National Grid SINGAPORE

National Grid Competency Centre

Co-located at GridAsia 2006

Berkeley Open Infrastructure for Network Computing (BOINC) Tutorial

"How to create a volunteer computing project using BOINC"

16 May 2006, 0900-1700 hrs

Course Description:

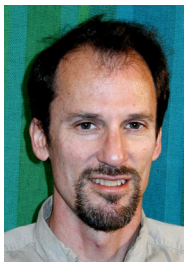
This tutorial will teach you to use BOINC to create a volunteer computing project, like SETI@home or climateprediction.net, that uses thousands or millions of computers to do scientific computing. In addition, the tutorial provides a good opportunity for further exchanges between the Singapore and BOINC projects, towards future collaboration and interoperability.

Intended Audience:

Developers, System Administrators and Grid Practitioners interested in BOINC development.

Course Type: Hands-on Workshop

Instructor:



Dr. David P. Anderson received graduate degrees in Mathematics and Computer Science at the University of Wisconsin. From 1985 to 1992 he served on the faculty of the U.C. Berkeley Computer Science Department. His research interests include volunteer computing, distributed operating systems, real-time and multimedia systems, computer graphics, and computer music. He is currently a Research Scientist at the U.C. Berkeley Space Sciences Laboratory, where he directs the SETI@home and BOINC projects.

Pre-requisites for this tutorial:

BOINC is intended for applications which require extreme computing resources. Creating a BOINC project requires familiarity with UNIX, XML, MySQL, C/C++, and PHP, but the tutorial assumes only superficial knowledge of these areas.

Note: Attendees are expected to bring along their own laptop equipped with a wireless adapter for accessing the internet.

Date	:	16 May 2006 (Tuesday)
Time	:	0900 to 1700 hours
Venue	:	Seminar Room 3.3, Level 3 School of Accountancy Singapore Management University 60 Stamford Road Singapore 178900

Registration:

To register, please fill up the attached registration form and fax to 6872-1361, or register at GridAsia 2006 Website : http://gridasia.ngp.org.sg/2006/

Registration is on a first-come-first-served basis.

National Grid NG SINGAPORE

National Grid Competency Centre

Co-located at Grid Asia 2006

Detailed Course Outline

Session 1: Designing Distributed Computations with BOINC

- What applications are suitable for BOINC?
- Basic concepts of BOINC
  - Projects and applications
  - Files
  - Platforms
  - Applications and application versions
  - Workunits
  - Results
- Tasks distribution
  - Redundant computing
  - Locality scheduling

Session 2: Developing a BOINC Application

- The BOINC API
  - Basic API
  - Graphics API
- The application development process
- Compound applications
  - Trickle messages
  - Intermediate file upload

Session 3: Creating a BOINC Project

- What is a project?
  - The BOINC database
  - Directory structure
  - The project configuration file
- Compiling BOINC software
- How to create a project
  - The make_project script
  - Adding applications and platforms
  - Adding application versions
- Project control
- Project security
- Upgrading server software
- Exporting credit data

Session 4: Getting Work Done

- Overview of BOINC daemons
- Generating work
- Validation
- Assimilation
- File deletion
- Database purging

Session 5: Monitoring a BOINC Project

- Administrative web interface
- Debugging server components
- MySQL performance issues
- Server replication

Session 6: Web Site Administration

- Managing the project web site
- Message boards
- User profiles
- Project-specific links in the BOINC Manager
- Web site translation

National Grid NG SINGAPORE

National Grid Competency Centre

Co-located at GridAsia 2006

Course Registration Form

Berkeley Open Infrastructure for Network Computing (BOINC) Tutorial

16 May 2006, 0900-1700 hrs

Venue: Seminar Room 3.3, Level 3
The School of Accountancy
Singapore Management University
60 Stamford Road
Singapore 178900

To register, fill up this registration form and fax to 6872-1361, or register at GridAsia 2006 Website : http://gridasia.ngp.org.sg/2006/

Name (Dr/Mr/Ms)	Designation
Organisation	
Organisation Address	
Contact Number	Fax Number
Email Address	
Sign me up! ☐ At only S$150 nett (include GST). Course materials, lunch & tea breaks will be provided.	
Send invoice to the following at the above address: Name	