

SURAGrid Application Description

Application Name	SURAGrid Teaching Environment
Application Area	Computer Science Education, computational instruction within domain area education
Keywords	Grid, CS, Computer Science, grid education, classroom grid, computational science
Project/Dept. Affiliation	SURAGrid
Value of grids to this application	Effective teaching about grids will be greatly enhanced by students and instructors having hands-on access to a stable grid environment.
Originating institution	SURA
Contact (s) Name, Email	Mary Fran Yafchak <maryfran@sura.org>
Participating sites	SURA, UNCC, UArk, other SURAGrid sites anticipated.
General description	SURA will provide a stable grid environment by coordinating the operation and support of a subset of SURAGrid resources for use by SURAGrid sites in their grid course development and/or delivery.
Anticipated system requirements for SURAGrid nodes running this application	Hardware: No specific requirements Software: Linux Configuration: Cross-certification with SURAGrid Bridge CA and use of SURAGrid account management software & tools to support scalable management of student accounts.
Anticipated non-system requirements for SURAGrid nodes running this application	Participating sites - Resource Agreement in place as commitment and documentation of resource availability & support SURAGrid responsibility – portal and monitoring capabilities, contact and process for centralized support
Grid focus (data sharing, computation, access to unique resources, collaboration)	Access by instructors and students to explore concepts and experiences in data sharing, computation, access to unique resources, and collaboration. Possible addition: Instructor-only space for sharing of course materials and joint course development.
Network dependencies (bandwidth, latency, multicast, other)	Network connections need to be reliable during designated times of instruction or lab use. Specific connection characteristics (e.g. bandwidth, latency, multicast or other network services) are not anticipated to be beyond what is already available using institutions' current research (vs. commodity Internet) network connections. However, advance monitoring or other concrete assurances of reliability are recommended.
Expected frequency of application run (one-time, occasional, monthly, weekly, daily...)	Each class is anticipated to run on various resources on an average of 2 times per day for in-class use, although this amount of usage could be clustered within a 2-3 day period in any given week. Total frequency depends on the number of classes offered during a school year. "Lab" access for students outside of instruction times will vary per course and may be negotiable. Will need to determine expected in-class and lab availability in advance on a per-semester/course basis and establish appropriate Resource Agreements.
Estimated start date for application run	Spring - Summer 2007
Describe expected application invocation mechanism (by user submitting job, programmatically by some event or timing...)	Variety of mechanisms likely, depending on the nature of the instructions: user via command line, as remote login or through SURAGrid portal, user via SURAGrid portal, applications through scripts interacting with SURAGrid portal or local job scheduler(s). Typically by user submitting job, at other times through use of job scheduler.
Is this application open to others to use with their own data or revisions?	N/A, although sharing of curriculum may be possible by contacting SURAGrid teaching site(s) directly.

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Additional comments	The SURAgriid Teaching Environment will consist of a persistently available subset of SURAgriid resources for use in the development and teaching of the project's course and modules. In addition to the necessary compute resources themselves, the SURAgriid environment will include the infrastructure tools and services required to will support the project.
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