IETF 117 [Hybrid]
ALTO
Working Group

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• Online Agenda and Slides: https://datatracker.ietf.org/meeting/117/session/alto
• Data tracker: http://datatracker.ietf.org/wg/alto/
• Tools: http://tools.ietf.org/wg/alto
• Notes: https://codimd.ietf.org/notes-ietf-117-alto
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- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/(Privacy Policy)
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• **Note taking**
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Agenda

Introduction (Chairs)  5 min
Session intro & WG Status

Pending Issues from the AD review (OAM/Transport)  5 min

CATS/ALTO work on Metrics Definition (CATS Chairs)  5 min

Future of the WG (45 min)

Context (Chairs)  5 min
A Word from the AD  5 min

Recharter Discussion: ALTO Deployment Catalyst Charter item Proposals

BGP-LS Data Source Integration with ALTO (Richard)  5 min
BGP Community for Network Map (Luis/Danny)  5 min
Compute Information Retrieval and Exposure (Jordi)  5 min

Discussion & Next Steps  20 min

Wrapup
Document Updates

• RFC Editor’s Queue
  – draft-ietf-alto-performance-metrics

• WG Drafts
  – draft-ietf-alto-oam-yang (Publication Requested)
    • 2nd WGLC ended on 2023-06-06
  – draft-ietf-alto-new-transport (Publication Requested)
    • 2nd WGLC on 2023-06-01

• I-D Drafts (Not in the Charter)
  – New Data Source Integration and Exposure
    • draft-contreras-alto-service-edge-06
    • draft-lcsr-alto-service-functions
    • draft-yao-alto-core-level-load-balancing
    • draft-sun-alto-arch-computing-optical-network
    • draft-zhou-alto-dbors-requirement-usecase
  – ALTO protocol Maintenance
    • Building ALTO maps from BGP and BGP-LS
    • ALTO extension for BGP Community
  – Security Consideration
    • Indicate security capability to the client
    • Carry ALTO information using JOSE object
WG Status

• Status Update: ALTO was rechartered in November 2021
  – ALTO over HTTP2/HTTP3, ALTO OAM YANG, ALTO Deployment Update

• All the milestones are honored!

• Active dissemination and Interest:
  – Document deployments
  – ALTO introduction published in Internet Protocol Journal on June 2023
  – 4 Interim meetings have been scheduled after IETF 116 to facilitate the progress of two chartered items and Collect new proposal related to ALTO deployment Catalyst:
    • New Data Source Integration and Exposure
    • ALTO Protocol Maintenance
      – BGP Community
      – BGP-LS Data Source Integration
    • Security Consideration for ALTO protocol
Part II
Future of the WG
Chairs Subjective View

• There is **sustained & friendly core team** who is involved in editing, providing support, and software

• **Many extensions** were defined, but not (widely) adopted

• **Few deployments** are being disclosed
  – Some lessons are being learnt (e.g., the hidden integration and tasks to operationalize the deployment of the protocol)
  – Which support is needed for these deployments?
  – Do these deployments require more standardizing work on ALTO-specific matters?
  – Is ALTO deployment straightforward when both ALTO client/server are managed by the same entity?
  – What are the deployability hurdles? What would be the **deployment catalysts**?

• **New applicability** use cases are being also proposed
  – This is a continuum of ALTO history: P2P, CDN, compute
  – How to prevent giving the impression that we are looking for a problem to solve for ALTO?
Two Examples of Deployment Scenarios

ALTO Client placed in the host/app

ALTO Client placed in the resource directory/Edge node/Orchestrator
Some Observations

• What has been implemented?
  – ALTO client placed in the host has been supported in P2P scenarios
  – ALTO client placed in the Edge node has been supported in CDN or CDNI scenarios
  – ALTO client placed in the orchestrator has been supported in CDN/CDNI scenarios

• What has been deployed?
  – Benocs Flow Director Product

• What deployments were disclosed?
  – Telefonica CDN integration with ALTO
  – CERN/LHCONE: Integration with Rucio
  – CERN/LHCONE: Integration with FTS

• What are the problems with deployments?
  – Telefonica CDN: error prone process, topology data outdated

• What is preventing deployment?
  – Lack data source integration mechanism (topo, compute, metrics, etc.)
  – How provision protocol (e.g., BGP-LS, Telemetry, BGP, IPFIX) can be used to provision ALTO server to generate network map, cost map?

• What is missing from implementations that is holding back deployment?
  – BGP-LS integration
  – Measurement tool integration/Performance Metrics Integration
  – Lack security/privacy mechanism to protect ALTO information spanning across domains
Recharter or Declare Success?

• P1: Recharter Direction
  – Focus on *ALTO maintenance, fixes to the integration complexity, and ease integration with data sources*
  – Candidate milestones are:
    • M1: Dedicated YANG modules to integrate data from specific source types (including the missing metrics)
    • M2: BGP-LS integration with ALTO
    • M3: Reuse existing network resources to identify ALTO resources (e.g., BGP communities)

• P2: *Make ALTO dormant if lacking further deployment interests and revitalize if needed*
  – Declare success of the WG
  – Organize BOF to revitalize this WG, if needed
A Word for our AD

• Martin?
Some Teasers

• BGP-LS Data Source Integration with ALTO

• BGP Community for Network Map

• Compute Information Retrieval and Exposure
Open Discussion
Some Questions

• Q1: Who is in favor of P1?
• Q2: Who is in favor of P2?
• Assuming P1
  – Q3: Do you agree with the proposed direction?
  – Q4: Do you disagree with the proposed direction?
  – Q5: Who is interested to contribute?
  – Q6: Who is interested to edit documents?
  – Q7: Who is interested to review?
More Follow-up

• Coordinate with CATS to align metrics definition
  – Schedule a joint interim meeting with CATS at the end of August or early September
  – Understand deployment model and use cases