcard domains, you can define a stack-specific hostname for each Global Manager proxy. Areas of the Global Manager system that previously required a wildcard domain to gather information about a stack (for example, the **GM Stacks** page, the Custom Table Widget) will use the hostname instead.

To configure a hostname for a stack:

1. In your DNS system, create a CNAME entry for the stack.
  - Enter the IP address of the Global Manager system
  - The fully-qualified domain name for the stack must have the same domain-level as the Global Manager system. For example, if the Global Manager system has the fully-qualified domain name "global\_manager.department.company.com", the stack should have the fully-qualified domain name "stack.department.company.com".
2. In the Global Manager system, in the **master\_dev.legend\_gm\_stack** table, find the entry for the stack you defined in the DNS entry. In that row, manually set the value of the **proxy\_hostname** column with the fully qualified domain name of the stack, as you defined in the DNS entry.
3. Go to the console of the Global Manager system or use SSH to login to the console of the Global Manager system. For each stack,
4. Use vi (or a text editor or your choice) to create the file `/opt/em7/share/config/nginx.d/custom_proxy_common.fragment`.
5. Enter the following in the file `/opt/em7/share/config/nginx.d/custom_proxy_common.fragment`:

```
listen 80;
listen 443 ssl http2;
ssl_certificate /etc/nginx/siloss1.pem;
ssl_certificate_key /etc/nginx/siloss1.key;
access_log /var/log/em7/em7ngx_proxy.access.log main;
error_log /var/log/em7/em7ngx_proxy.error.log warn;
```

6. Save the file.
7. Use vi (or a text editor or your choice) to create the file `/opt/em7/share/config/nginx.d/custom_proxy_location_common.fragment`.
8. Enter the following in the file `opt/em7/share/config/nginx.d/custom_proxy_location_common.fragment`:

```
fastcgi_split_path_info ^()(\/.+)$;
fastcgi_pass unix:/var/run/php-fpm/em7.sock;
fastcgi_param SCRIPT_FILENAME /opt/em7/gui/ap/www/em7/libs/proxy_service.em7;
include fastcgi_params;
```

9. Save the file.
10. For each stack that you want to reference by hostname, use vi (or a text editor or your choice) to create the file `/opt/em7/share/config/nginx.d/gm_proxy_identifier.conf`

- where **identifier** is an identifier for the stack. For example, a host name like *NOC\_west* or the fully qualified domain name of the stack..

11. Enter the following in the file `/opt/em7/share/config/nginx.d/custom_proxy_identifier.conf`

```
server {
    # the wildcard at the end works around a name matching issue
    # in nginx
    server_name fully_qualified_domain_name_of_the_stack;

    include /opt/em7/share/config/nginx.d/custom_proxy_common.fragment;
    location ~ .* {
        fastcgi_param EM7_GM_STACK_ID (stack_id);
        include /opt/em7/share/config/nginx.d/custom_proxy_location_
            common.fragment;
    }
}
```

where:

- **fully\_qualified\_domain\_name\_of\_the\_stack** is the fully qualified domain name for the stack, as you defined in the CNAME entry and in the the **master\_dev.legend\_gm\_stack** table.
- **stack\_id** is the ID number of the stack as seen in **GM Stacks** page (System > Manage > GM Stacks)

12. Restart nginx on the Global Manager system. To do this, enter the following at the shell prompt:

```
sudo systemctl restart nginx
```

---

## Configuring Load Balancing for Classic Global Manager

**Worker nodes** allow a Global Manager system to manage hundreds of stacks. Worker nodes are SL1 systems that perform some of the processing for the Global Manager. Worker nodes enable the Global Manager to scale horizontally.

Any ScienceLogic appliance of type Administration Portal, All-In-One Appliance, or Database Server can be a worker node. Each worker node must include a ScienceLogic user interface.

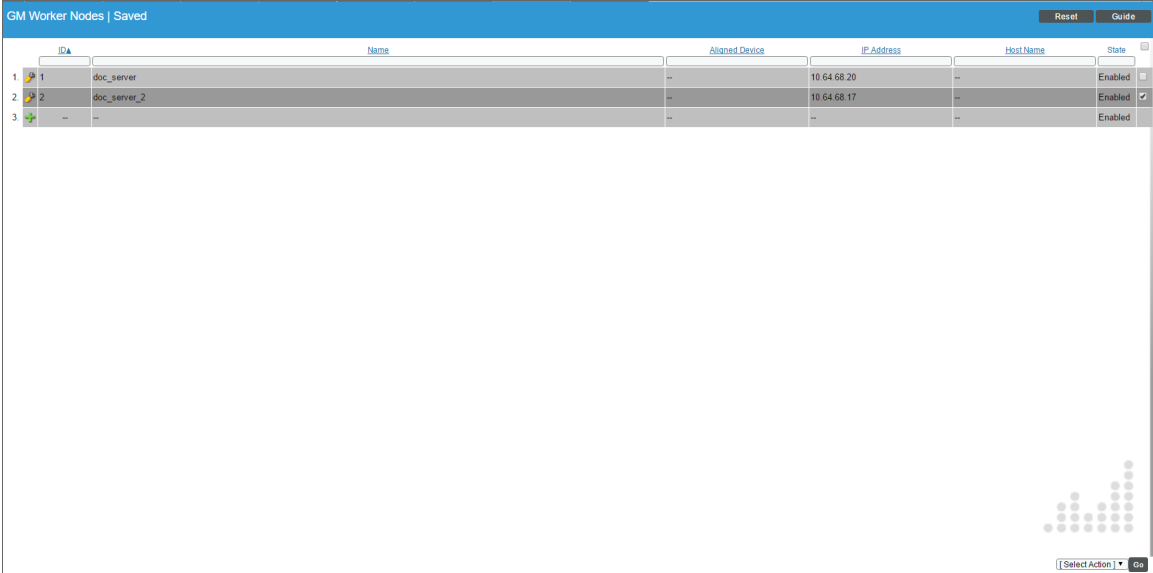
A stack that is monitored by the Global Manager system can also be a worker node.

You can add one or more worker nodes to your Global Manager system, as suits your needs.

A setting in the Global Manager database determines a threshold for the number of requests from the Global Manager system to its worker nodes. When the threshold is exceeded, the Global Manager system distributes the requests among the worker nodes. The worker nodes perform the requests and send the results back to the Global Manager system. The Global Manager system then performs final processing on the results and displays the data to users.

## Viewing the List of Worker Nodes

The **GM Worker Nodes** page (System > Manage > GM Worker Nodes) displays a list of worker nodes already used by the Global Manage system. For each worker node, the **GM Worker Nodes** page displays the following information:



ID	Name	Aligned Device	IP Address	Host Name	State
1	doc_server	--	10.64.68.20	--	Enabled
2	doc_server_2	--	10.64.68.17	--	Enabled
3	--	--	--	--	Enabled

- **Name.** The name of the worker node.
- **Aligned Device.** Optional. If the worker node is also a stack that is monitored by the Global Manager system, this column specifies the name of the stack.
- **IP Address.** The IP address of the worker node.
- **Host Name.** The FQDN of the worker node.
- **State.** Indicates whether the Global Manager will include the worker node when executing Global Manager features. Possible values are:
  - *Enabled.* The Global Manager will include the worker node when distributing outgoing Global Manager requests to worker nodes.
  - *Disabled.* The Global Manager will not include the worker node when distributing outgoing Global Manager requests to worker nodes.

## Adding or Editing a Worker Node

In the **GM Worker Nodes** page, you can manually add a worker node. To manually add a worker node:

1. Go to the **GM Worker Nodes** page (System > Manage > GM Worker Nodes).
2. Click the plus icon (+) in the last row of the table to add a row, or select the edit icon (✎) for the worker node that you want to edit.
3. In the same row, supply values in the following column fields:

- **Name.** Required. Enter a name of the worker node.

**NOTE:** You must specify a value in at least one of these fields: **Aligned Device**, **IP Address**, or **Host Name**.

- **Aligned Device.** If the worker node is also a stack that is monitored by the Global Manager system, this column specifies the name of the stack.
- **IP Address.** Enter the IP address of the worker node.
- **Host Name.** Enter the FQDN of the worker node.
- **State.** Indicates whether the Global Manager will use the worker node when executing Global Manager features. Possible values are:
  - *Enabled.* The Global Manager will include the worker node when distributing outgoing Global Manager requests to worker nodes.
  - *Disabled.* The Global Manager will not include the worker node when distributing outgoing Global Manager requests to worker nodes.

4. Click the save icon () for the row.

## Enabling and Disabling One or More Worker Nodes

In the **GM Worker Nodes** page, you can enable and disable one or more worker nodes.

- **Enabled.** The Global Manager will include the worker node when distributing outgoing Global Manager requests to worker nodes.
- **Disabled.** The Global Manager will not include the worker node when distributing outgoing Global Manager requests to worker nodes.

To enable or disable one or more worker nodes:

1. Go to the **GM Worker Nodes** page (System > Manage > GM Worker Nodes).
2. Select the checkbox icon for each worker node you want to enable or disable.
3. Click the **Select Action** menu and choose *Worker Node State: Enabled* or *Worker Node State: Disabled*.
4. Click the **[Go]** button.

## Using Classic Global Manager Dashboard Widgets

---

### Overview

This chapter describes how a user can access aggregated data in a classic Global Manager system using dashboard widgets. The following dashboard widgets can be used to view aggregated data:



- (base) Top-N
- (base) Custom Table
- (base) Finder

From the available dashboard widgets, a user can drill-down to the user interface of the applicable SL1 system. The user interface is proxied by the Global Manager . This proxy allows the end user to view the SL1 system without requiring direct network access to that SL1 system.

**NOTE:** Aggregated data does not include data for devices that are monitored locally by the Global Manager system.

**NOTE:** This chapter applies only to the classic SL1 Global Manager.

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

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

This chapter includes the following topics:

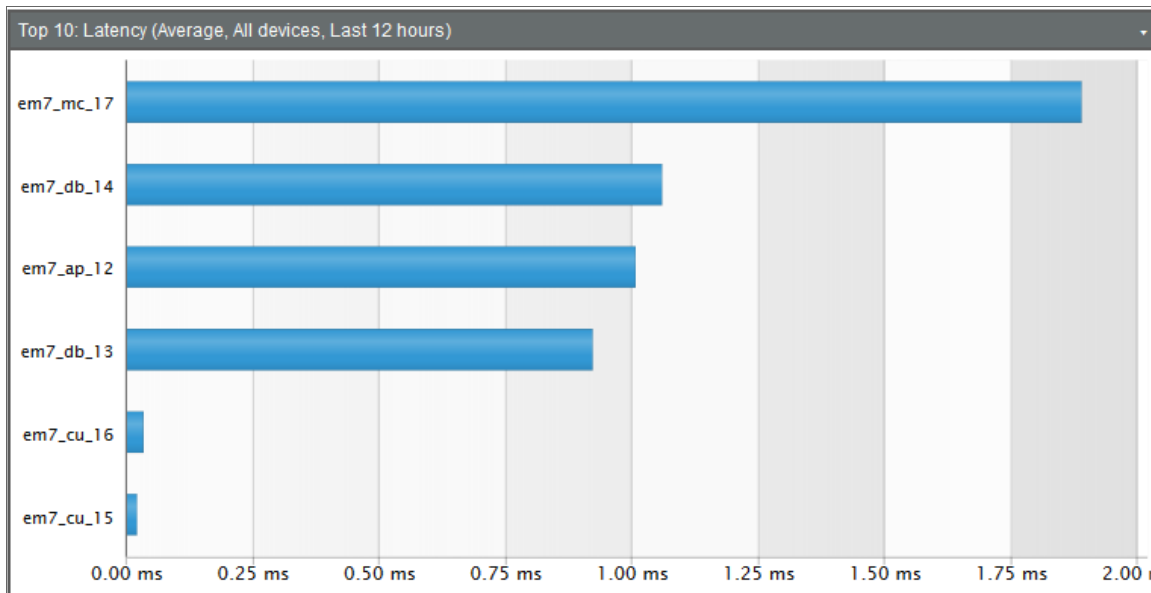
<a href="#">The Top-N Widget</a>	23
<a href="#">The Custom Table Widget</a>	24
<a href="#">The Finder Widget</a>	25

## The Top-N Widget

The Top-N widget displays utilization statistics for a specific performance metric. When configured as a Global Manager widget, the Top-N widget displays utilization for the devices with the highest or lowest values for the performance metric across all stacks being aggregated by the Global Manager system.

