



EMC® Watch4net®

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IP-SLA Probe Configuration GUI User Guide

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Preface

Purpose

The purpose of this guide is to provide information about the ***IP-SLA Probe Configuration*** graphical user interface and the way to use it. This guide includes all necessary information for any user of this module.

Intended Audience

This guide is intended to be read by any user of the ***IP-SLA Probe Configuration*** module who will use the interface to create, delete and manage IP-SLA probes.

Prerequisites

It is assumed that the ***IP-SLA Probe Configuration*** web application has been properly installed and configured on the server and that a recent web browser has been installed on the local machine. Supported browsers include Firefox 2.X and 3.X and Internet Explorer 6, 7 and 8.

Document Organization

1. Overview	This section gives a brief description of the <i>IP-SLA Probe Configuration</i> module.
2. Requirements	This section gives a brief description of the requirements for this module.
3. Menu	This section details the menu structure.
4. Devices	This section describes Device configuration.
5. Probe Templates	This section describes probe template configuration.
6. Probe Management	This section describes probe management.
7. Probe Importation	This section details how probes are imported from SNMP agents.
8. Advanced Configuration	This section gives a basic overview of some more advance configuration options.

Where to get help

EMC support, product, and licensing information can be obtained as follows:

PRODUCT INFORMATION - For documentation, release notes, software updates, or information about EMC products, go to EMC Online Support at:

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TECHNICAL SUPPORT - Go to EMC Online Support and click Service Center. You will see several options for contacting EMC Technical Support. Note that to open a service request, you must have a valid support agreement. Contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

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Overview

Watch4net's ***IP-SLA Probe Configuration*** module is a web application that is specifically designed to create, delete and manage most common IP-SLA probes running on Cisco IP-SLA enabled devices. It is also possible to import the configuration of probes that are already running on the SNMP agents of devices. Supported probe types include:

- DHCP,
- DNS Lookup,
- FTP Get Operation,
- HTTP Get Operation,
- ICMP Path Echo,
- IP ICMP Echo (ping),
- UDP Jitter,
- TCP Connect.

The Cisco IP-SLA configuration module is also designed to help save the running configuration of an SNMP agent, including its probe configurations. This is especially helpful after creating probes that

are expected to run permanently on a device.

Tomcat Server

As mentioned above, the **IP-SLA Probe Configuration** module is a web application. Like all APG web applications, the default installation for this module will add the WAR file "ip-sla-probes.war" in the APG Tomcat webapp folder.

The **IP-SLA Probe Configuration** may be accessed through the APG frontend Administration Modules section. It may also be accessed through its URL, which is typically:

<http://localhost:58080/ip-sla-probes>

About probe creation and management

This module was created, at first, to accompany the Report Pack for Cisco IP-SLA. Some of the probes that can be created by the **IP-SLA Probe Configuration** are not supported by the Report Pack.

When using the Report Pack, since APG keeps historical data about every metric it receives, creating a probe to replace a new one can be tricky as probes are identified by their index number. So, when a new probe is created in place of an old one using the same index number, this new probe should be the same type as the one it replaces. It could be helpful to organize your probes as follows:

Probe index range	Probe type
1 - 30	UDP Jitter
30 - 60	HTTP
60 - 90	Other types, EXCEPT IplcmpEcho, PathEcho, PathJitter
90 - 120	IplcmpEcho
120 - 150	PathEcho (Not handled by the report pack)
150 - 180	PathJitter (Not handled by the report pack)

Note: If Path Echo and Path Jitter are used, make sure probes are created at indexes higher than the last IplcmpEcho. Doing otherwise will likely affect the polling of other probe types.

Template Based

The **IP-SLA Probe Configuration** module is **template based**. A template represents two things: values to be set on a list of OIDs and the order in which these values should be set. No probe can be created on an agent without defining the template first.

Keep in mind the following:

First, some IP-SLA probe attributes (OIDs) tend to have particular values that are always the same for probes of the same type.

Second, when probes are created or removed, the order in which the values of OIDs are set on an SNMP agent is important. This order is mostly influenced by the probe type.

Therefore, you can create one template that can be used by many probes of the same type.

Note: The correct order of the OIDs is enforced when creating and editing probe configurations in the **IP-SLA Probe Configuration** module. You do have control over (and therefore should verify) the order of OIDs if you edit configuration XML files directly in the *APG/Web-Servers/Tomcat/Default/webapps/ip-sla-probes/data* directory.

Finally, every probe can be identified by:

- a device (reachable through its SNMP agent) on which it is intended to run
- its index on that agent
- a probe template containing its basic values and the order in which they are to be set

Note: The agent and the index are considered as the “primary keys” of a probe. No two probes can have the same index on the same agent.

Communication with Devices

The **IP-SLA Probe Configuration** module only works if it can read and write information on a target device's SNMP agent. The communication with SNMP agents is either done with direct access or

through a collector.

When the server on which the **IP-SLA Probe Configuration** module is installed has direct access to a device's SNMP agent, there is no need to associate that agent to an SNMP Collector. In this case, the device's agent appears under the "Main" node in the **IP-SLA Probe Configuration** module's tree, along with its associated configurations.

