SAGA

Introduction and Tutorial

http://faust.cct.lsu.edu/trac/saga/wiki/ADSSS2009

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AGENDA

- Installation
- Tutorial Infrastructure
- Command Line Utilities
- Code Examples (C++)
  - Hello (Distributed) World
  - Chaining Jobs
  - Depending Jobs
- Python Language Bindings
- Exercise

INSTALLATION

- In order to build & install SAGA you need at least:
  - A UNIX operating system (Linux, MacOS, etc.)
  - A C++ Compiler (preferably gcc >= 3.4)
  - The Boost C++ Libraries (>= 1.33.1) from http://boost.org
  - Python (if you want to build the Python language bindings)
- Adaptors may have additional requirements
  - PostgreSQL / SQLite client libraries
  - Globus / Condor / LSF installations
  - etc …

INSTALLATION

- Download: http://saga.cct.lsu.edu/cpp/download
- Subversion: svn co https://svn.cct.lsu.edu/repos/saga/trunk

- SAGA C++ Core Libraries and Header files
- Makefile templates for easy build system integration
- Python language bindings (95% complete)
- Installation Manual, Programming Guide, API Documentation
- Command line utilities for each functional package
- The SAGA shell

WHAT'S IN THE BOX? CONT.

- Job Adaptors
  - Fork (localhost), SSH, Condor, Globus GRAM2, OMII GridSAM, Amazon EC2, Platform LSF
- File Adaptors
  - Local FS, Globus GridFTP, SSH, Hadoop Distributed Filesystem (HDFS), CloudStore KFS, OpenCloud Sector-Sphere
- Replica Adaptors
  - PostgreSQL/SQLite3, Globus RLS
- Advert Adaptors
  - PostgreSQL/SQLite3, Hadoop H-Base, Hypertable

WHAT'S IN THE BOX? CONT.

- Other Adaptors
  - Default RPC / Stream / SD
- Planned Adaptors
  - CURL file adaptor, gLite job adaptor

THE BUILD SYSTEM

- Configure/make - based build system
- Top-level configure/make recursively calls configures/makes for each adaptor, language bindings, etc...
- Fault tolerant: if one of the sub-level packages can't be configured (missing prerequisites, etc...) it is simply skipped
- Sub-level packages can be built outside the source tree
- Remember: ./configure --help is your friend !
- We also provide XCode and VisualStudio project files

SAGA

A Simple API for Grid Applications [http://saga.cct.lsu.edu]

DEPLOYMENT PLANS 2009/2010

TeraGrid™
EMPOWERING DISCOVERY

Grid Applications
Grid Middleware
Networking
NAREGI

Distributed
European
Infrastructure for
Supercomputing
Applications

NGS
National Grid Service

eGee
Enabling Grids
for E-sciencE

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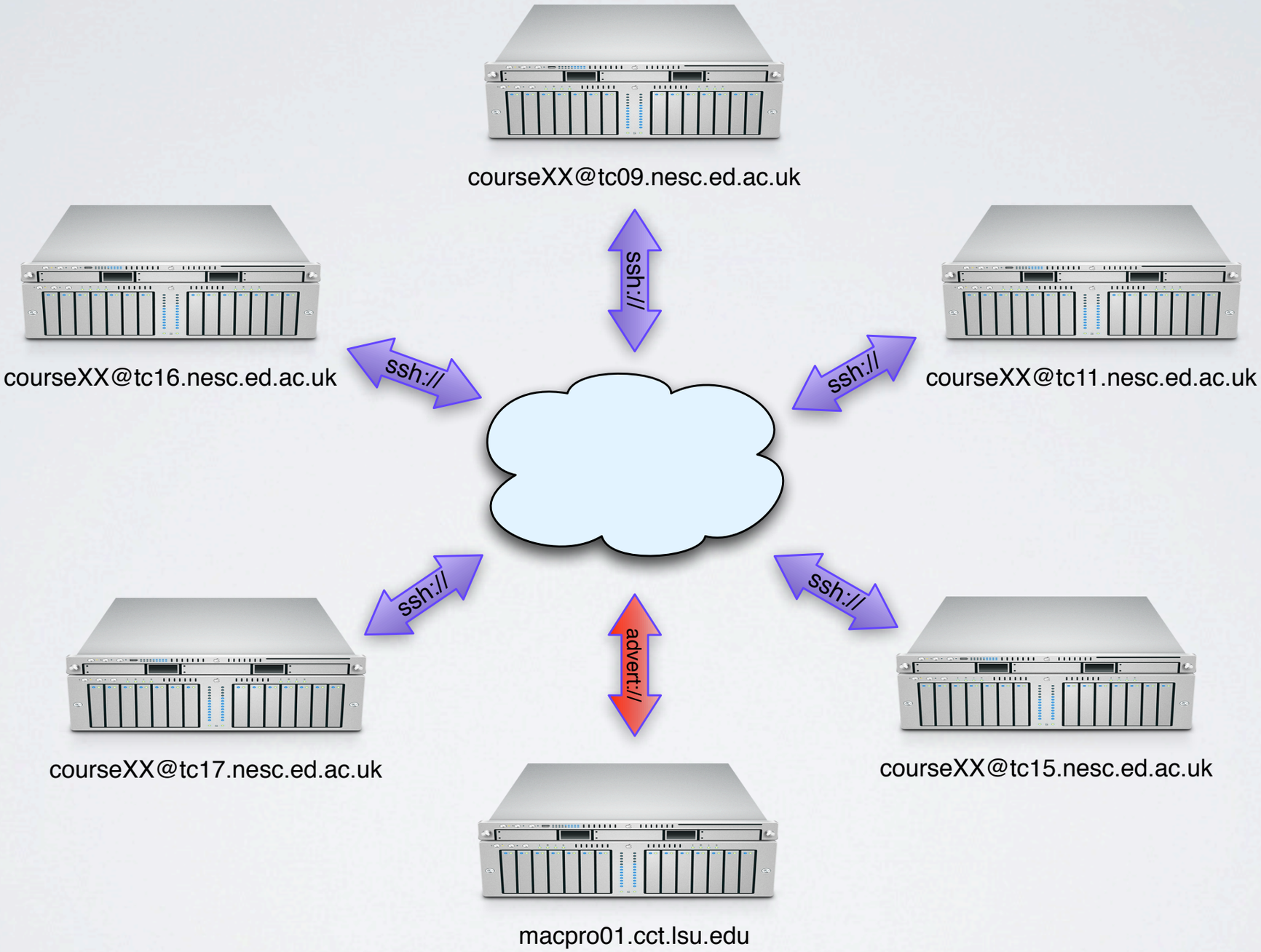
SAGA

A Simple API for Grid Applications [http://saga.cct.lsu.edu]

INFRASTRUCTURE



INFRASTRUCTURE

- Login (ssh) to one of the following machines:
  - tc09.nesc.ed.ac.uk
  - tc11.nesc.ed.ac.uk
  - tc15.nesc.ed.ac.uk
  - tc16.nesc.ed.ac.uk
  - tc17.nesc.ed.ac.uk
- Usernames:
  - course01, course02, course03, . . . , course24
- Password: to be announced

THANKS

Questions / Comments ?