

## HOW TO INSTALL OMF ON DEBIAN6 to communicate

### with the new (customized secure) Openfire XMPP Server

\*\*\* This demo has only been tested for OMF 5.2 on Debian6. The link to all modified OMF files and necessary library files is given at the end of document.

#### GETTING READY (installing prerequisites on each machine)

```
su -
```

```
apt-get update
```

```
apt-get install build-essential
```

```
apt-get install vim
```

\*\*\* All downloads referred below can also be done via SCP from a PC (especially if the environment is a GENI slice). Below we show an easy way to do via SCP, but if you have a browser access, you don't need to use SCP, you can just download the files from the links shown later. In order to do it via SCP from a PC; it's best to create a username and connect to VM through it as follows;

- useradd can

- passwd can (here enter the password)

- At /home, do "mkdir can"

- To own it, at /home, do "chown can can"

- Now you can do "scp -P 6020 \*.\* [can@152.54.3.34:/home/can](mailto:can@152.54.3.34:/home/can)" to send a file to the VM which has port 6020. This was the quick way to get all the necessary files at once from a remote machine into the VM in our slice.

#### INSTALL OMF-COMMON (MUST INSTALL FOR EACH COMPONENT: AM, EC, RC)

```
apt-get install ruby1.8
```

```
apt-get install liblog4r-ruby
```

Download libxmpp4r-ruby1.8 from  
<http://packages.debian.org/lenny/libxmpp4r-ruby1.8>

```
dpkg -i libxmpp4r-ruby1.8_0.4-1_all.deb
```

Download libxmpp4r-ruby from  
<http://packages.debian.org/lenny/libxmpp4r-ruby>

```
dpkg -i libxmpp4r-ruby_0.4-1_all.deb
```

Download omf-common-5.2\_1ubuntu4\_all.deb from  
<http://pkg.mytestbed.net/ubuntu/karmic/>

```
dpkg -i omf-common-5.2_1ubuntu4_all.deb
```

## **INSTALL OMF-AM**

Download frisbee\_1.0.3-ubuntu1\_amd64.deb from  
<http://pkg.mytestbed.net/ubuntu/karmic/>

```
dpkg -i frisbee_1.0.3-ubuntu1_amd64.deb
```

```
apt-get install libmysql-ruby
```

```
apt-get install mysql-server      (I gave password as hello123)
```

```
apt-get install libldap-ruby1.8
```

```
apt-get install libsqlite3-ruby
```

```
apt-get install sqlite3
```

```
apt-get install psmisc
```

```
apt-get install nmap
```

```
apt-get install netcat-openbsd
```

```
apt-get install libdb4.8
```

```
apt-get install phpmyadmin      (to select apache2, press space)
```

Download omf-aggmgr-5.2\_1ubuntu6\_all.deb from  
<http://pkg.mytestbed.net/ubuntu/karmic/>

```
dpkg -i omf-aggmgr-5.2_1ubuntu6_all.deb
```

Download sql file from  
<http://pkg.mytestbed.net/files/5.2/inventory/inventory-sample.sql>

```
mysql -uroot -phello123
```

```
use mysql;

create user 'omf'@'localhost';

grant all on *.* to 'omf'@'localhost';

set password for 'omf'@'localhost'=password('omf');

quit;
```

run **mysql -u omf -pomf** and insert the following command sequence:

```
create database inventory;

quit;
```

run then run **mysql -uomf -pomf inventory < inventory-sample.sql**

then run again run **mysql -u omf -pomf**

**\*\*\* Here you should change the IP addresses according to your aggregate manager IP address (referred as AGGMGR\_IP below) and also resource IP addresses.**

```
-> use inventory;

-> select * from testbeds;

-> update testbeds set node_domain="myomftestbed" where id=1;

-> update testbeds set control_ip="10.0.0.2" where id=1;

-> update testbeds set pxe_url="http://AGGMGR_IP:5052/pxe" where id=1;

-> update testbeds set cmc_url="http://AGGMGR_IP:5052/cmc" where id=1;

-> update testbeds set frisbee_url="http://AGGMGR_IP:5052/frisbee" where id=1;

-> update testbeds set result_url="http://AGGMGR_IP:5052/result" where id=1;

-> update testbeds set oml_url="tcp:AGGMGR_IP:3003" where id=1;

-> update testbeds set saveimage_url="http://AGGMGR_IP:5052/saveimage" where id=1;
```

```
-> select * from nodes;
```

```
-> update nodes set control_ip="10.0.2.3" where id=1;
```

