

# Server-to-server API

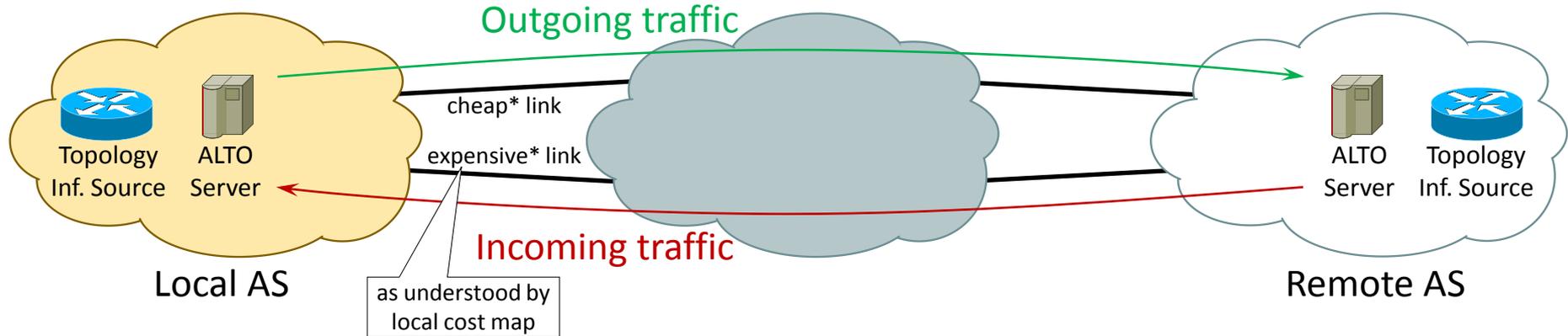
draft-dulinski-alto-inter-problem-statement-00

draft-medved-alto-svr-apis-00

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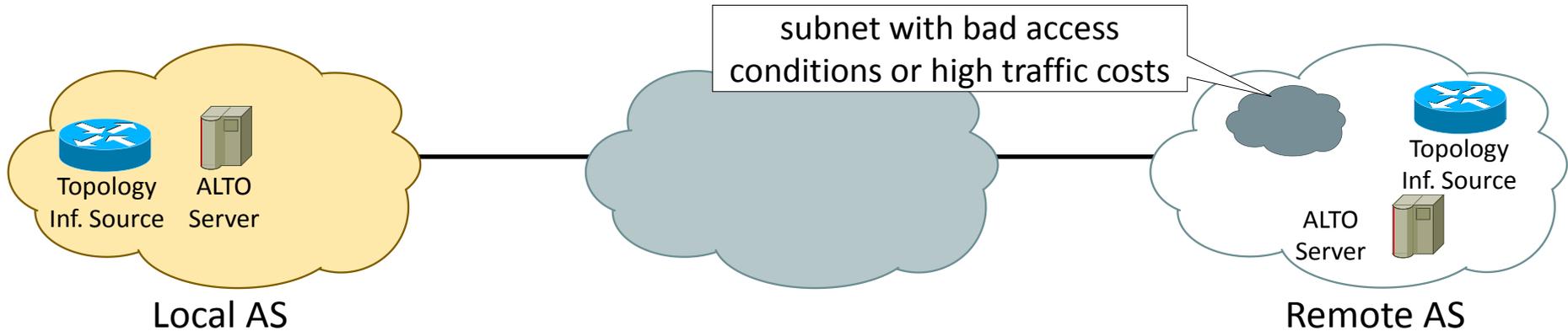
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# Motivation (1/3)



- Local topology information source knows only outgoing path costs
  - Standard cost map: peers from remote AS are “cheap”
  - Cost map built with Inter-ALTO (Server-to-server): peers from remote AS are “expensive”

