



SVI MS User Guide

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1 Introduction

The SVI MS (Management System) Graphical User Interface is a web-based application which allows configuration and control of a Squire Technologies SVI system.

Customers performing SVI-MS configuration updates or similar should have already attended a Squire Technologies Training session, and/or should have suitable knowledge to apply configuration. This document is an introductory guide to MS related configuration activity.

Starting the SVI-MS System

The SVI system does not require the SVI MS GUI to be active (open in a browser) for the system to operate. The MS GUI can be started and logged into, when necessary, to change configuration or inspect call records or statistics.

To log into the SVI MS GUI, point a web browser at the IP (Internet Protocol) address of your SVI system. If you have a redundant system, please use the VIP address.

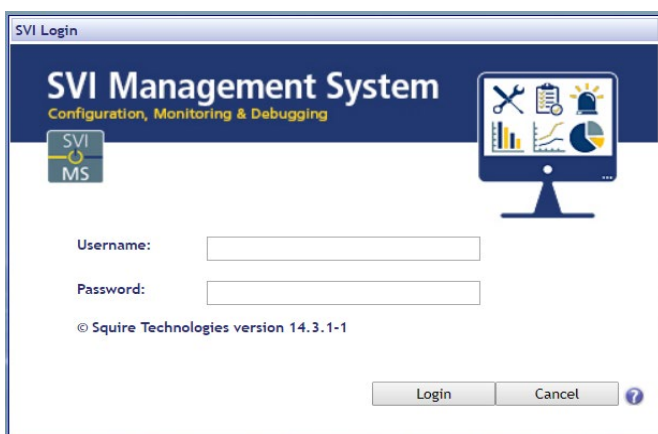
E.g. <https://192.168.2.100/>

The SVI MS GUI should run with any web browser but has been specifically designed and tested for the following:

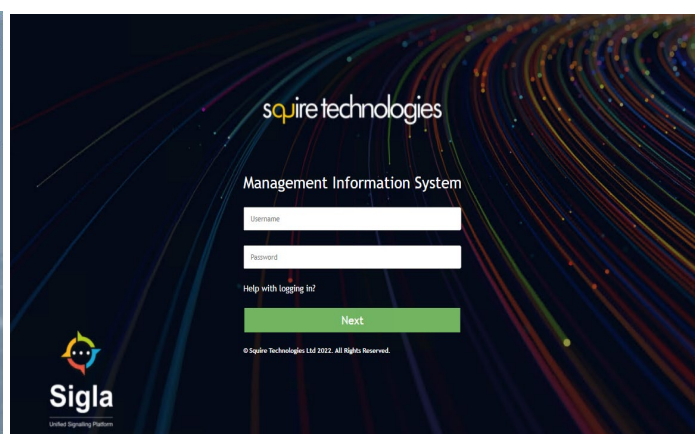
- Mozilla Firefox
- Google Chrome

When the IP address is entered into the web browser the login screen will be displayed in a new browser window.

Please note that since GUI Version *SVI.war.v16_4_0-1* the GUI has had some cosmetic improvements which also include the latest SIGLA branding. (See [HERE](#) for more SIGLA related information)



Pre-Updated GUI Version



New GUI Version

Figure 1 - SVI MS GUI Login Screen

If this is a new system, the only available user will be root. The username 'root' and the root password can be entered into the login screen to login to the SVI-MS system.

2 Using the GUI

Once logged in the main SVI MS GUI display screen will be shown. Older versions of the GUI may look a bit different and display different options/information.

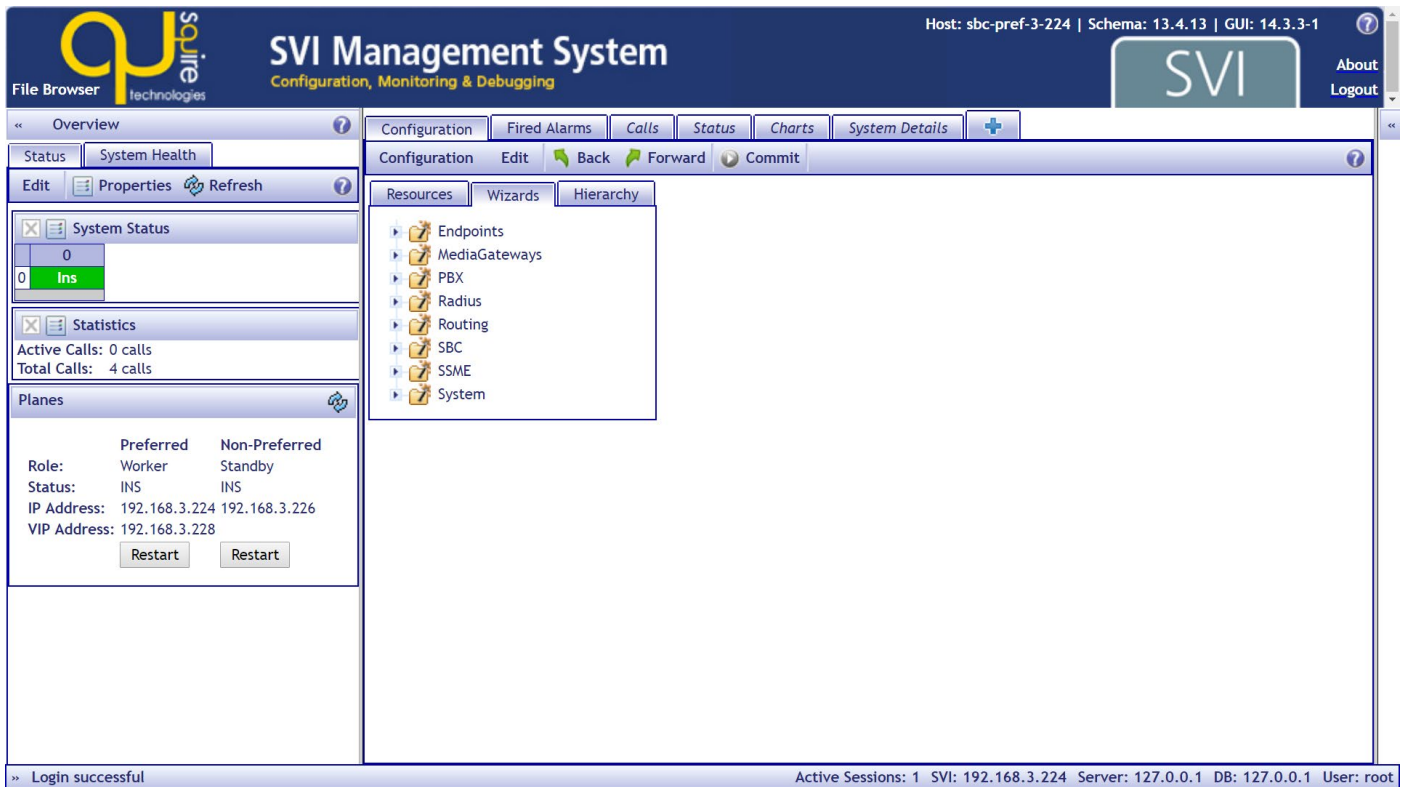


Figure 2 - Main SVI MS GUI Display

The Latest versions of the GUI as described in 1 above appear as per image below, however most functionality will be the same or similar to earlier versions, depending upon the age of the version currently in use.

squire technologies Management Information System

Host: traffic_8_211 | Schema: 13.7.0 | GUI: 16.5.0-1 | Timezone: Greenwich Mean Time | 12:20:40

File Browser About Help Logout

« Overview ?

Status System Health

Edit Properties Refresh ?

System Status

0
0 Ins

Statistics

Licensed Simultaneous Calls: 30000 calls
Active Calls: 0 calls
Total Calls: 0 calls

Planes

	Preferred	Non-Preferred
Role:	Worker	Unreachable
Status:	INS	
IP Address:	192.168.8.211	192.168.33.107
VIP Address:	192.168.8.210	

Restart Restart

Software Versions

GUI
16.5.0-1

Configuration Routing Fired Alarms Calls Status Charts System Details +

Configuration Edit Back Forward Commit ?

Resources Wizards Hierarchy

- Endpoints
- ISDN
- LawfulIntercept
- MediaGateways
- PBX
- Radius
- Routing
- SS7
- SSME
- System
- sql

» Login successful Active Sessions: 1 SVI: 192.168.8.211 Server: 127.0.0.1 DB: 127.0.0.1 Tomcat User: root User: root

This display has three main areas.

There are Left, Central and Right Panes. These are described further in sections 2.1 - 2.3 below.

2.1 Left Panel

The left panel is the Overview panel which shows the general information about the SVI system.

Within this panel are two tabs Status and System Health.

2.1.1 Status

The Status tab shows information about the basic status of the system, such as the service status of the System resource, the number of active and completed calls, as well as an indication of the status of the single or dual redundant planes.

This tab is configurable using the Properties button to allow other ‘gadgets’ (see 2.2.12 Configuring Dashboards) to be displayed in the tab as well.

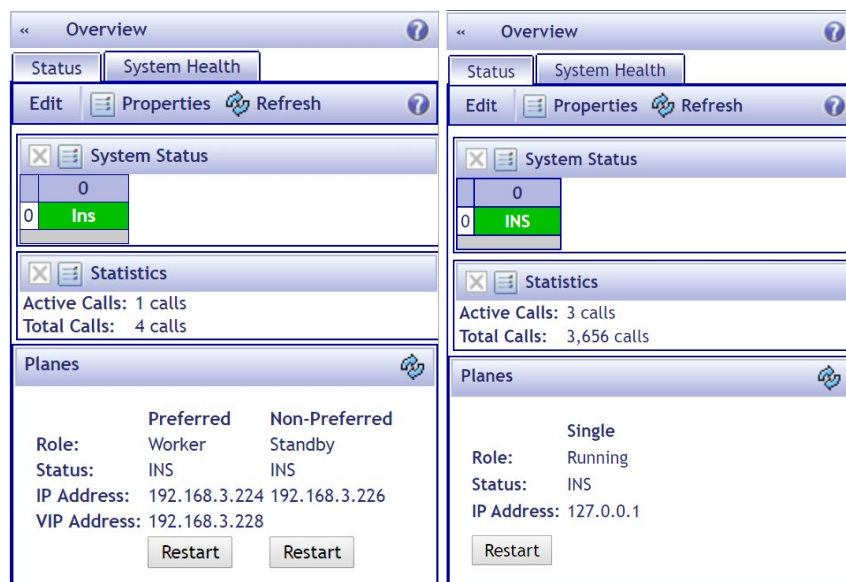


Figure 3 - Overview Pane Status Tab

This tab also displays details about the Planes in use. This is particularly useful in a dual redundant system when both planes are displayed. It can be seen from this display which plane is the current Worker and which is the Standby. The planes can also be restarted using the Restart buttons.