At /etc/omf-aggmgr-5.2/ , type mkdir enabled/

In the directory /etc/omf-aggmgr-5.2/available, copy each file that is named file.yaml.nicta to file.yaml (for example frisbee.yaml.nicta to frisbee.yaml) enable each service by creating the following symlinks:

```
cd /etc/omf-aggmgr-5.2/enabled  
  
ln -s ../available/cmcStub.yaml  
  
ln -s ../available/frisbee.yaml  
  
ln -s ../available/pxe.yaml  
  
ln -s ../available/inventory.yaml  
  
ln -s ../available/result.yaml  
  
ln -s ../available/saveimage.yaml
```

At /etc/omf-aggmgr-5.2/available/ directory,

At frisbee.yaml change multicastIF: AGGMGR\_IP

Assuming XMPP server is up, run the run omf\_create\_sysnode-5.2  
XMPP\_SERVER\_IP RC\_IP\_1

(for example run omf\_create\_sysnode-5.2 10.0.0.200 10.0.0.1). This will create pubsub nodes on XMPP server.

Restart Aggregate Manager by /etc/init.d/omf-aggmgr-5.2 restart

In order to run OML Server, use the libraries in the zipped file (link at the end of document), especially liboml files and oml-server file, by typing dpkg -i.

## **INSTALL OMF-RC**

```
apt-get install wget
```

```
apt-get install wireless-tools
```

```
apt-get install pciutils
```

Download omf-resctl-5.2\_lubuntu3\_all.deb from

<http://pkg.mytestbed.net/ubuntu/karmic/>

```
dpkg -i omf-resctl-5.2_lubuntu3_all.deb
```

```
cp /usr/share/doc/omf-resctl-5.2/examples/nodeagent-nicta.yaml  
/etc/omf-resctl-5.2/
```

```
mv nodeagent-nicta.yaml nodeagent.yaml
```

```
vim nodeagent.yaml
```

Modify xmpp server to XMPP\_SERVER\_IP

Modify local\_if to control interface (for example eth0)

You may see logs by "tail -f /var/log/omf-resctl-5.2.log"

- You may wish install otg2 to run experiments using it. To install it, dpkg -i otg\_2.3.7-ubuntu1\_amd64.deb also install liboml libraries as well.

## **INSTALL OMF-EC**

```
apt-get install libmarkaby-ruby
```

```
apt-get install libcoderay-ruby
```

```
apt-get install rubygems
```

Download omf-expctl-5.2\_lubuntu5\_all.deb from

<http://pkg.mytestbed.net/ubuntu/karmic/>

```
dpkg -i omf-expctl-5.2_lubuntu5_all.deb
```

Download hello.rb from <http://acbabaog.wikispot.org/OMF>

```
cp /usr/share/doc/omf-expctl-5.2/examples/nodehandler.yaml /etc/omf-  
expctl-5.2/
```

```
vim nodehandler.yaml
```

Change:

```
-> set :domain: to "myomftestbed"
```

```
-> set :url: to AGGMGR_IP instead of localhost
```

```
-> set :host: EC_IP
```

```
-> set :server to XMPP_SERVER_IP
```

```
Now try to run it by "omf exec hello.rb"
```

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**Note:** In order to run OMF using our new secure XMPP Server `geni-imf-dev.renci.org` , we need to use modified OMF files and certificates. These files are zipped into `flukes_omf_gecl3_demo.tar.gz` file at

[https://geni-imf.renci.org/trac/browser/omf\\_gecl3](https://geni-imf.renci.org/trac/browser/omf_gecl3)

You can also use **svn**

svn co [https://geni-imf.renci.org/svn/omf\\_gecl3](https://geni-imf.renci.org/svn/omf_gecl3)

Read the README file to see where to copy which file (including certificates). You may need to get new certificates and register manually the certificate user ids into the XMPP server before installing OMF components.