If the server on which the module is installed doesn't have access to a device, SNMP Collectors that are configured in APG can be used to access that device's agent. This device's agent is then configured in relation with the collector and so are the probes and probe templates. These agents appear under their respective Collector nodes in the tree, along with their associated configurations.

Note: To avoid confusion, in this document, probes are 'suspended' (deleted) from a device or probe configurations are 'unmanaged' (deleted from the system, not from the device).

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Requirements

1. Only Cisco IP-SLA enabled devices are supported. The device's SNMP agent MUST support the CISCO-RTTMON-MIB as well as provide the required access rights to set some OIDs within this MIB and the CISCO-CONFIG-COPY-CAPABILITY MIB.
2. Individual probe support also depends upon the Cisco IOS version installed on the polled devices. Probe creation has been tested on IOS 12.2 and 12.4. Probe setup customization may be required for older IOS versions (prior to version 12.2).
3. Supported probes are setup as explained in this document. Watch4net provides basic scripts to create and delete the Cisco IP-SLA probes. Scripts are also provided to save the running configuration.

Menu

The 'Main' menu's tree displays probes accessible directly through the application server. There are also sections in the menu's tree for each collector.

You must instruct the ***IP-SLA Probe Configuration*** module which collectors you want to access so you can configure probes for the SNMP agents that the collectors communicate with. For information on adding collectors to the ***IP-SLA Probe Configuration***, see "snmp-polling-distribution.xml" on page [37](#).

A node for each configured collector appears at the root of the ***IP-SLA Probe Configuration*** module's tree following the "Main" node.

These sections can be found under the 'Main' node and every collector node:

- Devices
- Probe Templates
- Probes
 - Probe Management
 - Probe Importation
 - * New Probe Import

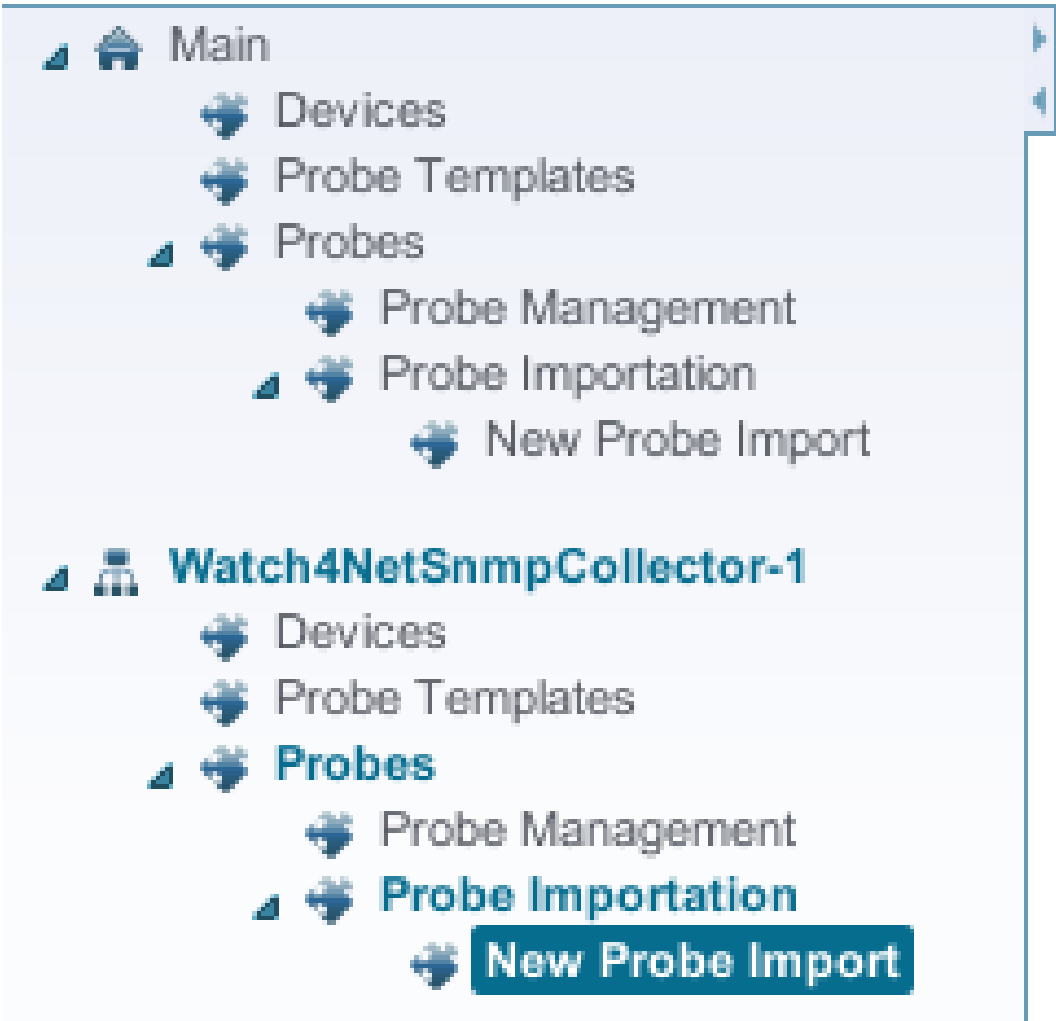


Figure 1: Menu

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Devices

This page shows a list of all devices on which IP-SLA probes can be configured (see [Figure 2](#)).

