



All Hands Meeting: May 20, 2013

Deploying GNU Octave on SURAGRID



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Today's Octave Deployment



- *Status as of May 2013*

- Octave-3.6.4 installed



- TAMU_BRAZOS
- TAMU_Calclab
- TTU_ANTAEUS
- TTU_TINGE
- FNAL_FERMIGRID
- GridUNESP_CENTRAL
- UTA_SWT2



- Built against OpenBLAS w/ runtime instruction set based on detected CF
<https://github.com/xianyi/OpenBLAS>

- Installed under `$OSG_APP/suragrid.`



Courtesy: Google Maps

Deploying Octave on SURAgrid

- Very similar to R, build is a bit more complicated
- RHEL5, RHEL6 / OpenSUSE 12.x
- Libraries
 - OpenBLAS
 - HDF5
 - FFTW3
 - QHULL
 - ARPACK
 - QRUPDATE
 - UMFPACK
 - AMD, CAMD, COLAMD, CCOLAMD, CHOLMOD, CXSPARSE
- Built for batch use – no GUI, or readline.

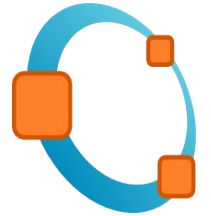


Deploying Octave on SURAGrid

- Octave and libraries installed under `$OSG_APP/suragrid/`
- User scripts must source `$OSG_APP/suragrid/etc/profile`
 - Adds octave to `PATH`
 - Adds libraries to `LD_LIBRARY_PATH`
 - Sets `OCTAVE_HOME` = installation directory



Running Octave on SURAgrid



- Good news everyone!
It's completely analogous to running R.
- Condor and shell scripts for R can easily be modified to run Octave.
- No binaries stored in user directories.
- Sample files at
<http://www.math.tamu.edu/osg/Octave/>



Simple Job: octave1.sh



```
#!/bin/bash

# http://www.math.tamu.edu/osg/Octave/octave1.sh
# Test octave installation w/ simple input,
# output on stdout.
# Input: http://www.math.tamu.edu/osg/Octave/sgtest1.m
# Version 0.1, April 2013

. $OSG_APP/suragrid/etc/profile

if [ -f sgtest1.m ]; then
    octave -q < sgtest1.m
else
    echo "2+3" | octave -q
fi

exit 0
```



Simple Job, Condor-G Script

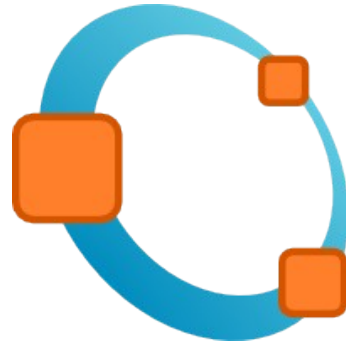


```
# http://www.math.tamu.edu/osg/Octave/octave1.condor
Universe                = grid
Notification            = never
Executable              = octave1.sh
Transfer_Executable     = True
Should_Transfer_Files  = YES
When_To_Transfer_Output = ON_EXIT
Transfer_Input_Files   = sctest1.m
GlobusRSL               = (maxWalltime=60)

# TAMU_Calclab
Grid_Resource           = gt2 calclab-ce.math.tamu.edu/jobmanager-pbs
Output                  = octave1-$(Cluster)-$(Process)-Calclab.out
Error                   = octave1-$(Cluster)-$(Process)-Calclab.err
Log                     = octave1-$(Cluster)-$(Process)-Calclab.log
queue 1

# TAMU_BRAZOS
Grid_Resource           = gt2 hurr.tamu.edu/jobmanager-pbs
Output                  = octave1-$(Cluster)-$(Process)-Brazos.out
Error                   = octave1-$(Cluster)-$(Process)-Brazos.err
Log                     = octave1-$(Cluster)-$(Process)-Brazos.log
queue 1

# TTU_ANTAEUS
Grid_Resource           = gt2 antaeus.hpcc.ttu.edu/jobmanager-sge
Output                  = octave1-$(Cluster)-$(Process)-Antaeus.out
Error                   = octave1-$(Cluster)-$(Process)-Antaeus.err
Log                     = octave1-$(Cluster)-$(Process)-Antaeus.log
queue 1
```



Examples

<http://www.math.tamu.edu/osg/SGAH13ex.tgz>



Q?