

Optimization Services (OS)

- Providing Solvers As Services
- Distributed/Parallel Computing System
- Enterprise Computing Infrastructure
- The Operations Research Internet/Intranet

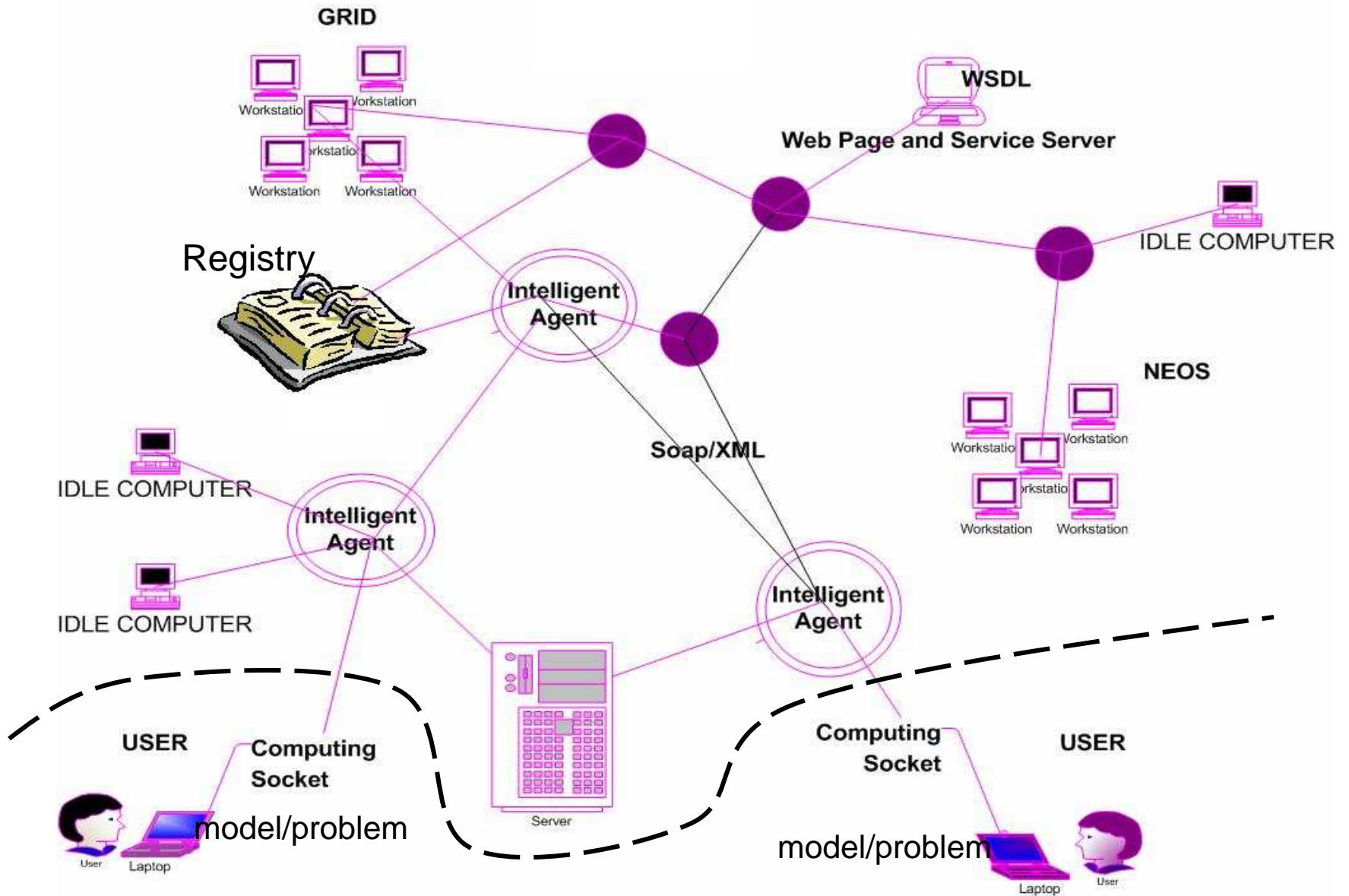
Jun Ma

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IEMS Advisory Board, 03/06/2006

