-- Main.dimou - 30 May 2006

VOM(R)S Service Monitoring tools on the CERN VOMS servers

Tool	voms101/4 *alias voms.cern.ch* *	voms105(normally lcg-voms.cern.ch)	voms106(normally voms-slave.cern.ch)	More info
voms-ping	Yes	Yes	Yes	Uses *voms-admin list* commands to dete voms-admin problems and *voms-proxy-* to detect voms core problems. Generate operators alarms. See VomsWlcgHa an VomsPingScript. NB!!! It is incomplete bug 19770
LinuxHA takeover	Not needed	Yes	Yes	An ITCM ticket is created and Email is to VOMS.Support@cernNOSPAMPLEAS whenever a switch occurs. There are tw mails, one from the machine giving up role of master and another from the mac taking over the role.
TOMCAT_WRONG	Yes	Yes	Yes	It checks that there is at least one java process run by the user tomcat4. Raises operators' alarm if tomcat down. To dis(en)able type as root on the host: *lemon-host-check --disable=30055* or *lemon-host-check --enable=30055*
vomrs-ping (not used yet, need to be fixed)	Not needed	Yes	Not appropriate when slave	It checks if all VOMRS server are up w */opt/vomrs-1.3/etc/init.d/vomrs status* ', also that the WS interface (and so the ap in tomcat) of each VO is up by doing a request like this ' _/opt/vomrs-1.3/client/bin/vomrs_soapc lcg-voms.cern.ch 8443 vo/dteam GetGr _ '. Moreover it parses /var/log/vomrs/vomrs_<vo>.log to dete all threads are well up. When it detects error, it puts a line into /var/log/vomrs/vomrs-ping.alarm, and l raise an alarm. The script must be run in background w node becomes the master. See bug 197
Manual checks	Yes	Yes	Yes	All commands in VomsStartStopCheck be typed on the hosts from anyone with privileges
mkgridmap-check	Not yet	Not yet	Not appropriate when slave	Raise an alarm when VO members can' listed for gridmap file re-generation bug 19766
InconsistentDatabase check	Yes	Yes	Yes	Lemon sensor parses voms-admin logs look for inconsistencies in the voms DB alarm is raised when there are some. Se procedure for operators.

Lemon howto for VOMS monitoring

For some particular tasks, using Lemon is a good idea in order to avoid implementing tricky monitors by oneself. For example, Lemon comes with a sensor for parsing log files that is easier to use than writing a script that does the text processing. official Lemon documentation.

Configuration of new metrics

A *sensor* is a process that implements several *metric classes*. The documentation of the sensor should say which parameters a metric classes accepts (see, for example, the docs of the Linux sensor). The data is sampled by a *metric*, which is a instance of a metric class when actual values are passed as parameters. Metrics are defined in the Lemon agent config files (/etc/lemon/agent/metrics/*), but this files **should not** be modified by hand on Quattor-managed hosts.

In order to configure and deploy a metric on a Quattor-managed host, the following documents are relevant:

- Procedure for writing CDB templates for Lemon monitoring
- Procedure for metric registration
- CDB monitoring configuration

[TODO: detailed procedure]

Using active metrics and alarms

There are two command-line programs, to be run as root on the VOMS servers:

- lemon-host-check shows whether there are active alarms.
- lemon-cli shows the sampled values for the metrics for the host.

For example, a script that needs to obtain the current value of metrics 5220 to 5224 can do as follows:

```
[root@voms103 root]# lemon-cli -m '5220 5221 5222 5223 5224'
```

Lemon Alarm investigation (alarm written by R. Bonvallet, text by V.Lefebure)

```
To investigate alarm name "N" on host "H",  proceed as such:

Let's take
* alarm name = "voms-admin_inconsistent_database_exception"
* Host = "voms103"

1) Go on LEMON host page for the host:
http://lemonweb.cern.ch/lemon-status/info.php?host=voms103
 2) from there, go to "LAS Alarm history" =
http://lemonweb.cern.ch/lemon-status/las_alarms.php?host=voms103
 3) Click on the alarm ID corresponding to the alarm called
"voms-admin_inconsistent_database_exception"
=
http://lemonweb.cern.ch/lemon-status/las_alarm_detail.php?alarm_id=41038
&host=voms103
 4) In the "History of alarm value" you find why the alarm was triggered:
voms103:5220:1[0] > 0 || voms103:5221:1[0] > 0 || voms103:5222:1[1] > 0
|| voms103:5223:1[0] > 0 || voms103:5224:1[0] > 0
 5) Now you want to know what metric5220 to 5224 are. At least of them
 has a value <=0, which is why the alarm was raised.
Go on "Metrics" (on the top of the page) =
```

```
http://lemonweb.cern.ch/lemon-status/metric_descriptions.php
 6) look for 5220 etc,... you find:
voms-admin_alice_inconsistent_database
<metric_info.php?metric=voms-admin_alice_inconsistent_database>  5220
 log.Parse <metric_class_info.php?class=log.Parse>  Y Count of
 inconsistency messages in alice voms-admin log
voms-admin_atlas_inconsistent_database
<metric_info.php?metric=voms-admin_atlas_inconsistent_database>  5221
 log.Parse <metric_class_info.php?class=log.Parse>  Y Count of
 inconsistency messages in atlas voms-admin log
voms-admin_cms_inconsistent_database
<metric_info.php?metric=voms-admin_cms_inconsistent_database>  5222
 log.Parse <metric_class_info.php?class=log.Parse>  Y Count of
 inconsistency messages in cms voms-admin log
voms-admin_dteam_inconsistent_database
<metric_info.php?metric=voms-admin_dteam_inconsistent_database>  5223
 log.Parse <metric_class_info.php?class=log.Parse>  Y Count of
 inconsistency messages in dteam voms-admin log
voms-admin_lhcb_inconsistent_database
<metric_info.php?metric=voms-admin_lhcb_inconsistent_database>  5224
 log.Parse <metric_class_info.php?class=log.Parse>  Y Count of
 inconsistency messages in lhcb voms-admin log

7) for from 4 and 6, you can expect that the alarm was triggered because
 there was an error message in the CMS log file.

8) on voms103, you can run "ncm-query --dump /system/monitoring | less",
and look for 5222 (which had value 1 instead of 0).
You find:
    +-_5222
      $ active : (boolean) 'true'
      $ class : (string) 'log.Parse'
      $ descr : (string) 'Count of inconsistency messages in cms
 voms-admin log'
      $ latestonly : (boolean) 'true'
      $ name : (string) 'voms-admin_cms_inconsistent_database'
      +-param
        $ 0 : (string) 'logfile'
        $ 1 : (string) '/var/log/tomcat5/voms-admin.cms.log'
        $ 2 : (string) 'istring'
        $ 3 : (string) 'Internal database inconsistency'
        $ 4 : (string) 'estring'
        $ 5 : (string) '^[^\d]'
        $ 6 : (string) 'dformat'
        $ 7 : (string) '%F %T'
        $ 8 : (string) 'sincelast'
        $ 9 : (string) '15m'
      $ period : (long) '600'

---------> you know that the error message is "Internal database
 inconsistency" found in '/var/log/tomcat5/voms-admin.cms.log'.
        at
 org.apache.catalina.core.StandardContextValve.invokeInternal(StandardContextValve.java:198)
        at
 org.apache.catalina.core.StandardContextValve.invokeInternal(StandardContextValve.java:198)
```

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Topic revision: r22 - 2008-03-27 - SteveTraylen