To configure the Top-N widget as a Global Manager widget:

1. Add or edit a widget on a dashboard.
2. In the **Widget Configuration** page, select **(base) Top-N** from the left navigation bar.
3. Select the **Global Manager View** checkbox.
4. Configure the other options in the widget as you would in a standalone SL1 System. For information about the options for the Top-N widget, see the **Dashboards** manual.
5. Select the **[Save]** button. For the selected metric, the widget will display the devices with the highest or lowest values for the selected performance metrics across all stacks being aggregated:



# The Custom Table Widget

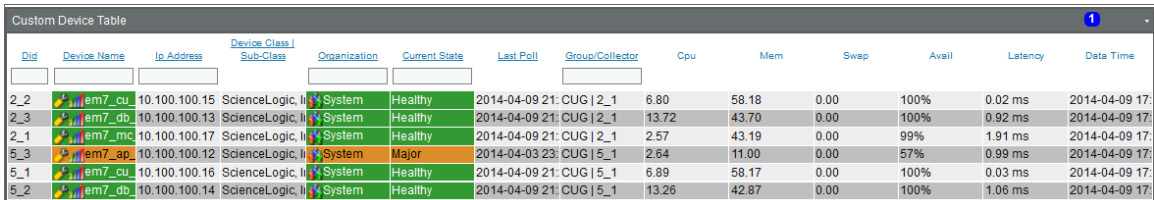
The Custom Table widget displays multiple instances of an entity in a table. When configured as a Global Manager widget, the Custom Table widget can be configured to display a list of asset records, devices, device classes, device groups, journal entries, events, IT Services, monitoring policies, organizations, or tickets from all stacks being aggregated by the Global Manager system.

To configure the Custom Table widget as a Global Manager widget:

1. Add or edit a widget on a dashboard.
2. In the **Widget Configuration** page, select **(base) Custom Table** from the left navigation bar.
3. Select the **Global Manager View** checkbox.
4. Configure the other options in the widget as you would in a standalone SL1 System. For information about the options for the Custom Table widget, see the **Dashboards** manual. In a Global Manager system, an additional column, **Stack**, appears in the list of available columns for most entity types. The **Stack** column displays the name of the stack on which each entity resides. The **Stack** column includes a stack drill-down icon (🔍) that opens a page on the stack.

The **Stack** column appears in the list of available columns for the following entity types:

- **Device**. Drills down to the **Device Manager** Page.
  - **Asset**. Drills down the **Asset Manager** page.
  - **Contacts**. Drills down to the **External Contacts** page.
  - **Device Groups**. Drills down to the **Device Groups** page.
  - **Events**. Drills down to the **Event Console** page.
  - **Interfaces**. Drills down to the **Network Interfaces** page.
  - **Organization**. Drills down to the **Organizational Account Administration** page.
  - **Ticket**. Drills down to the **Ticket Console** page.
  - **Monitoring Policy**. Drills down to the registry page for the applicable monitoring policy type.
5. Select the **[Save]** button. For the selected entity type and filter parameters, the widget will display the appropriate entities from all stacks being aggregated:



Did	Device Name	Ip Address	Device Class Sub-Class	Organization	Current State	Last Poll	Group/Collector	Cpu	Mem	Swap	Avail	Latency	Data Time
2_2	em7_cu	10.100.100.15	ScienceLogic, h	System	Healthy	2014-04-09 21:00	CUG   2_1	6.80	58.18	0.00	100%	0.02 ms	2014-04-09 17:00
2_3	em7_db	10.100.100.13	ScienceLogic, h	System	Healthy	2014-04-09 21:00	CUG   2_1	13.72	43.70	0.00	100%	0.92 ms	2014-04-09 17:00
2_1	em7_mc	10.100.100.17	ScienceLogic, h	System	Healthy	2014-04-09 21:00	CUG   2_1	2.57	43.19	0.00	99%	1.91 ms	2014-04-09 17:00
5_3	em7_ap	10.100.100.12	ScienceLogic, h	System	Major	2014-04-03 23:00	CUG   5_1	2.64	11.00	0.00	57%	0.99 ms	2014-04-09 17:00
5_1	em7_cu	10.100.100.16	ScienceLogic, h	System	Healthy	2014-04-09 21:00	CUG   5_1	6.89	58.17	0.00	100%	0.03 ms	2014-04-09 17:00
5_2	em7_db	10.100.100.14	ScienceLogic, h	System	Healthy	2014-04-09 21:00	CUG   5_1	13.26	42.87	0.00	100%	1.06 ms	2014-04-09 17:00



---

## The Finder Widget

The Finder widget allows a user to search for entities by name. When configured as a Global Manager widget, the Finder widget can be used to search for Organizations, Devices, Assets, Interfaces, Vendors, User Accounts, Device Groups, and IT Services across all stacks being aggregated by the Global Manager system.

To configure the Finder widget as a Global Manager widget:

1. Add or edit a widget on a dashboard.
2. In the **Widget Configuration** page, select **(base) Finder** from the left navigation bar.
3. Select the **Global Manager View** checkbox.
4. Configure the other options in the widget as you would in a standalone SL1 System. For information about the options for the Custom Table widget, see the **Dashboards** manual.
5. Select the **[Save]** button.

---

# Chapter

# 4

## Classic Global Event Console



---

### Overview

The **Global Event Console** page displays active events from all the stacks from which Global Manager is aggregating data.

**NOTE:** This chapter applies only to the classic SL1 Global Manager.

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

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

This chapter includes the following topics:

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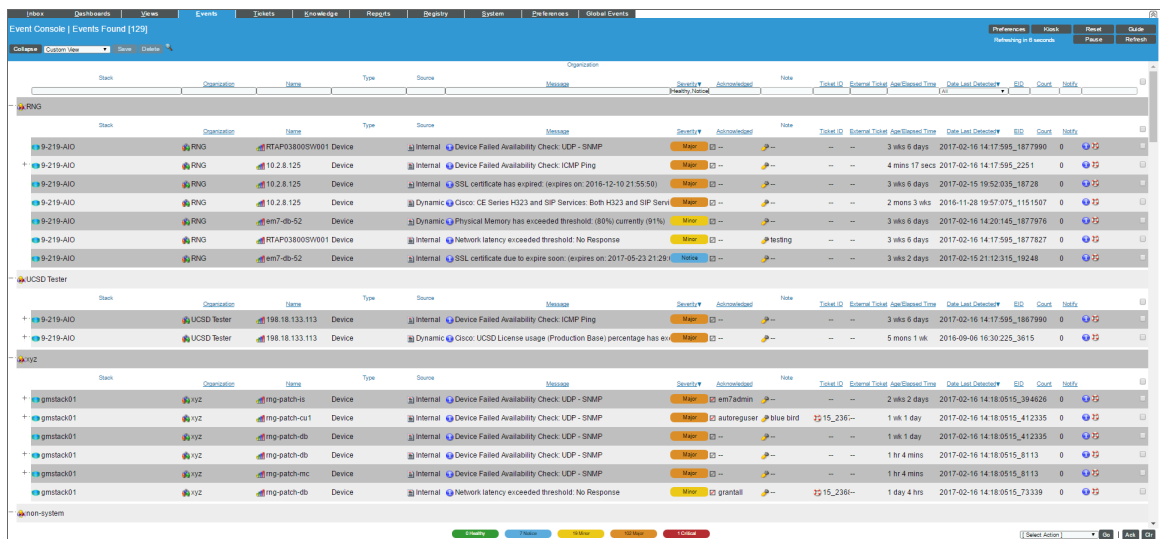
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## Disabling the Classic Global Event Console

When you install the Global Manager PowerPack, the SL1 system automatically enables the Global Manager Events Console. If you want to view only local events in the Events Console, unselect the **Global View** checkbox in the **Event Console Preferences** page. For details, see the section on [Global Event Console Preferences](#).

## Viewing Events in the Classic Global Event Console

To view a list of all active events from all stacks, click the **Events** tab. The **Global Event Console** page appears.



Each event is color-coded to make it easy for you to determine severity:

Color	Severity	Description
Red	Critical	Critical Events indicate a condition that can seriously impair or curtail service and requires immediate attention (i.e., service or system outages).
Orange	Major	Major Events indicate a condition that impacts service and requires immediate investigation.
Yellow	Minor	Minor Events indicate a condition that does not currently impair service, but the condition needs to be corrected before it becomes more severe.
Blue	Notice	Notice Events indicate a condition that does not affect service but about which users should be aware.
Green	Healthy	Healthy Events indicate that a device or condition has returned to a healthy state. Frequently, a healthy event is generated after a problem has been fixed.

Events in the **Global Event Console** are rolled up. This means that if the same event occurs multiple times on a single device, you will see only one entry in the **Global Event Console** and the value in the **Count** column will indicate the number of times the event has occurred.

If you select the **Group by Organization** checkbox in the [Global Event Console Preferences](#) page:



- Events in the **Global Event Console** will be grouped by organization.
- The **filter-while-you-type** fields will appear for each organization grouping and will act only on the events in that organization grouping. You will not be able to apply a single filter to events in multiple organizations.

The **Global Event Console** displays a legend, showing the number of events of each severity. For each severity, the legend indicates the number of events displayed on the current page. The second number, in parentheses, indicates the additional number of events with the same severity that are not displayed in the current page. These additional events either display on a subsequent page or do not display because of the current filters applied to the page or because of the setting in the **Default Severity Filter** field in the **Account Preferences** page (Preferences > Account > Preferences) and in the **Event Console Preferences** page. For example, "3 (+7) Healthy" means that the current page displays three events with a severity of "Healthy" and that seven more events with a severity of "Healthy" exist but are not displayed in the current page.




## Information About Each Event

For each event, the **Event Console** can display the following information:





**TIP:** By default, the list of events is displayed from newest to oldest. 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. You can sort this way in both normal mode and kiosk mode.

- **Stack.** The name of the stack on which the event is active. Clicking on the stack icon () opens a new window where you can view the list of local events on the selected stack.
- **Organization.** Appears only if you have not selected the **Group by Organization** checkbox in the **Account Preferences** page (Preferences > Account > Preferences) and in the **Event Console Preferences** page (Events > Actions > Console Preferences). Specifies the organization that the event is associated with. Clicking on the organization icon () leads to the **Organization Summary** page for the selected organization.
- **Name.** Name of the entity associated with the event. Clicking on the icon leads to an informational page about the entity.
- **Type.** Type of entity associated with the event. The possible options are:
  - Organizations
  - Devices
  - Assets
  - IP networks
  - Interfaces
  - IT Services
  - Vendors
  - User Accounts
  - Virtual Interfaces
- **Source.** System or application that generated this event. Choices are:
  - *Syslog.* Event was generated from a 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 a snippet Run Book Action, a snippet Dynamic Application, a request to the ScienceLogic API, or by an external system.
  - *SL1 agent.* Message is generated by log file messages collected by the SL1 agent. For more information about creating Log File Monitoring Policies to monitor log file messages collected by the agent, see the **Monitoring Device Infrastructure Health** manual .
- **Message.** Message generated for the event.
- **Severity.** Severity of the event. Possible values are:
  - *Critical*
  - *Major*
  - *Minor*

- *Notice*
- *Healthy*

- **Acknowledged.** If the event has been acknowledged, this column displays a red check-mark character and specifies the user who acknowledged the event. If the event has not been acknowledged, this field displays a gray check-mark character. To acknowledge an event, click in this column.
- **Note.** User-defined note to accompany the event. To create or edit a note, select the wrench icon () in this column. To save a note, select the green disk icon () in this column.
- **Ticket ID.** If a ticket has been created for the event, this column displays the ticket ID of that ticket. Clicking the ticket icon () leads to the **Ticket Editor** page for the ticket on its local SL1 System.
- **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.

- **Age/Elapsed Time.** Number of days, hours, and minutes since the last occurrence of the event.
- **Date Last Detected.** Date and time the event last occurred on this entity.
- **EID.** Unique ID for the event, generated by SL1. This ID includes the ID assigned to the stack by Global Manager and the ID of the event on the stack separated by an underscore character ("\_").
- **Count.** Number of times this event has occurred or number of child events associated with the event or number of masked events associated with the event.
- **Notify.** Number of times the event has triggered the execution of an Automation Policy.
- **Information icon** (). Displays the **Event Information** page, where you can view an overview of the selected event, suppress the selected event, or edit the definition of the selected event.
- **Ticket icon** (). Depending upon the setting **Ticket Life Ring Button Behavior** (found in System > Settings > Behavior), one of the following will happen:
  - The **Ticket Editor** page appears. If a ScienceLogic ticket is already aligned with this event, you can view details about the ticket. If a ScienceLogic ticket is not yet aligned with this event, you can define a ticket and the SL1 system will automatically associate the new ticket with the selected event.
  - If an external ticket is aligned with an event, when you select the life-ring icon () for that event (from the **Event Console**), SL1 spawns a new window and displays the external ticket. If an external ticket is not yet aligned with an event, when you select the life-ring icon () for that event, SL1 sets a "request" flag for the ticket and displays an acknowledgment that a new ticket has been requested. You can then use the "request" in run book logic, to create the ticket on the external system.