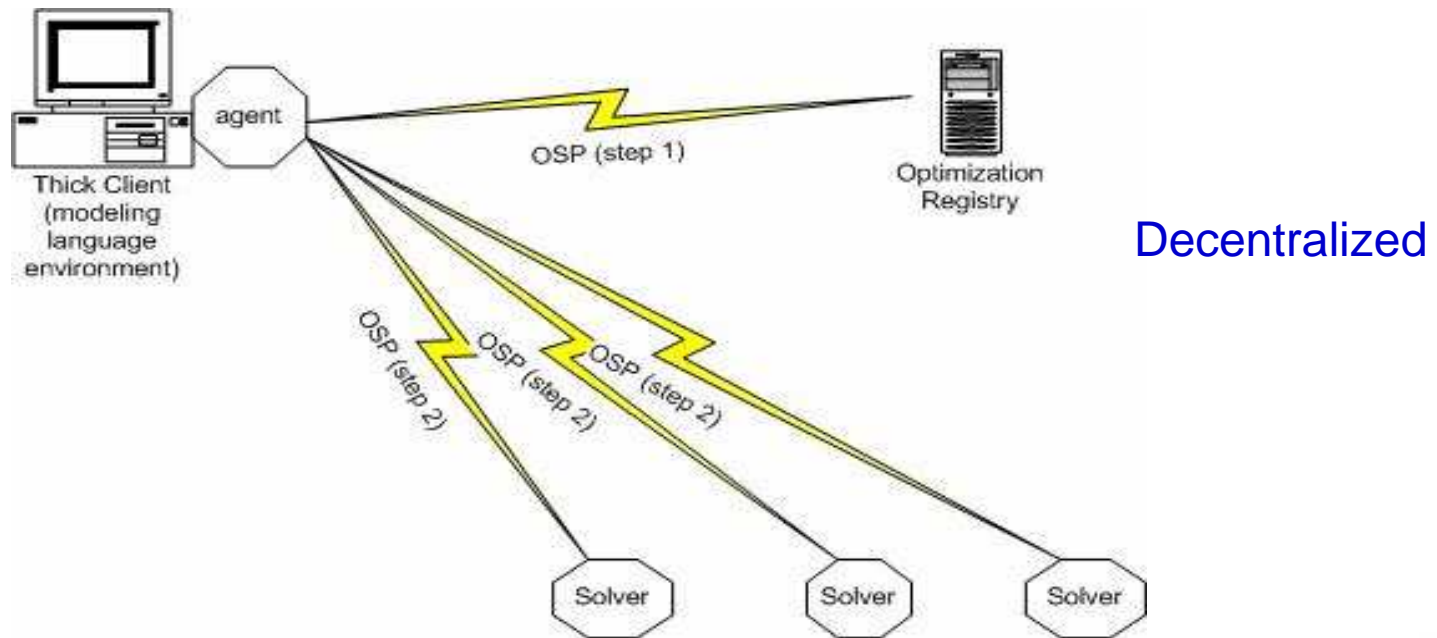
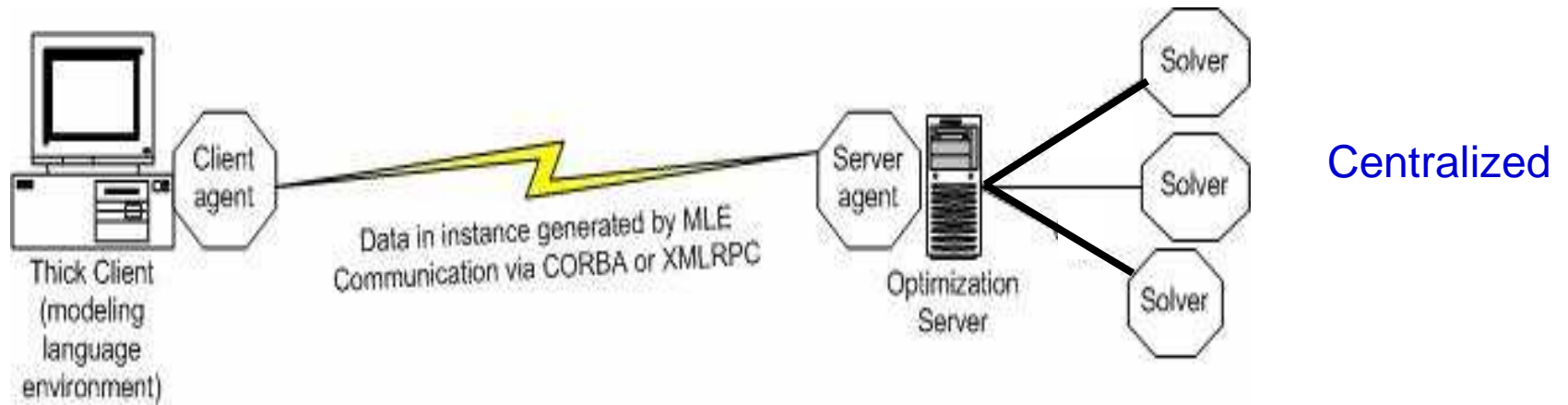
Optimization Services as Computing Utility Services

