



SOLIDFIRE ELEMENT 7 POWER-PACK INSTALLATION

*INSTALLATION AND CONFIGURATION OF THE
SOLIDFIRE ELEMENT 7 POWER-PACK*

Version: 7.5.1.1
Pack: SolidFire Element 7 version 7.5.2
Date: February 13, 2015
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CHAPTER 1

INSTALLING THE POWER-PACK

OVERVIEW

In this chapter we will install the SolidFire Element 7 Power-Pack and then configure the credential for manual alignment of data collection.

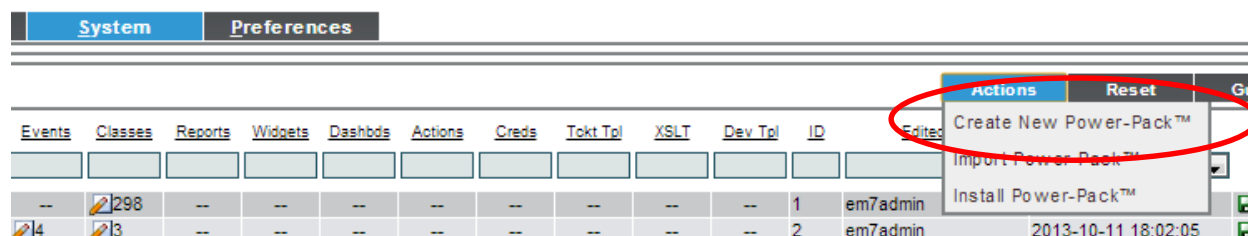
Requirements

A valid user name and password for SolidFire API

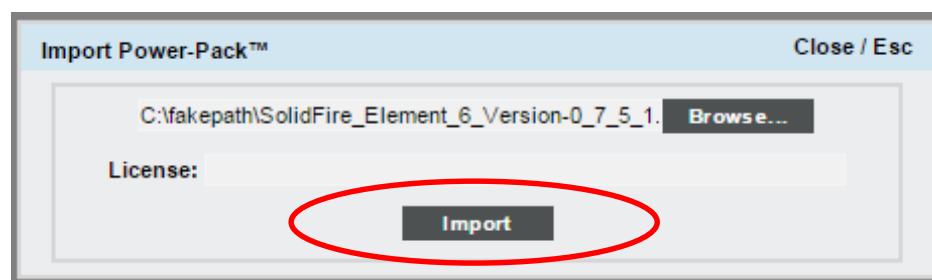
A valid admin user name and password for ScienceLogic