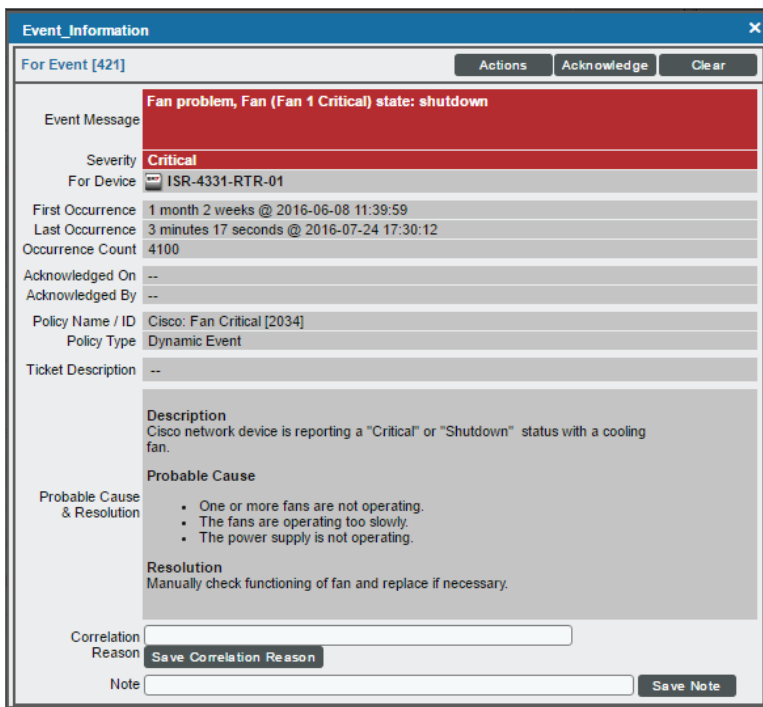
## Viewing Details About an Event

In the classic user interface, you can view details about an event, suppress an event, and access the event policy from the **Event Information** page.

**NOTE:** To view the **Event Information** page, accounts of type "user" must be granted one or more access keys that includes the following access hook: Events/Event:View. Accounts of type "user" will then be able to view details for all events in the same organization as the user.

To access the **Event Information** page:

1. Go to the **[Events]** tab.
2. Find the event you are interested in and select its information icon (📄).
3. The **Event Information** page appears.



The screenshot shows a window titled "Event\_Information" with a close button. Below the title bar, it says "For Event [421]" and has three buttons: "Actions", "Acknowledge", and "Clear". The main content area is divided into several sections:

- Event Message:** Fan problem, Fan (Fan 1 Critical) state: shutdown
- Severity:** Critical
- For Device:** ISR-4331-RTR-01
- First Occurrence:** 1 month 2 weeks @ 2016-06-08 11:39:59
- Last Occurrence:** 3 minutes 17 seconds @ 2016-07-24 17:30:12
- Occurrence Count:** 4100
- Acknowledged On:** --
- Acknowledged By:** --
- Policy Name / ID:** Cisco: Fan Critical [2034]
- Policy Type:** Dynamic Event
- Ticket Description:** --
- Description:** Cisco network device is reporting a "Critical" or "Shutdown" status with a cooling fan.
- Probable Cause & Resolution:**
  - Probable Cause:**
    - One or more fans are not operating.
    - The fans are operating too slowly.
    - The power supply is not operating.
  - Resolution:** Manually check functioning of fan and replace if necessary.
- Correlation Reason:** (input field)
- Note:** (input field)

The **Event Information** page appears the following details about the event:

- **Event ID.** Unique ID for the event, generated by SL1.
- **Event Message.** Message generated by the event, as defined in the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit).
- **Severity.** Severity of the event. Choices are:

- *Critical*
  - *Major*
  - *Minor*
  - *Notice*
  - *Healthy*
- **For Element.** Name of the element associated with the event.
  - **First Occurrence.** Number of days and hours since the first occurrence of the event, and date and time of first occurrence of the event.
  - **Last Occurrence.** Number of days and hours since the last occurrence of the event, and date and time of last occurrence of the event.
  - **Occurrence Count.** Number of times this event has occurred on this entity.
  - **Acknowledged On.** Date and time the event was acknowledged.
  - **Acknowledged By.** Username of user who acknowledged the event.
  - **Policy Name/ID.** Name of the event policy, as defined in the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit) and policy ID.
  - **Policy Type.** Source of the log message that triggers the event, as defined in the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit). Choices are:
    - *Syslog.* Event was generated from a system log generated by device.
    - *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.
    - *Email.* Event was generated by an email from an external agent; for example, Microsoft Operations Manager (MOM).
    - *API.* Event was generated by a snippet Run Book Action, a snippet Dynamic Application, a request to the ScienceLogic API, or by an external system.
  - **Ticket Description.** Description field from the associated ticket, if applicable.
  - **Probable Cause & Resolution Text.** This pane displays additional information about the event, as defined in the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit).
  - **Correlation Reason.** This field displays the user-defined notes about event categories and event correlation. You can enter up to 256 characters in this field. To save your changes, select the **[Save Correlation Reason]** button.
  - **Note.** This field displays the user-defined note associated with the event. To add or edit a note, enter text in this field and then select the **[Save Note]** button.

4. Depending on your Access Keys, the **[Actions]** menu displays one or more of the following entries:

- **Create a Ticket.** Leads to the **Ticket Editor** page, where you can define a new ticket based on the event.



- **Edit Aligned Ticket.** Leads to the **Ticket Editor** page, where you can edit an existing ticket that is based on the event.
- **Edit Aligned Event Policy.** Leads to the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit), where you can edit the properties of the event definition.
- **Edit Device Thresholds.** Leads to the **Device Thresholds** page, where you can define and edit storage and performance thresholds for a device.
- **Suppress Event for This Device.** Suppresses the current event on the current device. When you suppress an event, you are specifying that in the future, if this event occurs again on the same device, the event will not appear in the Global Event Console page.
- **Refresh This Page.** Updates the page with the latest information.
- **View Device Summary.** Leads to the **Device Summary** page for the device, where you can view overview information on the health of the device, a list of events and tickets associated with the device, a list of elements associated with the device, a list of monitoring policies for the device, and hardware and bandwidth usage for the device.

5. The **[Acknowledge]** button allows you to acknowledge the event.

6. The **[Clear]** button allows you to clear the event.

## Global Search Field

The **Global Search** field in the upper left of the page allows you to filter the entire list of displayed events by a single parameter. SL1 will update the **Global Event Console** and display only events that have a matching parameter.

To use the **Global Search** field, enter values in the **Search** drop-down list and the **Text** field:

- **Search.** You can select one of the following search parameters:
  - **Organization.** Appears only if you have not selected the **Group by Organization** checkbox in the **Account Preferences** page (Preferences > Account > Preferences) or in the **Event Console Preferences** page (Events > Actions > Console Preferences). Name of the organization associated with the event.
  - **Name.** Name of the entity associated with the event.
  - **Event Message.** Message generated for the event.
  - **Severity.** Severity of the event.
  - **Acknowledged.** If the event has been acknowledged, search for the user who acknowledged the event.
  - **Note.** User-defined note associated with the event.
  - **Ticket.** If a ticket has been created for the event, this parameter searches by 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).
  - **Event ID.** Unique ID for the event, generated by SL1.

- **Text.** For each search parameter, you must enter text to match. SL1 will search for events that match the text, including partial matches. Text matches are not case-sensitive. You can use special characters in each filter.

To perform another search on the results of the previous search:

1. Select the plus-sign (+) to the left of the **Refresh Timer**.
2. This adds another **Search** field and **Text** field to the top of the page. This second search will search only the results from the first search.
3. You can add as many **Search** and **Text** fields as you need.

**NOTE:** You can save the results of a **Global Search** as a custom view.

## Filtering the Global Event Console

The **Global Event Console** page includes a filter for each column you selected to display, 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 **Global Event Console**.

You can filter by one or more parameters. The list of events is dynamically updated as you select each filter.

**NOTE:** To return to the default list of events, click the **[Reset]** button.

To access the **Filter-While-You-Type** feature in the **Global Event Console**:

1. Go to the **Global Event Console** page.
2. The settings in the **Account Preferences** page (Preferences > Account > Preferences) and in the **Event Console Preferences** page (Events > Actions > Console Preferences) affect the scope of the **filter-while-you-type** fields. If you select the **Group by Organization** checkbox in the **Account Preferences** page or the **Event Console Preferences** page, events in the **Global Event Console** will be grouped by organization. The **filter-while-you-type** fields will appear for each organization grouping and will act only on the events in that organization grouping. You will not be able to apply a single filter to events in multiple organizations.
3. If you selected the **Group by Organization** checkbox, find the organization for which you want to filter the list of events. Expand the list of events by clicking on the plus sign (+) next to the organization name.
4. If you have not selected the **Group by Organization** checkbox, go to the top of the **Global Event Console** page.
5. The **filter-while-you-type** fields are displayed in the row under the column headings.
  - For each filter except **Severity**, **Last Detected**, and **Age/Elapsed**, 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 special characters in each filter.

- **Stack.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching stack name.
- **Organization.** Appears only if you have not selected the **Group by Organization** checkbox in the **Account Preferences** page (Preferences > Account > Preferences) or in the **Event Console Preferences** page (Events > Actions > Console Preferences). You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching organization.
- **Name.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching entity name.
- **Type.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching entity type.
- **Source.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching stack name.
- **Event Message.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching event message.
- **Severity.** You can select a severity value, and the **Global Event Console** page will display only events that have a matching severity. Choices are:
  - **>=Healthy.** Will display all events with a severity greater than or equal to "Healthy". Healthy has a numeric value of "0" (zero).
  - **>=Notice.** Will display all events with a severity greater than or equal to "Notice". Notice has a numeric value of "1" (one).
  - **>=Minor.** Will display all events with a severity greater than or equal to "Minor". Minor has a numeric value of "2" (two).
  - **>=Major.** Will display all events with a severity greater than or equal to "Major". Major has a numeric value of "3" (three).
  - **>=Critical.** Will display all events with a severity greater than or equal to "Critical". Critical has a numeric value of "4" (four).
- **Acknowledged.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have been acknowledged by a matching user account.
- **Note.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have matching note text.
- **Ticket.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching ticket ID.
- **External Ticket.** You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching external ticket name or ID.
- **Age/Elapsed.** You can enter time in seconds, and the **Global Event Console** page will display only events that last occurred within that number of seconds or less.
- **Last Detected.** Only those events that match the specified detection date will be displayed. The choices are:

- *All*. Display events from all detection dates and times.
- *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, and the **Global Event Console** page will display only events that have a matching event ID.
- **Source**. You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching source.
- **Count**. You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching count number.
- **Notify**. You can enter text to match, including special characters, and the **Global Event Console** page will display only events that have a matching number of notifications.

## 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:

"l?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 contain the characters "silo".
- "!^silo". Matches only text that does not start with "silo".
- "!O\$". Matches only text that does not end with "O".
- "!^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, !aggr". 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, !aggr, !01". 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!\*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!\*o\$". Matches all text that does not contain 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 that contains "n", zero or any number of any characters and then "SAN". For example, the string would match "nSAN", and "nhamburgerSAN".

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

## Custom View

You can save a filtered list of events created with the Global Search tool. When you do so, you are creating a **custom view**. You can then return to the page at any time and display the custom view, without having to filter the list again.

To save a custom view:

1. Go to the **Global Event Console** page.
2. Using the Global Search tool, filter the list of events.
3. In the **Custom View** drop-down field, select *new custom view*.
4. Click the **[Save]** button.
5. You will be prompted to enter a name for the new custom view.
6. The new custom view now appears in the **Custom View** drop-down list.
7. To edit the custom view, select it from the **Custom View** drop-down list, make changes with the **Global Search** tool and then click the **[Save]** button for the custom view to save your changes.
8. To display the custom view, select it from the **Custom View** drop-down list.
9. To delete the custom view, select it from the **Custom View** drop-down field and then click the **[Delete]** button. The custom view will no longer appear in the **Custom View** drop-down list.