Intelligent User View

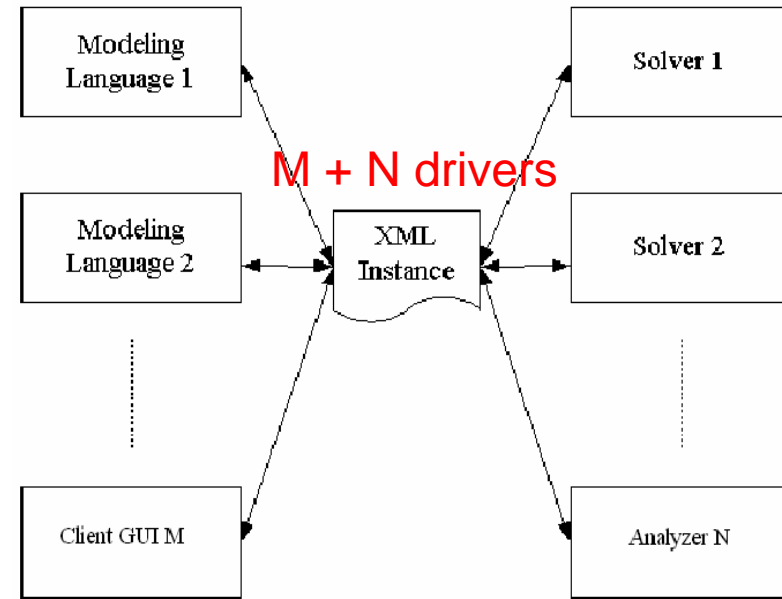
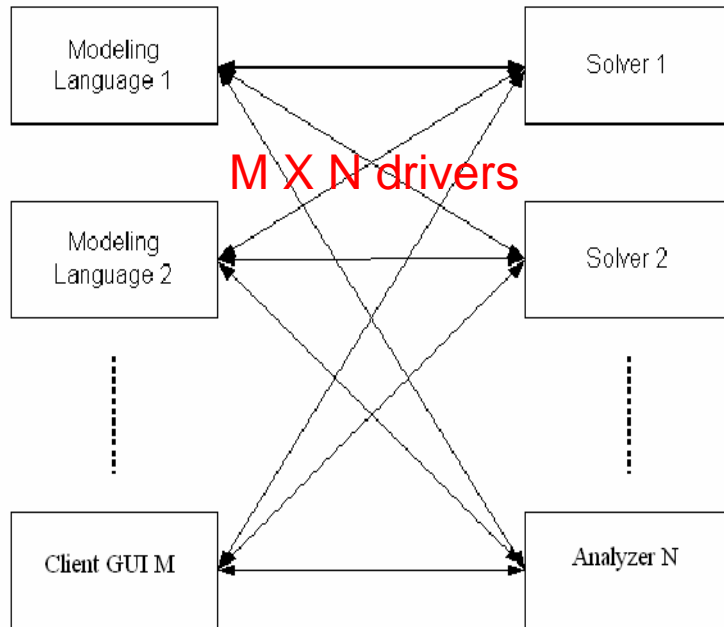