Note: If the local plane (the one that is logged into in the SVI MS) is restarted the SVI MS GUI will restart as well, and it will be necessary to refresh the browser and re-login.

2.1.2 System Health

The System Health tab shows simple health information about the system including the memory usage, free disk space etc. Information can be seen for both the local and the remote plane in a dual plane setup.

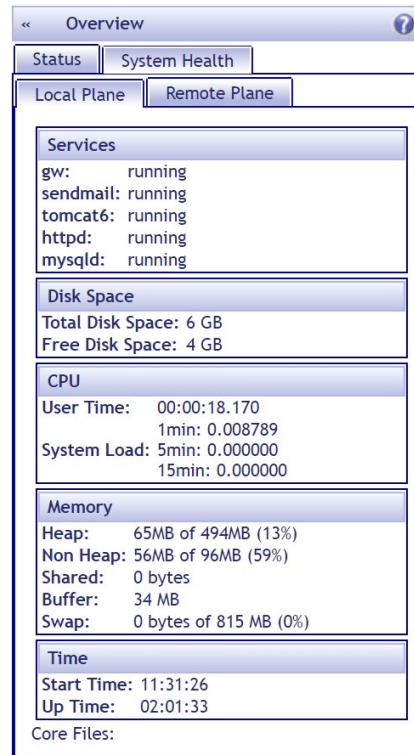


Figure 4 - Overview Pane System Health Tab

2.2 Central Panel

The central area contains several tabs which allow access to the major features of the SVI MS system. The following sections describe each of these tabs.

2.2.1 Configuration

This tab allows viewing and editing of the configuration of the SVI system. The configuration is arranged in Resources and Attributes. The configuration of the SVI system can be thought of as database where a Resource is the equivalent of a table, an attribute the equivalent of a column and a resource instance the equivalent of a row.

The configured resources are shown in a list within the Resources tab. Each type of resources can then be viewed by type and the instances of each type inspected and edited.

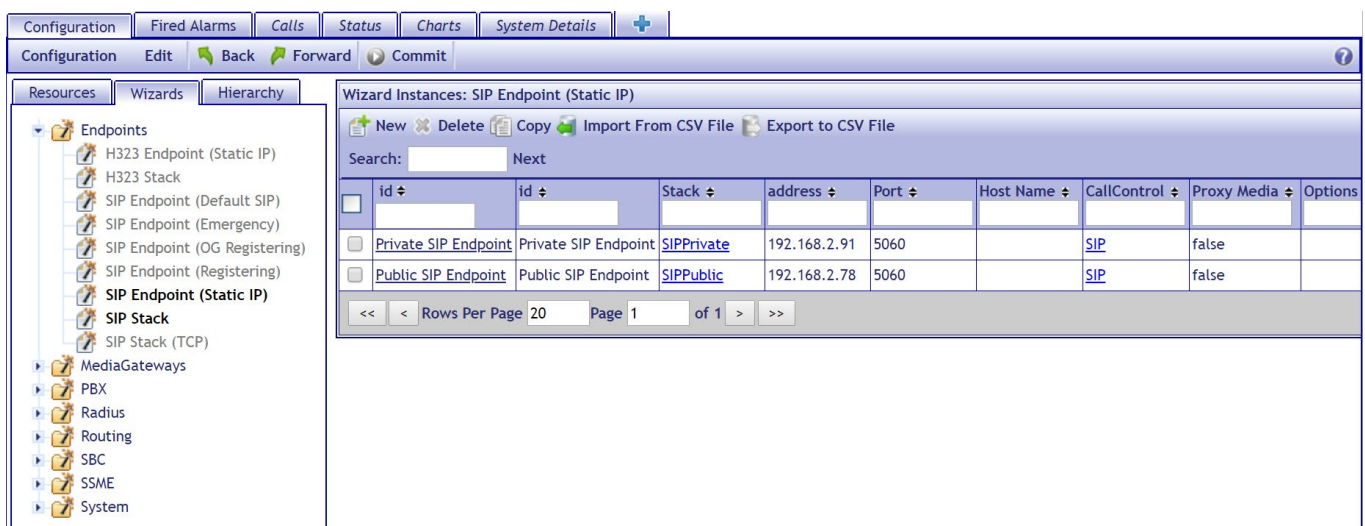
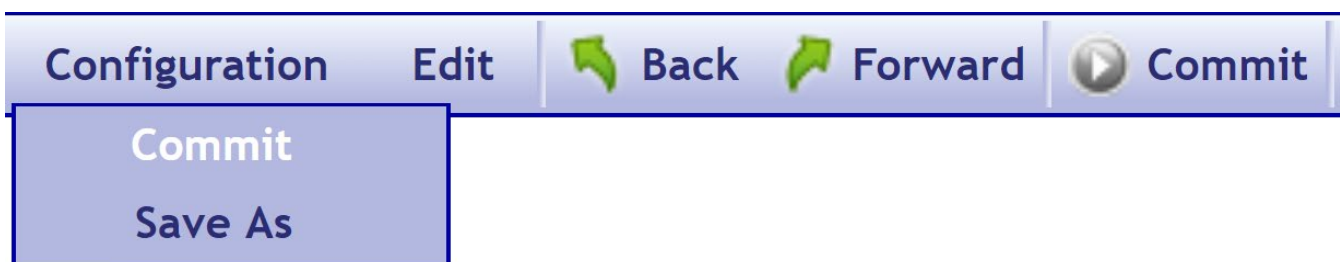


Figure 5 - Configuration Tab

The Configuration tab has a toolbar at the top which provides the following operations:

Check all below buttons on newer GUI version and update:



Back: Navigate back to the last Configuration page viewed.

- Forward:** Navigate forward to the next Configuration page viewed when pages have been navigated back.
- Commit:** Commit changes to the SVI. Changes to the configuration made in the SVI MS GUI are local to the GUI until they are saved or committed. The Commit operation saves the changes to the configuration file and passes them to the SVI.
- Save As:** Save the current configuration (including any unsaved and uncommitted changes) to another file.

The toolbar also contains two menus. The Configuration menu provides menu items which mirror the toolbar buttons, and the Edit menu allows the creation of new resource instances or the use a Wizards.

Within the Configuration tab, the left-hand side shows a set of tabs providing ways to view and edit the configuration of the SVI system. These are:

2.2.2 Resources

This tab shows the available Resource types which can be configured. Entries shown in bold indicate that resources of that type have been configured as opposed to items shown in grey which indicate that no instances of that resource have yet been created.

When an item in the Resources tab is selected a table showing the instances of this resource, if any, is shown in the right-hand side of the Configuration tab.

Note: No configuration should be attempted directly into Resources unless directed to so by Squire Support.

Currently Configured Interface Resources (click to collapse)									
New Delete Copy Edit View Bring INS Take OOS Columns Import From CSV File Export to CSV File Interface									
Search: Next									
☒	id	Wizard	status	Type	Media Gateway	name	VoIP Stack	flags	
☒	SVI-RTP-0	RTP Media Gateway: SVI-RTP-0	INS	MG Ethernet	SVI-RTP-0	0	SIPPrivate		
☒	SVI-RTP-0_1	RTP Additional IP Interface: SVI-RTP-0_1	INS	MG Ethernet	SVI-RTP-0	1	SIPPublic		
<< < Rows Per Page 20 Page 1 of 1 > >>									

Figure 6 - Resources Table

The second column in this table provides a button which shows the details of the resource instance.

View Interface Resource(s)	
 Back  Refresh	
Interface	SVI-RTP-0  Edit
status	INS
Type	MG Ethernet
Card	0
Media Gateway	SVI-RTP-0
crc	CRC OFF
electrical	E1 120 HDB3
name	0
Inservice	[01:04:2019][11:31:37:282]
Audit Timeslot	32
VoIP Stack	SIPPrivate
Free MTS	500
MT Top	SVI-RTP-0_2
MT End	SVI-RTP-0_1
<< < Columns Per Page 10 Page 1 of 1 > >>	

Figure 7 - Viewing Details of a Resource Instance

This includes not only the values in attributes that have been configured, but also attributes which have a default value or a value which has been set within the SVI. The values which have not been set by the configuration are shown in bright blue.

The entries in the id column of the resource table are hyperlinks which if clicked will allow the resource instance to be edited using the edit form.

Edit Interface Resource

Back Done Edit in Wizard Form Convert to Group Revert to Wizard Refresh

Name: SVI-RTP-0 *name change disabled for resources created by wizard

SNMP AlarmSeverity: 0

status: INS

Type: MG Ethernet

Card: 0

Media Gateway: SVI-RTP-0

crc: CRC OFF

electrical: E1 120 HDB3

name: 0

value name:

Default Circuits:

Suffix Name:

tdm gain:

tdm ec:

Audit Timeslot: 32

Description:

Options:

Trunk Group:

VoIP Stack: SIPPrivate

Figure 8 - Resource Instance Edit Form

A resource instance can be edited through this form and the changes saved with the 'Done' button. If the resource instance was created from a Wizard this form will also have a button 'Edit in Wizard Form' which will display the wizard form to edit the wizard instance (see below). Items with a padlock next to the name can only be edited from the Wizard.

The resources table also allows new instances to be created and existing instances to be copied or deleted, using the checkboxes in the left-hand column and the buttons in the table header.



In addition, the table header provides buttons which in conjunction with the checkboxes allow one or more resource instances to be viewed, edited, and taken in and out of service.

Multiple resource instances can be edited at once by checking the checkboxes and using the Edit button in the table header. Any values then specified in the edit form are applied to all selected instances.

The columns in this table can be configured by using the Columns button in the table header, which shows a dialog which allows the columns to be selected and re-ordered.