INSTALLATION

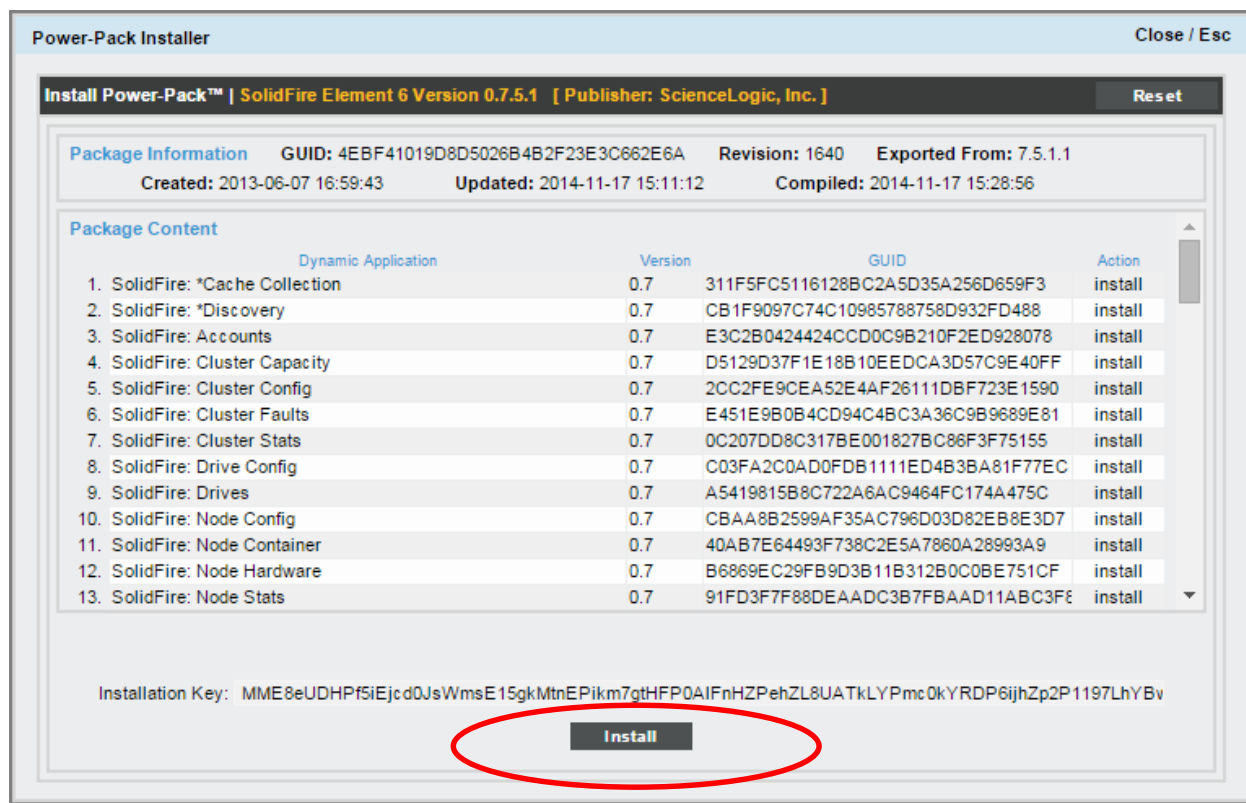
Obtain the latest copy of the SolidFire Element 7 Power-Pack. In this document we will be using version 0.7.5.1 of the Power-Pack. Using normal Power-Pack installation procedures, got the System tab, select Manage\Power-Packs, and then select the Action button, and select "Import Power-Pack".



Locate the Power-Pack file, and then select the Import button.



Click "Install" to begin the import process.



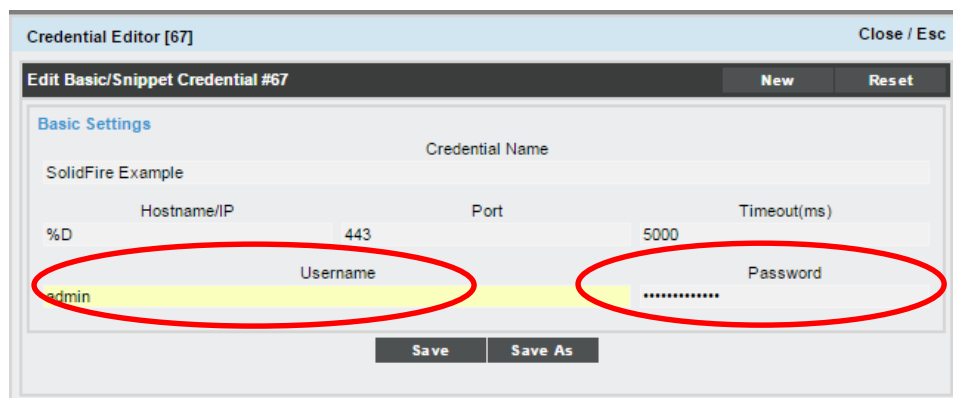
Once the Power-Pack is installed, proceed to the next section to configure the credential.

CREDENTIAL

With the Power-Pack installed, we can now configure our credential. Navigate to the System tab, select Manage\Credentials. Locate the "SolidFire Example" credential and then click on the wrench to edit it.

Change the username and password to match that of your SolidFire device. Replace [USERNAMEHERE] with the username, and change the password.

Make sure you "Save As" and provide a new Credential Name.



CHAPTER 2

CREATING ROOT DEVICE

DISCOVERING SNMP

The SolidFire Element 7 supports SNMP enabled for basic network and device management. We recommend you enable SNMP via the SolidFire Management tool and discover the device using SNMP.