**NOTE:** In Kiosk mode, you cannot create, edit, or delete a custom view. You can perform these actions only in normal mode.

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## Responding to Events

When events occur, there are multiple ways you can respond to them:

- **Acknowledge**. Lets other users know that you are aware of an event and are working on a response.
- **Add a Note**. Adds additional text to an event. Notes can be displayed in the **Event Console** page and can be included in automation actions.
- **Clear**. Removes an instance of an event from the **Event Console**. The cleared instance is no longer displayed.

## Acknowledging One or More Events

The **Event Console** page in the classic user interface allows you to acknowledge new events as they are detected by the system. Acknowledging an event lets other users know that you are aware of the event and working to resolve it.



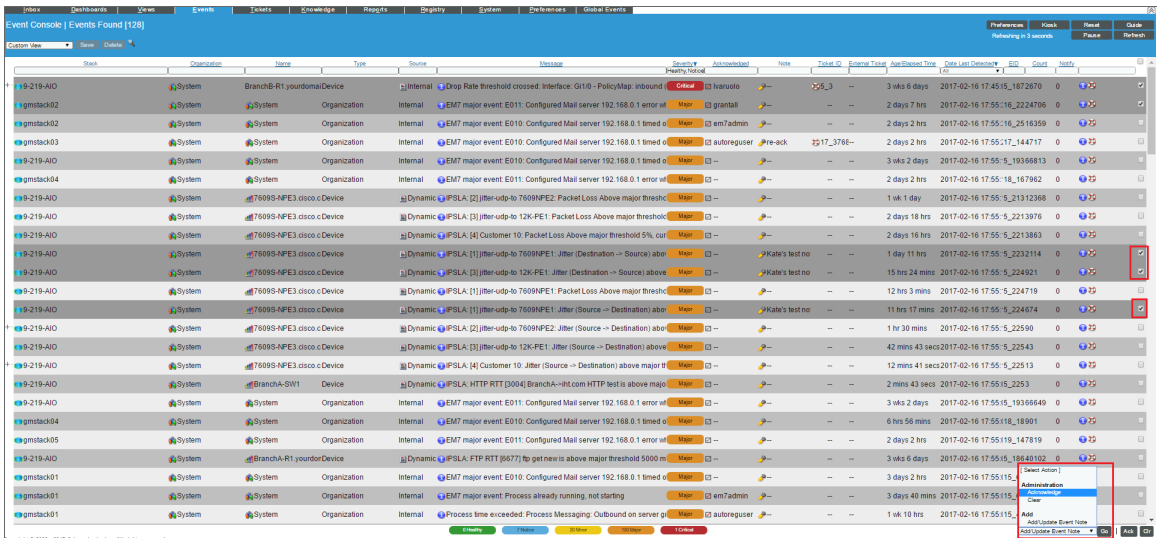
When an event has been acknowledged, the acknowledging user's name appears in the **Acknowledged** column. This lets other users know that someone is investigating or taking action on the event.

**NOTE:** To acknowledge an event, accounts of type "user" must be granted one or more access keys that include the following access hooks: Events/Event:View and Event: Acknowledge. Accounts of type "user" will then be able to view and acknowledge events in the same organization(s) as the user. For more information on Access Keys, see the manual **Access Permissions**.

**NOTE:** When you acknowledge a parent event, all masked events under that parent event are also acknowledged. For more information about parent/child events and masked events, see the section on "Responding to Events" in the **Events** manual.

To acknowledge a single event:

1. Go to the **[Events]** tab in the classic user interface.
2. In the **Global Event Console** page, find the event you want to acknowledge and click on the gray checkmark icon (☐) in the **Acknowledged** column for that event.
3. A red checkmark icon (☑) and your username will appear in the **Acknowledged** column for that event.
4. You can also acknowledge an event that has already been acknowledged by another user. To do this, click on the red checkmark icon (☑). Your username will now appear in the **Acknowledged** column for that event, replacing the username of the person who previously acknowledged the event.



To acknowledge multiple events:

1. In the **Global Event Console** page, select the checkbox in the far right column for each event that you want to acknowledge.
2. From the **Select Action** drop-down list, select **Acknowledge**, then click the **[Go]** button.

3. For each acknowledged event, a red checkmark icon (☑) and your username will appear in the **Acknowledged** column.

**NOTE:** Users cannot unacknowledge an event. Another person can acknowledge the event to change the name associated with the acknowledged event, but you cannot remove an acknowledgment.

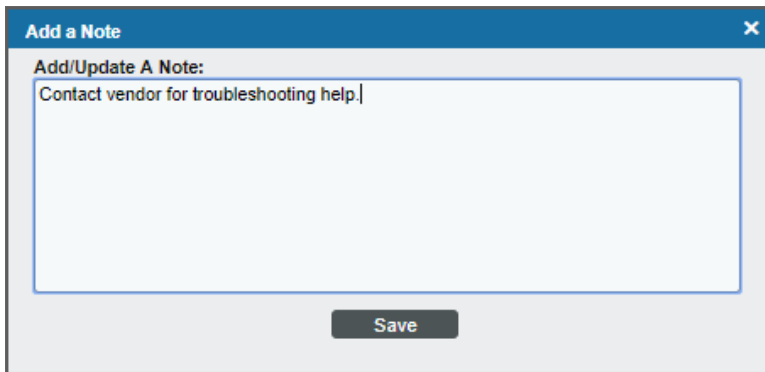
## Adding a Note About an Event

You can add brief notes to an event in the **Global Event Console** page. Each note will appear in the **Note** column for an event. SL1 does not keep a historical record of each note.

**NOTE:** A note can be included in an action policy by using the %\_user\_note variable. For details on creating automation policies and action policies, see the manual **Using Run Book Automation**.

To create or edit a note for an event:

1. In the **Global Event Console** page, find the event to which you want to add a note.
2. In the **Note** column for that event, click on the wrench icon (🔧).
3. In the **Add a Note** modal page, enter the note text. Click **[Save]** to save the note.



4. The new or edited text appears in the **Note** column for the event.

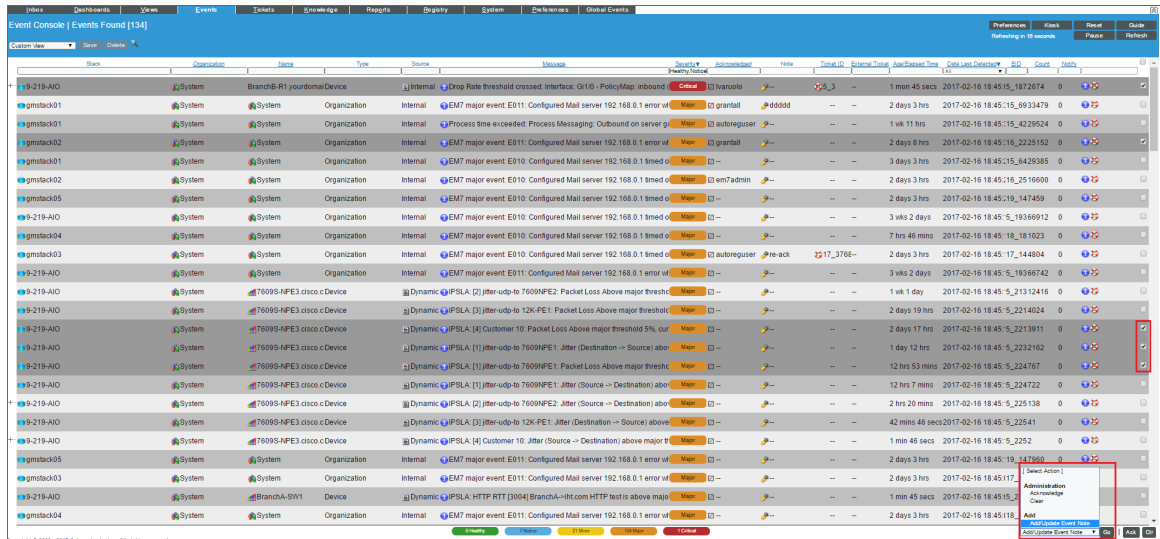
## Adding a Note to Multiple Events

You can add a brief note to multiple events simultaneously and/or overwrite existing notes for multiple events. The note will appear in the **Note** column for each event and in the **Note** field in the **Event Information** page for each event. SL1 does not keep a historical record of each note.

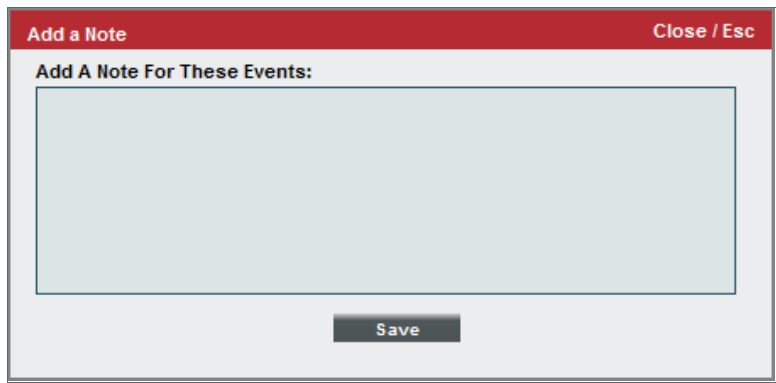
**NOTE:** A note can be included in an action policy by using the `%_user_note` variable. For details on creating automation policies and action policies, see the manual *Using Run Book Automation*.

To create or edit a note for multiple events:

1. In the **Global Event Console** page, find the events for which you want to add a note and/or overwrite the existing note.
2. For each event that you want to add and/or edit a note, select the checkbox in the last column.
3. In the **Select Action** drop-down field, select *Add/Update Event Note*, then click the **[Go]** button.



4. In the **Add a Note** modal page, enter the text for the note. Click the **[Save]** button.



5. The new or edited text appears in the **Note** column for each selected event.

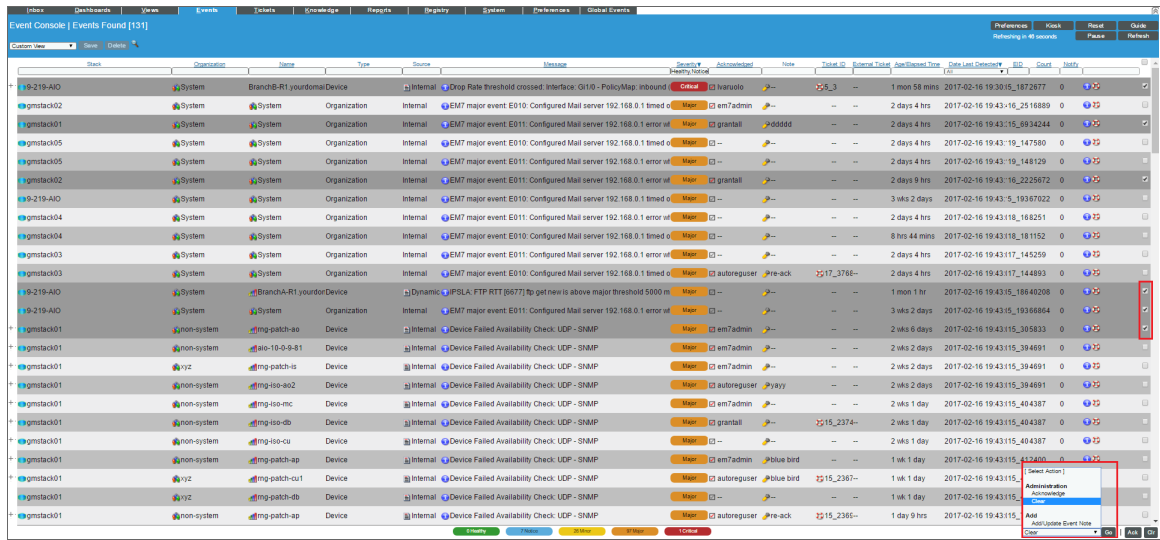
# Clearing One or More Events

When you clear an event, you remove only a single instance of the event from the current display in the **Global Event Console** page. If the event occurs again on the same entity, it will reappear in the **Global Event Console** page.

**NOTE:** To clear an event, accounts of type "user" must be granted one or more access keys that include the following access hooks: Events/Event:View and Event: Clear. Accounts of type "user" will then be able to view and clear events in the same organization(s) as the user. For more information on access hooks, see the manuals **Access Permissions** and **Organizations and Users**.