Devices are accessible through their SNMP agent and this agent's communication parameters are stored in the Device configuration.

Therefore devices that the collector will communicate with, or that the server will communicate with if under the "Main" node, can be added here using their SNMP agents.

New devices are added in the this list by selecting the "Add new Device" action and clicking the "Execute Action" button. A device may be edited by clicking its row. Doing so will display the device Modification page. The device's running configurations may be saved through this list by selecting the devices, choosing the "Save running configuration on selected devices" action and clicking the "Execute Action" button.

Note: Saving a device's running configuration consists, at the device level, of copying the current running configuration to the start up configuration file. This must be done to ensure that probes which are created after the device startup will be present the next time the device starts.

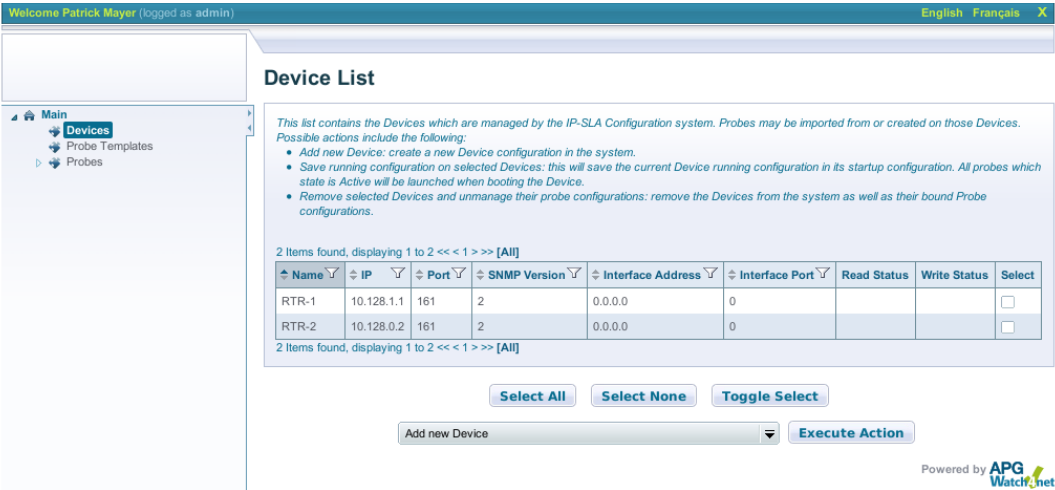


Figure 2: Agent List

Devices may also be deleted from the system through this list. Simply select the devices to delete, choose 'Delete the Selected Devices and unmanage their probe configuration' and click the 'Execute Action' button. The devices will be deleted from the system as well as the probe configurations that are linked to them. Probe configurations are not deleted from the devices themselves if they reside there.

Device Modification

This page is used to edit device information. New and existing devices are configured in this page. When editing an existing device, any value, except **name**, can be modified. The **name** can only be provided only when creating a device as it is used as the primary key to identify the device.

Device Modification

Name	RTR-1
* IP	10.128.1.1
* Port	161
* SNMP Version	2
* Read Community	w4n-cs
* Write Community	w4n-rw
* Interface Address	*
* Time Out	3000
* Retries	2

Save Cancel

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Figure 3: Device Modification

Probe Templates

Probe templates are at the core of the *IP-SLA Probe Configuration* design. For every type of probe there is a typical set of values and a typical order in which the values are set. To deal with exceptional cases, the *IP-SLA Probe Configuration* module allows you to edit and even reorder these value .

Within the *IP-SLA Probe Configuration* web interface, by defining a template, you have the possibility of redefining its values. The order of values can only be modified manually in the XML configuration files. For more information, see “Advanced Configuration”, on page [35](#).

The Probe Templates are displayed in a list, as shown in figure [4](#).

This is where user-created probe templates can be created, edited and deleted.

- To create a new Probe Template, click the “Add” button.
- To delete Probe Templates, first select one or more, then click the “Delete” button. The **Probe Template Deletion Result** is displayed afterwards.

Note: Probe Templates can only be deleted when they are not used by any probe configuration. The selection checkbox is disabled when there is at least one probe configuration using the Probe Template.

