Scalable, Fault-tolerant Management in Service Oriented Architecture
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MOTIVATION
- Resources must meet
  - General QoS and Life-cycle features
  - (User defined) Application specific criteria
- Improper management such as wrong configuration – major cause of service downtime
- Large number of widely dispersed Resources
- Decreasing hardware cost => Easier to replicate for fault-tolerance (Espl. Software replication)
- Presence of firewalls may restrict direct access to resources
- Resource specific management systems have evolved independently (different platform / language / protocol)
- Requires use of proprietary technologies
- Central management System
- Scalability and single point of failure

SUMMARY
- A Scalable Resource Management Framework
- Tolerant to failures in framework itself and can handle failures in managed resources via user defined policies
- Built on top of a publish subscribe framework to provide transport independent messaging between framework components
- Web Service Management for “Resource” – “Resource Manager” communication
- Detailed evaluation of the system components to show that the proposed architecture has acceptable costs (adds about 1% additional resources)

MORE INFORMATION

Publications:

Software:
Released with Naradabrokering (http://www.naradabrokering.org) in Feb 2007
Currently being used as a Grid Builder tool to deploy grids dynamically and remotely (Courtesy: Rui Wang, Anbas.com)

Full Paper: