

PROJECT INTRODUCTION

Objectives

The Global Operational Grid (GOG) is an initiative under Adaptive Enterprise @ Singapore that provides an operational Grid cyberinfrastructure to connect National Grid Pilot Platform (NGPP) and CERN (European Organization for Nuclear Research).

Project Investigator / Manager

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Period of Project

July 2004 - Current

Abstract

GOG is an operational cyber-grid infrastructure connecting the NGPP in Singapore and CERN in Switzerland. Security, international network connectivity and hardware are made available to support R&D and to further Grid and utility computing in Singapore.

PROJECT DETAILS

Description

Singapore has become the first Asia Pacific node within the Global Operational Grid, comprising a worldwide consortium of partners including e-Science in the UK, Tera-Grid in the US, and CERN (European Organisation for Nuclear Research) which runs one of the world's largest operational Grids.

The benefits from Singapore's participation include:

- Applications – development environment, joint projects, data management, distributed analysis
- Middleware – acquisition, development, integration, testing and support
- Fabric – large cluster management, data recording, cluster technology, networking
- Deeper understanding of security considerations
- Defining common software stack
- Deploying operational grid – setup and management
- Undertaking test and benchmark studies

The two GOG clusters, comprising 36 HP dual-Xeon machines and 39 HP dual-Itanium machines, are connected to the CERN Large Hadron Collider (LHC) Computational Grid. They are used by various researchers in Singapore for collaborative research with CERN and participating institutes.

The LHC Computational Grid calls for a computational grid that can deliver 100 million Specint2000 computing power and a storage capacity of 12-14 petabytes per year by end-2006. The first phase LCG-1 has been up and running since Sep 2003.

Singapore's involvement with the CERN community of 216 research institutes, over-6000 researchers, and four HP sites provides its researchers access and participation in many Grid-related activities. We are involved in ALICE and CMS virtual organisations.

The GOG clusters are connected to the LCG through a 155-Mbps connectivity between Singapore and Taiwan, and has been operational since Feb 2006.

Collaborating Organisations:

- Infocomm Development Authority
- Hewlett-Packard Singapore
- Academia Sinica Computing Centre (Taiwan)