Valuing Software Services
The Real Options-based Modularity Analysis Framework

The Basic Problem

- Choose between alternative future developments, given finite resources
- Software is no longer a static entity
- Services can adapt to changing market demands
- Need valuation model to value flexibility
Objectives

- Create structured valuation framework, accounting for service development costs, conventional value, and the value of flexibility

- Create a tool to assist with the calculations involved in the framework

- Make this process as simple as possible while remaining comprehensive (default inputs for calculations)

ROMAN Overview

- Net Present Value
- Development Cost (COCOMO II)
- Maintenance Cost (COCOMO II)
- Binomial option valuation model
- General project analysis
- Real option flexibility analysis
- Modular analysis
- Design changes
- Code changes
- Code reuse
- Retest impact
- New development parameters
- Income prediction
- Default parameters
- Comparable service value
- Project uncertainty
RomanDSS Overview

- Implement calculations involved in ROMAN framework for ease of use
- Makes process easier, accessible, and expedient
- Use Monte Carlo Simulation for distributed inputs

Summary

- Discover and unite interdisciplinary models for software development cost estimation and value prediction
- Create framework for structured valuation of services
- Develop a DSS for evaluating possible business decisions regarding software service infrastructures

Questions?