



Enabling Grids for E-scienceE

Site experience in installing NCG

Pierre-Emmanuel Brinette (IN2P3-CC)
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- **Motivation**
- **NCG deployment tests**
 - Configuration "remote only"
 - For 1 site (IN2P3-CC)
 - For 2 sites (IN2P3-CC and IN2P3-CC-T2)
 - Configuration "local & remote"
 - Configuration using Nagios 3 on AFS "Shared" UI
- **Personal remarks**

- **IN2P3-CC and IN2P3-CC-T2**
 - 2 sites (T1 and T2) sharing the same cluster
 - About 6000 CPU (core) / 1 Pb Disk (dcache) / 3 Pb Tape
 - 6 CE / 2 SRM server / 1 FTS
 - Some VO cores services (VOMS,LFC)
- **Our NGOP based monitoring infrastructure is out of date**
- **Still using a nagios instance for grid service monitoring**
 - Installed in 2005 but not really maintained
 - Using quick & dirty homemade probes
- **Goal : Deploy a Nagios monitoring infrastructure for the whole site monitoring (grid & others services)**
 - We are investigating around NCG and "official" grid probes

- **NCG test platform**
 - SL4 standalone sever glite-UI with Nagios 2.11
 - SL4 "CC-IN2P3" UI (AFS shared glite-UI) with Nagios 3.01
 - Local myproxy server
- **Tests are made with the latest NCG version**
 - Test in "Remote mode" (ie. SAM tests result)
 - Test in "Local + Remote" mode (local probes + SAM tests results)

- **Access to SAM PI**
 - It's mandatory in order to use NCG
 - Not enough enlightened in the documentation
- **1st test : generate a "remote" configuration**
 - Edition of Ncg config file: `/opt/lcg/etc/ncg/ncg.conf`
 - Minimal mandatory parameter :
 - `SITENAME=IN2P3-CC`
 - Invocation of NCG :
 - `/opt/lcg/sbin/ncg.pl`
 - The command generate the nagios configuration without informing the user and overwrite the content `/opt/nagios/wlcg.d/`
 - The `MYPROXY_SERVER` environment variable must be set with a valid Myproxy

- **Configuration tuning**

- Enable notification :

- /opt/lcg/share/grid-monitoring/config-gen/nagios/services.template

```
define service{
    name                ncg-passive-service
    notification_options c,r,u
```

- /opt/lcg/share/grid-monitoring/config-gen/nagios/contacts/contact.template

```
service_notification_options w,c,u,r
host_notification_options    d,u
```

- Add a contact :

- /opt/lcg/etc/ncg/ncg.localdb
- ```
ADD_CONTACT!email@cc.in2p3.fr
```

- Limit the tests to "OPS" VO

- /opt/lcg/etc/ncg/ncg.conf
- ```
SAM_VOS="OPS"
```

- Increase the SAM information gathering frequency

- /opt/lcg/share/grid-monitoring/config-gen/nagios/wlcg.nagios
- ```
normal_check_interval=30
```

- **2nd test : Generate a configuration for 2 sites IN2P3-CC / IN2P3-CC-T2**
  - The current NCG version is not "multisite"
- **Work around solution :**
  - Create 2 directories that contains the ncg config file
  - Specified OUTPUT\_DIR = /etc/nagios/wlcfg.d/\${SITENAME}
- **In the /etc/nagios/wlcfg.d**
  - Remove one of the command.cfg file in the subdirectory
  - Merge the wlcfg.nagios.cfg and remove one of servicegroup "nagios-internal"
  - In one of the contacts.cfg file, remove the contact "nagiosadmin" the contactgroup "nagios-admins" and the ncg-24x7 "timeperiod"
  - In one services.cfg, remove " ncg-generic-service" and " ncg-passive-service" service definition and redondant servicegroup
  - In one services.cfg, rename SAM-Gather NPM-Gather services
  - In one hosts.cfg, remove "ncg-generic-host", the nagios server and the redondant hostgroups.

