IRTF P2PRG CORE Subgroup

IETF 65 Dallas Meeting

John Buford

CORE Subgroup
(Content, Resource, and Service Discovery)

- Deliverables (from charter)
  - Problem statement (completed)
  - Survey of related work (underway)
  - Experimental plan
  - Experimental results
- Problem Statement
  - draft-irtf-p2prg-core-problem-statement-00.txt
  - John Buford, Keith Ross, Mario Kolberg
- Purpose
  - Define a research agenda
  - Attract participation from other researchers interested in these problems and develop a coordinated research approach within the P2PRG CORE subgroup.

CORE Subgroup
(Content, Resource, and Service Discovery)

- Research Issues
  - Global Scale Service Discovery
  - Service-Oriented Overlays
  - Internet Infrastructure Uses
  - Content and Resource Discovery / Search
- Examples
  - M. Balazinska, H. Balakrishnan, D. Karger. INS/Twine: A Scalable Peer-to-Peer Architecture for Intentional Resource Discovery. Pervasic Computing 2002.
  - C. Schmidt and M. Parashar, *A Peer-to-Peer Approach to Web Service Discovery*, World Wide Web Journal, Vol. 7, Issue 2, June 2004
  - John Buford, Alan Brown, Mario Kolberg. Meta Service Discovery. 3rd IEEE International Workshop on Mobile Peer-to-Peer Computing (MP2P'06)

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- Problem statement - feedback on email list
  - Some suggestions about definition section
  - Different ways of classifying P2P systems (taxonomy)
- Next steps
  - Update problem statement draft based on feedback

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- Deliverable 2: Survey of related work
- Preliminary outline (see subsequent slide)
- Looking for volunteers to contribute sections

CORE Subgroup:
Deliverable 2: Survey of Related Work

- Approach
  - Avoid repeating discussions found already in surveys of P2P overlays (so cite heavily)
  - Create a document that can cover (through contributions from others) many more systems than one usually finds in papers.
  - Some organizing principle should be followed, like the architecture taxonomy in previous slides, or Aberer et al's design space
  - Perhaps each P2P overlay should be summarized in a table format for comparison

CORE Subgroup:
Deliverable 2: Survey of Related Work

Possible outline:

I. P2P Overlay Network Architecture

A. Topology Taxonomy

Structured, Unstructured, Hybrid, Hierarchical

B. Functional Taxonomy

Filesharing, VoIP, Service

II. P2P Service Overlay

A. Layered (e.g., INS/Twine on Chord)

B. Integrated into Routing

(e.g., semantic routing)

C. Federated

(supporting multi discovery methods)

III. Service Description Format

IV. Group Mechanism

V. Performance

VI. Summary Tables