

## PROJECT INTRODUCTION

### Objectives

To create an easy-to-install, easy-to-use bioinformatics package that is Grid aware, uses portal technologies, is easily expandable and is based on open source software.

### Project Investigator / Manager

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### Period of Project

Aug 2003 – Current

### Website

<http://apstc.sun.com.sg/biobox>

### Abstract

The Bio-ClusterGrid is a package of opensource Grid Engine, Sun Java System Portal Server (licensed software), open-source bioinformatics applications and integration scripts that can be deployed easily to set up a bioinformatics cluster.

## PROJECT DETAILS

### Description

#### How Does it Work?

More than 20 of the most popular bioinformatics applications are made available on the Bio-ClusterGrid through the portal, which greatly enhances application usability. Biologists access the portal either through a browser in Sunray Thin Clients in the access tier or through any browser enabled device. The Sun Grid Engine software provides the resource management mechanism to schedule all the bioinformatics applications to run on the cluster of execution servers.

#### Components

The core components of the Bio-ClusterGrid are:

- Operating System (Linux/Solaris)
- Job Scheduler (Sun's N1 Grid Engine)
- Grid Engine Portal running on Sun Java System Portal Server
- 20+ pre-compiled and tested bioinformatics applications that is provided by APBioNet

#### Current Version

1.4

#### Application Categories

Homology and Similarity Search, Sequence Analysis, Sequence Conversion, Phylogeny, Visualization, Application Suites, Molecular Modelling and Dynamics, Protein Analysis, Gene Finding and Mapping, Development Tools

#### Supported OS

- Master Node: RHEL 3.0 (i386), Solaris on x86, Solaris on SPARC
- Execution Nodes: RHEL 3.0 (i386 and x86\_64), Solaris on x86, Solaris on SPARC

#### Future Plans

- ROCKS roll for Bio-ClusterGrid
- Inclusion of MPI applications

#### Collaborating Organizations:

- APBioNet
- National University of Singapore
- Nanyang Technological University
- South China University of Technology (PRC)
- Tsinghua University (PRC)
- Indian Institute of Technology, Delhi