To clear an event:

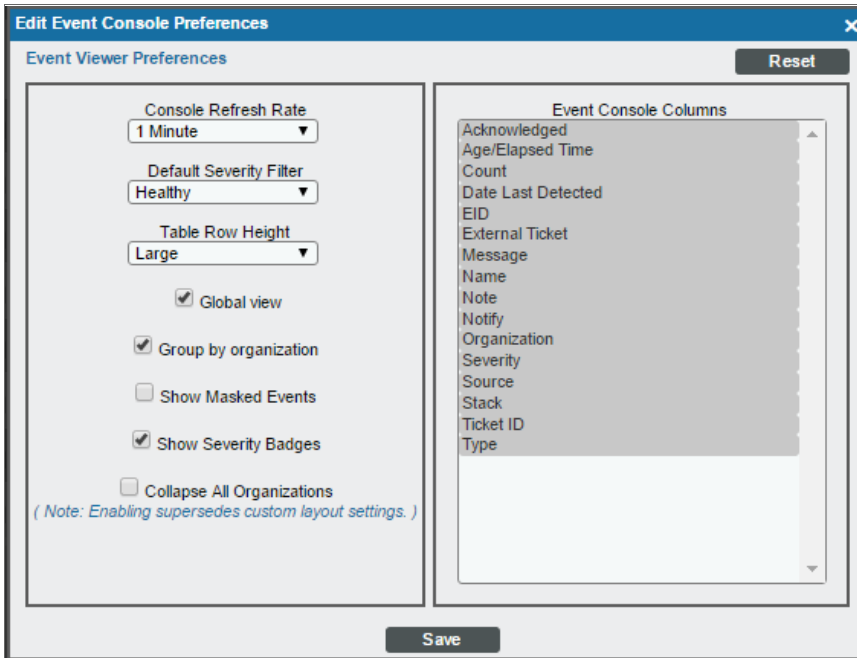
1. Go to the **[Events]** tab.
2. In the **Global Event Console** page, select the checkbox for each event you want to clear. To select all events in an organization, click the checkmark icon above each organization's group of events.



3. In the **Select Action** drop-down list, select **Clear**, then click the **[Go]** button.
4. When you successfully clear an event, it will no longer appear in the **Global Event Console** page.


# Global Event Console Preferences

You can change the look-and-feel of the Global Event Console in the **Global Event Console Preferences** page. To access the **Global Event Console Preferences** page, click the **[Preferences]** menu:



The following fields appear in the **Global Event Console Preferences** page. To change your preferences, edit the values in one or more of these fields and then click the **[Save]** button:

- **Console Refresh Rate.** Select how often the **Global Event Console** page is refreshed. Options range from 10 seconds to 60 minutes.
- **Default Severity Filter.** Select the minimum event severity that you want to display in the **Global Event Console** page. Only events of the selected severity and greater will appear in the **Global Event Console** page. Options include:
  - *Healthy.* Displays all events, including events with a severity of Healthy.
  - *Notice.* Displays all events with a severity of Notice, Major, Minor, and Critical.
  - *Minor.* Displays all events with a severity of Minor, Major, and Critical.
  - *Major.* Displays all events with a severity of Major and Critical.
  - *Critical.* Displays all events with a severity of Critical.
- **Table Row Height.** Affects the row height of all pages that display a table in the main content pane. Changing the setting for row height in the current page, the system **Account Preferences** page, the **Ticket Console Preferences** page, or the user **Account Preferences** page affects the row height in all pages that display a table in the main content pane. Choices are:
  - *Small.* Sets row height to 17 px and font size to 11 px.

- *Medium*. Sets row height to 27 px and font size to 12 px.
- *Large*. Sets row height to 35 px and font size to 13 px.
- **Global View**. If you select this checkbox, the **Global Event Console** page displays active events from all stacks from which Global Manager is aggregating data. If you do not select this checkbox, the **Global Event Console** page displays only local events that are active in the Global Manager system.
- **Group by Organization**. If you select this checkbox, events will be grouped by organization. The *filter-while-you-type* fields and the Advanced Filter Tool will appear for each organization grouping and will act only on the events in that organization grouping. You will not be able to apply a single filter to events in multiple organizations.
- **Show Masked Events**. If you select this checkbox, all events that have been grouped together with a device's **Event Mask** setting will be displayed in the **Global Event Console** page. If you do not select this checkbox, these events are grouped together and rolled-up under the event with the highest severity and you can click on the magnifying-glass icon () to view the masked events.
- **Show Severity Badges**. If you select this checkbox:
  - The value in the **Severity** column will be displayed as a color-coded badge in the **Global Event Console** page and the **Ticket Console** page.
  - The value in the **Current State** column will be displayed as a color-coded badge in the **Device Manager** page.

If you do not select the **Show Severity Badges** checkbox:

- In the **Global Event Console** page, the value in the **Event Message** column and the value in the **Severity** column will be painted with the severity color.
- In the **Ticket Console** page, the value in the **Description** column and the **Severity** column will be painted with the severity color.
- In the **Device Manager** page, the value in the **Device Name** column and the value in the **Current State** column will be painted with the severity color.
- **Collapse All Organizations**. If you select this checkbox, all organizations with assigned events will be displayed but will be contracted; the **Global Event Console** page will display only a list of contracted organizations, which can be expanded by clicking on the plus sign (+). The default behavior of SL1 is to expand each organization and display the list of events for each organization.
- **Event Console Columns**. In this list, select the columns that you want to display by default in the **Global Event Console** page.

**NOTE:** You can also edit the list of columns to display in the **Global Event Console** page from the **Account Preferences** page. When you edit the list of columns in the **Account Preferences** page, the selected list of columns automatically updates in the **Event Console Preferences** modal page, and vice versa.

## Classic Global PowerPack Management

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
### Overview

In a classic Global Manager system, you can view the installation status of a PowerPack and "push" PowerPacks to the stacks that are managed by the Global Manager. You can import and install a PowerPack to one, multiple, or all stacks.

To view the installation status of a PowerPack or push a PowerPack to one or more stacks from Global Manager, you must first install that PowerPack in the Global Manager system. See the **PowerPacks** manual for information about installing PowerPacks on the Global Manager.

**NOTE:** This chapter applies only to the classic SL1 Global Manager.

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

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

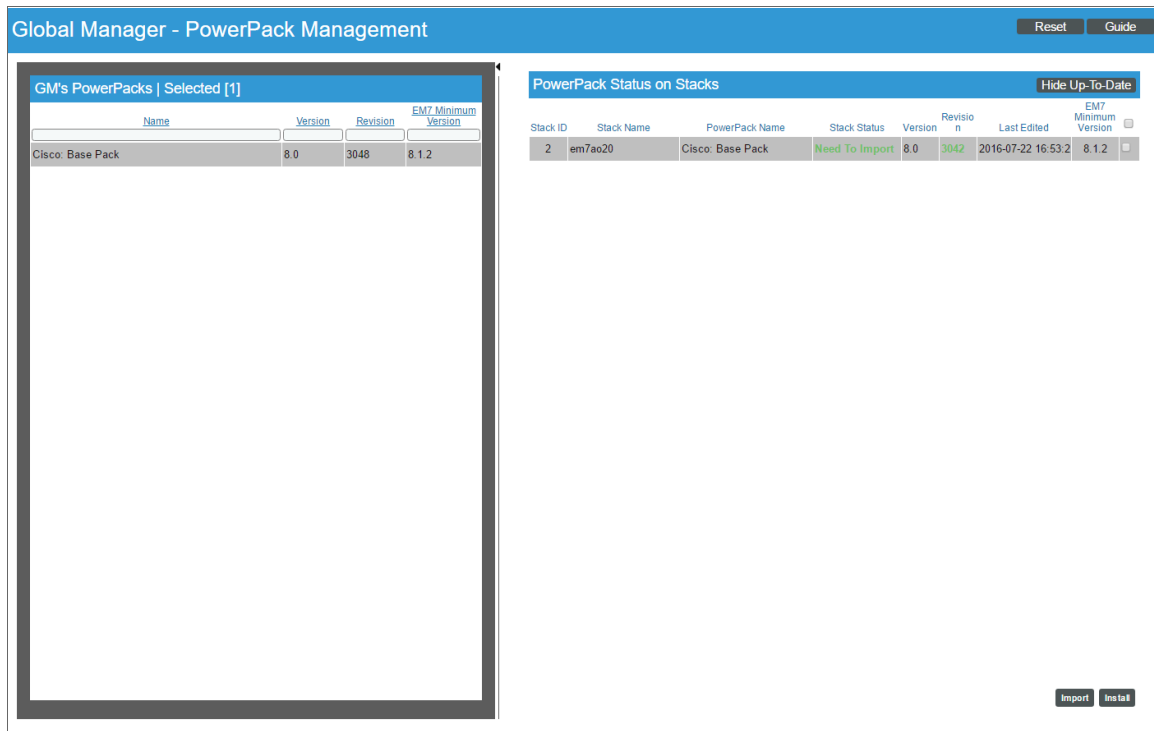
This chapter includes the following topics:

<a href="#">Viewing the Installation Status of a Single PowerPack</a> .....	48
<a href="#">Viewing the Installation Status of All PowerPacks on One or More Stacks</a> .....	49
<a href="#">Importing and Installing a Single PowerPack from Global Manager</a> .....	51
<a href="#">Importing and Installing Multiple PowerPacks on One or More Stacks</a> .....	53

# Viewing the Installation Status of a Single PowerPack

To view the installation status of a single PowerPack on the stacks that are managed by a Global Manager system, perform the following steps:

1. Go to the **PowerPack Manager** page System > Manage > PowerPacks.
2. Locate the PowerPack for which you want to view the installation status.
3. Click the globe icon (🌐) for the PowerPack. The **Global Manager - PowerPack** page appears:



The **Global Manager - PowerPack** page includes the following panes:

- **GM's PowerPacks.** Displays the following information about the selected PowerPack:
  - **Name.** The name of the PowerPack.
  - **Version.** The version number supplied by the developer of the PowerPack and the automatically generated revision number of the PowerPack.
  - **Revision.** Revision number of the PowerPack.
  - **EM7 Minimum Version.** Minimum version of SL1 that is required by the PowerPack.
- **PowerPack Status on Stacks.** Displays a the list of stacks where the version of the PowerPack installed on the stack does not match the version of the PowerPack installed on the Global Manager system. You can push the PowerPack from the Global Manager to these stacks. The **PowerPack Status on Stacks** pane displays the following information for each stack:



- **Stack ID.** The ID assigned to the stack, generated automatically by the Global Manager system.
- **Stack Name.** The name of the stack.
- **PowerPack Name.** The name of the PowerPack. If no version of this PowerPack has been installed on this stack, this field is blank.
- **Stack Status.** The status of the PowerPack on the stack. Possible values are:
  - *Up-To-Date.* The latest version of PowerPack is installed on the stack.
  - *Need to Import.* The version of the PowerPack installed on the Global Manager system has not been imported or installed on the stack.
  - *Ready to Install.* The PowerPack file has been imported by the Global Manager system on to the stack but has not yet been installed.
- **Version.** The developer-supplied version number of the PowerPack installed on the stack. If no version of this PowerPack has been installed on this stack, this field is blank.
- **Revision.** The automatically generated revision number of the PowerPack installed on the stack. If no version of this PowerPack has been installed on this stack, this field is blank. If no version of this PowerPack has been installed on this stack, this field is blank.
- **Last Edited.** The last time the PowerPack was edited on the stack. If no version of this PowerPack has been installed on this stack, this field is blank.
- **EM7 Minimum Version.** The minimum SL1 version required by the PowerPack.

