Method Invocation in the Face of Anarchy

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MOTIVATION

WHAT DO WE WANT?

- Ubiquitous Access — connectivity EVERYWHERE
- Continuity of Access — no interruption of service
- Use of Local Resources — YOUR printer, not MY printer
- Free Market Paradigm — anyone can “hang a shingle”
- Heterogeneity — of systems, languages, networks
- System-Level Resources — not just information (WWW)
- Minimal Administration — we are, after all, lazy ...

CONCLUSION

- Yeah, right.
DIRECTION

PROBLEMS

■ Connectivity
  ◆ Physical Links
  ◆ Protocols
  ◆ Interoperability, Authentication, Reliability, etc.

■ Object Methods: Naming
  ◆ Indexing the World
  ◆ Forcing Square Pegs into Round Holes

■ Object Methods: Interfaces
  ◆ Procedure Call Paradigm == BAD
  ◆ Something More Dynamic == GOOD

PROPOSAL

Standard for Mobile Support: SERVICE DISCOVERY

Def’n: The ability to locate services via a simple semantic description, connect to (previously unknown) servers, and obtain (previously unheard-of) services.

ENVIRONMENTS:

■ One-Size-Fits-All OOS — inappropriate for global scale
■ Object Interaction Standard — better, if in public domain
■ Java/Mobile Code — assumes uniformity of resource naming
■ Mercantile Language — minimal level of assumed knowledge?
MERCANTILE LANGUAGE

REQUIREMENTS

- Safe
- Simple
- Extensible
- Platform-Neutral

DESIGN

- High-Level Language (IDL + Semantic-Laden Variable Names)
- ASCII-Based