

Grid Specialist

Salary: \$57,000 to \$72,000 per year

Closing Date: October 17, 2008

Major Responsibilities

The Canadian Advanced Network For Astronomical Research (CANFAR) is a new project which will develop an infrastructure to support the processing, storage, data management, and workflow management needs of large Canadian astronomical surveys. The CANFAR infrastructure will also allow astronomers to transparently access the resources of the Canadian Grid infrastructure.

The CANFAR infrastructure will be integrated into an existing environment which includes Canadian astronomers; Canadian astronomy surveys; the telescope facilities in Hawaii which observe and distribute data; the science data archives at the National Research Council's Canadian Astronomy Data Centre (CADC); and the Canadian Grid infrastructure.

The CANFAR team consists of a UVic-hired infrastructure development team, the CADC, and a small group of survey projects. The technical work will be primarily based at the CADC. The Grid Specialist provides the grid and software development expertise required to design, implement, and deploy the processing and storage grid components of the CANFAR project within the existing WestGrid processing infrastructure.

Organizational Structure

The Grid Specialist reports to the CANFAR Technical Lead and CANFAR Project Manager. The Grid Specialist will be under the direct supervision of the CANFAR project Principal Investigator. The candidate is expected to work closely with the High Energy Physics Group at UVic.

Key Activities

- Consults with the CANFAR infrastructure development team on the design and development of the CANFAR infrastructure.
- Consults with the CANFAR science team members to ensure the grid processing and grid storage components of the CANFAR project meet user requirements. This involves both face to face meetings, email exchanges, telephone and video conferences with individual or groups of astronomers.
- Designs and implements all of the back facing grid services of the CANFAR system.
- Assists with the integration of the CADC storage services into the WestGrid infrastructure.
- Evaluates and reports meta-scheduler options.
- Integrates the selected meta-scheduler into CANFAR and Globus TookKit 4 environment at the UVic HEP group.
- Evaluates and reports virtualization technology options.
- Evaluates and reports provisioning system options. The CANFAR project will require a provisioning system, integrated with the meta-scheduler and virtualization technology to ensure the virtual environments are deployed as required.
- Deploys, or designs and implements and deploys the selected provisioning system into the CANFAR infrastructure and/or the Globus Toolkit 4 environment at the UVic HEP group.
- Deploys the selected virtualization option within both the CADC compute cluster, and on UVic HEP, or other WestGrid resources

- Deploys the necessary Globus infrastructure on the CADC compute cluster to support processing of CANFAR jobs.
- Reports the progress of the Grid activities to the CANFAR participants.

Educational Requirements

A bachelor's degree in Computer Science, Computer Engineering or a related field.

Experience Requirements

At least two years of recent experience in the design and development of software systems on the UNIX or Linux operating system.

At least two years of recent experience working as part of a small to medium-sized development team.

At least one year of recent experience in a Grid environment.

Demonstrated ability to develop software in the Java, C, python and perl programming languages.

Demonstrated ability to design and implement complex software systems.

Experience with the following will be considered assets: Globus Toolkit, web services, and grid computing; virtualization technologies such as Xen; Eclipse IDE; argo UML design software; developing Java software.

Knowledge Requirements

Working knowledge of batch processing systems such as PBS or Condor.

Basic knowledge of the techniques for distributed processing over wide area networks.

Basic knowledge of virtualization techniques.

Note

A junior candidate with similar knowledge but less working experience may be considered.

Contact

Address any enquires to:

Michael Peddle

email: canfar-hiring@astrosci.ca

phone: (250) 363 0005

Applying

A résumé and accompanying cover letter (in MSWord, openoffice, or PDF format) should be sent directly to the contact person. Applications with no cover letters will **not** be considered. Applications must be received no later than the closing date indicated above. In reply please quote the appropriate job title.