Empowered by Innovation NEC

ALTO Deployment Considerations

draft-stiemerling-alto-deployments-02
draft-stiemerling-alto-load-reduction-00

Martin Stiemerling and Sebastian Kiesel
martin.stiemerling@neclab.eu
ietf-alto@skiesel.de

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Goal of Drafts

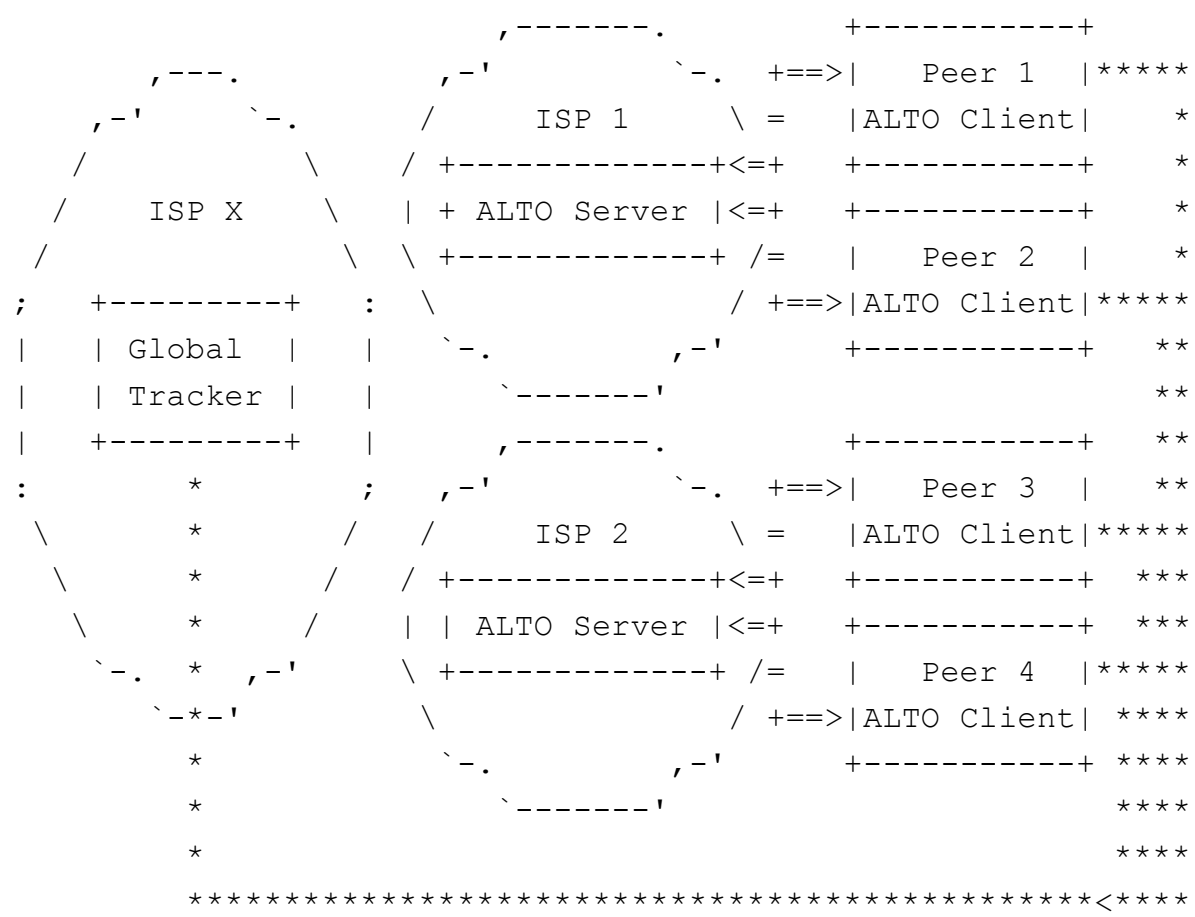
- draft-ietf-alto-protocol defines the ALTO protocol
  - does not discuss deployments issues
  - not part of it
- already a number of use cases discussed
  - P2P file sharing
  - P2P video streaming
  - locating requestor for CDNs
- different use case will need different settings/contstraints of ALTO, e.g.:
  - P2P file sharing: get closest peer with content
  - P2P video streaming: get peers with at least x kbit/s upload (lower bound)
- **document these in a separate draft**