Centralized Vs Decentralized Enterprise Systems

Simplified System View



Motivation



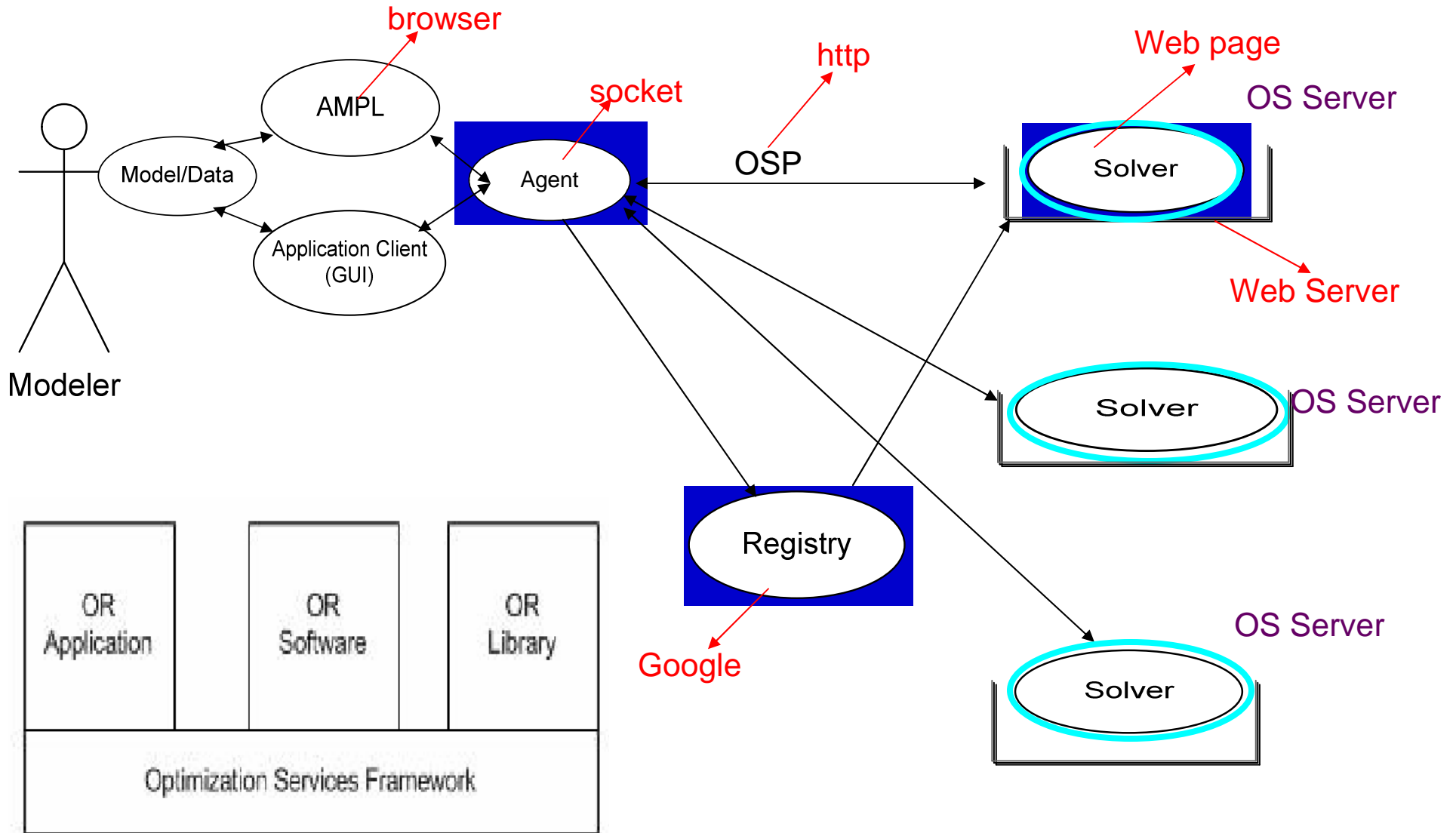
Motivation

1. Tightly-coupled implementation
 2. Various operating systems
 3. Various communication/interfacing mechanisms
 4. Various programming languages
 5. Various benchmarking standards
- **The key issue is communication, not solution!**
 - **... and Optimization Services is intended to solve all the above issues.**