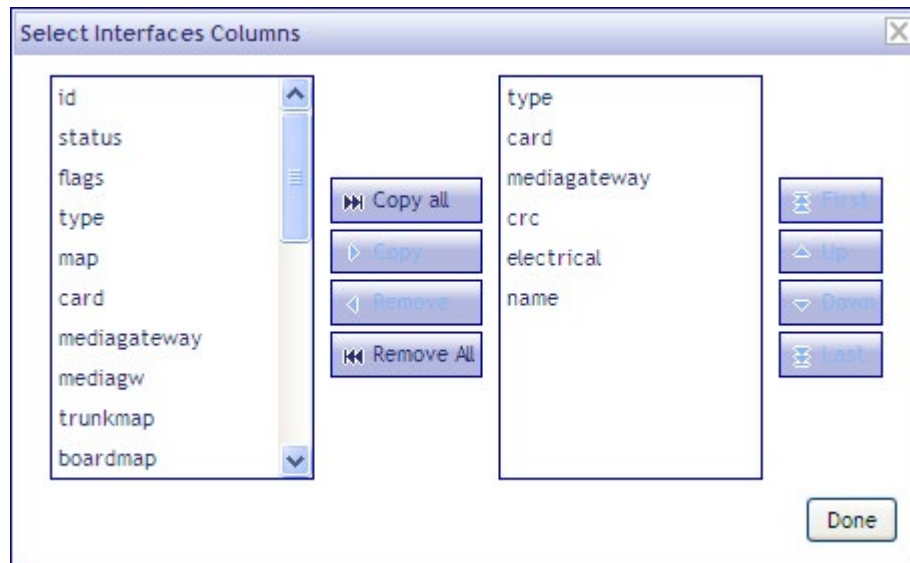


Figure 9 - Column Configuration Dialog

As well as single resources, groups of resources can be created. The 'New Group' button provides this feature. When clicked the group editing page will be displayed

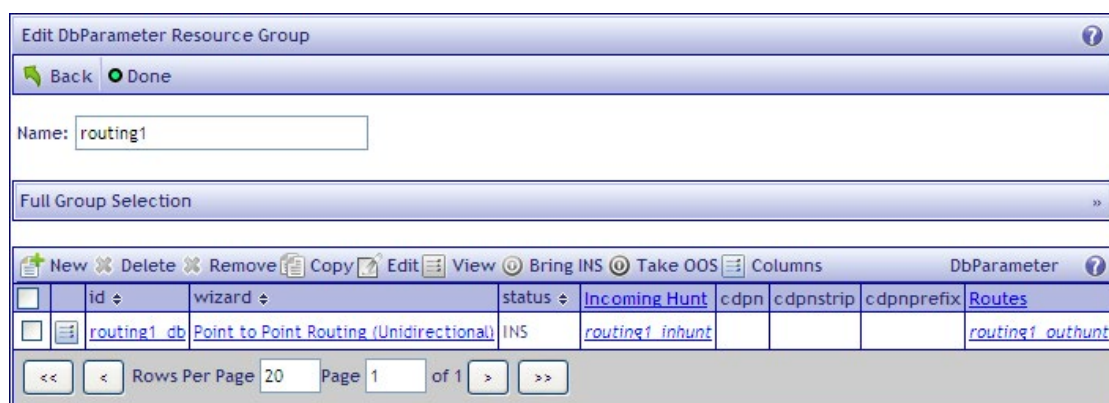


Figure 10 - Group Editing Display

From this page you can add or remove resource instances from the group using the 'New' and 'Remove' buttons in the table or you can add existing resources using the "Add Items" button.

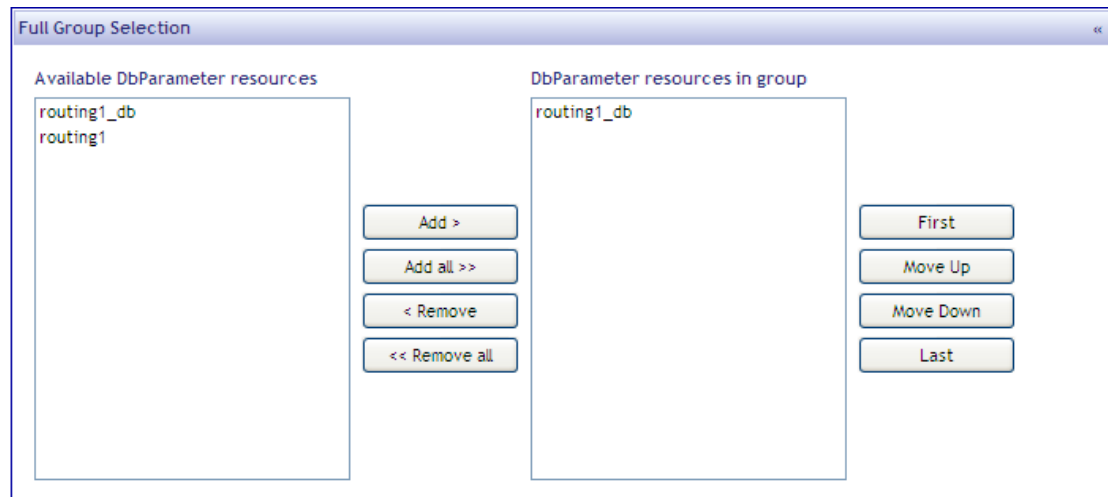
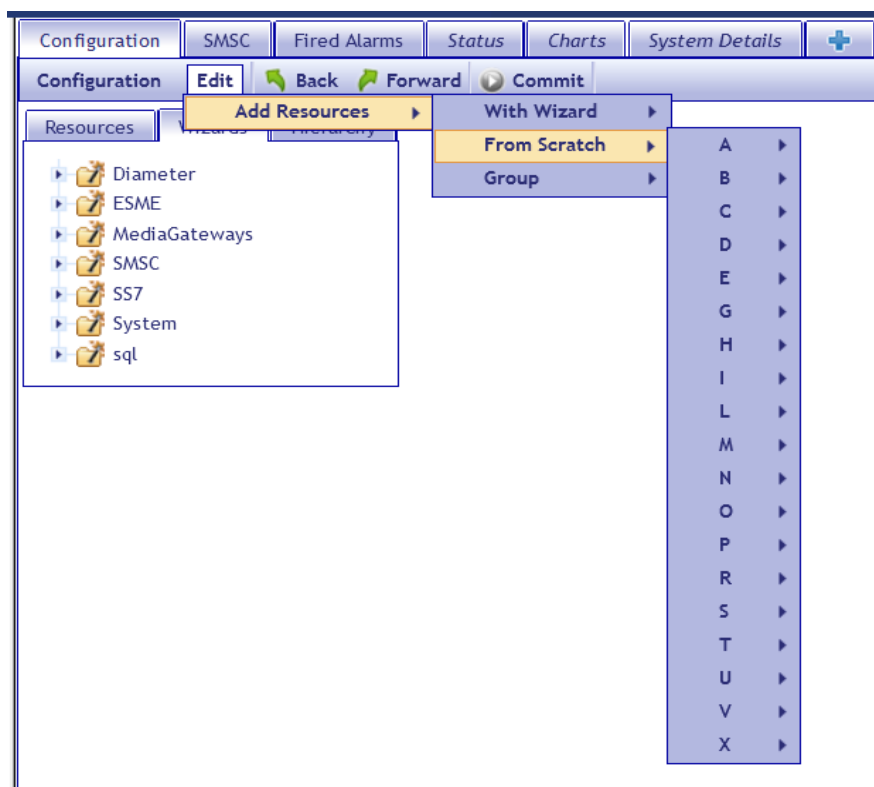


Figure 11 - Full Group Selection pane

2.2.3 Adding a New Resource

If a resource that is required does not appear in the default list in the resource tab, they can be added manually using the Edit Button.



**** The Support Team can advise the necessary values, such as status required, for this configuration method to work. ****

2.2.4 Wizards

This tab shows the available Wizards. Wizards are a mechanism provided with the SVI system by Squire Technologies to allow configuration of single or multiple resource instances using a simplified entry form.

There are various wizards available for different uses. These are arranged in a folder which is displayed in the Wizards tab. As with the Resources tab wizards that have been used are shown in bold in this tree and those which have not are shown in grey.

When a wizard is selected in the tree, a table is displayed in the right-hand side of the Configuration tab which shows the currently configured uses of that wizard, if any.

Wizard Instances: SIP Endpoint (Static IP)								
New Delete Copy Import From CSV File Export to CSV File								
Search: Next								
☐	id ↕	id ↕	Stack ↕	address ↕	Port ↕	Host Name ↕	CallControl ↕	Proxy Media
☐	Private SIP Endpoint	Private SIP Endpoint	SIPPrivate	192.168.2.91	5060		SIP	false
☐	Public SIP Endpoint	Public SIP Endpoint	SIPPublic	192.168.2.64	5060		SIP	false
<< < Rows Per Page 20 Page 1 of 1 > >>								

Figure 12 - Wizard Instance Table

The entries in the id column of the wizard table are hyperlinks which if clicked will allow the wizard instance to be edited using the edit form.

Wizard: SIP Endpoint (Static IP)

This wizard can be used to configure a SIP (Session Initiation Protocol) endpoint with a static IP address and port. An IP address and port should be specified for the endpoint as well as selecting a VoIP stack to use. In addition a Call Control resource should be selected or created.

Name:

id:

Stack:

address:

Port:

Host Name:

CallControl:

Proxy Media: ☐

Options (VD_options):

transport:

Toptions:

Toptions:

MatchDB (ogrulesdp):

RetryCount:

RetryCause:

Derived Resources »

Figure 13 - Wizard Form

The values for the wizard parameters can then be edited and the Recreate button clicked to save the changes. Although this will not at this stage have committed the changes to the system.

The wizard table also allows new instances to be created and existing instances to be copied or deleted, using the checkboxes in the left-hand column and the buttons in the table header.

New Delete Copy Import From CSV File Export to CSV File

Search:

- New: Creates a new wizard instance
- Delete: Deletes a wizard instance and its derived resources
- Import From CSV File: Bulk import configuration from a CSV file.
- Export to CSV File: Export the selected wizards to a CSV file

2.2.5 Hierarchy

Most telephony protocols follow the OSI model as forming a hierarchical relationship between the different protocol layers. The SVI uses this hierarchical relationship to form parent-child relationships between the relevant resources that are abstracted to one of the model layers. The Hierarchy tab shows this parent-child relationship in a tree which shows the children of each instance. The tree can be expanded to view the children of a specific resource instance. In addition, the entries in this tree are colour coded to show the service status of the resource instance.