The screenshot displays the SolidFire Management tool interface for configuring SNMP. The top navigation bar includes links for Support and Documentation, Enable Debug Info, Requests, and Responses. The main navigation menu shows Reporting, Nodes, Drives, Volumes, Accounts, Cluster Admin, and Cluster Settings. The Cluster Settings menu is expanded, showing Cluster Settings, SNMP Settings (selected), Replication Settings, and Version. The SNMP Settings page is titled 'SNMP Settings' and contains three main sections:

- SNMP MIBs:** Lists 'SolidFire-MIB.txt' and 'SolidFire-StorageCluster-MIB.txt'.
- General SNMP Settings:**
 - ☒ SNMP Enabled
 - SNMP Version: v2 (dropdown)
 - Requestors:**
 - Community String: public (with a red 'X' icon)
 - Network: localhost
 - Community String: public (with a red 'X' icon)
 - Network: 172.27.20.0/24
 - + Add a Requestor button
 - Save Changes button
- SNMP Trap Settings:**
 - ☒ Cluster Fault Traps
 - ☒ Cluster Resolved Faults Traps
 - ☒ Cluster Event Traps
 - Trap Recipients:**
 - Host: 172.27.20.10 (with a red 'X' icon)
 - Port: 162 (with a red 'X' icon)
 - Community String: public

After running discovery, the device may appear as a Red Hat or Linux device. This is because SolidFire uses the Net-SNMP agent and by default it uses the standard Net-SNMP identifier.

Close	Properties	Thresholds	Collections	Monitors				
Schedule	Logs	Toolbox	Interfaces	Relationships	Tickets	Redirects	Notes	
Device Name	SL-SFSAN1			Managed Type	Physical Device			
IP Address / ID	172.27.20.5 3			Category	Servers			
Class	RHEL			Sub-Class	Redhat 5.5			
Organization	System			Uptime	4 days, 00:25:42			
Collection Mode	Active			Collection Time	2014-11-17 17:05:00			
Description	Linux SL-SFSAN1 3.8.0-28-solidfire-element6-p2 #41-precise1 SMP T			Group / Collector	CUG em7_ao			
Device Hostname								
Device Properties								Organization Asset
								Actions Reset Guide
Identification								
Device Name: SL-SFSAN1			IP Address: [172.27.20.5 - verified]			Organization: [System]		
Monitoring & Management								
Device Class: RHEL Redhat 5.5								
SNMP Read/Write: [SNMP Public V2] [None]								
Availability Port: [UDP] [161 - SNMP]								
Latency Port: [ICMP] [ICMP]								
Avail+Latency Alert: [Disable]								
User Maintenance: [Disabled] [Maintenance Collection Enabled]								
Collection: [Enabled] [CUG]								
Coll. Type: [Standard]								
Critical Ping: [Disabled]								
Dashboard: None								
Event Mask: [Group in blocks every 10 minutes]								
Save								
Preferences								
Auto-Clear Events ☒								
Accept All Logs ☒								
Daily Port Scans ☒								
Auto-Update ☒								
Scan All IP's ☐								
Dynamic Discovery ☒								
Preserve Hostname ☒								
Disable Asset Update ☐								

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CHAPTER 3

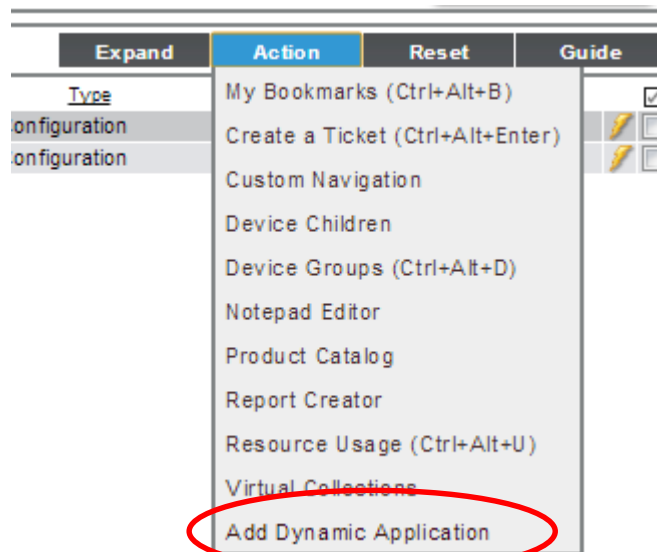
ALIGNING DCM DYNAMIC APPS

ALIGNING THE APP

With the device modeled, click on the device properties page, then select the Collections tab. Next, click on the Actions button, then select Add Dynamic Application.