Two Drafts…

- draft-stiemerling-alto-deployments-02
  - ALTO server deployments
  - ALTO client deployments
  - tbd: informational API between application & ALTO client
  - initial security considerations
  - not discussed ALTO use case

- draft-stiemerling-alto-load-reduction-00
  - ALTO ranking services can face load issues on server
  - also true for ALTO H12 service
  - discusses this
  - intended to be merged into deployments draft later on

Example: ALTO Deployment



Example: ALTO Deployment

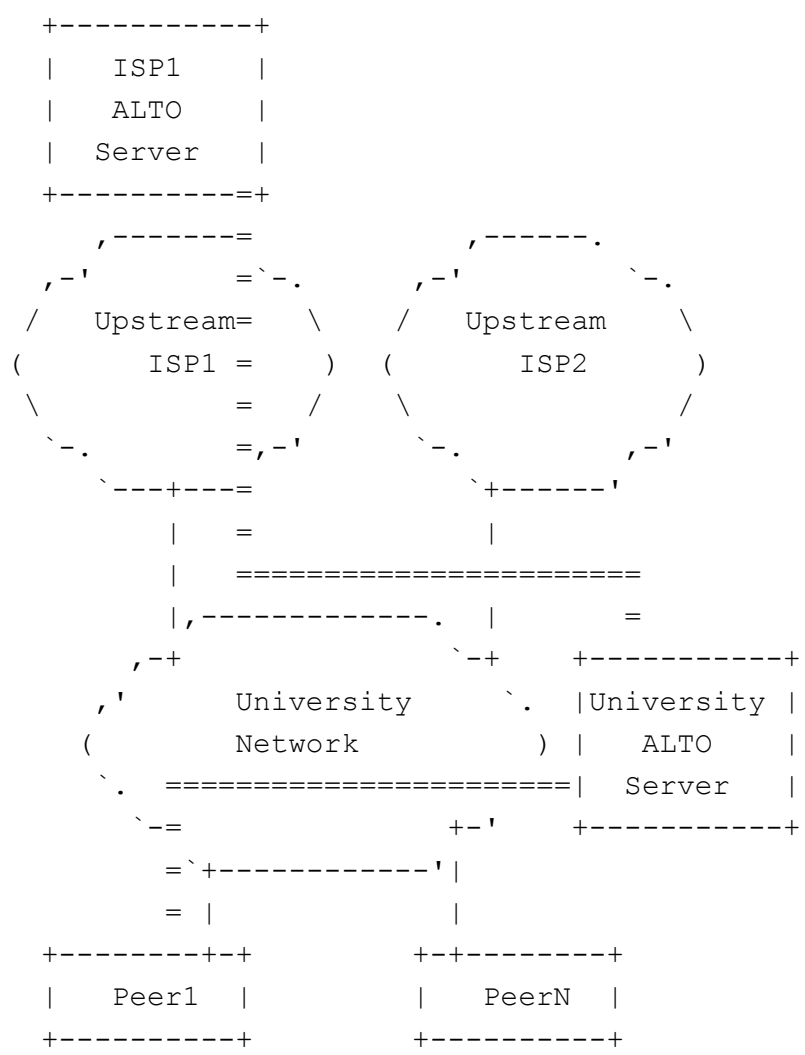
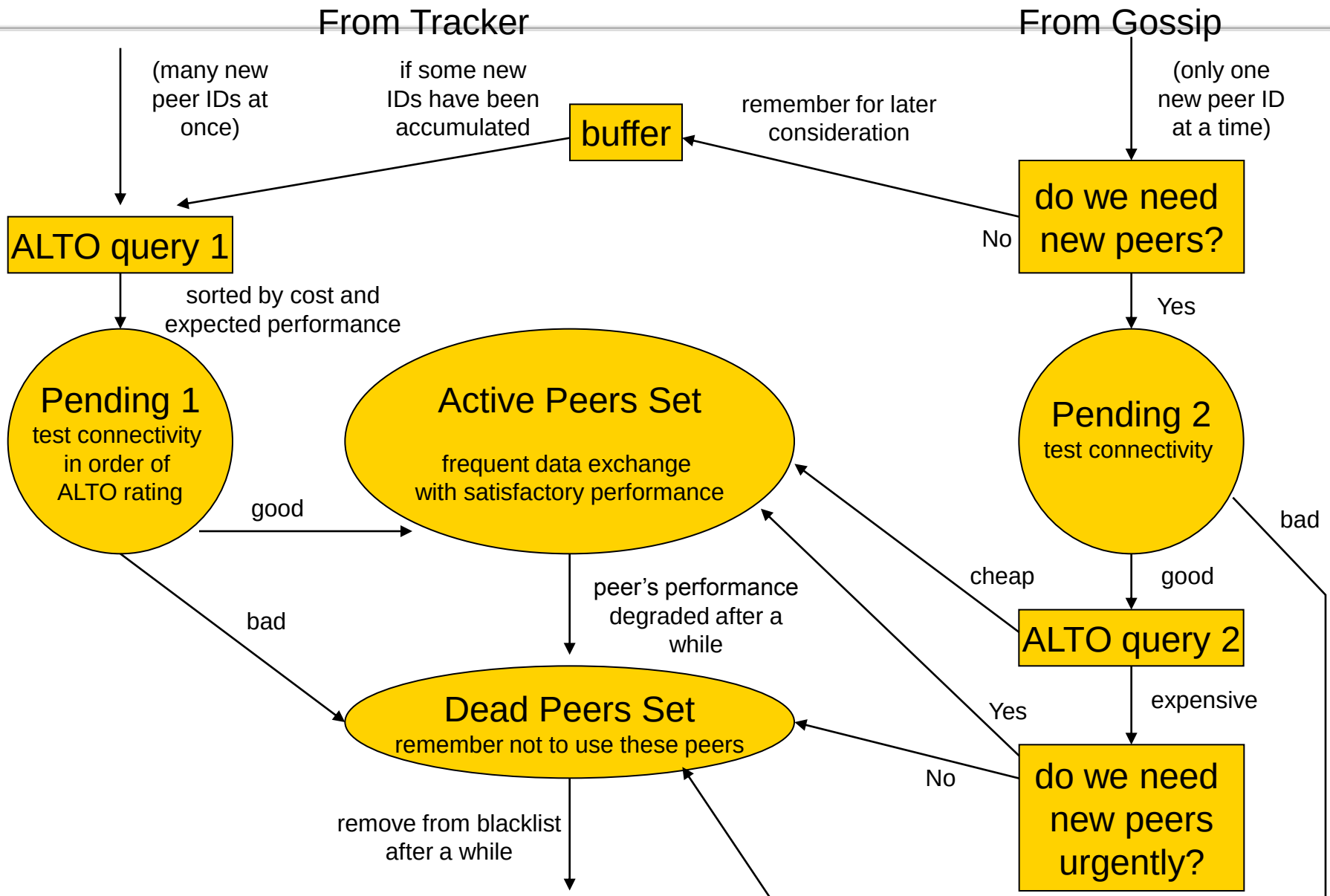