See Table 1- Service Status Colour Coding below for the meaning of the colours.

Clicking on an item in the tree causes the details for that resource instances to be displayed in the right-hand side of the Configuration tab.

The screenshot displays the 'Hierarchy' tab in a configuration application. On the left, a tree view shows the hierarchy starting from 'SVI-SS'. Under 'SVI-SS', there is a 'System: none' node, followed by 'IP: 199', 'IP: tel', 'IP: SQUIRE_MG_mg', 'SCTP: sctp0', 'SCTP: sctp1', 'SCTP: STP-SMSC-Listener', 'SCTP: STP1-SMSC1', 'SCTP: STP1-SMSC2', 'ASP: STP1-SMSC1', 'AS: STP1-SMSC1', 'SCTP: STP1-SMSC2', 'ASP: STP1-SMSC2', 'AS: STP1-SMSC2', and 'OriginatingPoint: STP-SMS-OPC'. The 'ASP: STP1-SMSC2' node is selected. On the right, the 'View AS Resource(s)' pane shows details for 'STP1-SMSC2'. The details include: status (INS), Type (M3UA AS), ASP (sctp0), Inservice ([27:09:2019][16:07:29:131]), Outservice ([27:09:2019][16:07:15:515]), Traffic Mode (Override), Options (Linkset-M3UA), End (Server), IC L3Label, OG L3Label, L3 Protocol (ETSI), Tr (0:00:00), AS State (AS_ACTIVE), Routing Context, and Partner AS (SS7). The bottom of the right pane shows navigation controls: '<<' '<' 'Columns Per Page 10' 'Page 1' 'of 1' '>' '>>'.

Figure 14 - Hierarchy in Configuration Tab

2.2.6 Fired Alarms

Pre GUI version SVI.war.v16_5_0-1

(GUI Version can be seen at the Login Page on older GUI's and/or top of the GUI Home Page.)

The Fired Alarms tab shows any configured alarms (see 2.3.2 Alarms) which have fired in the past as well as a record of traps (changes in status) that have occurred on resource instances.

Configuration	Fired Alarms	Calls	Status	Charts	System Details			
Fired Alarms								
	Actioned ^	Severity ^	Fire Time ^	Action Time ^	Name ^	Reason ^	Val	Actions ^
	☐	Minor	Apr 2, 2019 1:29:23 PM		VoIP dest OOS	VoIPDestination: Private SIP Endpoint is Out of Servi...		Notify Recipients: [test@squire-technologies.com]
	☐	Major	Apr 2, 2019 1:26:31 PM		Non-Pref Plane not INS	Plane: 1 is not In Service for 3 minutes		Notify Recipients: [test@squire-technologies.com]
		Major	Apr 2, 2019 12:11:43 PM	Apr 2, 2019 1:24:10 PM	Non-Pref Plane not INS	Plane: 1 is not In Service for 3 minutes		Notify Recipients: [test@squire-technologies.com]
		Major	Apr 2, 2019 12:04:42 PM	Apr 2, 2019 12:11:43 PM	Non-Pref Plane not INS	Plane: 1 is not In Service for 5 minutes		Notify Recipients: [test@squire-technologies.com]

Figure 15 - Fired Alarms Tab

The Fired Alarms table indicates time of the alarm firing, the reason and what actions were taken. The most recent alarms are shown at the top of the table, by default; however, the sort order of the table can be changed by using the sort buttons in the column's headers.

When alarms fire, they usually perform some form of action, such as notifying a selected user or users by email. The alarms in the Fired Alarms table are shown with a checkbox, which can be checked when the alarm has been seen or actioned. If some external action is required to fix the condition this can be done and then the checkbox checked in the Fired Alarms table to show that this alarm has been dealt with. This is particularly useful with alarms that are set up to repeat their notifications periodically, as the emails will continue to be sent until the alarm is 'Actioned'.

The Traps table shows a log of the resource instances changing service state.

Traps			
Time	Type	Resource	State
Feb 14, 2010 4:36:32 PM	VoIPStack	H323	INS
Feb 14, 2010 4:36:32 PM	VoIPStack	SIP	INS
Feb 14, 2010 4:36:32 PM	VoIPDestination	sip2	INS
Feb 14, 2010 4:36:32 PM	VoIPDestination	sip1	INS
Feb 14, 2010 4:36:32 PM	SignallingLink	link1	INS
Feb 14, 2010 4:36:32 PM	SignallingLink	link0	INS
Feb 14, 2010 4:36:32 PM	SS7Stack	dpc2	INS
Feb 14, 2010 4:36:32 PM	SS7Stack	dpc1	INS
Feb 14, 2010 4:36:32 PM	SQL	sql	INS
Feb 14, 2010 4:36:32 PM	SCTP	sctp1	INS
Feb 14, 2010 4:36:32 PM	SCTP	sctp0	INS
Feb 14, 2010 4:36:32 PM	RoutingCriteria	routing3	INS
Feb 14, 2010 4:36:32 PM	RoutingCriteria	routing2	INS
Feb 14, 2010 4:36:32 PM	Plane	1	INS
Feb 14, 2010 4:36:32 PM	Plane	0	INS
Feb 14, 2010 4:36:32 PM	OriginatingPoint	opc2	INS
Feb 14, 2010 4:36:32 PM	OriginatingPoint	opc1	INS
Feb 14, 2010 4:36:32 PM	MediaTimeslot	127	INS
Feb 14, 2010 4:36:32 PM	MediaTimeslot	126	INS
Feb 14, 2010 4:36:32 PM	MediaTimeslot	125	INS

Figure 16 - Fired Alarms Tab Traps Display

The most recent traps are show at the top of the table, but older records can be seen by using the page navigation buttons at the bottom of the table.

GUI Version SVI.war.v16 5 0-1 onwards

- Alarms are now automatically actioned if the state condition is no longer met. This means you do not need to mark the alarm as actioned manually. This is default behaviour; no configuration change is required.
- The Fired Alarms tab now has a new column "Resource Name", and new column filters for "Actioned", "Severity" and "Resource Name"
- A button is now available to delete all fired alarms from the table.
- The display will now present up to 25,000 fired alarms instead of 1000.

2.2.7 Dashboards

The other tabs in the Central Pane are 'Dashboards'. These are configurable tabs that can show any of several different controls or 'gadgets'. Extra dashboards can be added, and existing ones removed. Within a Dashboard, gadgets can be added, removed, and arranged to configure the display to how it is required.

The first time the SVI MS GUI system is started there are several default dashboards shown.

2.2.8 Calls

This dashboard tab shows 3 gadgets showing the number of active and completed calls, the CDR (Call Detail Record) records for the currently Active Calls and the CDR records for the Completed Calls.

Configuration	Fired Alarms	Calls	Status	Charts	System Details	+
Edit	Properties	Refresh				Update every 30 s
Active CDRs						
Flush						
CDR Id	state	t_setup	t_ringing	t_answer	t_clear	ic_call_id
ic_cdpn_dgts	ic_cdpn_noa	ic_cgpn_dgts	ic_cgpn_noa	ic_hg	ic_ep_name	ic_prt
ic_cause	og_call_id	og_				
<< < Rows Per Page 20 Page 1 of 0 > >>						
CDRs						
Export Archive Default Edit Column Profile						
CDR Id	state	t_setup	t_ringing	t_answer	t_clear	ic_call_id
46B74C015f9b622e8443b38dbe4c0eb173e2b1926d24fa47	Answer	13:55:03 02-04-2019	13:55:03 02-04-2019	13:55:07 02-04-2019	13:55:10 02-04-2019	97566ODVhMzlkMjV
43E2F8027877829fb0b62e1562a6aa3c5a0e5d03fafa5845	Answer	12:09:49 01-04-2019	12:09:49 01-04-2019	12:09:52 01-04-2019	12:10:18 01-04-2019	97566M2NkNDljMTN
43D58A01d4a06ace86e29c706f0deb6f677b4a94814aac3e	Answer	11:41:09 01-04-2019	11:41:09 01-04-2019	11:41:13 01-04-2019	11:49:13 01-04-2019	97566NTtiYjVhZWZi
3C90B6014ce22c98ca9cc42ebfa1eff9a73f4e60ae78d73e	Answer	16:31:23 29-03-2019	16:31:24 29-03-2019	16:31:31 29-03-2019	16:31:58 29-03-2019	97566ZmZjMWM5NT
3C8A6401e20d2948412a6bfdbf7b70e5001f48abae74bce	Idle	16:17:54 29-03-2019		16:18:06 29-03-2019	16:20:01 29-03-2019	97566YWU50DA2NV
3C892401c457556633b8b89f3da4c8b7ba8de8af77bab955	Ringing	16:15:15 29-03-2019	16:15:15 29-03-2019		16:15:17 29-03-2019	97566MjQwMTcwMD
<< < Rows Per Page 20 Page 1 of 1 > >>						
General Statistics						
Active Calls: 0 calls						
Total Calls: 6 calls						

Figure 17 - Calls Tab

The information in the Completed Calls table can be navigated via the page navigation buttons at the bottom of the table.

In addition, the columns can be sorted by clicking the sort control in the header (↕). This will toggle between sorting in ascending and descending order.

Also, some columns can be filtered (the display restricted to only matching records), by entering information in the control in the column header. Note: Filtering mechanism should not be used if CDR records are more than 1 million.

The first column in the Calls tables shows the CDR id as a hyperlink. Clicking this link allows PCAP trace information to be accessed, if there is a PCAP trace running (see 2.4 Debug & Trace).

When the hyperlink is clicked, a dialog is shown which allows either the whole unfiltered PCAP file to be opened, or for the PCAP trace to be filtered on various information options using the checkboxes. The filtered file can then be opened with the “Filter” button.