---

## Viewing the Installation Status of All PowerPacks on One or More Stacks

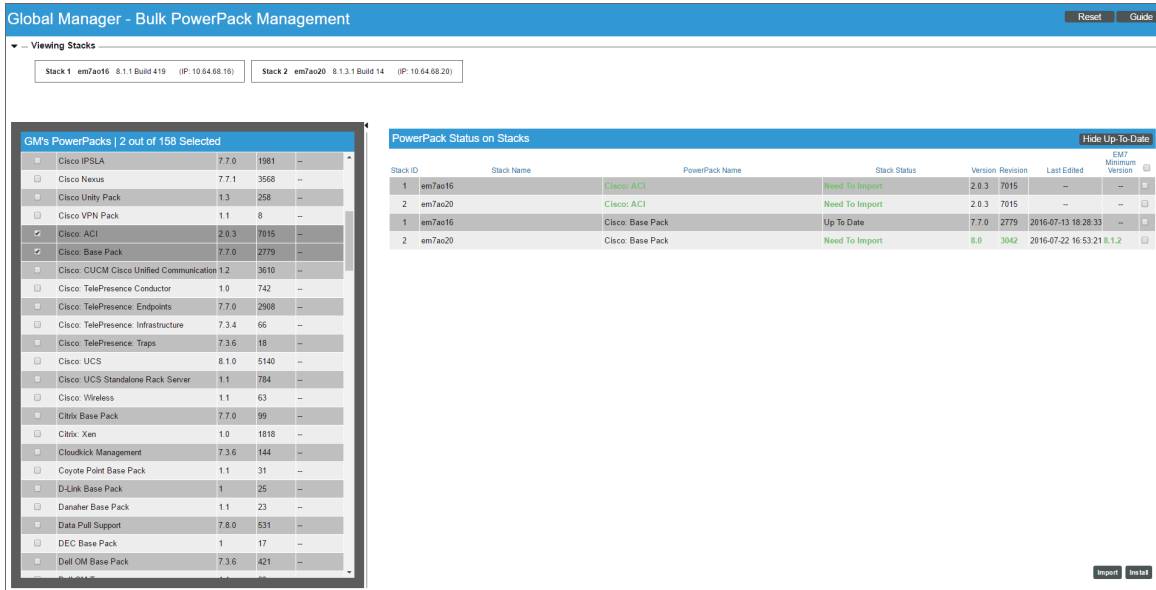
The **Global Manager - Bulk PowerPack Management** page allows you to:

- View a list of all PowerPacks installed on the Global Manager system.
- View the status of one, multiple, or all PowerPacks on one or more stacks.
- Select one or more PowerPacks to import to one or more stacks.
- Select one or more PowerPacks to install on one or more stacks.

To access the **Global Manager - Bulk PowerPack Management** page:

1. Go to the **GM Stacks** page (System > Manage > GM Stacks).
2. Select the checkbox icon for each stack you want to include.
3. Click the **Select Action** menu and choose *Manage PowerPack(s)*.
4. Click the **[Go]** button.

5. The **Global Manager - Bulk PowerPack Management** page appears.



6. The **Global Manager - Bulk PowerPack Management** page includes the following panes:

- **Viewing Stacks.** This pane displays a list of all the stacks that were selected in the **GM Stacks** page (System > Manage > GM Stacks).
- **GM's PowerPacks.** This pane displays a list of all the PowerPacks installed on the Global Manager system.
  - Selecting one or more of these PowerPacks changes the list of entries in the **PowerPack Status on Stacks** pane.
  - If you do not select a PowerPack in this pane, the **PowerPack Status on Stacks** pane displays information about all the PowerPacks in the **GM's PowerPacks** pane.
- **PowerPack Status on Stacks.** For each stack in the **Viewing Stacks** pane, this pane displays an entry for either all PowerPacks from the **GM's PowerPacks** or the selected PowerPacks from the **GM's PowerPacks** pane. Each entry specifies the status of the PowerPack on the stack.

**NOTE:** You can also access the **Global Manager - Bulk PowerPack Management** page from the **PowerPack Manager** page System > Manage > PowerPacks. In the **PowerPack Manager** page, you can select one or more PowerPacks to include in the **Global Manager - Bulk PowerPack Management** page. You can then click the **Select Actions** field and choose *Manage Stacks*. The **Global Manager - Bulk PowerPack Management** page will include the selected PowerPacks and all the stacks in the Global Manager system.


For example:

- Suppose the **Viewing Stacks** pane includes two stacks: *em7aio\_westcoast* and *em7aio\_europe*.
- In the **GM's Power Packs** pane, suppose you selected the checkboxes for *EMC Base Pack* and *NetApp Base Pack*.
- The **PowerPack Status on Stacks** pane would include four rows. The rows would display:
  - The status of *EMC Base Pack* on *em7aio\_westcoast*
  - The status of *EMC Base Pack* on *em7aio\_europe*
  - The status of *NetApp Base Pack* on *em7aio\_westcoast*
  - The status of *NetApp Base Pack* on *em7aio\_europe*

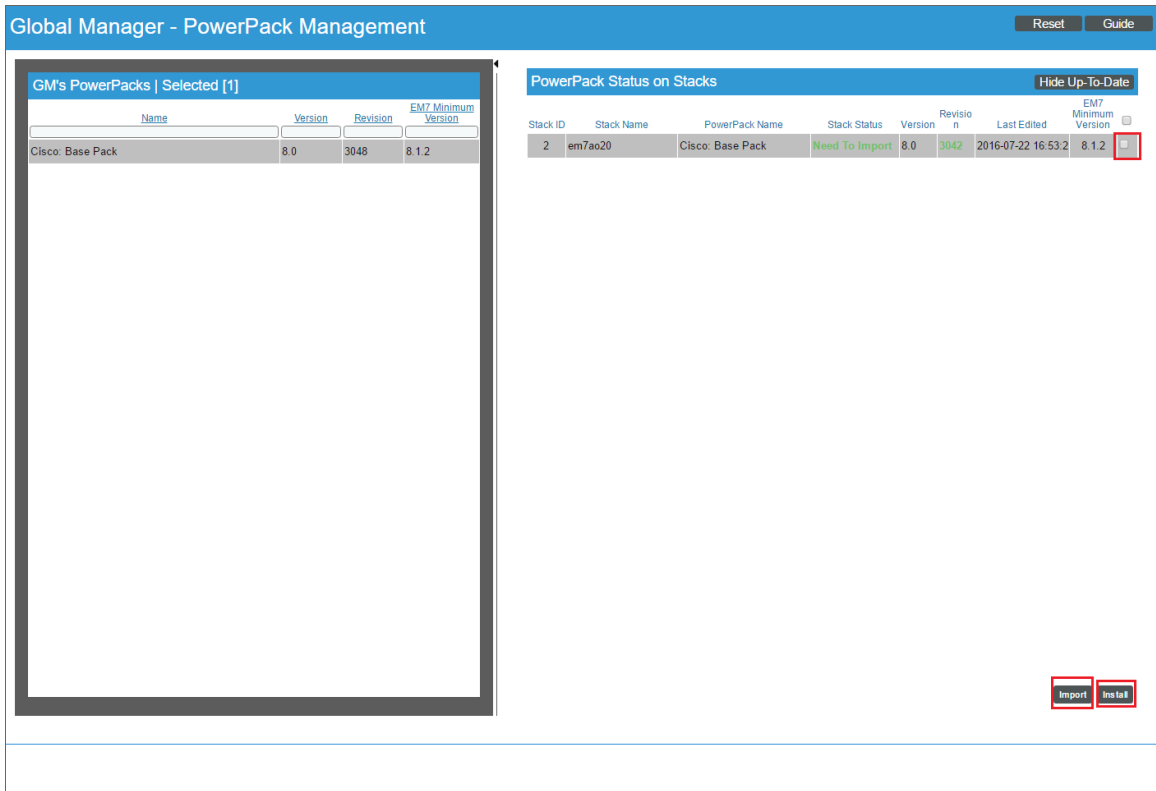
---

## Importing and Installing a Single PowerPack from Global Manager

To push a PowerPack to one or more stacks:

1. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
2. Locate the PowerPack that you want to push.
3. Click the globe icon () for the PowerPack. The **Global Manager - PowerPack Management** page appears.

- In the **PowerPack Status on Stacks** pane, select the checkboxes for the stacks to which you want to push the PowerPack.



- Click the **[Import]** button.
- In the pop-up window that appears, select the **[OK]** button. A modal window appears indicating the status of the import:



- Close the modal window.
- In the **PowerPack Status on Stacks** pane, select the checkboxes for the stacks on which you imported the PowerPack.

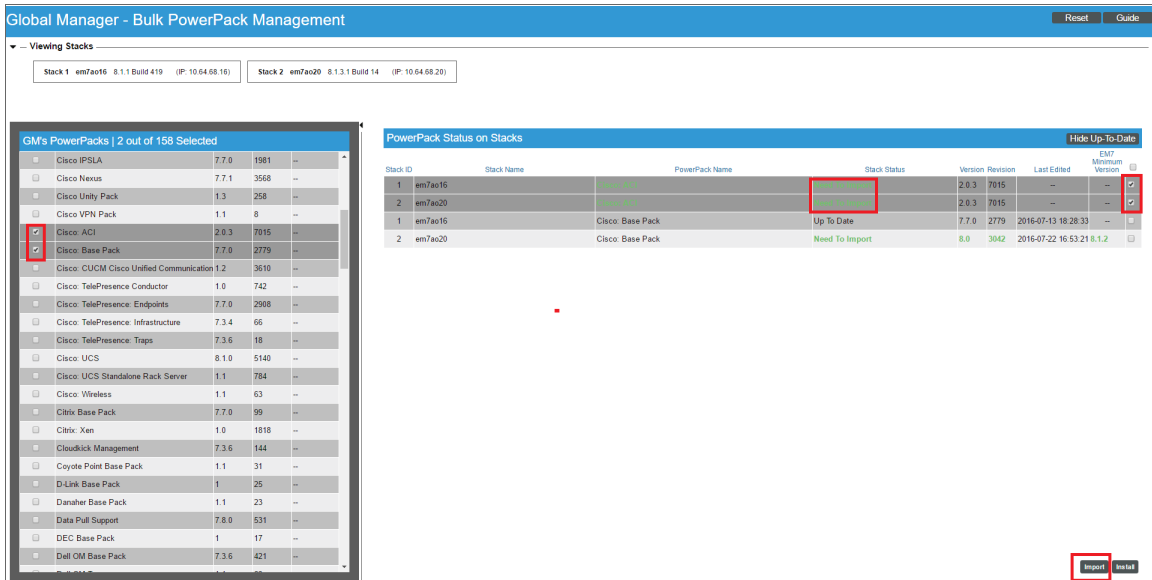
9. Click the **[Install]** button.
10. In the pop-up window that appears, select the **[OK]** button. A modal window appears indicating the status of the install:



## Importing and Installing Multiple PowerPacks on One or More Stacks

To import and install one or more PowerPacks on one or more stacks:

1. Go to the **GM Stacks** page (System > Manage > GM Stacks).
2. Select the checkbox icon for each stack you want to include.
3. Click the **Select Action** menu and choose *Manage PowerPack(s)*.
4. Click the **[Go]** button. The **Global Manager - Bulk PowerPack Management** page appears.



5. In the **Global Manager - Bulk PowerPack Management** page, go to the **GM's Power Packs** pane. Select one or more PowerPacks that you want to import or install. The **PowerPack Status on Stacks** pane will display rows only for those PowerPacks. Alternately, if you do not select one or more PowerPacks in the **GM's Power Packs** pane, the **PowerPack Status on Stacks** pane will display rows for each PowerPack installed on the Global Manager system.
6. In the **PowerPack Status on Stacks** pane, select each entry you want to **import**. Select one or more rows that include a **Stack Status** of *Need to Import*.
7. Click the **[Import]** button.
8. In the pop-up window that appears, click the **[OK]** button. A modal window appears indicating the status of the import:



9. In the **PowerPack Status on Stacks** pane, select each entry you want to **install**. Select one or more rows that include a **Stack Status** of *Need to Install*.
10. Click the **[Install]** button.
11. In the pop-up window that appears, click the **[OK]** button. A modal window appears indicating the status of the install:



**NOTE:** You can also access the **Global Manager - Bulk PowerPack Management** page from the **PowerPack Manager** page System > Manage > PowerPacks. In the **PowerPack Manager** page, you can select one or more PowerPacks to include in the **Global Manager - Bulk PowerPack Management** page. You can then click the **Select Actions** field and choose *Manage Stacks*. The **Global Manager - Bulk PowerPack Management** page will include the selected PowerPacks and all the stacks in the Global Manager system.

## Classic Global System Updates

---



### Overview

The **System Updates** page allows you to update the software on your classic Global Manager system and "push" system updates to the stacks that are managed by the Global Manager system.

You must first download the update file to the local computer where you are running the browser. You can then upload the software update to the Global Manager system system through the user interface.

**NOTE:** This chapter applies only to the classic Global Manager.

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

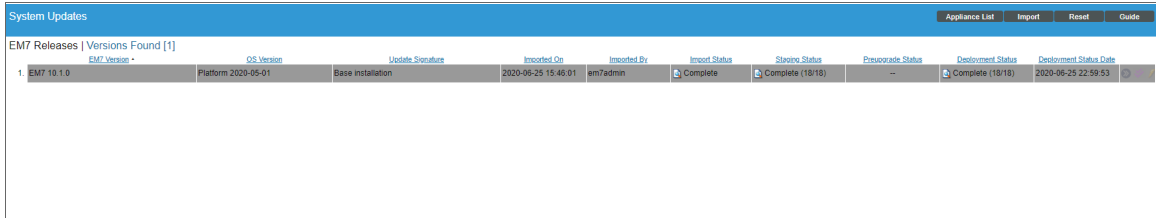
- To view a pop-out list of menu options, click the menu icon (.
- To view a page containing all the menu options, click the Advanced menu icon (  ).