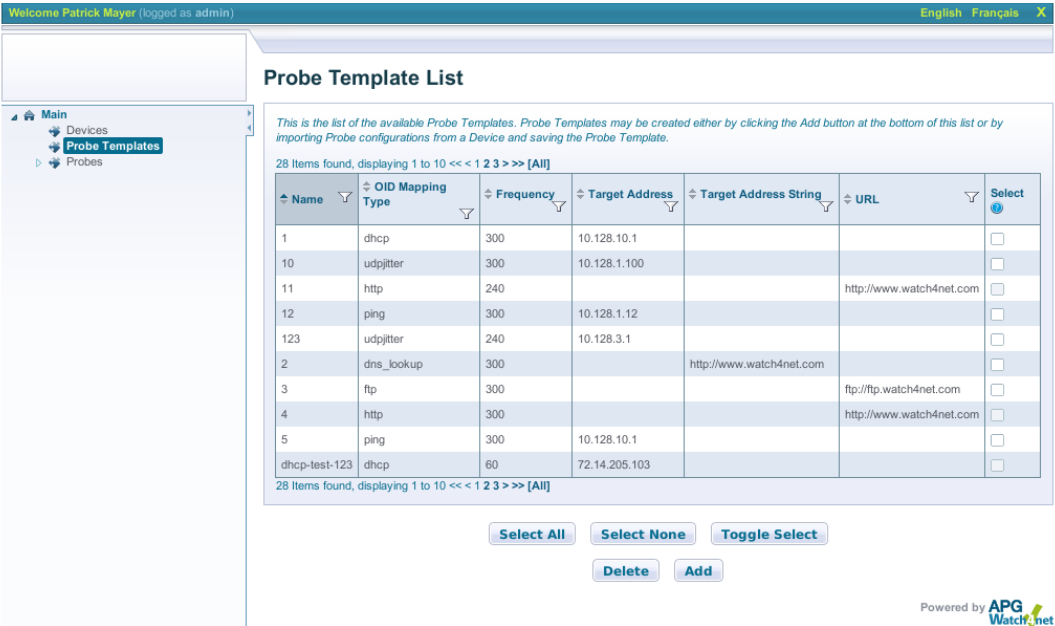


Figure 4: Probe Templates

Probe Template

This page is used to create or edit a Probe Template, as shown in figure 5 page 16. Any value except for the **name** can be edited as the **name** is used as the primary key.

Probe Templates are at the heart of the probe configuration. Most of IP-SLA probe values are set by creating and modifying Probe Templates. Values that are probe operation specific, such as the probe frequency, target address, target port, type of service (TOS) and others are configured here. Values that are specific to the device on which the probe is setup, such as the index, owner, tag, source address and source port are configured in the Probe configuration itself.

Each new template is associated only to the collector on which it was created (or in the “Main” branch). If more than one collector requires a particular template, the template must be created on each of the collectors.

OID Mapping Type

OID mappings are used to associate probes, agents and their attributes to the SNMP OIDs. This allows for more flexibility and more compatibility with all types of agents and probes.

The OID Mapping is done thanks to oidProperties. An **oidProperty** is a representation of a Varbind. A Varbind is a sequence of two fields, an Object ID (OID) and the value for/from that Object ID. Most of the values that are set when configuring agents, probe templates or probes are in fact oidProperties.

When creating an IP-SLA probe, the order in which oidProperties are set on the SNMP agent is crucial. Furthermore, the values that need to be set depend on the probe type. For example, the URL field is set only for FTP and HTTP probes.

Note: When editing templates and configurations in the GUI, the order of OID properties is enforced. The order can be changed when editing the XML configuration files themselves.

The OID Mapping Type is the key that is used to identify the list of oidProperties and the order in which they will be set on agents when created. Every time the OID Mapping Type is changed, the fields associated to that OID Mapping are shown and the other fields, that are not associated, are hidden. Also, when a field is shown, the default value associated to that field is set by default. For most fields, the default value can be replaced.

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EnglishFrançaisX

Main

Devices

Probe Templates

Probes

Probe Management

Probe Importation

New Probe Import

Probe Template

Name

OID Mapping Type

dhcp

Type Name

dhcp

Type

11

Protocol

29

Frequency

300

Target Address

Target Port

0

Number of History Lives

1

Number of History Buckets

1

Filter

2

Start Time

1

Enable Responder

Save

Cancel

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Figure 5: New Probe Template

Type Name

The Type Name is used to help identify the probe type and is associated to the **Type** and **Protocol** fields that are on the same line. The Type Name is not an oidProperty; it is not used when communicating with SNMP agents. In fact, to a SNMP agent, only the Type and the Protocol are important.

For every OID Mapping Type, there is a list of Type Names that can be associated to it. Usually, that list is composed of **custom**, and one "known" value which corresponds to the OID Mapping Type. Every "known" value for the Type Name is associated to a default type value and a default protocol value. When a known value is used, the type and the protocol cannot be changed. In exceptional cases, you can change the Type Name to **custom** to change the type and/or protocol.

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Probe Management

As shown in figure 6 page 20, this list displays the existing Probe configurations for the collector. Probe configurations exist in the *IP-SLA Probe Configuration* system but the probe might not yet exist on the device itself.

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Main

- Devices
- Probe Templates
- Probes
 - Probe Importation
 - New Probe Import

Probe List

This list contains Managed Probes. Possible actions include the following:

- Create a new probe configuration: available when at least one Device and one Probe Template are defined.
- Apply selected probe configuration to selected Devices: this actually configures and launch the probe on the Device.
- Unmanage selected Probes: remove the probe configuration from the IP-SLA configuration system but leave it on the Device.
- Update selected probes status: compares the configuration of the probe running on the Device with the probes the ones defined in the system and update the probe status.
- Suspend selected probes on device: delete the probe from the Device but keep the probe configuration in the system.
- Suspend and Unmanage selected Probes: delete the Probe from the Device and delete the configuration from the system.
- Import probes: display the New Probe Import page.