In the Dynamic Application modal, type "SolidFire" in the search box, then select the "SolidFire: *Cache Collection" application. Next, select the credential you configured in the previous chapter.

Click "Save" to save your settings and you will be returned to the Collections page. Perform the same steps to add the "SolidFire: *Discovery" Dynamic Application.



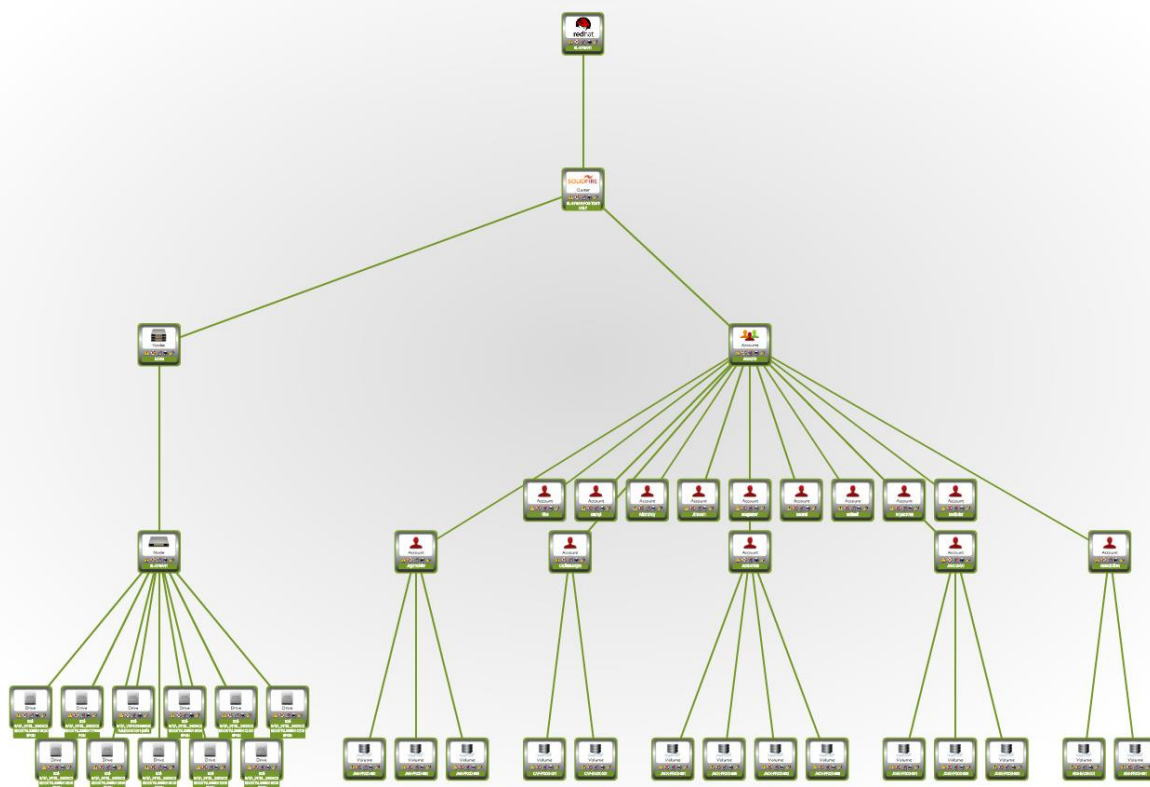
Note: ONLY align the below defined Dynamic Applications. All other applications will be automatically aligned for you!

