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# Lemon Installation for GT Virtual Testbed

## Server installation

A SLC4 64 virtual machine has been created using vNode: **vtb-generic-45.cern.ch**, with:

```
# cat /etc/redhat-release
Scientific Linux CERN SLC release 4.8 (Beryllium)
# uname -a
Linux vtb-generic-45.cern.ch 2.6.9-78.0.13.EL.cernxenU #1 SMP Mon Jan 19 14:11:02 CET 2009 x86_64
```

The documentation for installing Lemon is [here](#). The instructions for a flat file based server installation have been followed. A client installation will be done on the same host in order to do some preliminary tests.

The following repo file have been created:

```
[root@vtb-generic-19 yum.repos.d]# cat lemon.repo
[lemon]
name=Lemon
baseurl=http://linuxsoft.cern.ch/lemon/linux/RPMS/x86_64/s14/stable/
enabled=1
gpgcheck=1
gpgkey=http://linuxsoft/lemon/RPM-GPG-KEY-lemon
```

```
[root@vtb-generic-19 yum.repos.d]# cat lemon-server.repo
[lemon-servers]
name=Lemon Servers
baseurl=http://linuxsoft.cern.ch/lemon/cern/
enabled=1
gpgcheck=1
gpgkey=http://linuxsoft/lemon/RPM-GPG-KEY-lemon
```

In order to solve some dependencies issues, some additional rpms have been downloaded directly from the repository [http://linuxsoft.cern.ch/lemon/linux/RPMS/x86\\_64/s14/stable/](http://linuxsoft.cern.ch/lemon/linux/RPMS/x86_64/s14/stable/):

```
# wget http://linuxsoft.cern.ch/lemon/linux/RPMS/x86_64/s14/stable/apr-1.2.9-1.x86_64.rpm
# wget http://linuxsoft.cern.ch/lemon/linux/RPMS/x86_64/s14/stable/apr-util-1.2.8-1.x86_64.rpm

# rpm -ivh apr-1.2.9-1.x86_64.rpm
# yum install postgresql-libs
# rpm -ivh apr-util-1.2.8-1.x86_64.rpm

# yum install lemon-server
# yum install lemon-admin
```

PySqlite2 needs to be installed as well if you plan to use an sqlite db:

```
# wget http://pysqlite.googlecode.com/files/pysqlite-2.6.0.tar.gz
# tar -xvzf pysqlite-2.6.0.tar.gz
# cd pysqlite-2.6.0
# python setup.py build_static install
```

## Server Configuration

```
# ls -l /etc/lemon-server-metadata.conf
-rw-r--r-- 1 root root 174730 Aug 12 2008 /etc/lemon-server-metadata.conf
# usermod -a -G root lemon
# id lemon
uid=100(lemon) gid=103(lemon) groups=103(lemon),0(root)
# lemon-admin --backend=sqlite --create-schema
```

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```
Creating metadata structure.  
Processing file: flat/metric_tables.sql  
DDL successfull
```

```
# lemon-admin --backend=sqlite --create-schema > lemon-admin --backend=sqlite --all --file=/etc/1
```

At this point the lemon database should be present in */var/lib/lemon-server/lemon.db*

The file */etc/sysconfig/lemon-server* has not been modified since it contains only Oracle information and we are not planning to use an Oracle database.

The file */etc/lemon/server/lemon-server.conf* has been modified to enable the sqlite3 database:

```
/* sqlite3 */  
filename = "/var/lib/lemon-server/lemon.db";  
timeout = 15;  
driver = "/usr/lib64/lemon-server/libsqlite.so";
```

At this point the server should correctly (look at */var/log/lemon-server.log*)

```
# /etc/init.d/lemon-server start  
Starting lemon-server: [ OK ]
```

## Client installation

We want to install an agent and at least one sensor on the same server machine in order to validate the deployment.

```
# yum install lemon-agent  
# yum install lemon-sensor-linux
```

The configurations file holding details about sensors and metrics, located in */etc/lemon/agent/\*.conf* have not been modified.

The agent process has been started enabling the debug mode:

```
# /etc/rc.d/init.d/lemon-agent start -d  
Starting lemon-agent: [ OK ]
```

Metrics looks correctly accumulated in *\_ /var/spool/lemon-agent/vtb-generic-45/\_*, e.g:

```
# more /var/spool/lemon-agent/vtb-generic-45/last.00004115  
1273223935 GenuineIntel Intel(R)_Xeon(R)_CPU_____E5410__@_2.33GHz 2327 37281 8 8
```

## Tests

In order to validate the installation, the CLI has been installed on the same host:

```
# yum install lemon-cli
```

To get usage info on the CLI use the '--help' option.

Check MSA.alive metric with:

```
# /usr/sbin/lemon-cli --metrics="alive"  
[INFO] lemon-cli version 1.2.0 started by root at Fri May 7 12:00:32 2010 on vtb-generic-45.cern  
[VERB] Nodes: vtb-generic-45
```

```
[VERB] Metrics:      10003
[VERB] Method:       Latest
[VERB]
[INFO] local:       vtb-generic-45  10003  Fri May  7 11:58:58 2010      1 2 2
[VERB]
[VERB] Total: 1 result
```

In order to retrieve the list of available metrics do:

```
# lemon-cli --info
[INFO] lemon-cli version 1.2.0 started by root at Fri May  7 15:12:14 2010 on vtb-generic-45.cern
[INFO] 32
[INFO]          Name:   cupsd
[INFO]          Class:  system.numberOfProcesses
[INFO] 43
[INFO]          Name:   crond
[INFO]          Class:  system.numberOfProcesses

[...]
```

A simple query to validate the installation to retrieve the metric 'CPUInfo' in a specified time interval:

```
# lemon-cli --start 1273220000 --end 1273225000 --nodes vtb-generic-45 --metrics CPUInfo
[INFO] lemon-cli version 1.2.0 started by root at Fri May  7 15:06:29 2010 on vtb-generic-45.cern
[VERB] Nodes:       vtb-generic-45
[VERB] Metrics:       4115
[VERB] Start:         Fri May  7 10:13:20 2010 - 1273220000
[VERB] End:           Fri May  7 11:36:40 2010 - 1273225000 (difference: 5000 seconds)
[VERB] Method:        Historical
[VERB]
[INFO] local:       vtb-generic-45  4115  Fri May  7 11:18:55 2010      GenuineIntel Intel(R)_Xeon
[VERB]
[VERB] Total: 1 result
```

Note that by default the query is run against the local cache (--localcache). In order to run the query against the local server you have to specify the option --server.

After installing (*yum install lemon-xml-gateway*) and configuring (*/var/www/conf/lemon-xml-gateway.conf*) the XML gateway, the same query using the --server option returns the following error:

```
# lemon-cli --nodes vtb-generic-45 --metrics 4115 --server --server-url 'http://vtb-generic-45.cern
[INFO] lemon-cli version 1.2.0 started by root at Mon May 10 13:50:15 2010 on vtb-generic-45.cern
[DEBUG] Using modular configuration "/etc/lemon/agent" (conversion required)
[DEBUG] Executing: "/usr/bin/lemon-buildconfig -d /etc/lemon/agent"
[VERB] Nodes:       vtb-generic-45
[VERB] Metrics:       4115
[DEBUG] All Nodes: vtb-generic-45
[DEBUG] All Metrics: 4115
[VERB] Method:        Latest
[VERB]
terminate called after throwing an instance of 'std::out_of_range'
  what():  basic_string::substr
Aborted
```

## Lemon-web installation

TODO

-- GianniPucciani - 05-May-2010

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