24 Items found, displaying 1 to 10 << < 1 2 3 > >> [All]

Device Name	Index	Tag	Owner	Probe Template	OID Mapping Type	Type	State	Last Checked	Select
RTR-1	10	10:test123	Watch4Net	dns-lookup-123	dns_lookup	dns	Active	2010-06-09 14:0:14	☐
RTR-1	11	Probe11-Ping	Watch4Net	ping-255	ping	echo	Active	2010-06-09 14:0:14	☐
RTR-2	110	test678	Owner	tcp-1	tcpconnect	tcpConnect	Active	2010-06-09 11:5:20	☐
RTR-1	16	Probe16-PingEcho	Watch4Net	ping-255	ping	echo	Active	2010-06-09 14:0:14	☐
RTR-1	2	portalexa	Watch4Net	ouch!	http	http	Active	2010-06-09 14:0:14	☐
RTR-2	204	XML - HTTP	Watch4net	11	http	http	Active	2010-06-09 11:5:20	☐
RTR-2	206	XML - JITTER	Watch4net	j1	udpjitter	jitter	Active	2010-06-09 11:5:20	☐
RTR-2	213	XML-TcpConnect3	Watch4net	tcp-2	tcpconnect	tcpConnect	Active	2010-06-09 11:5:20	☐
RTR-2	216	XML - TCP_CON	NewBoss	j1	udpjitter	jitter	Active	2010-06-09 11:5:20	☐
RTR-1	3	www.abril.com.br	Watch4Net	http-65454	http	http	Active	2010-06-09 14:0:14	☐

24 Items found, displaying 1 to 10 << < 1 2 3 > >> [All]

Select AllSelect NoneToggle Select

Create a new probe configurationExecute Action

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Figure 6: Probe Management

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Probe configuration states

The following is a list of possible Probe configuration statuses.

- Active: The Probe configuration matches the probe set up on the device.
- Suspended: The Probe configuration does not exist on the device.
- Unsynchronized: The Probe configuration differs from the one set up on the device.
- Unknown: No check has been performed to see if the Probe configuration matches the one on the device.

Probe Management actions

Several actions may be performed from the action drop down list by making a selection and clicking the 'Execute' button. From the action drop down list, you can do the following:

- Create a new probe configuration: this creates a Probe configuration in the IP-SLA Probe Configuration *system only*. The probe is not setup on the device at this point and its state is 'Unknown'.
- Apply selected Probe configurations to devices: this sets up the selected Probe configurations on the devices they are linked to. The **Probe Creation Result** page is shown after the action is complete. Once applied, the Probe configuration states will change to 'Active' if the setup was successful. Any other state might indicate a failure when setting the probe on the device.
- Unmanage selected Probes: this simply deletes the Probe configuration from the *IP-SLA Probe Configuration* system. The device configuration will not be changed.
- Update selected probes status: this simply updates the Probe configuration state.
- Suspend selected Probes on Devices: Deletes the probes from the devices while keeping the Probe configurations in the *IP-SLA Probe Configuration* system. The **Probe Destruction Result** page is shown once the action is complete.
- Suspend and unmanage selected Probes: Deletes the probes from the devices AND the Probe configurations from the *IP-SLA Probe Configuration* system.
- Import Probes: Go directly to the New Probe Import page ([7](#)).

Note: You must configure at least one device and one probe template for the action drop down list to appear.

A Probe configuration may also be edited from this screen by clicking its row in the list.

Probe Configuration

As shown in figure 7 page 23, this page is used to create new probe configurations and edit existing ones.

Each Probe configuration is associated only to one collector. If more than one collector needs to access a probe, that probe must be configured on each of these collectors.

This page has 4 sections:

- Probe
- Indexes Already in use
- Device
- Probe Template

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EnglishFrançaisX

Main

- Devices
- Probe Templates
- Probes
 - Probe Management
 - Probe Importation
 - New Probe Import

Probe Configuration

Probe

Auto Index☒

Manual Index0

Index*

Owner*

APG

Tag*

Forever☒

Life Duration (s)2147483647

RTT Life*

Source Address

Source Port

Indexes Already in use

The probe indices listed in this section are already managed or are present on the Device itself. Managed probe indices cannot be used; probe indices present on the Device may be used but using one of them will overwrite the existing probe when applying the managed probe configuration. This section is visible only when the Auto Index checkbox is not checked. It only displays the used probe indices.

Managed probes

Present on Device

Reload

Device

Name	RTR-1
IP	10.128.1.1
Port	161
SNMP Version	2
Read Community	w4n-cs
Write Community	w4n-rw
Interface Address	0.0.0.0
Time Out	3000
Retries	2

Probe Template

Name	1
OID Mapping Type	dhcpc
Type Name	dhcpc
Type	11
Protocol	29
Frequency	300
Target Address	10.128.10.1
Target Port	30
Number of History Lives	1
Number of History Buckets	1
Filter	2
Start Time	1
Enable Responder	false

Save

Cancel

Figure 7: New Probe Configuration

IP-SLA Probe Configuration GUI User Guide

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In the **IP-SLA Probe Configuration** module all configured probes are associated to one agent and one template. When creating a new configuration for a probe, these steps are mandatory:

- chose a device (Device section)
- chose a probe template (Probe Template section)
- chose an index (Probe section)
- chose an owner (Probe section)
- chose a Tag (Probe section)

Probe

The first thing to do when creating a Probe configuration applicable to a device is to select a suitable index. This can be done automatically by checking the Auto Index box. The *IP-SLA Probe Configuration* system will generate an Index, between 30000 and 50000, that is currently not in use in the system and the device (if the device can be reached to check which indices are in use).