Download PCAP for 46B74C015f9b622e8443b38dbe4c0eb173e2b1926d24fa47

☒ Filter on Time
☐ Filter on Protocol Information

SS7

☒ Filter on Circuit Identification Code ☒ Filter on Destination Point Code
☒ Filter on Originating Point Code ☒ Filter on Network Indicator

ISDN

☒ Filter on Timeslot ☒ Filter on Interface

VoIP

☒ Filter on Call Id (SIP) ☒ Filter on Address (SIP & H323)

Filter String:
(frame.time >= "Apr 2, 2019 13:55:00.0" and frame.time <= "Apr 2, 2019 13:55:13.0")

Filename	Start Date	End Date	Filter
svi0.pcap	2019-04-02 13:54:58 BST	2019-04-02 13:58:10 BST	Filter

Figure 18 - PCAP Filtering Dialog

The trace files will be downloaded to the client as .pcap files which can be opened with an appropriate tool (e.g. Wireshark).

2.2.9 Status

The Status dashboard tab shows the status of resources. Initially there are three gadgets shown in this dashboard showing the service status of the Circuits, the call status of the Circuits and the service status of the VoIP Destinations.

Configuration

Fired Alarms

Calls

Status

Charts

System Details

Edit

Properties

Refresh

Update every 5 s

Circuit Status

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	Niu	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	
32	Niu	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	
64	Niu	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	
96	Niu	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	

Circuit Call Status

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0																																
32																																
64																																
96																																

VoIP Destination Status

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	INS	INS																														

Figure 19 - Status Tab

The number of rows and columns displayed is configurable via the Properties button on the header of the gadget.

The service status is shown in a colour coded form:

Colour Code	Service Status	Description
INS	In Service	The resource is in service.
Osc	Out of Service (Configured)	The resource is loaded and waiting for its parent to come into service so that the resource can be configured.
Osd	Out of Service (Dependent)	The resource's parent is not in service and as soon as it is in service this resource will return to service
Oos	Out of Service	The resource has been taken out of service by the OAM interface.
Osf	Out of Service (Faulty)	The resource is out of service and waiting for its parent to come into service before it will try to restart this resource
Osfcd	Out of Service (Faulty Dependent)	The resource is out of service due to an external fault, once this fault has been rectified the resource will return to service.
Oscp	Out of Service (Configured Pending)	The resource is currently being configured
Osp	Out of Service (Pending)	The resource is trying to start up
Niu	Not In Use	The resource is not currently loaded
Start	Start	

Table 1- Service Status Colour Coding

The Circuit Call Status table shows the call state of each circuit as an icon. The meaning of these icons is shown below:

Icon	Meaning
	Idle
	Setup (Incoming)
	Setup (Outgoing)
	Ringing (Incoming)
	Ringing (Outgoing)
	Suspended (Incoming)
	Suspended (Outgoing)
	Answered
	Clearing

Table 2 - Circuit Call Status Icons

If the icon is hovered over the meaning is displayed in a tooltip as well as the actual call state (e.g. CC_IDLE)

2.2.10 Charts

The Charts dashboard initially shows 3 charts showing the Active Call Count, the Total ASR (Average Seizure Rate) and the Total AAR (Average Answer Rate). All these charts are shown over time.

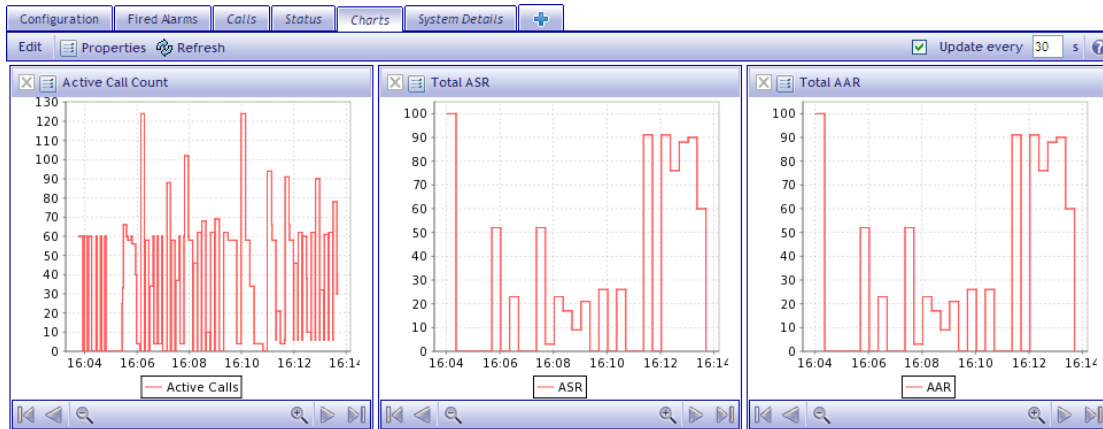


Figure 20 - Charts Tab

In addition, there are other built-in charts that can be shown in this dashboard, including: Total ACD (Average Call Duration) Total PDD (Post Dial Delay), and charts for the number of calls which have been setup, answered etc.

In addition to the built in charts, new charts gadgets can be created using the dashboard tab's Properties dialog to allow plotting of any of the statistics values for a defines route or set of routes (see 2.2.12.2 Adding a new Gadget)

2.2.11 System Details

The System Details dashboard shows charts displaying information about the local system, such as memory usage and disk space availability.

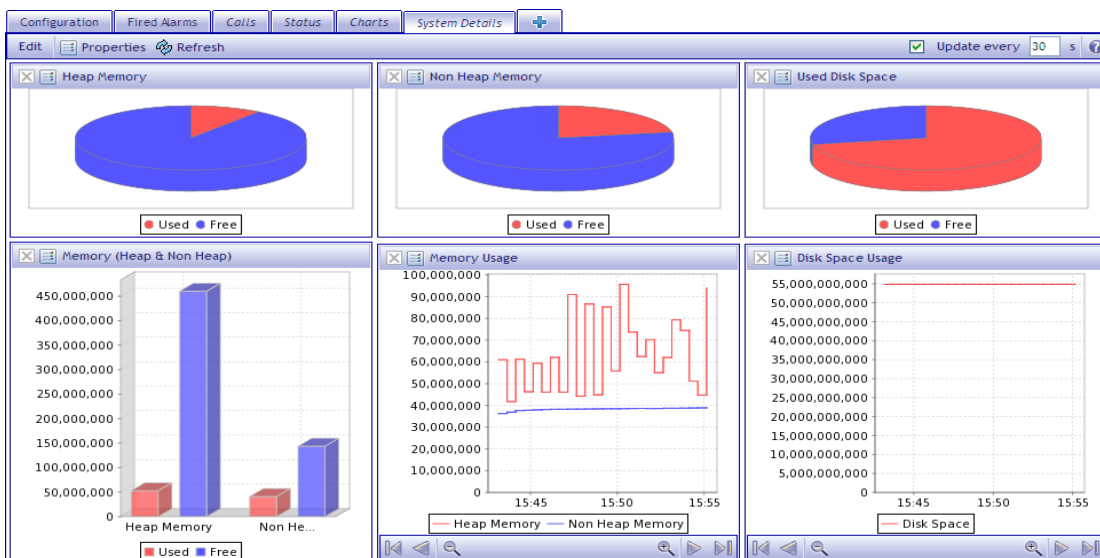


Figure 21 - System Details Tab

2.2.12 Configuring Dashboards

Other than the Configuration and Fired Alarms tabs, all the tabs in the central area of the display are 'dashboards'. This means that they can be configured to contain several 'gadgets'.

2.2.12.1 Adding a Gadget to an Existing Dashboard

The gadgets that are displayed in a dashboard can be configured by using the Dashboard Properties dialog. This dialog is opened by selecting the properties button in toolbar of the dashboard tab  or by choosing Properties from the Edit menu in the toolbar.

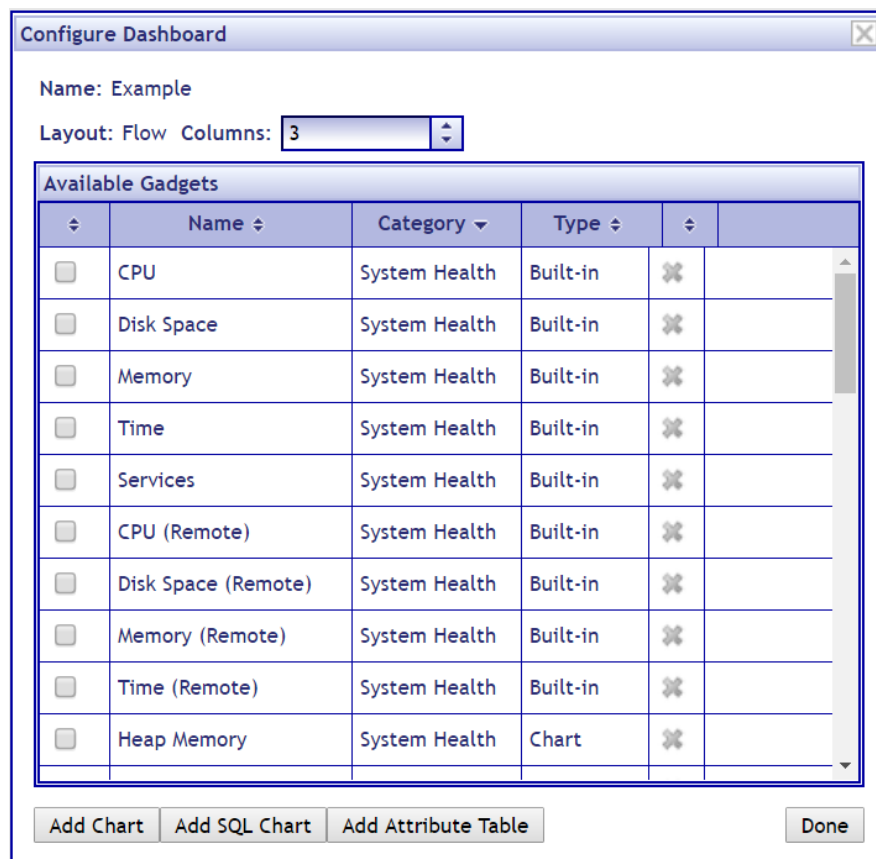


Figure 22 - Configure Dashboard Dialog

To add a gadget to the dashboard, check the checkbox in the dialog that corresponds to the gadget to add.

2.2.12.2 Adding a new Gadget

The Dashboard Properties dialog shows all the currently available gadgets. These are any built-in gadgets, plus any gadgets which have previously been created.