Manually Aligned Dynamic Applications

SolidFire: *Cache Collection

SolidFire: *Discovery

All Dynamic Applications operating on a collection frequency of 5 minutes, as a result it will take about 10 minutes for all DCM devices to be modeled and discovered. Once complete, you may view the Component tree in the Views tab.



CHAPTER 4

ALERTS AND EVENTS

OVERVIEW

There are 31 different Events and matching Dynamic Application alerts included with the SolidFire Element 7 Power-Pack. Each of these events relies on state-based data collected every 5 minutes by a corresponding configuration or performance dynamic application.

Solidfire: Cluster Fault Ensemble Degraded Status	Dynamic	Enabled	Yes	Critical
SolidFire: Cluster Fault: Block Service Failed	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: Block Service Full	Dynamic	Enabled	Yes	Minor
SolidFire: Cluster Fault: Block Service Unhealthy	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: Cluster Full	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: Cluster IOPS Over Provisioned	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: Cluster Sync Failed	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: General Exception Error	Dynamic	Enabled	Yes	Major
Solidfire: Cluster Fault: Node Drive Failure	Dynamic	Enabled	Yes	Major
Solidfire: Cluster Fault: Node Power Supply Failure	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: Provisioned Capacity Full	Dynamic	Enabled	Yes	Major
SolidFire: Cluster Fault: Slice Service Full	Dynamic	Enabled	Yes	Minor
SolidFire: Cluster Fault: Slice Service Unhealthy	Dynamic	Enabled	Yes	Major
Solidfire: Cluster Fault: Volume Status Degraded	Dynamic	Enabled	Yes	Minor
Solidfire: Drive Status Changed from Failed to Active	Dynamic	Enabled	Yes	Healthy
Solidfire: Drive Status Changed from Failed to Available	Dynamic	Enabled	Yes	Healthy
Solidfire: Drive Status Changed to Failed	Dynamic	Enabled	Yes	Major
Solidfire: Drive Status Changed to Removing	Dynamic	Enabled	Yes	Major
Solidfire: Drive Status Changed to Removing to Active	Dynamic	Enabled	Yes	Healthy
Solidfire: Drive Status Changed to Removing to Available	Dynamic	Enabled	Yes	Healthy
Solidfire: Node Cluster Network Utilization Below Threshold	Dynamic	Enabled	Yes	Healthy
Solidfire: Node Cluster Network Utilization Exceeded Threshold	Dynamic	Enabled	Yes	Minor
Solidfire: Node Storage Network Utilization Below Threshold	Dynamic	Enabled	Yes	Healthy
Solidfire: Node Storage Network Utilization Exceeded Threshold	Dynamic	Enabled	Yes	Minor
Solidfire: Volume IOPS Exceeded Threshold	Dynamic	Enabled	Yes	Minor
Solidfire: Volume IOPS Returned Below Threshold	Dynamic	Enabled	Yes	Healthy
Solidfire: Volume Status Changed from Deleted to Active	Dynamic	Enabled	Yes	Healthy
Solidfire: Volume Status Changed from Initialized to Active	Dynamic	Enabled	Yes	Healthy
Solidfire: Volume Status Changed to Deleted	Dynamic	Enabled	Yes	Minor
Solidfire: Volume Status Changed to Initialized	Dynamic	Enabled	Yes	Minor
Solidfire: Volume Status Changed to Initialized	Dynamic	Enabled	Yes	Minor

