ALTO Information
Redistribution

draft-gu-alto-redistribution-02

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Outline

• Quick recap of draft
• Modifications since -01
• Discussion
ALTO Service Scalability

• Multiple methods to increase scalability are possible
  – Load balancing (deploy additional ALTO Servers)
  – Caching (use existing or deploy new web caches)

• Another technique: Utilize P2P paradigm
  – ALTO Clients may redistribute ALTO Information
Redistribution Process

ISP A
ALTO Server
ALTO Client

ISP B
ALTO Server

Redistribution Overlay

(1) ALTO Clients mapped to ALTO Server via discovery mechanism

(2) An ALTO Client identifies desired ALTO information

(3) Multiple entities may be able to provide desired information

Server: alto.isp-a.net
Info Type: Network Map
Parameters: Complete
Framework: Basic Requirements

- **ALTO Clients identify desired ALTO information**
  - Application-dependent

- **Transfer ALTO Information amongst ALTO Clients**
  - Application-dependent

- **Verify ALTO Information once received**
  - ALTO Clients might not be trusted
Framework: Information Types

- ALTO Information is dependent on
  - ALTO Server, Type, Input Parameters
- **Reusable ALTO Information**
  - ALTO Information desired by multiple ALTO Clients
  - Redistributing reusable info can reduce ALTO Server load
- Examples (w.r.t. draft-ietf-alto-protocol-03)
  - Reusable
    - Server Capability, Full Network Map, Full Cost Map
  - Non-reusable
    - Endpoint Cost Service queries
Framework: App Design Space

• **Which ALTO Clients** query the ALTO Server?

• How is redistributed information **located**?

• **What is the naming scheme** for redistributed information?

• **What is the protocol** for retrieving redistributed information?

• **What is the encoding** for redistributed information?
Redistribution Techniques

• Techniques for particular points of the design space

• Currently included in draft
  – Tracker-based
    • ALTO info retrieved by tracker and distributed to clients
    • Published to tracker by peer
  – Trackerless
    • Use DHT to find peer with ALTO Info
Modifications since -01

• Intended status changed to BCP
  – State principles behind ALTO Info Redistribution
  – Discuss design space and considerations for applications
  – Present widely-applicable techniques for enabling redistribution in applications

• Section 4: ALTO Protocol Requirements
  – Re-purposed to state relationship with mechanisms in protocol draft

• Section 6: Discussion on Updating (removed)
  – Now present in protocol draft

• Section 7: Security Considerations (removed)
  – Now present in protocol draft
Discussion

• Recommendations to ALTO Service providers
  – e.g., when should redistribution be applied?
  – Is this the right document?

• Updating redistributed information before expiration
  – Is it needed?
  – If so, should draft provide recommendations?

• Additional redistribution techniques
  – e.g., for mobile networks?