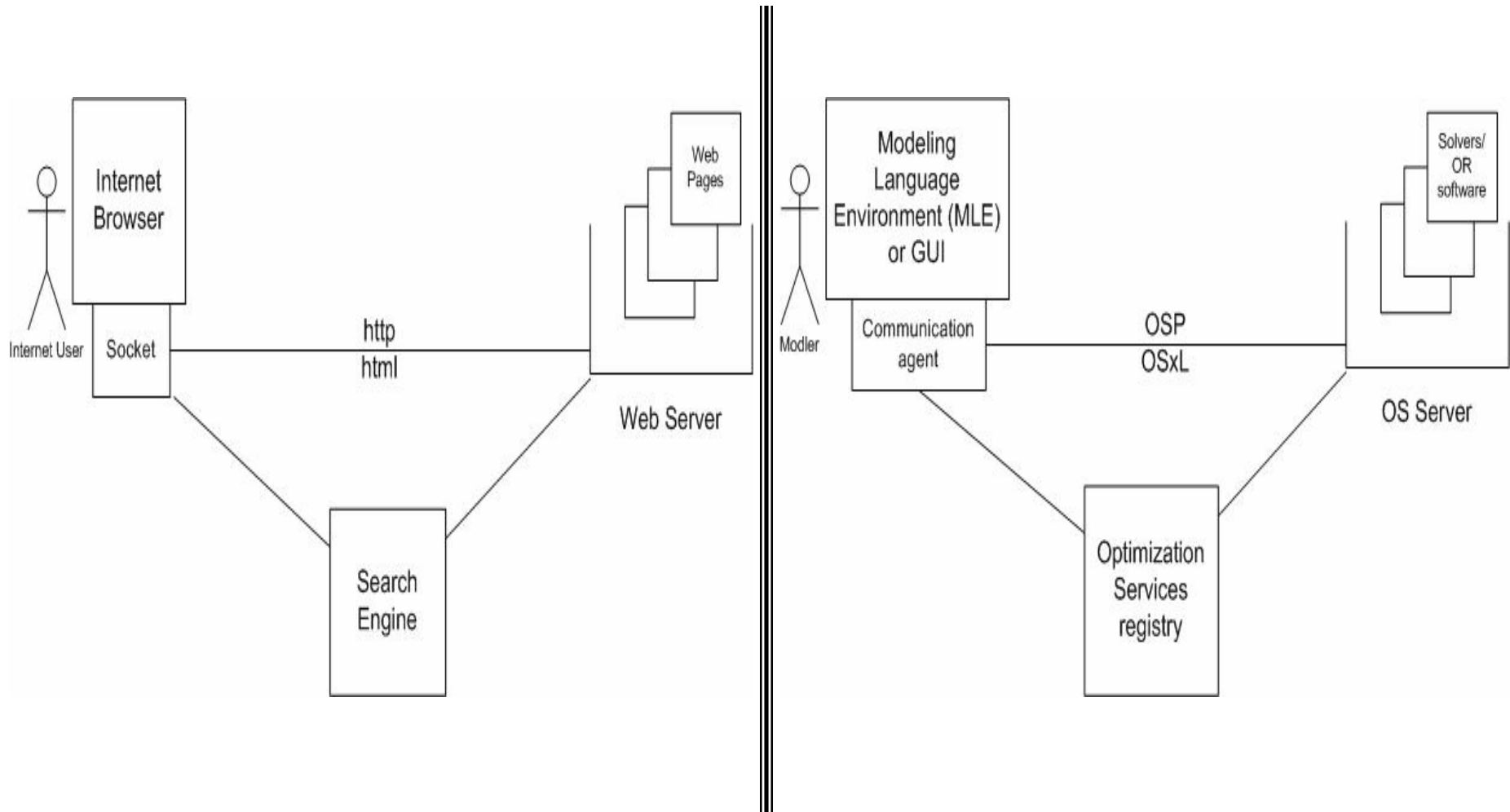


Optimization Services as Computational Internet/Intranet

Sketch View

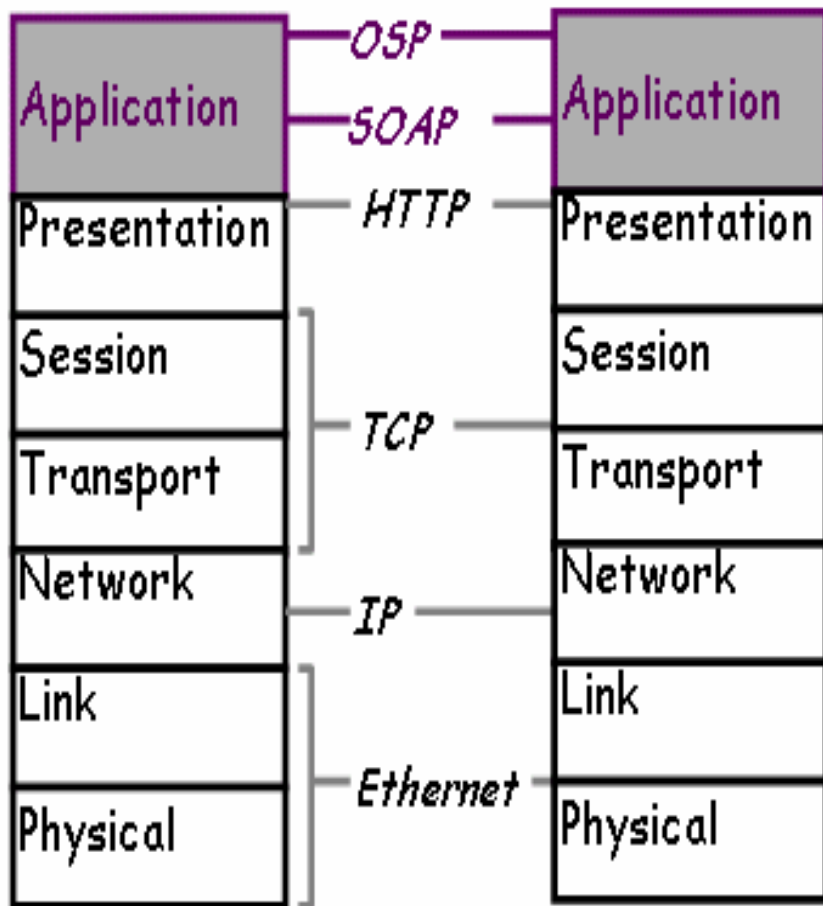