Figure 7: Cascaded ALTO Server

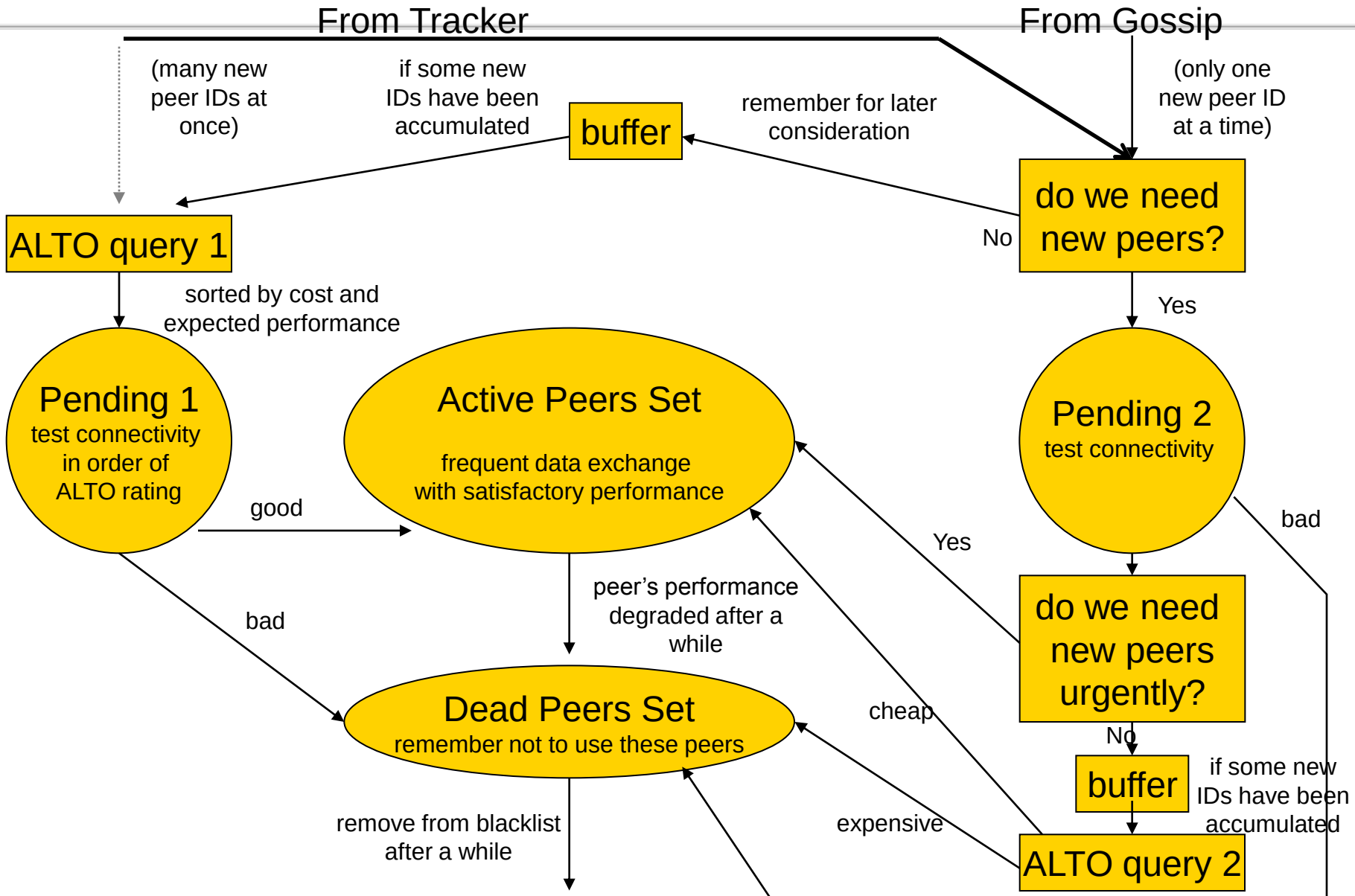
Problem Space

- P2P operations after an epoch:
  - The peer obtains the set of new peers and adds them to its candidate set (either via a resource directory (tracker) or via a peer exchange protocol);
  - **The peer queries the ALTO server with the candidate set;**
  - The peer takes peers preferred by the ALTO server out of its candidate sets and starts data exchange with them;
  - The peer moves a candidate peer to the active set, if the peers has the data of interest and if the peer delivers sufficient throughput (typically above a certain threshold);
  - The peer moves a candidate peer to the dead set of drops immediately if the data of interest is not available or if the throughput is below a certain threshold.
- Typical epoch value is 30 seconds
- ALTO server queried very 30 seconds by numerous peers
- Might lead to performance issues

Peer state sets and transitions



Using track 2 for candidate peers learned from the tracker



Conclusions

- Two drafts discussing deployment issues
  - first versions
  - will evolve in the next few weeks
- Probably nothing new for some folks
  - but you’re not alone
  - other people in 2 years still need to understand
- Does the WG see this to be important?
- Shall this become a WG item?

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