

Application Note

Cacti monitoring

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Purpose

Monitor your **ALOHA Load-Balancer** with **Cacti**

Complexity



Versions concerned

- Aloha 4.2 and above

Changelog

- 2013-10-03: Initial Version

Before starting

We suppose you already have **Cacti** installed and running properly.

In order to configure SNMP in the **ALOHA**, please refer to **Appnote #0056 - Monitoring the ALOHA through SNMP**.

Cacti configuration update

Some graph label may be long, so it is recommended to update the **Maximum Field Length** of your **Cacti** deployment, like described below:

- Go on your **Cacti** console
- Click on **Settings** in the left menu
- Click on the **visual** tab
- Update the value of the row named **Maximum Field Length** to 100
- Click on **Save** button at the bottom of the page

SELINUX configuration

On some Operating system (such as redhat or centos), **SELINUX** is installed and started.

It may also prevent **Cacti** to work properly: **Cacti** may generate some errors related to unavailable files even if they are available and accessible.

Two options available here:

1. Setup properly **SELINUX** to allow right access to files
2. Simply disable **SELINUX**

SELINUX configuration is outside the scope of this document.

SNMP client library

The **Cacti** server acts as a SNMP client and the **ALOHA Load-Balancer** is the SNMP server.

The **ALOHA** delivers some counters over 64bits hence the client must be compatible with it.

The SNMP library **Net-SNMP** version 5.5 and above is compatible with 64 bits counters.

ALOHA plugin integration into Cacti



From now, by convention, we'll name the **Cacti** installation path `<path_cacti>`

Integration of **ALOHA** plugin in **Cacti** can be performed in 2 steps:

1. on the **Cacti** server itself: integration of resources and scripts
2. through the **Cacti** GUI: integration of the templates

Downloading ALOHA Cacti plugin

You can download the **ALOHA** plugin from Exceliace's website:
<http://www.exceliance.fr/download/aloha/utils/cacti/>

ALOHA plugin resource and scripts integration

Upload the **aloha_cacti.tar.gz** archive onto the server and untar the archive.
The archive provides two directories: **resource** and **scripts**. You just need to copy the content of the directories as explained below:

- **resource** directory into `<path_cacti>/resource/`
- **scripts** directory into `<path_cacti>/scripts/`

ALOHA plugin template integration

Get the **aloha_cacti.tar.gz** archive on your desktop and untar the archive. The archive contains a couple of XML files:

- `cacti_host_template_aloha_-_script_query_name_based.xml`
- `cacti_host_template_aloha_-_snmp_query_id_based.xml`

To install them, please do:

1. Get connected on **Cacti** console
2. From the left menu, click on **import template**
3. Click on **choose file**
4. Point to the XML file you want to import
5. Click on **import**



This must be done twice: once per XML template

Introduction to ALOHA Cacti template

Two templates are provided:

1. **cacti_host_template_aloha_-_snmp_query_id_based.xml**: collect data through fixed SNMP OIDs
2. **cacti_host_template_aloha_-_script_query_name_based.xml**: collect data based on object names

Either template is fine to use. Choosing which one to use is simple as well: use the one whose targeted data won't change over time.

If you fixed the SNMP OIDs in **LB Layer 7** configuration (HAProxy), then use the first one.

If you never ever change object names in your configuration and you don't want to fix **OIDs**, then the second one is fine.

Fixed SNMP OID

You have to fix objects (**frontend**, **backend** and **servers**) IDs in HAProxy's configuration.

Please refer to **Appnote #0056 - Monitoring the ALOHA through SNMP** to learn how to do this.

Object name

The template comes with a collection of scripts which can be used to collect data based on **frontend**, **backend**, **server** and **director** names.

Cacti graph templates

The template allows to graph the following CPU/memory information:

- Aloha - Advanced CPU
- Aloha - CPU
- Aloha - Memory

Cacti data queries

ALOHA Layer4 Director

In the template, it is labelled as **Aloha L4 Director**:

Object	Type
bit rate	counter
packet rate	counter

ALOHA Layer4 Servers

In the template, it is labelled as **Aloha L4 Servers**:

Object	Type
bit rate	counter
concurrent connections	gauge
connections/s	counter
packet rate	counter

ALOHA Layer7 Backend

In the template, it is labelled as **Aloha L7 Backend**:

Object	Type
errors/s	counter
byte rate	counter
concurrent connections	gauge
connections/s + Load-Balanced connections/s	counter
current queue size	gauge
requests denied/s	counter
response denied/s	counter

ALOHA Layer7 Frontend

In the template, it is labelled as **Aloha L7 Frontend**:

Object	Type
byte rate	counter
concurrent connections	gauge
connections/s	counter
current queue size	gauge
denied requests/s	counter
denied responses/s	counter
errors/s	counter

ALOHA Layer7 Server

In the template, it is labelled as **Aloha L7 Server**:

Object	Type
byte rate	counter
concurrent connections	gauge
connections/s + Load-Balanced connections/s	counter
current queue size	gauge
denied responses/s	counter
errors/s	counter

Gauge or counters

What is a gauge and when to use it

A **gauge** is an information which is true at the time of the SNMP request. It is preferable to monitor such type of information for data which vary a little over the time, like protocols based on connections established for a long period of time.



It is well suited for monitoring Exchange or Lync servers, TSE farms, websockets, etc...

What is a counter and when to use it

A **counter** is an information which is continuously incremented over the time. It shows the counter's variation along the time, between two polling events. The reported value is an average of the counter between two polls. It is preferable to monitor such type of information for data which vary very quickly over the time, like protocol with short and quick connections.



It is well suited for HTTP, SMTP, LDAP, etc...

Inserting an ALOHA into Cacti

In order to add a new **ALOHA Load-Balancer** into an existing Cacti, follow the steps bellow:

1. Get connected on **Cacti's** console
2. On the left menu, click on **Management > devices** link
3. In the freshly opened page, click on the **Add** button (from the Devices title line)
4. Fill up the following information:
 - **Description:** ALOHA hostname
 - **Hostname:** ALOHA IP address or hostname
 - **Host template:** **ALOHA - Script query (name based)** or **ALOHA - SNMP query (oid based)**
 - **SNMP version:** v2
 - **SNMP community:** the one you setup into your **ALOHA**
5. Click on **create**

Graphing ALOHA data

In order to create graphs for your **ALOHA Load-Balancer** into **Cacti**, follow the steps bellow:

1. get connected on **Cacti's** console
2. On the left menu, click on **Management > devices** link
3. Click on the link corresponding to the **ALOHA** you want to add graphs to
4. On the ALOHA's page, click on the link **Create Graphs for this Host**
5. Just check boxes for the graphs you want to add and the type of select the type of information to monitor