Why is it the OR Internet/Intranet Analogy



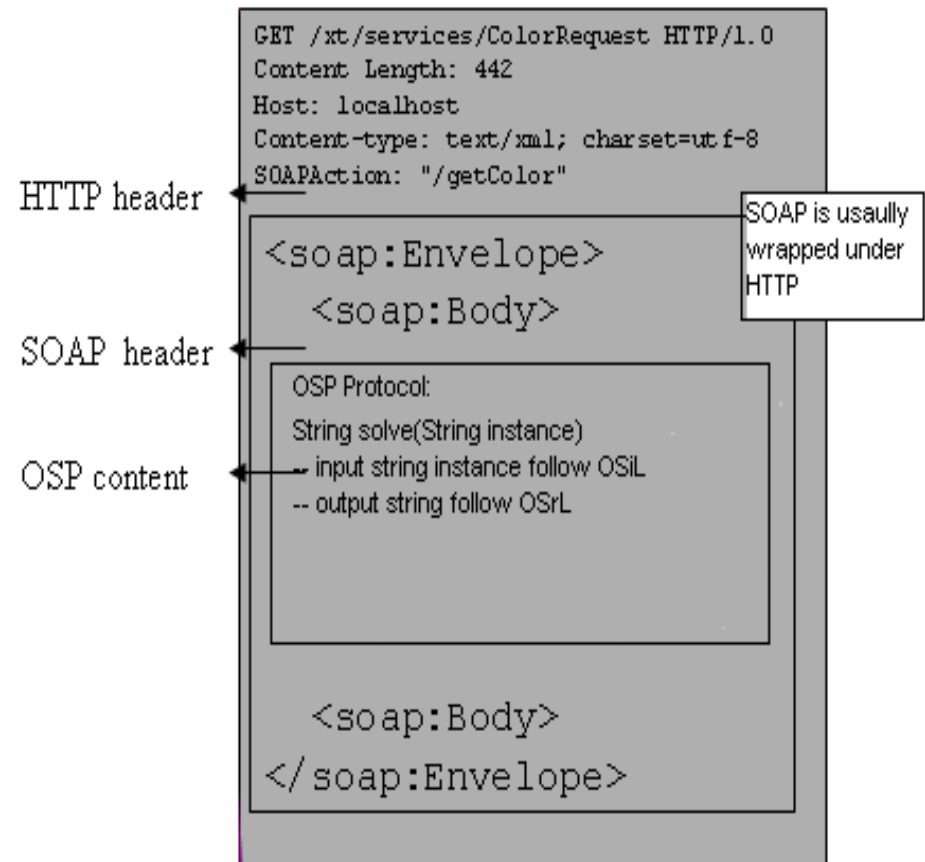
Standard -- Optimization Services Protocol (OSP)

