NGS
National Grid Service
http://www.ngs.ac.uk

NW-GRID

Creating and running applications on the NW-GRID

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PPARC
http://www.pparc.ac.uk/

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Policy for re-use

- This presentation can be re-used for academic purposes.

- However if you do so then please let training-support@nesc.ac.uk know. We need to gather statistics of re-use: no. of events, number of people trained. Thank you!!

Acknowledgements

- This presentation re-uses material
  - on globus commands from Stephen Pickering (University of Leeds)

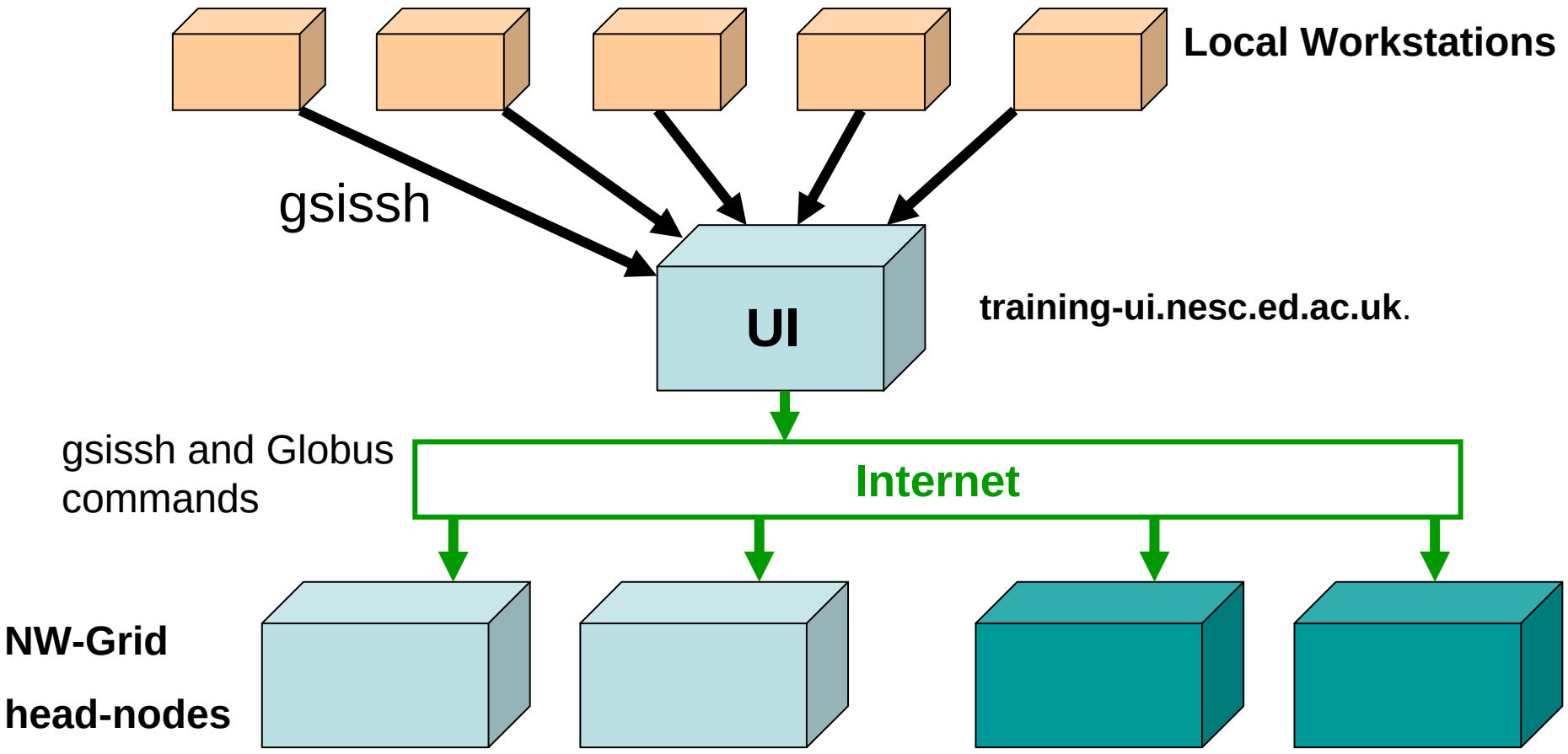
Outline

- A “User interface” machine and our set-up today
- How to:
  - Port code and data from desktop/UI to the NW-Grid compute nodes
  - Compile and run code
  - Invoke your application from the UI machine
- Practical

The "UI" machine

- The users interface to the grid
  - Where you upload your certificate for your session
  - Where you create proxy certificates
  - Where you can run the various commands, including…
    - The clients and development tools from Globus Toolkit (4.0.3 pre-ws)
    - GSI enabled Secure Shell
    - Storage Resource Broker (more on this tomorrow)
    - globus-url-copy : GridFTP (more on this tomorrow)

Our setup

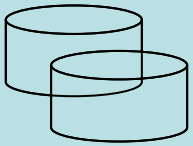

Local Workstations
gsissh
UI
training-ui.nesc.ed.ac.uk.
gsissh and Globus commands
Internet
NW-Grid
head-nodes

GSI enabled Secure Shell and Secure CoPy

- Openssh patched to additionally use proxy certificate for authentication and authorization
- Often run on port 2222

Secure file copy

UI



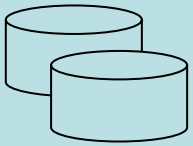
Code and data

gsiscp: copies file using proxy certificate to allow AA

head-node

Open shell on NGS CN

UI

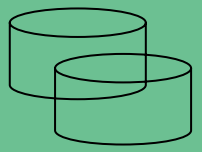


Code and data

gsissh

Can be an X-windows client

head-node



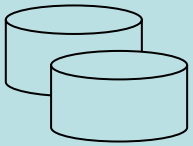
Code and data

Compile, edit, recompile, build

SHORT interactive runs are ok (sequential)

Run jobs from the UI

UI



Code and data

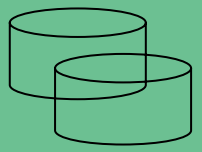
globus_job_run

Or

globus_job_submit / globus_get_output

Can pass files with these commands: e,g, parameters for a job.

head node



Code and data

Executables

Job Submission Tutorial

Overview

- This tutorial will look at
  - Job submission, monitoring and retrieving output
  - Error diagnosis.
  - Compiling code suitable for running on the NW-Grid

- Please remember the systems you are using are part of a production level service.

Details

- http://homepages.nesc.ac.uk/~gcw/NWGrid/Connecting/

- http://homepages.nesc.ac.uk/~gcw/NWGrid/GRAM/

- Satisfy Pre-requisite software/configuration
- Obtain certificate from https://training-ui.nesc.ed.ac.uk
- Use java gsissh tool at http://homepages.nesc.ac.uk/~gcw/NGS/gsissh.html
- Connect to training-ui.nesc.ed.ac.uk
- Certificate passphrase is “aspdaf”