In addition to the built-in gadgets, new Chart and Attribute Table gadgets can be created. To create a completely new gadget (i.e. one not listed in the Dashboard Properties dialog), the two buttons at the bottom of the Dashboard Properties dialog, 'Add Attribute Table' and 'Add Chart', can be used.

When Add Attribute Table is selected a dialog is shown to configure the Attribute Table gadget. Attribute Table gadgets show the value of a single attribute for all resource instances in a table.

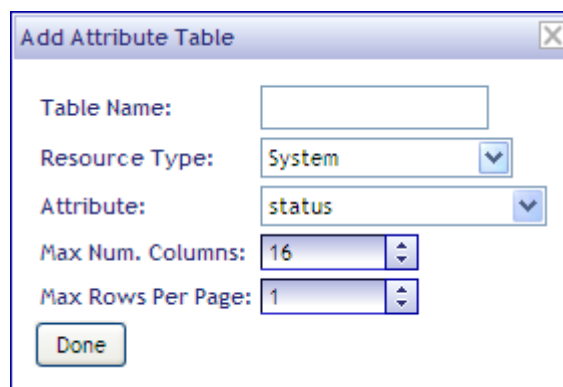
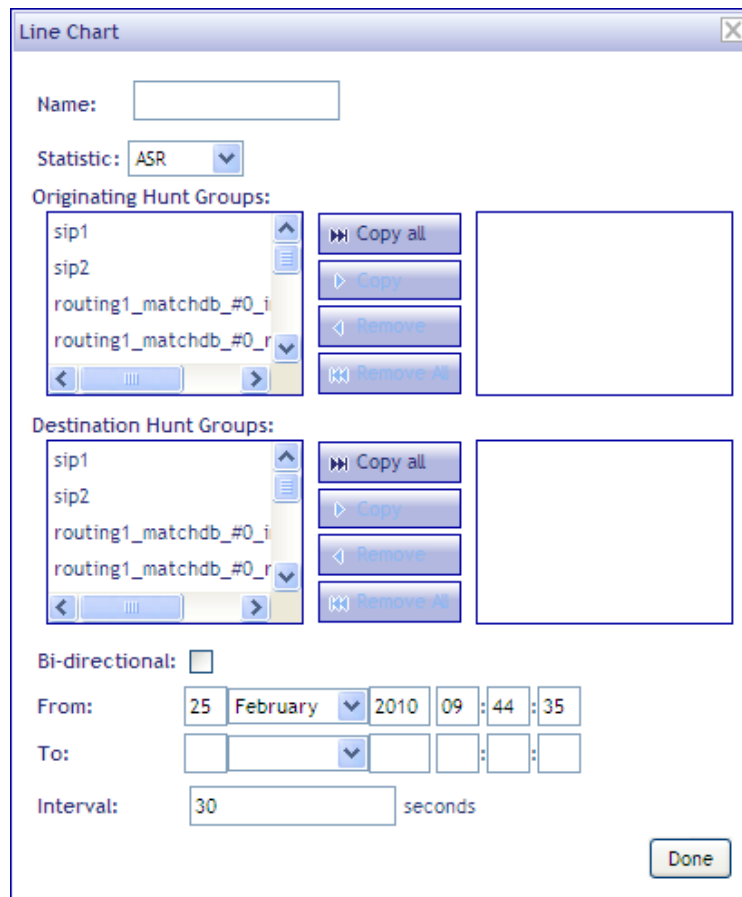


Figure 23 - Add Attribute Table Dialog

These gadgets are usually used to display service status; however, other attributes can be displayed. The dialog allows the Resource type and attribute to be selected and to configure how many columns and rows to display. If there are more resource instances than can be shown in the specified number of rows and columns, then paging buttons will be displayed to allow the pages to be stepped through.

The Add Chart button brings up a dialog which allows the chart to be configured.



The dialog box is titled "Line Chart". It contains the following fields and controls:

- Name:** A text input field.
- Statistic:** A dropdown menu currently showing "ASR".
- Originating Hunt Groups:** A list box containing "sip1", "sip2", "routing1_matchdb_#0_i", and "routing1_matchdb_#0_r". To the right of the list are buttons: "Copy all", "Copy", "Remove", and "Remove All".
- Destination Hunt Groups:** A list box containing the same four items as the Originating Hunt Groups. To the right are the same four buttons: "Copy all", "Copy", "Remove", and "Remove All".
- Bi-directional:** An unchecked checkbox.
- From:** A date and time selector showing "25 February 2010 09:44:35".
- To:** A date and time selector with empty fields.
- Interval:** A text input field showing "30" followed by the label "seconds".
- Done:** A button in the bottom right corner.

Figure 24 - Line Chart Configuration Dialog

Charts can be setup to show various statistics calculated from the CDR information:

ASR	Average Seizure Rate (the percentage of calls that have been successfully routed through the SVI system)
AAR	Average Answer Rate (the percentage of calls that were answered)
PDD	Post Dial Delay
ACD	Average Call Duration
Setup	Number of calls which have been Setup.
Ringing	Number of calls which have reached Ringing.
Answer	Number of calls which have been Answered.
Minutes	The number of minutes that calls have been active.

These statistics can be calculated for a particular route or routes by selecting the incoming and outgoing hunt group or groups. This calculation for the routes can be bi-directional (by checking the Bi-directional box) or uni directional.

In addition, the time window and interval can be specified. This allows the Chart to plot information for any period of historical time and change how often the data is sampled. If no 'To' time is specified, then the data is plotted up to the current time and continued.

2.2.12.3 Removing a Gadget from a Dashboard

To remove a gadget from a dashboard, open the Properties dialog (see above) and uncheck the checkbox for the gadget you want to remove.

2.2.12.4 Adding a new Dashboard

New dashboard can be added to the display by clicking the Add new dashboard button (+) in the last small tab in the central area. This will show a dialog where the name of the dashboard can be provided.

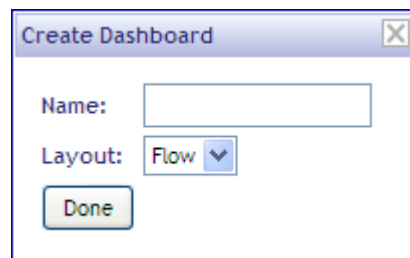


Figure 25 - Create Dashboard Dialog

The dashboard is created empty; that is with no gadgets in it. Gadgets can be added to the newly created dashboard as above.

2.2.12.5 Removing a Dashboard

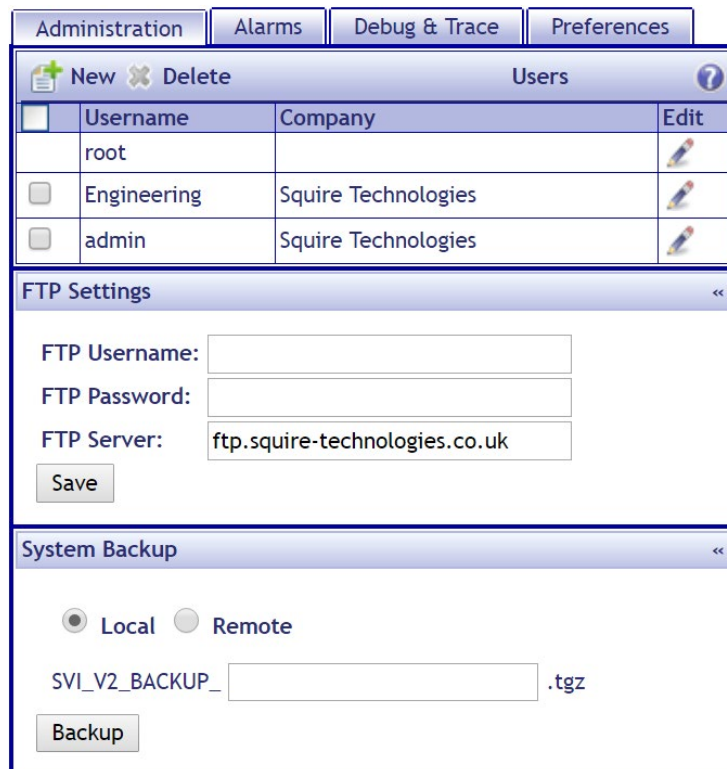
An existing dashboard can be removed by right clicking on the tab label. This will show a popup menu which allows the dashboard to be closed.

2.3 Right Panel

The right panel (initially hidden) is the Settings panel which shows several tabs for setting up details of the SVI system, outside of the normal configuration.

2.3.1 Administration

The Administration tab shows the list of available users on the SVI system and allows privileged users to modify, delete and create new users.



The screenshot shows the 'Administration' tab in the Settings Pane. The tab has a toolbar with 'New' and 'Delete' buttons. Below the toolbar is a table of users with columns for 'Username', 'Company', and 'Edit'. The table contains three rows: 'root', 'Engineering', and 'admin'. Below the table are two sections: 'FTP Settings' and 'System Backup'. The 'FTP Settings' section has fields for 'FTP Username', 'FTP Password', and 'FTP Server' (ftp.squire-technologies.co.uk), and a 'Save' button. The 'System Backup' section has radio buttons for 'Local' and 'Remote', a text field for 'SVI_V2_BACKUP_' followed by '.tgz', and a 'Backup' button.

	Username	Company	Edit
☐	root		
☐	Engineering	Squire Technologies	
☐	admin	Squire Technologies	

FTP Settings

FTP Username:

FTP Password:

FTP Server:

System Backup

☒ Local ☐ Remote

SVI_V2_BACKUP_ .tgz

Figure 26 - Setting Pane Administration Tab

Users can be edited by clicking the edit button () in the table. New users can be created by selecting the 'New' button in the toolbar of the tab. Both these operations bring up the same dialog which allows the user to be created or edited:

The screenshot shows a window titled "Edit User admin". It contains two tabs: "Configuration" and "Tabs". The "Configuration" tab is selected. Inside this tab, there are several input fields and a dropdown menu:

- Password:** An empty text input field.
- Company:** A text input field containing "Squire Technologies".
- Email Address:** A text input field containing "test@squire-technologies.com".
- Base Role:** A dropdown menu currently showing "Administrator".
- Permissions:** A grid of checkboxes, all of which are checked:
 - Read
 - Write
 - Delete
 - Write Statistics
 - View Statistics
 - Create
 - Change Status
 - Change Tabs

 At the bottom right of the dialog is a "Done" button.