- **3rd test : Using local probe**

- Issue in the file /etc/nagios/wlwg\_resource.cfg

<https://savannah.cern.ch/bugs/?35263>

- In the ncg config file :

PROBES\_TYPE=local,**native**,remote

- Proxy credential issues :

- Proxy generated in "new-style" rfc-compliant is not compatible with voms attribute renewall. ([https://gus.fzk.de/pages/ticket\\_details.php?ticket=26846](https://gus.fzk.de/pages/ticket_details.php?ticket=26846))

→ Fixed by setting the GT\_PROXY\_MOD=old before run myproxy-init

- The proxy attributes are reordered by the "refresh\_proxy" probes in order to fix some voms issues but this make the command "globus\_ftp\_client" failed (<https://savannah.cern.ch/bugs/?26260>)

→ Fixed by removing the function call in /opt/lcg/share/grid-monitoring/probes/hr.srce/refresh\_proxy

- Environment issues :

- Some probes failed due to a so-called "missing environment variable" even though it exists (<https://savannah.cern.ch/bugs/?35267>)

- Old style proxy:

```
/<USER_DN>/CN=proxy/CN=proxy/CN=proxy
```

- New style proxy:

```
/<USER_DN>/CN=560905716/CN=1868287059/CN=2139481843
```



- **4th test : Using an AFS-UI and NAGIOS3**
  - Works without adaptation.
  - Nagios 3 RPM build from .spec file
  - Embedded Perl must be disabled in the nagios.cfg
  - Lots of environments issues (lcg\_env, PERL5LIB, PYTHONPATH,)
  - Need to set the environment variables at nagios initialisation
    - addition in the /etc/init.d/nagios
- **The tests are still ongoing**
  - We have not decided yet if we use ncg + nagios "as is" on a standalone server
  - PRO : Just need to run "ncg" to update the configuration
  - CONS: The "manual" modification to the generated files are lost each time NCG is run.
    - The NCG configuration must enable fine tuning

- Some of problems in "Local" mode come from the UI layer configuration (JAVA\_HOME, Proxy Renewal)
- NCG is useful for sites that do n't have monitoring infrastructure
- **Wishlist**
  - Improve the documentation
  - Multisite configuration (Work in progress)
  - Use the Nagios 3 \$LONGSERVICEOUTPUT\$ features in the notification

```
***** Nagios 2.10 *****
Notification Type: PROBLEM
Service: CE-sft-lcg-rm-OPS
Host: cclcgceli03.in2p3.fr
Address: 134.158.108.165
State: CRITICAL

Date/Time: Tue Apr 22 21:39:43 CEST 2008

Additional Info:

SAM status: error
```

```
***** Nagios *****
Notification Type: PROBLEM
Service: CE-sft-lcg-rm-OPS
Host: cclcgceli03.in2p3.fr
Address: 134.158.108.165
State: CRITICAL

Date/Time: Tue Apr 22 21:39:43 CEST 2008

Additional Info:
SAM status: error
Details : https://lcg-
sam.cern.ch:8443/sam/sam.py?funct=TestResult&nod
ename=cclcgceli03.in2p3.fr&vo=ops&testname=CE-
sft-lcg-rm&testtimestamp=1208891678
```

- **Documentation**
  - <https://twiki.cern.ch/twiki/bin/view/LCG/GridMonitoringNcg>
- **Nagios 3**
  - [http://nagios.sourceforge.net/docs/3\\_0/whatsnew.html](http://nagios.sourceforge.net/docs/3_0/whatsnew.html)
- **SAM PI**
  - <https://twiki.cern.ch/twiki/bin/view/LCG/SamProgInterfaceACL>
- **Know issues and bugs**
  - <https://savannah.cern.ch/bugs/?group=gsmonitoring>
  - <https://twiki.cern.ch/twiki/bin/view/LCG/GridMonitoringNcg#Troubleshooting>
- **Mailing list archive**
  - <https://mmm.cern.ch/public/archive-list/w/wlwg-monitoring-discuss/?Cmd=contents&Page=1&View=Messages>
- **NCG Tips**
  - <https://twiki.cern.ch/twiki/bin/view/LCG/GridMonitoringNcgRecipes>