CHAPTER 5

CONFIGURING WIDGETS

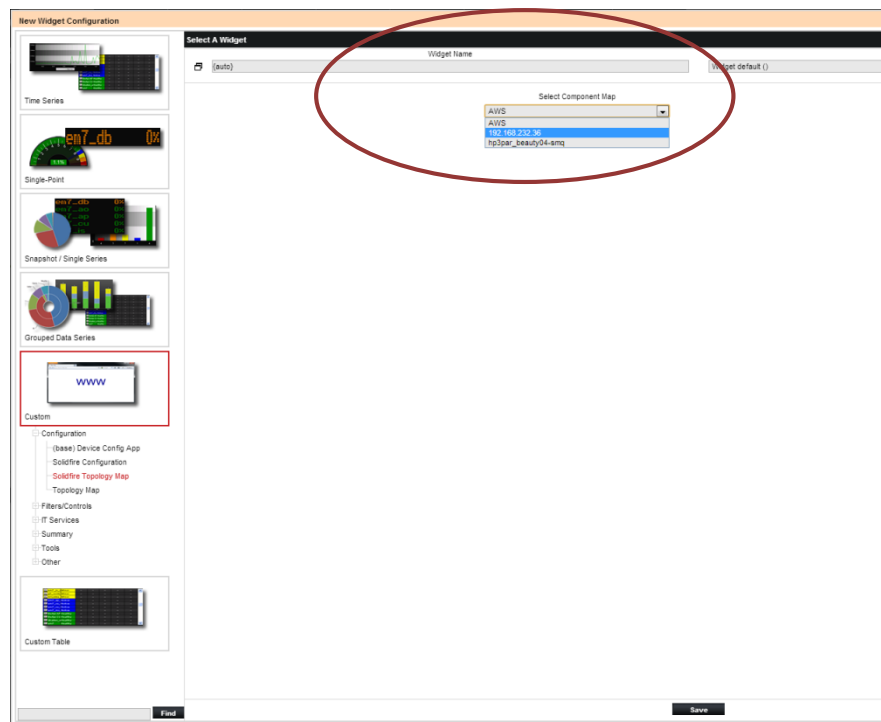
DASHBOARD WIDGETS

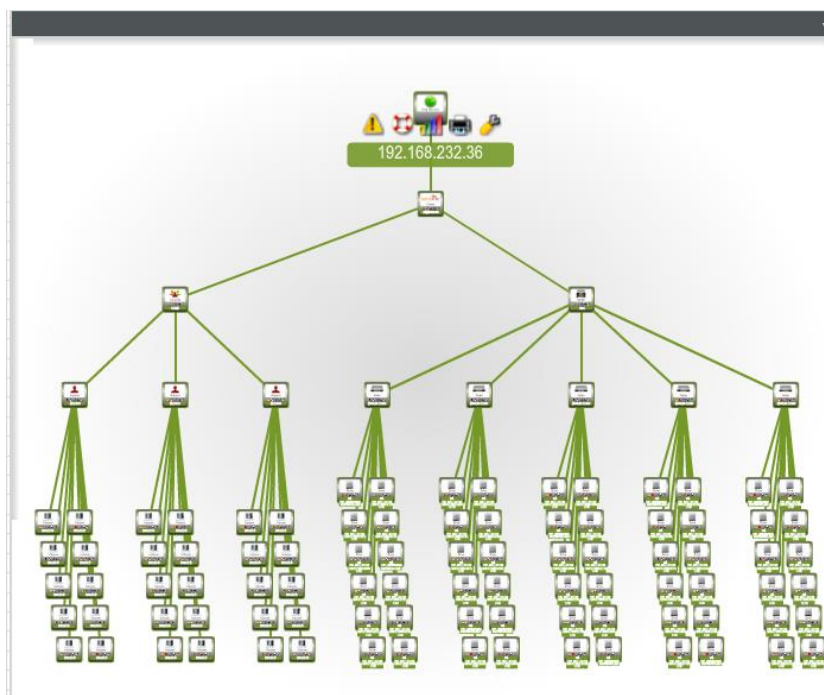
There are several built-in SolidFire dashboards that come with the SolidFire Power-Pack. It's important to note that performance based data may take up to 1 hour before data becomes visible in the dashboard. Because of this, it is recommended to configure dashboards after performance data is present in the system.

The SolidFire Power-Pack provides two useful dashboard widgets that may be used in any custom dashboards.

1. SolidFire Topology Map Widget
2. SolidFire Configuration Widget

To use the SolidFire Topology map widget, create a new widget any existing dashboard, then select the Custom widget type, and then select Configuration category. Select the "SolidFire Topology Map" widget. A list of available DCM root devices will appear which includes SolidFire devices and any other DCM devices such as AWS, VMware, etc. (Note this Widget can be used for any DCM related device.)