Figure 27 - Edit User Dialog

Permissions can be set for each user to allow or restrict them from performing various operations. This can be set by selecting a base role for the user. The available roles are:

- ReadOnly:** The user only has read permissions. They can look at anything in the system but cannot modify configuration.
- ReadWrite:** The user has read and write permissions. They can view any information and modify the configuration or dashboard setups.
- Administrator:** The user has complete control, including read and write as well as the ability to create, modify and delete users.
- Reseller:** Similar to ReadWrite, but this user cannot change the dashboards.

These roles can be overridden to add extra permissions or remove permissions from a given user using the checkboxes in the Permissions pane. The permissions are:

- Read:** User can view information
- Write:** User can modify configuration resource instances
- Create:** User can create new instances in the configuration
- Delete:** User can delete instances in the configuration
- View Statistics:** User can view dashboards and contents.
- Write Statistics:** User can modify dashboards, gadgets etc.
- Change Status:** User can change the service status of resource (Take Oos/Bring Ins)

Manage Users: User can create, modify, and delete other user accounts.

Edit User admin

Configuration | **Tabs**

Configuration ☒

Billing ☒

Networking ☒

SMSC ☒

Fired Alarms ☒

Shown	Name
☒	Calls
☒	Status
☒	Charts
☒	System Details
☒	Example

Done

In addition, the Administration tab also allows configuring of the details of the Squire FTP server, in the panel below the users. Simply set the values for the FTP username and password and click Save.

2.3.2 Alarms

The Alarms tab allows configuring of alarms which will fire when a given condition occurs. Alarms can be configured to fire on changes to service status of resources either once or over a period. Alarms can also be configured to notify recipients by email and/or to take resources out of service when the alarm fires.

Administration		Alarms	Debug & Trace	Preferences
 New		 Delete		 ?
☐	Enabled	Name	Edit	
☐	Enabled	Linkset SMSC oos		
Alarm Details <<				
Name: Linkset SMSC oos				
Severity: Major				
Conditions <<				
Linkset: SMSC1-L3-Linkset is not In Service				
Actions <<				
Notify Recipients: [test@squire-technologies.com]				

Figure 28 - Settings Pane Alarms Tab

2.3.2.1 Creating a new Alarm

New Alarms can be created by clicking the 'New' button in the toolbar of the tab. This displays the Edit Alarm dialog:

This dialog allows the alarm to be created.

All alarms should be given a name for identification and the severity can be selected in the radio buttons.

Alarms are triggered on Conditions. Multiple conditions can be added to an alarm and the alarm will fire if any of those conditions become true.

2.3.2.2 Selecting Resources

Pre GUI version SVI.war.v16_5_0-1	GUI Version SVI.war.v16_5_0-1 onwards
Alarms are created against specific resources individually	Alarms can be created for multiple/all Resources using the window as shown below
<i>(GUI Version can be seen at the Login Page on older GUI's and/or top of the GUI Home Page.)</i>	

Please access the Configure Alarm Resources via the highlighted area as shown below:

Once selected the following or similar will be displayed according to the resource type alarm being setup.

Search:	Next	Interface
☒	id	
☒	Interface_0	
☒	Interface_1	

Rows Per Page: 20

<< < Page 1 of 1 > >>

Done

The Tick box highlighted above enables you to select ALL currently configured resources on the SVI to have an alarm notification should this resource go out of service. This does not include when using the Take OOS button as this is a manual intervention. The Alarm will only be triggered by a change of states within the network.

Also note that should you add additional resources in future the Select All tick box does not enable alarms for these newly configured services. These will need to be manually updated in the Alarm configuration, either by selecting the specific resource(s) manually or using the Tick Box highlighted.

2.3.2.3 Adding a Condition

A condition can be added to the alarm by selecting the new button in the toolbar within the Conditions panel. This will show a menu to select what kind of condition to add.

A State Condition fires when a given resource instance's service status matches a value. When the New Status Condition option in the menu is clicked extra controls will be shown in the dialog. These controls allow you to select the type of resource and instance that the condition will match on.

A group of instances can be selected here as well so that the alarm will fire if any instance in the group matches the condition. After selecting the resource instance, the status can be specified. The condition can be defined to either fire when the instance's status matches a defined value or when it ceases to match a defined value. This is specified by the 'is/is not' drop down selection. The status value can be selected in the next selection list.

As well as a simple matching of the status, an alarm can be configured to only fire if the status remains at a value for a given length of time or it transitions to a particular state a defined number of times. This is chosen by the Type selection list. There are three options:

- | | |
|--------------------------------------|--|
| None: | Simple match. The alarm will fire as soon as the condition is met. |
| Condition is true for period: | The alarm will fire if the status of the resource instance continues to be the value specified for the period given. If the status of the resource instance transitions to some other state during this period, and back again, the alarm will not fire. The status needs to be consistently at the matching value for the whole period. |
| Occurs n times during period: | The alarm will fire if the status transitions to the match state the defined number of times within the period. If the status remains at the match state, then this alarm will not fire. |

When an alarm fires an action can be performed. Multiple actions can be added to an alarm, and they will all be performed if the alarm fires.

Alarming on an SQL query:

The SVI can trigger an alarm based on the result of an SQL query. This allows the creation of complex alarm strategies by utilising the MySQL query language. For a query to be used for this it must return a single integer value where non-zero means that the condition is met and 0 means the condition is not met. Any query can be made to fit the form. For example, if an alarm were required if the number of active calls dropped below 50 the following query could be used:

```
SELECT (SELECT COUNT(*) FROM active_cdr_table) < 50
```

The inner query counts the number of active calls and the outer part of the compares the resulting number with the limit of 50.

As with other SVI alarm conditions, the alarm will fire once if the condition occurs. It will not re-occur until the condition has been cleared and matched again. In other words, to use the above as an example, the alarm will fire if the active call count drops below 50 but will NOT continuously fire while the count remains below 50. If/when the count goes above 50 again and then drops below 50 once more the alarm will fire a second time.

To setup SQL queries for alarms:

- Select the SQL Query condition type from the list which appears when the new condition button is pressed
- Click the ... button to enter the SQL query and then enter the SQL query text in the entry dialog
- Click Done

Actions for the alarm can then be setup in the normal way and the alarm committed.

2.3.2.4 Adding an Action

An action can be added to the alarm by selecting the new button in the toolbar within the Actions panel. This will show a menu to select what kind of condition to add. There are two types of Action supported.

Notification Action: When the alarm fires this action will notify one or more users that the alarm has fired, via email.

Disable Routing Action: When the alarm fires this action will disable routing between two Customers (You must have the SQL Routing module installed)

To add a Notification Action, choose the Add Notification Action from the New Action menu. This will display extra controls to specify the recipients of the notification. Clicking the  button will bring up the Add Recipient Dialog



Figure 29 - Select Recipients Dialog

This dialog can be used to add recipients to the list.

The notifications can also be configured to repeat periodically, until the alarm is auctioned. This is done by checking the Repeat Notification check box and specifying a time period to repeat at.

2.4 Debug & Trace

The Debug & Trace tab contains controls to allow configuring of the Debug settings for the SVI system and to view or download log files.

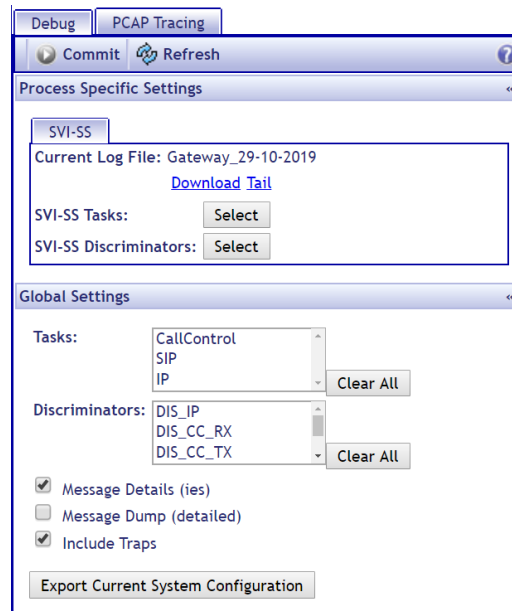


Figure 30 - Settings Pane Debug Tab

2.4.1 Controlling Debug settings

The Debug tabs (one for each SVI process) allow the log files for the process to be downloaded or ‘tailed’ by clicking the links. The Tail link opens a window which shows the end of the log file and continually updates to read the latest entries.

From GUI Release v16.11.0 onwards the Tail feature is no longer available. Please contact Support if this specific feature is required.

The Debug settings can be configured by using the controls in this window. To control the debug output of the SVI various tasks can be configured to enable their debug output and in addition discriminators can also be enabled to control the debug output.



