A Service Wrapping and Provisioning Framework for SOA
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THESIS DESCRIPTION
With growing use of SOA (Service Oriented Architecture), legacy programs should be reused, published and provisioned as services in metacomputing (grid) environments. A generic service wrapping and provisioning framework to generate grid service providers for legacy programs and dynamically provision these services in the grid computing environment is needed.

OBJECTIVE/APPROACH
Objective:
• Automatically generate virtual OO service proxies and wrapper code skeletons
• Compile and deploy a service provider wrappers on-the-fly
• Publish the legacy programs as service providers in SOA without writing any codes manually
• Automatic and dynamic provisioning of service providers in OO service-oriented computing environments

Approach:
• Develop generic framework based SORCER/Jini/Rio
• Use available utilities to help generate the codes and supporting source files
• Design generic Java remote interfaces (API) to fork a new system process or thread for the legacy program execution
• Use the SORCER/Jini/Rio frameworks to dynamically provision services in SORCER grid

SCHEDULE
Key Milestones:
03/30/05 Proposal presentation
04/30/05 Design and implementation
05/30/05 Unit and system testing
06/25/05 Thesis report
06/30/05 Thesis defense

MISCELLANEOUS SUPPORTING DATA
Benefits:
• Protecting development and deployment investments of legacy applications
• Seamless integration of legacy applications into service-oriented environments
• Hiding the complexity of the legacy application to the service clients
• Ease of deploying legacy applications into SOA by automatic conversion to services
• No re-engineering original codes to publish legacy codes as a service provider in SOA
• Easy deployment of legacy scientific computing applications in Grid Computing Environments