Then an owner must be specified. Typically, this is the name of the system which manages the probe on the device. APG is provided as the default value. A tag, which briefly describes the probe (may contain information about the function, the target or other internal organizational references) must also be provided.

The Rtt Life field defines the probe life on the device, in seconds. Selecting the Forever checkbox means that the probe will run on the device as long as it is working. Other values may be selected as well. Keep in mind that this is a value in seconds: setting a life to 3600 means the probe will run for only 1 hour before stopping.

Note: The “forever” life corresponds to a special value, which is 2147483647: do not be alarmed by this value appearing up in the field. It means that the probe life does not expire.

The source address field applies to the device. Input a source address which is on the device itself in order to force the probe operation to take place on a specific interface. This can be useful to force the communication onto specific network paths. The source port has a similar function. Both fields are optional, except for Jitter probes, for which the source port must be specified.

Indexes Already in use

This section is there to indicate which indexes could cause a conflict. It appears only if the Auto Index checkbox is not checked. As mentioned earlier, the value used by a device to identify a probe is the index. When sending an IP-SLA command to the device SNMP agent, the probe index is always used. Therefore, it is imperative to make sure that the index being assigned to a probe is not yet used by another probe.

An error message is shown when attempting to save a probe with the same index as another probe that was already configured for that agent. Two probes cannot be configured with the same index on the same agent. Therefore, all indexes in the Present in Configuration scroll lists are indexes that cannot be used.

The **Present on Agent** drop down represents the indexes of all the probes running on the agent chosen in section **Agent**. No error message is shown when saving a probe with the same index as one already running on the agent. In fact, the only consequence will be that, when creating that probe on the agent, the old probe with the same index will be replaced.

Device

This section is there to choose the device to which the probe configuration is bound to. This is usable only when creating a new Probe configuration: one cannot change this once the device is set and the configuration is saved.

Probe Template

This section allows the selection of a Probe Template for the Probe configuration.

Note: The Probe Source Port is required when creating a probe which uses a Jitter type Probe Template.

Probe Importation

This page, as shown in figure 8 page 28, lists the imported Probe configurations, once a Probe import has been performed. The probe importation must be performed through the *New Probe Import* page, which may be accessed through this page (Select “Import Probes” in the actions drop-down and click the “Execute Action” button).

Imported Probe configurations are not managed by the system right away: they must be managed explicitly, either by editing the Probe configuration and saving it, thus ensuring all fields are set to correct values and that a valid Probe Template is used in the configuration.

If a Probe Template applies to several imported Probe configurations, you can select all imported Probe configurations that have a “Ready” state and select the “Manage selected Probes” action in order to manage all selected Probe configurations at once.

Note: The imported Probe configurations may be managed only when their state is “Active” (a corresponding Probe Template was found in the system) AND there is no error in the configuration. For instance: imported Probe configurations may have an owner and tag with an invalid length (longer than 16 characters) because they were created manually on the device itself. In this case, the imported Probe

configuration must be corrected manually in order to allow any selection action on it.

Other actions are possible on this page and they are described in “Probe Importation Actions” on page 29.

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EnglishFrançaisX

Main

- Devices
- Probe Templates
- Probes
 - Probe Management
 - Probe Importation**
 - New Probe Import

Imported Probes

This is the list of imported Probes configurations. Several actions may be performed here:

- Manage selected Probes: Probes may be managed when they are in Ready state (their Probe Template exist in the system), their instance (Device and index) do not exist in the system and all fields are correct. Any error preventing the Probe configuration from being managed is displayed in the list.
- Remove selected Probes from list: simply remove the redundant Probe configurations from this list. This action has no further effect on the system.
- Import Probes: go to the New Probe Import Page.

10 Items found, displaying 1 to 10 << < 1 > >> [All]

Device Name	Index	Tag	Owner	Probe Template	Type	State	Last Checked	Select
RTR-1	10	10:tes123	Watch4Net	dns-lookup-123	dns	Active	2010-06-11 11:48:51	☒
[RTR-1]	[11]	Probe11-PingSlashdot	Watch4Net	ping-255	echo	Unsynchronized	2010-06-11 11:48:51	☐
[RTR-1]	[12]	Probe12-Ping-Chile	Watch4Net	ping-255	echo	Unsynchronized	2010-06-11 11:48:51	☐
RTR-1	16	Probe16-PingEcho	Watch4Net	ping-255	echo	Active	2010-06-11 11:48:51	☒
RTR-1	3	www.abril.com.br	Watch4Net	http-65454	http	Active	2010-06-11 11:48:51	☒
RTR-1	50	50-HighFreq Ping to Google	Patrick	echo-256	echo	Incorrect Values	2010-06-10 10:36:19	☐
RTR-1	6	Probe6-DNS	Watch4Net	dns-lookup-123	dns	Active	2010-06-11 11:48:51	☒
[RTR-1]	[60]	HighFreq to Simulator, 20 packets	Watch4Net	jitter-1001	jitter	Unsynchronized	2010-06-11 11:48:51	☐
RTR-1	7	Probe7-Jitter	Watch4Net	jitter-908534	jitter	Active	2010-06-11 11:48:51	☒
RTR-1	9	Probe-Ping-Cisco	Somebody	ping-255	echo	Ready	2010-06-10 10:36:19	☐