Figure 31 - Select Tasks Dialog

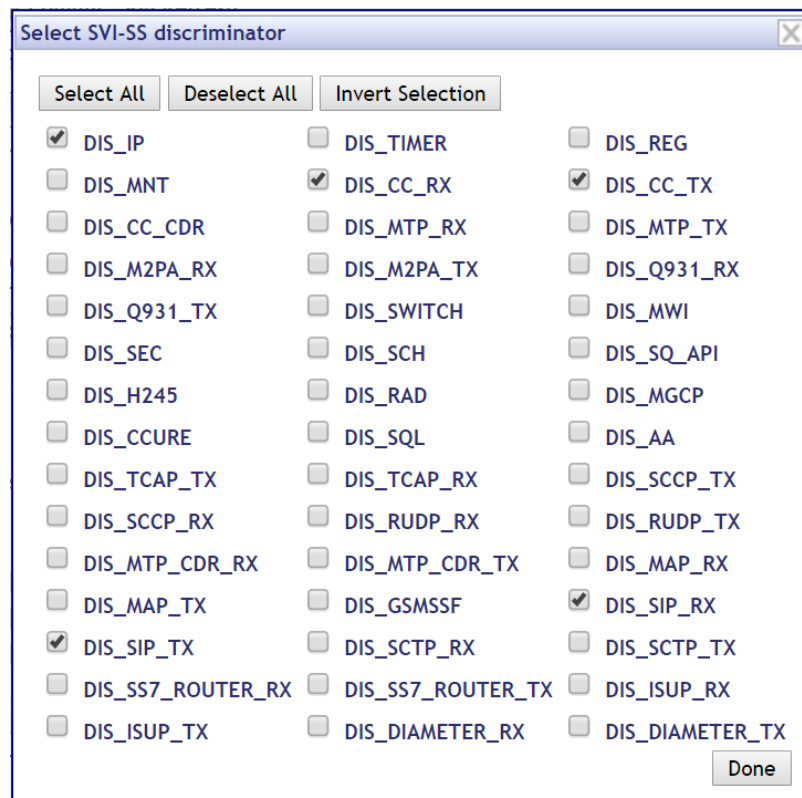


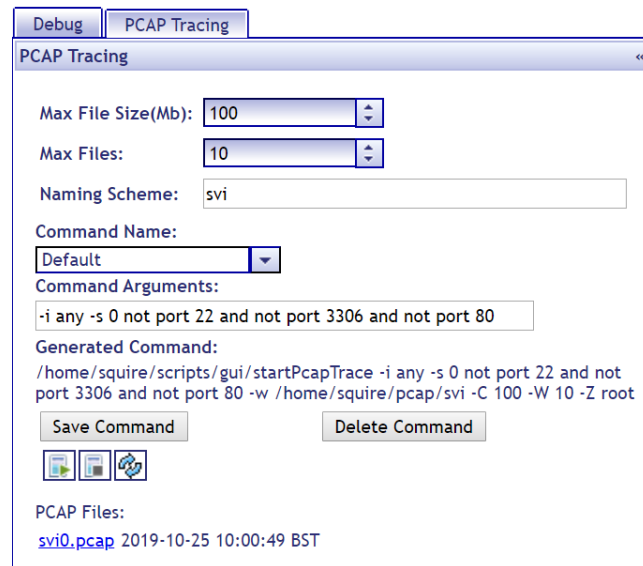
Figure 32 - Select discriminators Dialog

The full details of each message can be shown by enabling the Message Details (ies) option.

When changes are made to the Debug settings, they do not affect the SVI until the Commit button is pressed.

2.4.2 Protocol Capture Tracing

The Debug & Trace tab also provides the ability to run PCAP (protocol capture) traces and download the resultant trace files.



The screenshot shows the 'PCAP Tracing' tab in a settings pane. It includes the following fields and controls:

- Max File Size(Mb):** A numeric input field set to 100.
- Max Files:** A numeric input field set to 10.
- Naming Scheme:** A text input field containing 'svi'.
- Command Name:** A dropdown menu with 'Default' selected.
- Command Arguments:** A text input field containing the command: `-i any -s 0 not port 22 and not port 3306 and not port 80`.
- Generated Command:** A text area showing the full command: `/home/squire/scripts/gui/startPcapTrace -i any -s 0 not port 22 and not port 3306 and not port 80 -w /home/squire/pcap/svi -C 100 -W 10 -Z root`.
- Buttons:** 'Save Command' and 'Delete Command' buttons.
- PCAP Files:** A list showing a file named [svi0.pcap](#) with a timestamp of 2019-10-25 10:00:49 BST.

Figure 33 - Settings Pane PCAP Tracing Tab

The PCAP Tracing tab can be used to set up a 'rolling PCAP trace' that continues and cycles round a set of files. The number of files in the set can be configured and the size of the files can be specified. When the current file reaches the maximum size, a new file is created and when the maximum number of files is reached the oldest file will be deleted and recreated.

The PCAP trace is started and stopped by using the start  and stop  buttons.

The generated PCAP files are listed in the tab with the current timestamp, so that the most recent file can be determined. Clicking on any of these file names will download the PCAP file to the client. This file can then be opened in an appropriate application. (E.g. Wireshark)

The SVI has some default PCAP commands you can use. You can also create your own filters by typing them into the **Command Arguments** box and then typing a name into **Command Name**. If you press Save, this command will be saved to the drop-down list for future use. For more information on the arguments, you can use please see the manual page of tcpdump.

2.4.3 Preferences

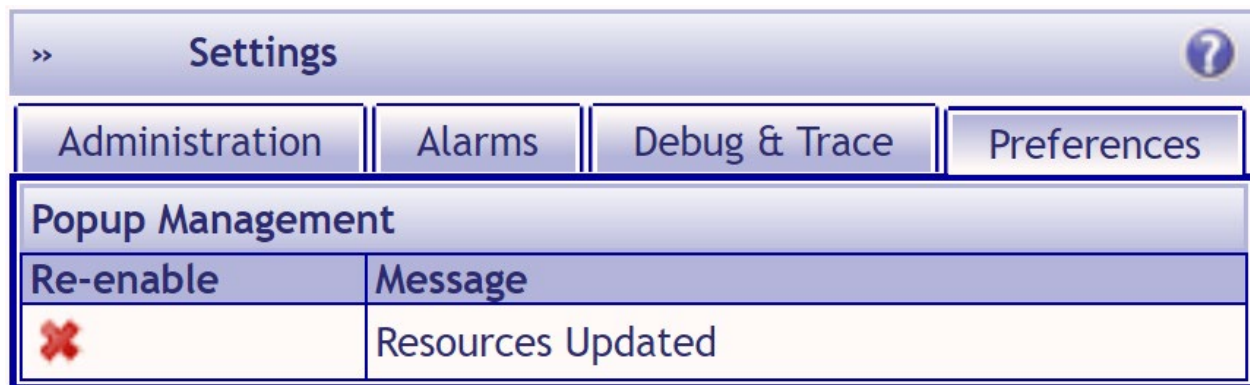


Figure 34

The preferences tab allows you to re-enable popups that you have disabled. For example, when saving configuration in the GUI you are greeted with a popup to remind you to press commit - if you check the box to hide this popup, you can re-enable it here.

3 SVI Configuration Characteristics

The configuration of the SVI is achieved by defining resources and attributes.

3.1 Resources

There are several resource types available to be defined and each resource has several possible attributes. Instances of resources are defined to tell the SVI how to behave. Resource instances are connected to other resource instances via a parent-child relationship and by referencing one instance from another.

3.2 Attributes

Different attributes of resources are defined to be different types (numeric, text etc.) and the SVI MS GUI provides controls for entering these values based on the types.

3.2.1 Text

Text attributes are edited within the SVI MS GUI using a simple text entry box.

name

3.2.2 Numeric

Numeric (integer) values are edited within the SVI MS GUI using an entry box with 'spinner' controls which allow the numeric value to be increased or decreased.

audittimeslot

3.2.3 Boolean

Boolean values are edited within the SVI MS GUI using a simple check box.

h225multiplecalls ☒

3.2.4 Selection

Many attributes are also defined to be set as one or more from a defined set of values, in which case the SVI MS GUI provides selection mechanisms for them. The SVI MS GUI also provides controls for selecting resources to be referenced from other resources.

When selecting one item from a list of values a drop-down selection list is shown:

type

When selecting more than one item from a list a list is shown with a button which provides a dialog box to select the items required.

options

3.2.5 Reference

When an attribute in a resource is used to reference another instance of a resource this is shown as a selection list to choose from an existing instance of the resource. In addition, there is a button to the left of the selection list which can be used to create a new instance of the resource to reference.

mediagateway

3.2.6 Reference to Group

When an attribute in a resource is used to reference a group of instances of a resource this is shown as a list which shows the currently selected instances with a button to the left of it to edit the group.



3.3 Wizards

As there are many resources with potentially hundreds of attributes, the SVI MS GUI provides Wizards for setting up the most common configuration elements. These Wizards allow the creation of one or more resources at once with a simplified interface.

For example, to configure a SIP endpoint a VoIP Destination resource and a Hunt Group resource are needed, as well as a VoIP Stack resource if one is not already present. Instead of creating these resources individually, the SIP Endpoint (Static IP) Wizard can be used which just requires the user to provide an IP address, port, and VoIP Stack.

The screenshot shows the 'Wizard: SIP Endpoint (Static IP)' form in the SVI MS GUI. The form is divided into two main sections: a left sidebar with a tree view of resources and a main configuration area. The tree view on the left shows a hierarchy of resources, including 'Endpoints', 'MediaGateways', 'PBX', 'Radius', 'Routing', 'SBC', 'SSME', and 'System'. The main configuration area contains a description of the wizard, a 'Name' field, and various configuration fields for a SIP endpoint. The fields include 'id', 'Stack', 'address', 'Port', 'Host Name', 'CallControl', 'Proxy Media', 'Options (VD_options)', 'transport', 'Tocptions', 'Toptions', 'MatchDB (ogrulesdp)', 'RetryCount', and 'RetryCause'. The 'Port' field is set to 5060, and the 'transport' field is set to UDP. The 'MatchDB (ogrulesdp)' field has a gear icon next to it. The 'RetryCause' field has a dropdown menu with 'All' selected. At the bottom of the form are 'Create' and 'Cancel' buttons. The bottom of the window shows a 'Derived Resources' section with a right arrow button.

Figure 35 - SIP Endpoint Wizard Form

4 Online Help

Help is available within the SVI MS GUI by clicking the question mark icons . The icon in the top right-hand corner gives access to the full help index, whilst the others provide targeted help on the specific aspect of the SVI MS GUI that the icon is located in. This targeted help also provides a link back to the main help.

Our maintenance guide and other user guides can be found [HERE](#)

5 Logging Out

To log out of the SVI MS GUI click the Logout item in the top right-hand corner of the display. This will close the browser window.

6 Function Specific Features

These are available from the Support Desk, solutions upon request.

Title	Description	Reference
GUI Alert/Alarm Emails Configuration.	Configuration of mail/mutt for GUI alert/alarm emails	00001117
GUI Cronjobs Panel	Instructions on how to use the Cron Jobs panel on the GUI administration tab to manage cron jobs on the system	00001194
Remote Authentication in the GUI	How to configure the GUI to allow users without local user accounts to sign in	00001256
State Alarm Configuration	Create alarms using the Alarm configurator in the GUI.	00001332
Two-Factor Authentication	Two-Factor Authentication for SVI-GUI, How to Activate, Deactivate, Reset.	00001493

Please quote the relevant Reference above when contacting our Support Team to obtain further information.