ALTO Information Export Service
draft-shalunov-alto-infoexport-00.txt

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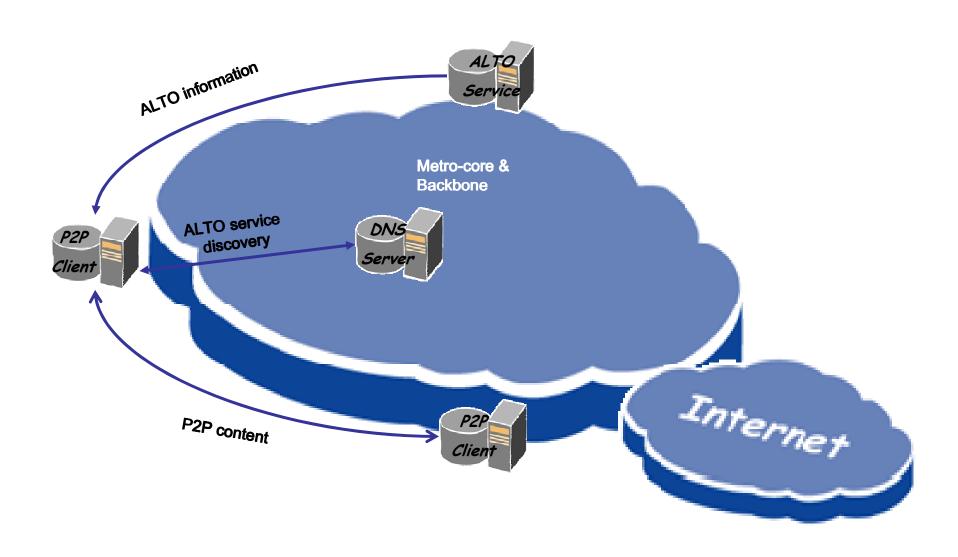**Stanislav Shalunov**
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Protocol Overview

- ISP prepares and serializes ALTO information

- Application discovers the service URL and uses HTTP(S) to fetch ALTO information from service

  – Discovery mechanism is out of scope for the document

- Application uses ALTO information to prefer IP addresses with higher priorities

Service Operation (P2P Example)

Format of Information

- Each record consists of three colon-separated values:

  1. Type designator: asn or cidr
  2. AS number or IP prefix (v4 or v6)
  3. Priority value (integer)
     - zero is default value; negative values are "to be avoided"

- Examples from draft

  cidr:10/8:10
  asn:0:5
  cidr:10.1/16:20
  cidr:10.2/16:-10
  cidr:[de:ad:be:ef:fe:ed]/48:20

Example Usage by a P2P Application

- <u>Non-normative</u> example from the draft:
  - Candidate peers are divided into three sets:
    - Preferred (positive priority according to ALTO)
    - Default (zero or unspecified priority)
    - To-be-avoided (negative priority)
  - Up to 50% of candidates chosen from preferred set
  - Remaining candidates chosen from default set, then from to-be-avoided set
  - Additional connections and optimistic unchoking follow a similar selection policy
- Key concept: P2P application should not choose peers solely from the preferred set from ALTO

Mapping IP Addresses to ASNs

Two potential mapping approaches:

1. Applications download file from a BGP looking glass
   - 1.5 MB compressed file (as of October 2008)
   - ASN mappings are independent of ISP's perspective
2. Applications download mappings from ALTO service
   - ASNs are expanded into IP prefixes like "macros"
   - ASN mappings are according to ISP's perspective

We strongly recommend choosing ONE mechanism

Other Related Issues

- Choosing a service discovery mechanism
- Non-P2P application usage examples
- Format of IP address to ASN mappings
- Security considerations – lightweight but useful to application users
- 'Staleness' and 'cachability' of ALTO information
- Should ALTO information be redistributed? And how, while maintaining ISP policy?
- Harmonization with other proposed ALTO approaches (TBD)