# Motivation (2/3)



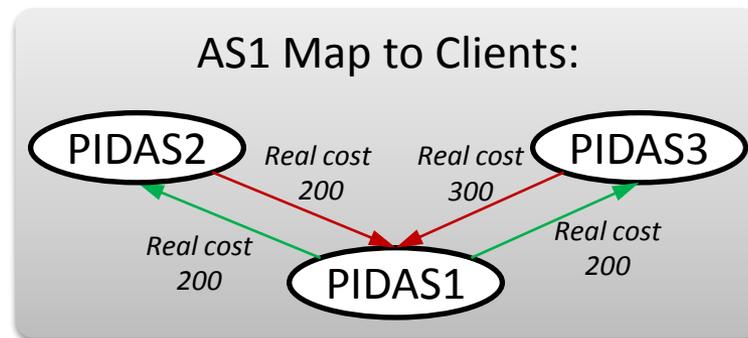
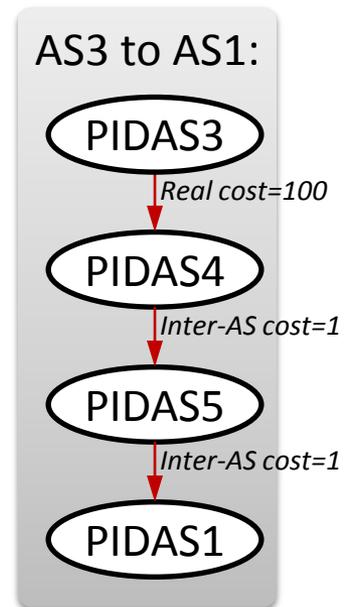
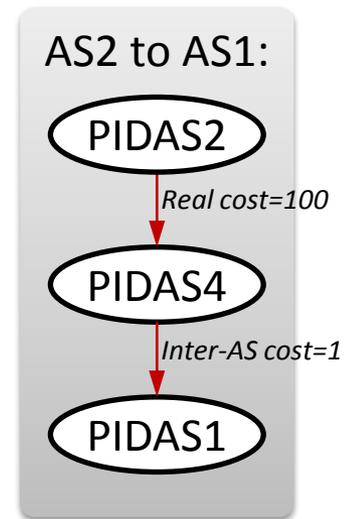
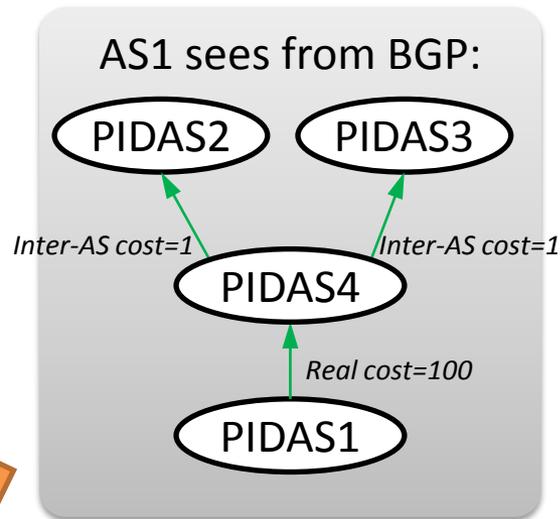
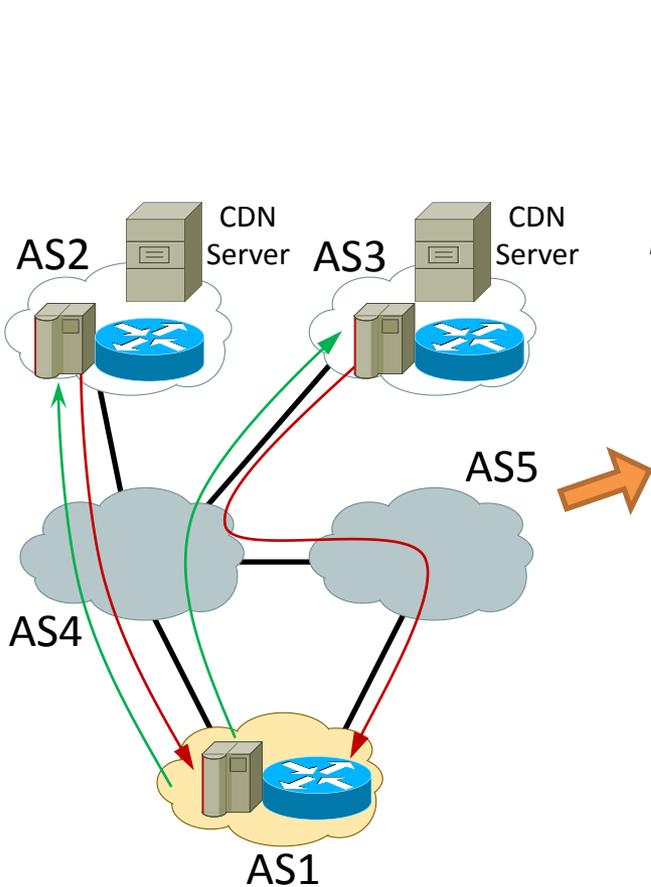
- Local topology information source cannot differentiate Remote AS's subnets
  - Standard CM: all peers from remote AS are OK
  - CM built with Inter-ALTO (Server-to-server): peers from “the dark subnet” of remote AS should be avoided

# Motivation (3/3)

## Generation of Combined Maps

- Each ALTO Server only has a partial view of the overall network
  - Depends on which routers are sources of the topology data
- Combined maps generation:
  - Beyond own AS: ALTO Server must exchange its map information with ALTO Servers in other ASes
  - Costs in partial cost maps must be normalized

# Sample (Simple) Use Case



# Server to-Server Interface: ALTO Protocol (draft-alto-protocol)

- ALTO Client-Server Protocol:
- Network and Cost maps provides sufficient semantics to be considered a good candidate for the Server-to-Server API
- Sharing information directly between ALTO clients anticipated, (Section 3.1.4 in draft-ietf-alto-reqs)
- Support for redistribution of ALTO data between clients also anticipated in ALTO Protocol spec (draft-alto-protocol)
- Need to address:
  - Authentication
  - Encryption / data protection
  - Incremental updates (more detailed protocols)
  - Updates flow in both directions
  - Topology summarization, aggregation

Q & A

Thank you!