This chapter includes the following topics:

<a href="#">Viewing the List of Updates</a> .....	56
<a href="#">Downloading Patches and Updates</a> .....	59
<a href="#">Loading Updates on to the Global Manager System</a> .....	60
<a href="#">Selecting the Installation Mode</a> .....	61
<a href="#">Installing Updates on the Global Manager System</a> .....	61
<a href="#">Scheduling Updates</a> .....	62
<a href="#">Viewing the Log Files for Updates</a> .....	63
<a href="#">Configuring Update Timeouts in Distributed Systems</a> .....	63

## Viewing the List of Updates

The **System Updates** page (System > Tools > Updates) displays the following about each update:



EM7 Releases	EM7 Version	OS Version	Update Signature	Imported On	Imported By	Import Status	Staging Status	Preupgrade Status	Deployment Status	Deployment Status Date
1.	EM7 10.1.0	Platform:2020-05-01	Base Installation	2020-06-25 15:46:01	em7admin	Complete	Complete (10/16)	--	Complete (10/16)	2020-06-25 22:58:53



**TIP:** To sort the list of update files, 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 **Deployed Status Date** column sorts by descending order on the first click; to sort by ascending order, click the column heading again.

- **EM7 Version.** Name and version number for the software update.
- **OS Version.** Name and number of the platform OS update.
- **Update Signature.** Name of the entity that released the update and type of update. Usually "ScienceLogic Official Release".
- **Imported On.** Date and time the software update was loaded onto the Global Manager system.
- **Imported By.** Name of the ScienceLogic user who loaded the software update onto the Global Manager system.
- **Import Status.** Status of the import process. Clicking on the log icon displays the log file associated with importing the selected software. Possible values are:
  - *In Progress.* Software is currently being imported by the Global Manager system.
  - *Complete.* Software has been imported successfully.
  - *Failed.* Software import has failed due to an unexpected condition. Contact ScienceLogic Support for assistance.
  - *Missing Base.* The Global Manager system cannot import this software until another software package has been imported. The dependency is for compression purposes. Check the log for a message stating which software package needs to be imported.
- **Staging Status.** Status of the staging process. Clicking on the log icon displays the log file associated with staging the selected software. Possible values are:



- --. No staging request is active and software has not been staged on any SL1 appliances.
- *Scheduled*. The Global Manager system is aware of the staging request and is preparing for staging.
- *In Progress*. Staging is in progress but has not completed.
- *Complete*. Staging has completed, and all appliances are ready to deploy the software.
- *Incomplete*. Staging has completed, and one or more appliances are ready to deploy the software.
- *Canceled*. User manually canceled the staging process.
- *Outdated*. The current update is not the latest or has already been installed.
- *Failed*. An unexpected error occurred in the staging process. Contact ScienceLogic Support.

**NOTE:** If you did not select **Auto Stage** during import, the **Staging Status** column will include an asterisk (\*) until you manually stage the update.

- **Preupgrade Status**. You can run the pre-upgrade check after importing and staging an update but before deploying the update. The pre-upgrade check will ensure that all criteria are met before deploying.
  - If you want to run the pre-upgrade check, select the purple checkmark for the selected row.
  - The possible values in this field are *In Progress* or *Complete*.
  - Clicking on the magnifying-glass icon () in this column displays the output of the pre-upgrade check.
  - If a pre-upgrade criterion fails, the **[Deploy]** button will be disabled for the selected row.
  - If an appliance fails the pre-upgrade criteria, you can view the output from the system status script for each failed appliance. Go to the Appliance Manager page (System > Settings > Appliances), find the appliance that failed, and click on the magnifying-glass icon ().
  - For details see [the section on the Pre-Upgrade Check](#) .
- **Deployment Status**. Specifies the current deployment state. Possible values are:
  - --. No deployment request is active, and software has not been deployed on any SL1 appliances.
  - *Scheduled*. The Global Manager system is aware of the deployment request and is preparing for deployment.
  - *In Progress*. Deployment is in progress but has not completed.
  - *Complete*. Deployment has completed, and all appliances are updated.
  - *Incomplete*. Deployment has completed, and one or more appliances are updated.
  - *Canceled*. User manually canceled the deployment.
  - *Outdated*. The current update is not the latest or has already been installed.
  - *Failed*. An unexpected error occurred in the deployment process. Contact ScienceLogic Support.
- **Deployment Status Date**. Specifies the date and time the software update was last deployed.

- **Staging Status.** This field does not apply to Global Manager systems. On Global Manager systems, the action performed in the System Updates page affect the Global Manager system only. You must manually push updates to the stacks.
- **Deployment.** Specifies the current deployment state. Possible values are:
  - *Full.* Software was fully deployed to all ScienceLogic appliances.
  - *Partial.* Software was deployed to some but not all ScienceLogic appliances.
  - *Outdated.* Software is not the latest version. A later version has been deployed.
  - *--.* Software has not been deployed on any ScienceLogic appliances.
- **Deployment Status.** Most recent activity during deployment of this software. Clicking on the log icon displays the log file associated with deploying the selected software. Possible values are:
  - *Deployed.* Software has been successfully deployed to the Global Manager system.

**NOTE:** If you have added one or more new Global Manager systems to your system since last deployment, you could see the status "Deployed" even though you have not yet deployed the software to the new ScienceLogic appliances.

- *New/Unscheduled.* Software has not yet been deployed to the Global Manager system via the **System Updates** page. However, if the software in question is the base installation, this status is displayed.
  - *Scheduled.* The update is scheduled for future deployment.
  - *Deploy Failed.* The most recent attempt to deploy software has failed.
  - *Validation Failed.* The most recent time that the software has failed pre-deployment validation. This is usually because the Database Server and the other ScienceLogic appliances are momentarily out-of-synch. Try waiting a few minutes and attempt the deployment again.
  - *Preparing, In Progress, Validating, Deploying.* Deployment is active. The status specifies the current phase of deployment.
- **Deployment Status Date.** Specifies the date and time the software update was last deployed.

# Downloading Patches and Updates

**NOTE:** To download updates for previous the Global Manager system software versions that have reached their End of Life date and are no longer supported by ScienceLogic, contact ScienceLogic Support or a designated Customer Success Manager to get the update files.

Before you can load a patch or update onto your instance of the Global Manager system, you must first download the patch or update to your local computer. To do this:

**NOTE:** These steps do not affect the performance of the Global Manager system. ScienceLogic recommends that you perform these steps at least 3 days before upgrading.

1. Log in to <https://support.sciencelogic.com>. Use your ScienceLogic customer account and password to access this site.
2. Select the [ **Product Downloads** ] button, select the **Product Downloads** menu, and choose *Platform*.
3. Find the release you are interested in and click its name.

The screenshot displays the 'Release Version' page for 'SL1 Big Ben 8.12.0'. It includes fields for 'Release Version Name', 'Version', 'End of Maintenance', 'End of Life', 'Online Documentation', and 'Number of Files'. Below this is a 'Release Files (2)' table with columns for 'FILE NAME', 'COMMENTS', 'RECORD TYPE', and 'RELEASE DATE'. The table lists two files: a 'Product Update' and an 'Image', both released on 4/24/2019. There are 'Edit' and 'Delete' buttons at the top right, and a 'View All' link at the bottom right.

FILE NAME	COMMENTS	RECORD TYPE	RELEASE DATE
<a href="#">8.12.0</a>	System running 8.10.0+ or System has 8.10.0 siloupdat...	Product Update	4/24/2019
<a href="#">8.12.0</a>		Image	4/24/2019

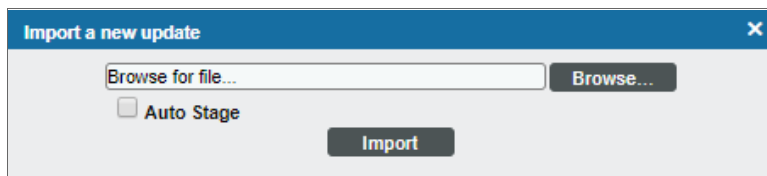
4. In the **Release Version** article, click on the link for the release image or release patch you want to download. Scroll to the bottom of the page.
5. Under **Files**, select the link for the file you want to download. The file is then downloaded to your local computer.

# Loading Updates on to the Global Manager System


To import a product update on to your Global Manager system:

**NOTE:** These steps do not affect the performance of the Global Manager system. ScienceLogic recommends that you perform these steps at least 3 days before upgrading.

1. Make sure that you can navigate to the patch file.
2. In the Global Manager system, go to the **System Updates** page (System > Tools > Updates).
3. In the **System Updates** page, click the **[Import]** button.









4. In the **Import a new update** modal page, browse to the product update file and select it.
  - If you select the **Auto Stage** button, the Global Manager system will begin staging as soon as the import is completed.
  - If you do not select the **Auto Stage** button, you must click the staging button (▶) after import is completed. You can do so at any time after import has completed.
  - For more information on automatic staging and manual staging, see the section on "Staging" in the **System Administration** manual.
5. Click the **[Import]** button.
6. In the **System Updates** page, the *Import Status* column can have one of the following statuses:
  - *In Progress*. Software is currently being imported by the Global Manager system.
  - *Complete*. Software has been imported successfully.
  - *Failed*. Software import has failed due to an unexpected condition. Contact ScienceLogic Support for assistance.
  - *Missing Base*. The Global Manager system cannot import this software until another software package has been imported. The dependency is for compression purposes. Check the log for a message stating which software package needs to be imported.
7. The update file or patch file is imported to Global Manager system and appears in the **System Updates** page.

**NOTE:** For details on the import process, go to the **System Updates** page, find the entry for the software you are interested in, go to its **Import Status** column, and click the log icon ()

## Selecting the Installation Mode

The **Installation mode** menu in the upper right determines the updates and options that appear in the EM7 Releases pane and the ScienceLogic OS panel. The choices are:

- **Upgrade Only.** When you select this option, the Deploy Patch Now icon () and the Schedule Patch Deployment icon () appear only for the latest patches and only if the latest patch has not yet been deployed.
- **Upgrade or downgrade.** When you select this option, the Deploy Patch Now icon () and the Schedule Patch Deployment icon () appear for all patches except the latest patch that has been deployed.
- **Upgrade, downgrade, or reinstall.** When you select this option, the Deploy Patch Now icon () and the Schedule Patch Deployment icon () appear for all patches.

**WARNING:** The Global Manager system will allow you to install a previous update. Although allowed, be forewarned that reverting to an older version of SL1 can make irreversible changes to internal data structures and introduce instability and problems that are difficult to diagnose. You should apply previous updates only with the explicit advice of ScienceLogic Support.


## Installing Updates on the Global Manager System

After you have imported and staged an update to the Global Manager system, run the pre-upgrade check, and fixed all errors found by the pre-upgrade check, you can either immediately deploy the update or deploy the update at a later time.

When you deploy an update, the update is installed on all appliances that have already been staged.

**NOTE:** When you deploy an update, checks to ensure that you have already deployed all required updates. If you have not, will generate an error message specifying the updates you must deploy before continuing with the current update.

To deploy a software update on your appliances:

1. Make sure that you have imported and staged the update file.
2. Go to the **System Updates** page (System > Tools > Updates).
3. In the **System Updates** page, find the software update you want to deploy. Click the lightning bolt icon () to deploy the software.

**NOTE:** If the Global Manager system is still staging the patch when you click the lightning-bolt icon (⚡), SL1 will wait until staging has completed before deploying the updates to each ScienceLogic appliance.

4. The software update will be deployed to all appliances in your SL1 system that have already been staged. If one or more appliances in your SL1 system have been successfully staged, will deploy the update to those appliances.
5. During deployment, the Deployment Status column can have one of the following statuses:
  - --. No deployment request is active, and software has not been deployed on any SL1 appliances.
  - *Scheduled*. The is aware of the deployment request and is preparing for deployment.
  - *In Progress*. Deployment is in progress but has not completed.
  - *Complete*. Deployment has completed, and all appliances are updated.
  - *Incomplete*. Deployment has completed, and one or more, but not all, appliances are updated.
  - *Canceled*. User manually canceled the deployment.
  - *Outdated*. The current update is not the latest or has already been installed.
  - *Failed*. An unexpected error occurred in the deployment process. Contact ScienceLogic Support.

