# 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.
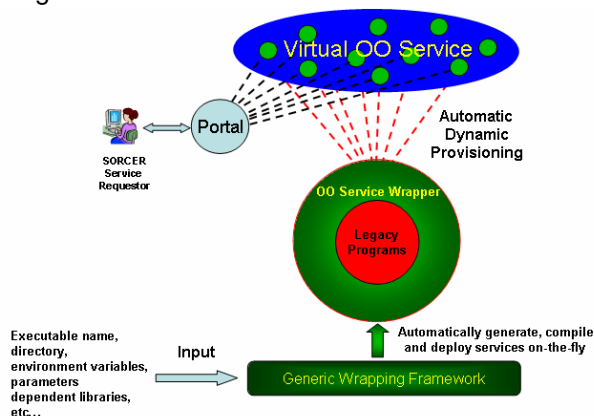
OBJECTIVE/APPROACH

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