Autonomic Management and Monitoring of SO Programs
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THESIS DESCRIPTION

Grid is a vast repository of resources. With growing resources,
one administrator cannot administer the whole resources.
So we require a mechanism for autonomic management of the
resources in Grid. The following topics would be addressed in this thesis.
1) Monitoring
2) Autonomic Provisioning of Services
3) Debugging Framework
4) Profiling Services

These topics address the following aspects of autonomic grids.
- Self Awareness
- Automatic System configuration / "setup"
- Self Healing
- Adaptability
- Hiding difficulty

OBJECTIVE / APPROACH

- Cybernodes
- Monitor
- Provisoner
- Profiler
- Debugger
- Provider provisioned
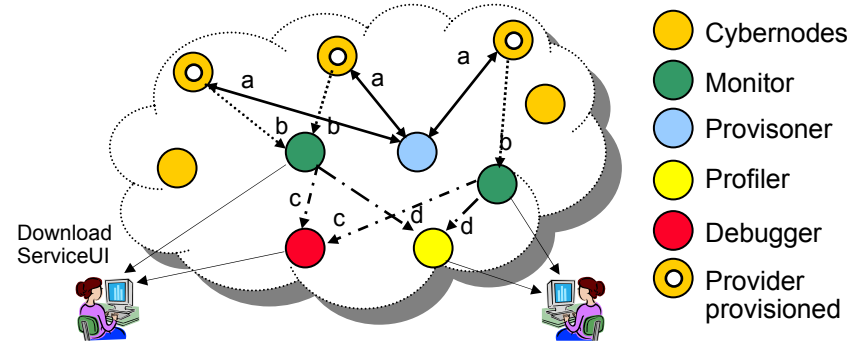
- Dynamic provisioning of service providers and ability of service providers to cleanup by themselves if idle. (Service-on-Demand)
- Monitoring service to monitor service providers
- Debugger which gathers info from monitor, to help aid debugging SOP
- Profiler collects performance characteristics

SCHEDULE

Key development milestones:

Initial Paper & Proposal	01/25
Grid monitoring specs	01/31
Monitor with Service UI	02/14
Provisioning Framework Specs in SORCER	02/20
Provisioner	03/01
Debugger & Profiler	03/25
Case Study with Demo	04/15
Thesis Defense	By 05/03

MISCELLANEOUS SUPPORTING DATA

Benefits:

- Ability to monitor the execution of SO programs in a grid
- Ability to debug SO programs during execution in a grid
- Self-managed and self-healing grid services - no continuous administration required
- Efficient use of active resources by activating and deactivating service providers in an autonomic manner
- Tuning a grid parameters in order to optimize resource usage
- Fault detection to build prediction models of performance (used by sophisticated scheduling algorithms)