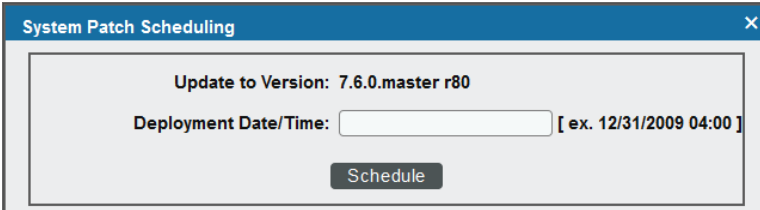
**NOTE:** For details on the deployment process, go to the **System Updates** page, find the entry for the software you are interested in, go to its **Deployment Status** column, and click the log icon (📄).

## Scheduling Updates

After you have loaded an update or patch on to the Global Manager system, you can either immediately install the patch or schedule it to be installed. From the **System Updates** page, you can schedule a software update to be installed on your appliance.

To schedule a software update to be installed on your SL1 system:

1. Make sure that you have imported the updated software file.
2. Go to the **System Updates** page (System > Tools > Updates).
3. In the **System Updates** page, find the software update you want to install. Click its calendar icon (📅). The **System Patch Schedule** modal page appears:




The screenshot shows a modal window titled "System Patch Scheduling" with a close button (X) in the top right corner. Inside the modal, the text "Update to Version: 7.6.0.master r80" is displayed. Below this, there is a label "Deployment Date/Time:" followed by a text input field and a reference example "[ ex. 12/31/2009 04:00 ]". At the bottom center of the modal is a "Schedule" button.

4. In the **System Patch Schedule** modal page, enter the date and time at which you want SL1 to automatically install the software update and then click the **[Schedule]** button.

## Viewing the Log Files for Updates

From the **System Updates** page, you can view a log file that displays the history of the software update. To view this log file:

1. Go to the **System Updates** page (System > Tools > Updates).
2. In the **System Updates** page, find the software update for which you want to view the log files. Go to its **Import Status** column, **Staging Status** column, or **Deployment Status** column and click the log icon ()
3. The appropriate log page appears. In this modal page, each log entry displays:
  - Information about the status of the software update and its related actions.
  - For each action, the name and IP address of the appliance where the action occurred
  - The date and time each action occurred.

## Configuring Update Timeouts in Distributed Systems

In a distributed system, two timeout settings apply to the update process:


- The *Time Factor* setting for the **EM7 Core: System Updater** process, displayed in the **Process Manager** page (System > Settings > Admin Processes), defines the timeout for the process that applies the update to each appliance.
- In the `silos.conf` file, the `patcher_wait_timeout` setting defines how long the Database Server will wait for all other appliances to complete the update process. If the `patcher_wait_timeout` setting is not defined in `silos.conf`, the default value is 300 seconds (5 minutes).

**NOTE:** For help configuring these settings, please contact ScienceLogic Support.

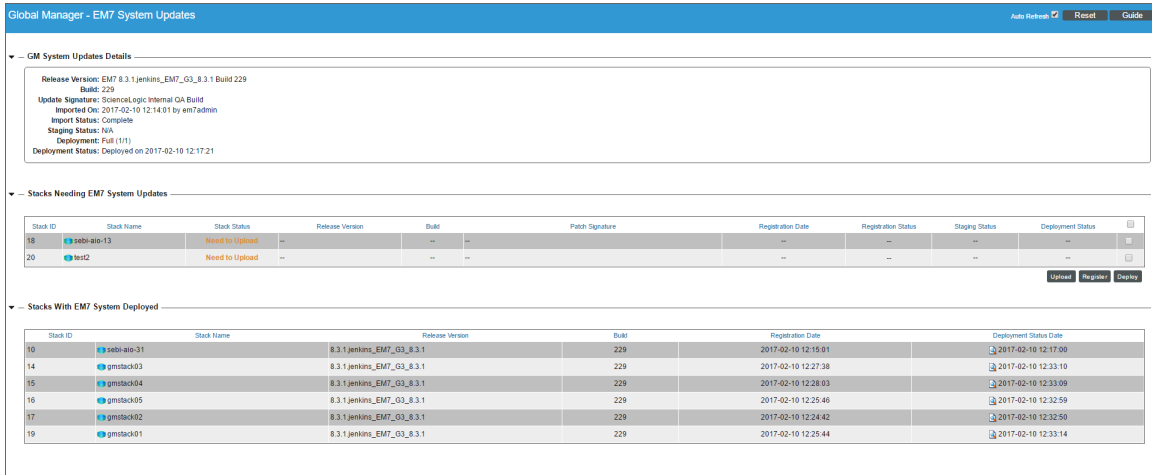
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## Installing Updates on Stacks

You can use the Global Manager system to install updates on one or more stacks. To do this:

1. Go to the **System Updates** page (System > Tools > Updates).
2. Find the update you want to load to one or more stacks. Click its globe icon ()

3. The **Global Manager - EM7 System Updates** page appears.



4. The **Global Manager - EM7 System Updates** page displays the following three panes:

- **GM System Updates Details.** Displays details about the system update you selected in step #2.
- **Stacks Needing EM7 System Updates.** Displays the list of stacks where the system update has not been installed.
- **Stacks with EM7 Systems Deployed.** Displays the list of stacks where the system update has already been installed.

5. To install a system update to one or more stacks, go to the pane **Stacks Needing EM7 System Updates** and select the checkbox for each stack on which you want to install the update.

6. If the **Stack Status** column displays *Need to Upload*, click the **[Upload]** button.

7. If the **Stack Status** column displays *Need to Register*, click the **[Register]** button.

8. If the **Stack Status** column displays *Ready to Deploy*, click the **[Deploy]** button.



## Using the Classic Global Manager API

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### Overview



A classic Global Manager system includes an API that can be used to request aggregated data from the stacks managed by the Global Manager system.

The Global Manager API supports the following resources:

- All resources that are available from the API on a regular appliance. However, the Global Manager API supports only GET requests on these resources. Resources for uploading and installing PowerPacks and system patches include Global Manager-specific options for viewing the differences between the version installed on Global Manager and the version installed on each stack.
- The `/gm_stack` resource, which can be used to request data about the stacks managed by a Global Manager system.

**NOTE:** This chapter applies only to the classic SL1 Global Manager.

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

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

This chapter includes the following topics:

<a href="#">Performing a GET Request to an API Resource</a>	66
<a href="#">Using the <code>stack_diff</code> Option</a>	66
<a href="#">The <code>/gm_stack</code> Resource</a>	68

---

## Performing a GET Request to an API Resource

The following base URI can be used to access the API that responds with aggregated data:

```
<ip address or hostname of Global Manager>/gmapi
```

See the **Available Actions** appendix in the **ScienceLogic API** manual for a list of resources that are available from the API on a regular appliance, which can be appended to the base URI of the Global Manager API. However, the Global Manager API supports only GET requests on these resources. Some resources support the Global Manager-specific `stack_diff` option described in the [Using the stack\\_diff Option](#) section.

When you perform an API request to the aggregated API, the Global Manager system performs the appropriate API request to each entry point. However, the aggregated API does not return errors generated by the API on each entry point. If a request to one or more stacks or worker nodes is unsuccessful, the aggregated API will return a 206 (Partial Content) status code. The header information in X-Em7-Failed-Stacks specified the stacks that did not return data.

**NOTE:** Aggregated data does not include data for devices that are monitored locally by the Global Manager system.

The response from the Global Manager API is the same as the API on a regular appliance. However, all ID values used by the Global Manager API are in the following format:

```
<device ID of entry point>_<id from entry point API>
```

---

## Using the stack\_diff Option

The following resource indexes support the `stack_diff` option. The `stack_diff` option is a boolean and requires that the `extended_fetch` option is set to 1. If `stack_diff` and `extended_fetch` is set to 1 in a request, the response will return the differences between the Global Manager system and the each stack:

- /filestore/powerpack
- /filestore/system\_patch
- /powerpack
- /system\_patch
- /system\_patch\_stage
- /system\_patch\_deploy\_active

When the `stack_diff` option is set to 1 in a request, the response includes:

- An entry for each element of the specified type that exists on the Global Manager system that matches the filter criteria specified in the request. For example, when the `stack_diff` option is set to 1 in a request to the `/system_patch` resource, an entry is returned for each system patch that is registered on the Global Manager system.

- Each entry includes information about the element on the Global Manager system.
- Each entry includes a `stack_diff` section that includes a sub-entry for each stack. The entry for a stack includes information about that element on the stack that is **different from the Global Manager system**. For example, when the `stack_diff` option is set to 1 in a request to the `/system_patch` resource, the sub-entries for a stack shows the differences between each patch on the stack and the Global Manager system. If a patch has been installed on both the Global Manager system and a stack, the differences will typically be the `register_date` and `last_status_date` field.
  - If a sub-entry for that stack is NULL, that element does not exist on the stack. For example, when the `stack_diff` option is set to 1 in a request to the `/system_patch` resource, a NULL sub-entry for a stack indicates that the patch has not been registered with that stack.
  - If a sub-entry for that stack is empty, the element on that stack is the same as that element on the Global Manager system.

For example, suppose you want to compare the status of the 3Com Base Pack PowerPack on each stack to the version installed on the Global Manager system. You would perform a GET request to the following URI:

```
<Base URL of Global Manager>/gmapi/powerpack?limit=1&stack_diff=1&extended_fetch=1&hide_filterinfo=1&filter._id=3745057729A70EFF325F14382E4D9DB5
```

The request includes the following options:

- `limit=1`. Limit is a required option for the resource index.
- `stack_diff=1`. Enables output of differences between the Global Manager system and each stack.
- `extended_fetch=1`. This option is required when using the `stack_diff=1` option.
- `hide_filterinfo=1`. Removes the filter information from the response.
- `filter._id=3745057729A70EFF325F14382E4D9DB5`. Filters the result to include only information about the 3COM Base Pack PowerPack, which has GUID "3745057729A70EFF325F14382E4D9DB5".

The response from a Global Manager system in XML format looks like this:

```
<powerpacks elemtype="assoc_list">
  <powerpack key="/gmapi/powerpack/3745057729A70EFF325F14382E4D9DB5">
    <ppid>/gmapi/powerpack/1</ppid>
    <name>3Com Base Pack</name>
    <version>1</version>
    <date_create>1312473723</date_create>
    <created_by>/gmapi/account/1</created_by>
    <date_edit>1401484905</date_edit>
    <edited_by>/gmapi/account/1</edited_by>
    <release_notes>3Com Base Pack<br>Edited by: ScienceLogic, Inc.<br>...(full text removed from example)</release_notes>
    <revision>342</revision>
    <license_key>MJTbQgS1S5aDLrjyWdHNPvptzsfZ4sed1Ea/PAUPVzG2pWafgH82wIN6eKPY1csE30pvcwKB+mW KpR6ggVfRr6o=</license_key>
    <publisher>ScienceLogic, Inc.</publisher>
    <description/>
    <vendors_supported/>
    <models_supported/>
    <versions_supported/>
    <features/>
    <technical_notes/>
    <em7_min_version/>
```

```

<link name="filestore" URI="" description="Filestore Resource" elemtype="href"/>
<stack_diff elemtype="assoc_list">
  <gm_stack key="/gmapi/gm_stack/40" elemtype="null"/>
  <gm_stack key="/gmapi/gm_stack/41"/>
  <gm_stack key="/gmapi/gm_stack/42">
    <revision>343</revision>
  </gm_stack>
</stack_diff>
</powerpack>
</powerpacks>

```

The response includes:

- One matching PowerPack, the 3Com Base Pack.
- All the attributes of the 3Com Base Pack on the Global Manager system.
- The stack\_diff section, which includes an entry for each of the three stacks managed by this Global Manager system:
  - The response returns a null value for stack ID 40. This indicates that the 3Com Base Pack is not installed on this stack.
  - The response returns an empty value for stack ID 41. This indicates that the 3Com Base Pack on the stack is the same as the 3Com Base Pack on the Global Manager system.
  - The response returns one attribute (revision) for the PowerPack for sack ID 42. This indicates that the revision attribute of the 3Com Base Pack on the stack is different from the revision attribute of the 3Com Base Pack on the Global Manager system.

---

## The /gm\_stack Resource

The /gm\_stack resource can be used to request data about the stacks managed by a Global Manager system. The following actions are supported by the /gm\_stack resource:

Action	URI	Method
View/search/filter the list of stacks.	/gm_stack	GET
View the properties of a stack.	/gm_stack/<stack id>	GET

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