After saving settings, you may edit the selected DCM device at any point.

Widget Configuration
Close / Esc

Editing: Solidfire Topology Map
Reset

Widget Name

Widget Refresh Rate

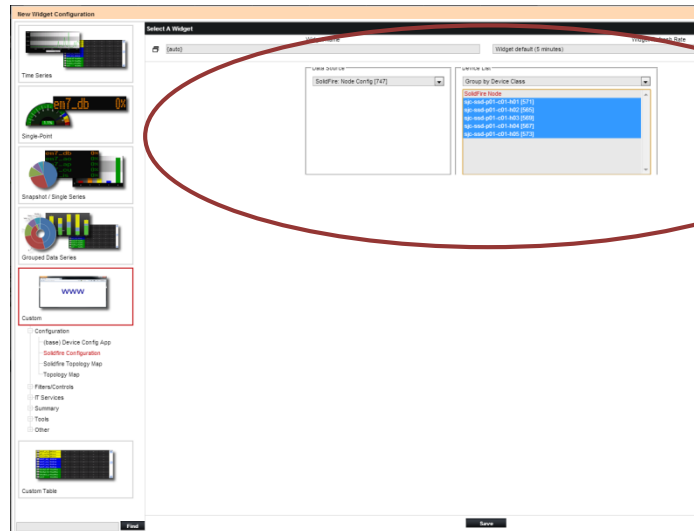
Select Component Map

Save

To use the SolidFire Configuration widget, create a new widget any existing dashboard, then select the Custom widget type, and then select Configuration category. Select the “SolidFire Configuration” widget. A list of available Configuration Data sources will appear which includes SolidFire Dynamic Applications, as well as all other actively collecting configuration Dynamic Applications.

(Note this Widget can be used for any configuration dynamic applications for any device.)

In our example we select the SolidFire Node Config application, and then select several aligned devices. The result yields a list of configuration values for the selected device list.



SolidFire: Node Config [sjc-ssd-p01-c01-h01]	
Host Name	sjc-ssd-p01-c01-h01
Node ID	5
Storage IP	192.168.232.30
Cluster IP	192.168.232.30
Associated Master Service ID	69
Cluster IF	bond1
MAC Address ID	0x000000000000d4ae5298193ad4ae5298193cd4ae5298193ed4ae52981940
Management IF	bond1
Node Status	Master
Version	5.1087
SolidFire: Node Config [sjc-ssd-p01-c01-h02]	
Host Name	sjc-ssd-p01-c01-h02
Node ID	1
Storage IP	192.168.232.31
Cluster IP	192.168.232.31
Associated Master Service ID	2
Cluster IF	bond1
MAC Address ID	0x000000000000d4ae5294d2c9d4ae5294d2cbd4ae5294d2cdd4ae5294d2cf
Management IF	bond1
Node Status	Ensemble
Version	5.1087
SolidFire: Node Config [sjc-ssd-p01-c01-h03]	
Host Name	sjc-ssd-p01-c01-h03
Node ID	2
Storage IP	192.168.232.32
Cluster IP	192.168.232.32
Associated Master Service ID	4
Cluster IF	bond1
MAC Address ID	0x000000000000d4ae5294d2d5d4ae5294d2d7d4ae5294d2d9d4ae5294d2db
Management IF	bond1
Node Status	Ensemble
Version	5.1087
SolidFire: Node Config [sjc-ssd-p01-c01-h04]	
Host Name	sjc-ssd-p01-c01-h04
Node ID	3
Storage IP	192.168.232.33
Cluster IP	192.168.232.33
Associated Master Service ID	3
Cluster IF	bond1
MAC Address ID	0x000000000000d4ae52918392d4ae52918394d4ae52918396d4ae52918398
Management IF	bond1
Node Status	Ensemble
Version	5.1087
SolidFire: Node Config [sjc-ssd-p01-c01-h05]	
Host Name	sjc-ssd-p01-c01-h05
Node ID	4
Storage IP	192.168.232.34
Cluster IP	192.168.232.34
Associated Master Service ID	4