10 Items found, displaying 1 to 10 << < 1 > >> [All]

Select AllSelect NoneToggle Select

Manage selected probesExecute Action

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Figure 8: Probe Importation

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Imported Probe configuration state

Various probe configuration states may appear on this list:

- **Active:** the imported Probe configuration is already managed by the system. It matches an existing Probe configuration.
- **No Template:** the imported Probe configuration cannot be managed right now because the Probe Template it uses has not been defined in the system yet. Click on the Probe configuration row to edit it, then the Probe Template link. Name the Probe Template, set the correct type and save it. All imported Probe configurations with the same Probe Template parameters will have their state updated to Ready.
- **Ready:** the imported Probed configuration has an identified Probe Template. It may be managed by the system if its configuration is valid.
- **Unsynchronized:** the Probe configuration exists in the system but it is not using the same Probe Template as the imported Probe configuration. This imported Probe configuration cannot be managed as it cannot overwrite an existing managed Probe configuration.
- **Incorrect Values:** one or more of the the Probe configuration values (Owner, Tag, Rtt Life, Source Address or Source Port) are incorrect. This typically occurs when importing Probe configurations which were created directly on the device, via the Cisco IOS command line interface. In this case, the Owner and Tag values may have an incorrect length (0 or more than 16 characters). The Probe configuration must be edited when this occurs before it can be managed.

Note: Several error states may add up in a single imported Probe configuration: for instance, a Probe configuration may be Unsynchronized and have Incorrect Values. Only one will show up in the state column but it always possible to determine if the error can be corrected (Incorrect values, No Template) or not (Unsynchronized).

Probe Importation Actions

The following actions may be performed from this page:

- **Manage selected Probes:** save the selected imported Probe configurations in the *IP-SLA Probe Configuration* system. This action works only on probes which state is “Ready” (See imported Probe configuration state definition above).

- Remove selected Probes from list: simply removes the selected imported Probe configurations from the list to clear up things.
- Import Probes: go directly to the New Probe Import page ([7](#)).

Imported Probe configuration edit

The imported Probe configuration may also be edited by clicking its list row. In this case, only a few fields are editable: Rtt Life, Source Address and Source Port. The other sections (Device and Probe Template) are provided for reference only, unless “Create Probe Template” is highlighted.

The “Create Probe Template” is highlighted only when the imported Probe configuration’s Probe Template does not exist in the system. In this case, click the Create Probe Template link, name the Probe Template and choose the correct oid mapping type (usually matches the Type Name description) and save the Probe Template.

New Probe Import

The **New Probe Import** page shows all the devices that are configured for that Collector. Probe configurations may be imported from one or more selected devices. The result of the importation is shown in **Probe Importation** page.

When a device is selected to have probes imported from it, all of the probes found on that device’s SNMP agent are listed.

Clicking on a row leads to the device page which shows the communication parameters.

While the probes are being imported, the **IP-SLA Probe Configuration** module tries to match all the values in an attempt to identify the templates and probe values. When a template is identified, the matching name is written under the column Probe Template. If no identification can be made for the template, the Probe Template column is empty. The agent, in this case, is already known.

Imported Probe configuration categories

The imported probes can be separated in 4 categories:

- Known probes for which a configuration already exists: their state is “Active”.

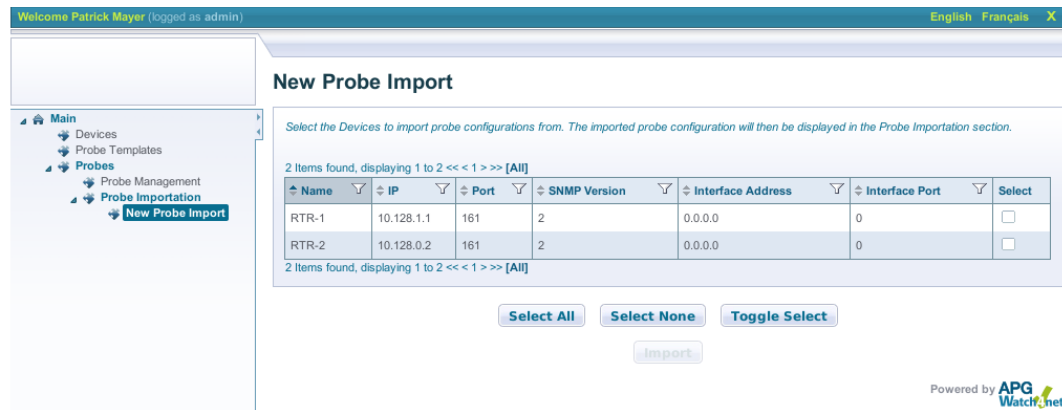


Figure 9: New Probe Import

- Conflicted probes for which the imported values conflict with those of an already configured probe: their state in “Unsynchronized”.
- Invalid probes for which mandatory fields are missing, or have invalid values, and therefore cannot be saved: their state is usually “Incorrect Values”
- Ready probes that are ready to be saved: their state is “Ready” (the Probe Template exists) AND there is no other error in the imported Probe configuration.

