R&D engineer position- Development of packaging and configuration tools for the XtreemOS distributed systems

Place: INRIA Rennes – Bretagne Atlantique research centre (France) – www.inria.fr
Research team: Myriads (http://www.irisa.fr/myriads)
Research topics: Networks, systems and services, distributed computing

Context: INRIA, the French national institute for research in computer science and control, is dedicated to fundamental and applied research in information and communication science and technology (ICST). INRIA has a workforce of 3,800 people working throughout its eight research centres established in seven regions of France.
The MYRIADS research team pursues research on the design and implementation of systems and environments for autonomous service and resource management in distributed virtualized infrastructures. Our challenge is to allow dependable application execution and efficient resource management in the future Internet of Services. Our goal is to design and implement environments that guarantees Service Level Agreement (SLA) in service-oriented architectures (SOA) and systems allowing an efficient management (in terms of power consumption and economic profitability) of resources in virtualized infrastructures while providing quality of service (QoS) to their users.
The XtreemOS technology is a distributed Grid operating system (www.xtreemos.eu). It has been designed and implemented during the XtreemOS European project that was coordinated by INRIA (June 2006-May 2010). The XtreemOS system offers a comprehensive set of system services that allow XtreemOS users to exploit the resources of a Grid to execute their applications and also to store their data while giving them the illusion to work on their own work station. XtreemOS is available in open source and packaged for Linux distributions.

Work description: The engineer will develop and performance scientific experiments within the Myriads research team. The objective is to make the XtreemOS system sustainable. It consists in developing and implementing tools and environments to help users to install, deploy and use the system on a machine network. We target two types of users: those who want to experiment the system deploying it on their own machines and those who want to test the XtreemOS advanced features for their applications accessing to an open platform on which the system is already deployed.

Activities: The engineer will contribute to the development and experiment action called “XtreemOS-Easy” within the Myriads team:

- Software development and experiments: design, coding, tests, documentation;
- Participation in technical decisions (programming languages, software architecture, development tool…) with the scientific leader, after an analysis of the current system;
- Development of packaging tools (.deb, .rpm) and XtreemOS deployment tools in virtual machines;
- Creation and/or maintenance of Debian and RPM packages of the XtreemOS system and system images for virtual images (KVM, VirtualBox…);
- Setting up a non-regression test platform;
- Bug-tracker monitoring with the system developers;
- First-level community support;
- Contribution to the system documentation;
- Improvement of the graphical interface of the XtreemOS system;
- Participation in demo preparation.

Skills and profile: This position is available to any graduate engineer or with an experience of up to 8 years (senior engineer).

- PhD degree in Computer Science or engineering or master degree in Computer Science,
- Knowledge in software development and associated tools (SVN, compilation, documentation, test, debugging…)
- Good knowledge (theoretical and practical) in operating systems and distributed systems;
- Programming languages: C, Java, Python and scripting languages (bash, perl);
- Good command of technical and scientific English
- Good writing ability;
- Skills in operating system development would be appreciated;
- Organizational skills, Ability and liking for teamwork and relationships in an international environment.

Applications:
For more information on this position, please contact Yvon.jegou@inria.fr
Applicants should send their application file including a motivation letter, a full resume, a list of publications and up to five reference letters to: Yvon.jegou@inria.fr
Application deadline: September 15, 2010