Technical Background

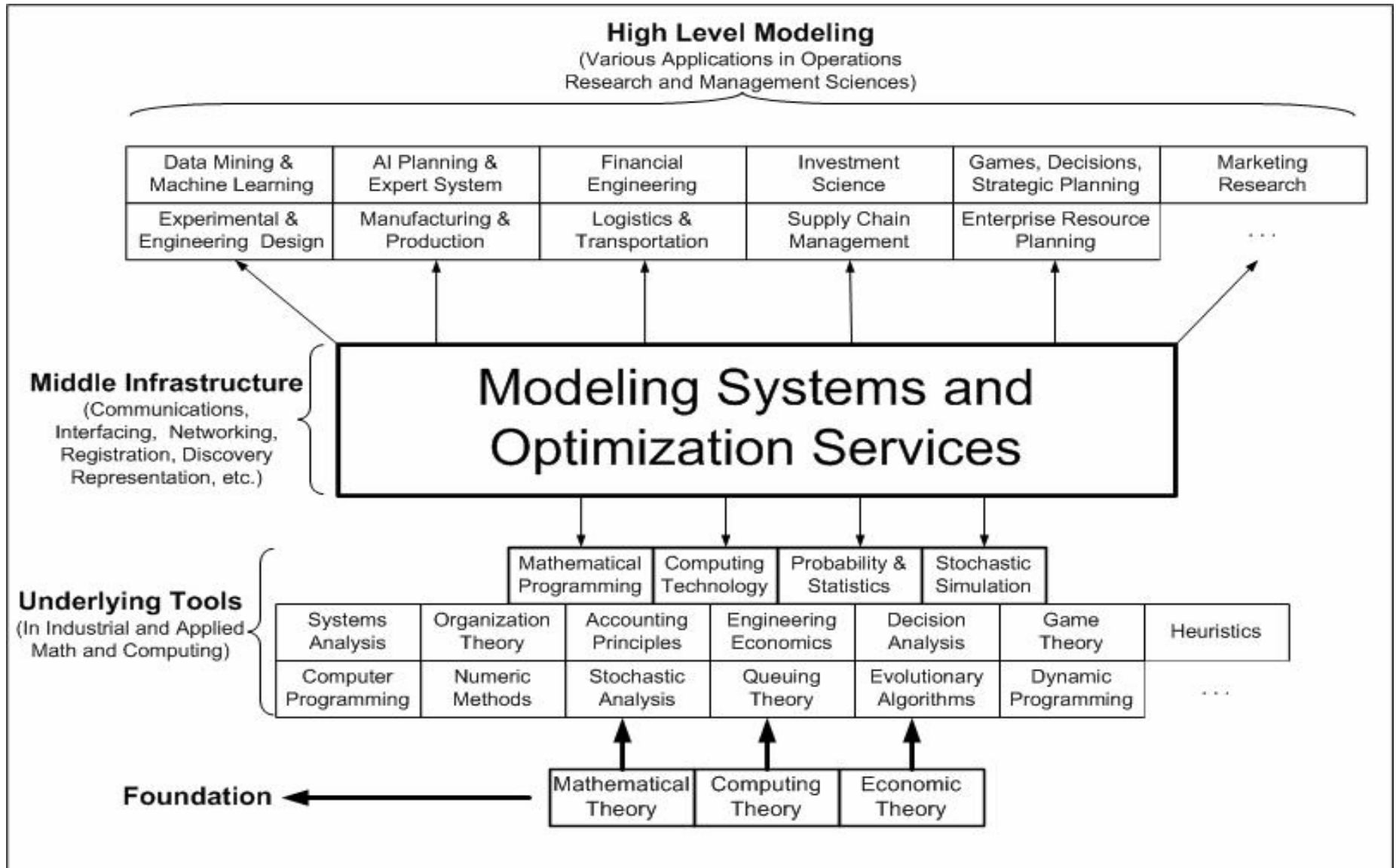


The 7-layer OSI Model

The 4-layer Internet model



Business Values



Business Values

Solve more types of computational problems more efficiently

Easily deploy enterprise computing system within a company, with intelligent components in scheduling computational jobs, registering and finding computing services, routing maintenance

Provide computational software as services on dedicated servers

Let all computational software communicate with each, independent of platforms and implementations.

Save costs on expensive software licenses

Make full use of limited computational solvers

