Charter of the Jini Activity Working Group

A. Mailing List and Website

An archived mailing list has been set up for this proposed working group, to enable participants to discuss issues of interest. Any interested parties may join the mailing list by sending a message to:

majordomo@gridforum.org

With message body

```
subscribe jini-activity
```

The group's website is at

http://www.mcs.anl.gov/gridforum/jini/

B. Description

This working group is being established to address two concerns raised by the Grid computing community:

- ***B.1***. The ability to support both resource and service discovery within a single framework, enabling information services to register and leave dynamically, within a Grid environment. Such information services can be application specific, or they be generic, supporting multiple applications to co-exist within the same environment. The ability to identify which new services are available, where they exist, and how to invoke them, are all important criteria to enable a Grid to function. Service providers within Grid environments are likely to utilise proprietary protocols to enable peer-to-peer or client-server interaction. Consequently, in this context, support within the infrastructure to enable such diverse protocols to co-exist is important. We also aim to investigate what common infrastructure is necessary, to enable multiple such application specific or vendor specific protocols to co-exist.

- ***B.2.*** Investigate ways in which the Jini philosophy and technology can be used as an infrastructure within Grid environments to support the requirements identified in (1) above. Jini provides an important new development in supporting platform and OS heterogeneity (due to its Java centric nature), and enable information services to be registered locally, but accessed remotely, based on a federated architecture. The ability to concentrate on a specific API will enable a concrete investigation of service discovery and management, and help us identify particular deficiencies in utilising an API of this kind. The Jini technology utilises code migration techniques, to enable different wire line protocols between client and servers, or between peers, to co-exist, and this may be of particular benefit in a Grid environment in order to support a range of different proprietary and legacy applications.

C. Goals and milestones

C.1. Goals. The group aims to explore features provided within the Jini architecture, and identify their benefits and disadvantages in Grid environments. Topics of particular concern will be:

- Scalability
- Performance

- Security
- Data models
- Interoperability and integration
- Portability
- Implementation issues

The group will aim to work closely with other forums and working groups, such as Computing Portals (http://www.computingportals.org/), the Java Grande Forum (http://www.javagrande.org/), the Nokia Developers Forum (http://forum.nokia.com/main.html) and the UMTS/GPRS activities within the RIPE LIR Working Group (http://www.ripe.net/ripe/wg/lir/index.html). The group will also work closely with the other GF working groups, and with the existing Jini developers community (http://www.jini.org/).

Participants within the working group will be encouraged to develop prototype implementations in order to demonstrate new ideas. Group decisions will be based on a "rough" consensus. All participants will be required to place their work in the context of either Grid infrastructure or applications. Participants interested in providing particular applications will be especially encouraged to identify specific requirements that must be supported.

C.2. Deliverables

- March 2001:

Present charter and working group to members at the Global Grid Forum at Amsterdam. A special session will be requested, and issues outlined by participants at the BoF session at the GF5 meeting in Boston (October 2000) will be discussed.

- March 2001

Update the charter according to the discussions on the mailing list and the Global Grid Forum meeting.

C.3. Further actions

Preliminary action items for the charter include (the charter should be discussed via the mailing list and during the next Global Grid Forum meting):

- Summer 2001

Report outlining the status of existing work on Jini, and active projects. The report will also provide a survey of competing and complementary products. The report will utilise work undertaken within the Java Grande forum on benchmarking Java applications.

- Fall 2001

Investigate the inclusion of GSI security within the Jini Framework.

Provide a taxonomy of issues relevant to service discovery and management, in the context of Grid applications. This report will use the schema developed by the GIS working group, and identify particular implementation issues that need to be addressed in the context of Jini.

Identify areas of relevance for Grid applications - and where specification documents are necessary. This work will be undertaken within the Jini community, utilising the Jini community process as necessary to propose changes to Jini.

- Spring 2002

Develop prototype for a Jini Lookup Browser and Discovery service, utilising the Grid Object Specification (GoS) developed by the GIS working group, but utilising the Jini services.

We aim to publish the outcome of these activities as conference and journal papers.

D. Administrative Contacts

D.1 Chairs

Currently the group is chaired by

- Vladimir Getov <V.S.Getov@westminster.ac.uk>
- Omer F. Rana <O.F.Rana@cs.cf.ac.uk>
- Eric Sharakan <Eric.Sharakan@East.Sun.COM>

D.2 Global Grid Forum Steering Group contact

Ian Foster <foster@mcs.anl.gov>

D.3 Website

The web site is administered by Omer Rana

D.4 Mailing List

The mailing list will be maintained by Vladimir Getov and Omer Rana, who will also moderate it if and when necessary to ensure constructive discussion between the participants.

E. References

1. C. Catlett and Ian Foster, Grid Forum Guidelines and Procedures, version Oct. 16, 2000. http://www.gridforum.org/

2. The Computing Portals Web Site, http://www.computingportals.org/

3. Jini Technology, http://www.sun.com/jini/

4. Jini community group, http://www.jini.org/

5. Hewlett Packard Activity, http://www.e-speak.hp.com/

6. Nokia Developers Forum, http://forum.nokia.com/main.html

F. Authors

Authors in alphabetical order:

Vladimir Getov (v.s.getov@westminster.ac.uk)
School of Computer Science
University of Westminster
Watford Rd, Northwick Park
Harrow HA1 3TP, U.K.
phone: +44-20-7911-5917
fax: +44-20-7911-5906
e-mail:V.S.Getov@wmin.ac.uk
web: http://www.wmin.ac.uk/~getovv/

Gregor von Laszewski (gregor@mcs.anl.gov)
Mathematics and Computer Science Division
Argonne National Laboratory
9700 S. Cass Avenue, Bld. 221
Argonne, IL 60439, U.S.A.
phone: +1-630-252-0472
fax: +1-630-252-5986
e-mail: gregor@mcs.anl.gov
web: http://www.mcs.anl.gov/~laszewsk/

Omer F. Rana (o.f.rana@cs.cf.ac.uk)
Department of Computer Science
Cardiff University
PO Box 916
Cardiff CF24 3XF, U.K.
phone: +44-29-20-875542
fax: +44-29-20-874598
e-mail: o.f.rana@cs.cf.ac.uk
web: http://www.cs.cf.ac.uk/User/O.F.Rana/

Eric Sharakan (eric.sharakan@east.sun.com)
Enterprise Server Products
Sun Microsystems
1 Network Drive, MS UBUR03-408
Burlington, MA 01803-0903, U.S.A.
phone: +1-781-442-3136
fax: +1-781-442-1542
e-mail: eric.sharakan@east.sun.com