First Category: Known Probes When an imported probe can be matched to another that has already been configured, it's considered as already saved.

RTR-2	111	test123	Owner	dns-lookup-123	dns	Ready	2010-06-09 15:23:53	☐
-------	-----	---------	-------	----------------	-----	-------	---------------------	--------------------------

Figure 10: Imported Probes: Known Probes

Second Category: Conflicted Probes A conflict exists when, for the same agent, an imported probe has the same index as an existing configured probe. In order to save such a conflicted probe, you must delete the existing probe configuration first.

[RTR-2]	[30000] ⓘ	30000	APG		echo	Unsynchronized	2010-06-09 16:0:30	☐
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Figure 11: Imported Probes: Conflicted Probes

Third Category: Wrong mandatory values Typical misconfigured values are: Owner and Tag that are longer than 16 characters or missing. Wrong values may be corrected by clicking on the Probe configuration row, editing the values and saving the Probe configuration.

RTR-1	17	Probe17-TcpConnect google.ca ⓘ	Watch4Net	tcp-connect-10000	tcpConnect	Incorrect Values	2010-06-10 10:36:19	☐
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Figure 12: Imported Probes: Missing mandatory values

Fourth Category: Ready to be saved The configuration of an imported probe is ready to be saved when no values are missing or invalid, the Probe Template exists and the Probe configuration does not already exist in the system.

RTR-2	402	Merge1	Watch4net	tcp-2	tcpConnect	Ready	2010-06-09 15:57:6	☐
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Figure 13: Imported Probes: Ready to be saved

8

Advanced Configuration

All configurations are saved in XML format. Though the XML files will normally be modified by using the GUI tools, they can also be modified manually.

The following section gives a brief and basic description of the configuration files. A more detailed explanation can be found in “**APG-IP-SLA-Probe-Configuration-CLI.pdf**”. This file is copied to the Doc folder when the **ip-sla-probes-cli** module is installed.

Data Folder

The configuration files are stored by default inside the usual `Custom` directory, which is by default `APG/Custom/WebApps-Resources/Default/ip-sla-probes`. The location of this data folder can also be specified by setting a value to the system property `"apg.ip-sla-probes.data.dir"`.

Example: `-Dapg.ip-sla-probes.data.dir="home/user/data"`

The following files can be found directly in the data folder:

- `agentConfOidMapping.xml`
- `DEFAULT_probeTemplate.xml`
- `probeOidMapping.xml`
- `snmp-polling-distribution.dtd`
- `snmp-polling-distribution.xml`

agentConfOidMapping.xml

OID mappings are used to associate agents and their attributes to the SNMP OIDs. This allows for more flexibility and more compatibility with all types of agents. This file is used when saving the running configuration on SNMP agents.

When the default behaviour does not work on the agents or when a different behaviour is desired, this file can be modified.

DEFAULT_probeTemplate.xml

This file holds the Default Probe Templates. This file can be modified manually in order to create new Default Templates or to modify the existing ones.

The set of values found in `DEFAULT_probeTemplate.xml` should work with most supported SNMP agents.

probeOidMapping.xml

OID mappings are used to associate probes and their attributes to the SNMP OIDs. This allows for more flexibility and more compatibility with all types of probes and agents. This file is used when creating and destroying probes on SNMP agents. It is also used when importing probes.

When the default behaviour does not work on the agents or when a different behaviour is desired, this file can be modified. The default behaviour should work with most supported SNMP agents.

snmp-polling-distribution.xml

This is a copy of the file used in the **SNMP Collector Module**. The **IP-SLA Probe Configuration** module uses it to load SNMP Slave Collectors (collectors).

Note: The **IP-SLA Probe Configuration** module uses the snmp-polling-distribution.xml to load only the collectors, not the agents.

When changes are done in the SNMP Collector Module, they can be reflected in the **IP-SLA Probe Configuration** module by simply replacing this file by the one used in the SNMP Collector and restarting Tomcat.

For more information on editing the snmp-polling-distribution.xml file, see “Polling distribution configuration” in the “APG-SNMP-Collector-Admin-Guide.pdf”.

Collector Subfolders

In the Data folder, there is a subfolder for every collector. The name of that subfolder is the same one that is used in the **snmp-polling-distribution.xml** file. All probe and agent configurations related to that collector are found in their corresponding subfolder.

Every time Tomcat is started, the **snmp-polling-distribution.xml** file is read. If a collector for which a folder does not exist is found, it is created. If a collector is erased from the **snmp-polling-distribution**, the folder is not erased, just in case that collector is added again in the future. If one should desire to delete the folder associated to a collector that is no longer in the configuration file, he

can do so manually.

Main subfolder

There is one particular subfolder that is always there: **Main**.

The Main subfolder holds the configuration for all probes and agents that are not related to a collector.

Note: If a collector with the name "main" is found in the file **snmp-polling-distribution.xml** it will be ignored because the name "main" is reserved.
