draft-ietf-alto-cost-calendar-09

IESG review feedback

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IESG review

- *Has 2 DISCUSSes. Has enough positions to pass once DISCUSS positions are resolved.*
  - See https://datatracker.ietf.org/doc/draft-ietf-alto-cost-calendar/
- "DISCUSS" position at IESG
  - "is a blocking position; the document cannot proceed until any issues are resolved to the satisfaction of the Area Director who issued the DISCUSS."
    - See https://www.ietf.org/blog/discuss-criteria-iesg-review/
- Discuss topic 1: design-related
- Discuss topic 2: Datatracker update not reflecting IPR declaration
  - Required datatracker update
- **Current status**
  - IESG Evaluation::Revised I-D Needed
  - "WG draft replaces personal draft "now visible in Datatracker
- **Next steps**
  - Address DISCUSS and COMMENTS in an new revision
  - New WGLC upon revision   with note on IPR declaration

IESG review – ballot positions

- *Adam Roach – AD Applications and Real-Time Area (art)*
  - *no objection w. COMMENT*
- *Suresh Krishnan – AD Internet Area (int)*
  - *no objection w. COMMENT*
- *Spencer Dawkins - AD Transport Area (tsv)*
  - *no objection w. COMMENT*
- ***Ben Campbell - AD Applications and Real-Time Area (art)***
  - ***has a DISCUSS and COMMENT***
- *Alissa Cooper – IETF and IESG chair - General Area*
  - *No objection w. COMMENT*
- ***Alvaro Retana – AD Routing Area (rtg)***
  - ***has a DISCUSS and COMMENT***
- *Benjamin Kaduk – AD Security Area (sec)*
  - *No objection w. COMMENT*

Discuss 1 – item 1

- §3.1, definition of "time-interval-size
  - Risk of machine parsing error: why use « unit » : « 3 hour » instead of 2 separate fileds for « time unit » and « number of units »?
    - →Proposed format intended to spare one member to convey in the responses.
    - →We took inspiration from the encoding format of constraints by an ALTO Client in 11.3.2.3 of RFC 7285 that follows a similar pattern, e.g. "le 15«

➔ Shall we use 2 separate fields as in the early draft versions?

Discuss 1 – item 2/1

- Comment 1: §4.1.2, last paragraph "The ALTO Client thus may use the same calendar for the next 4 days starting at "calendar-start-time" and will only need to request a new one for Friday July 4th at 00:00:00 GMT.«
  - This implies that if an ALTO server delivers a calendar with a long duration, it cannot make changes to the metrics in that calendar,
    - → **Server CANNOT change « repeated » calendars without notifying Client?**
  - or if it does make them it cannot expect the client to learn about those changes. Is that the intent?
    - → **Propose solutions such as SSE updates?**
  - If so, it seems to contradict language in the security considerations (§6) that future events may change and that the client should ensure information updates.
    - → **ALTO Client SHOULD couple Calendar capability + SSE capability?**
  - (The operational considerations [§7] also say the client does not need to query again during the calendar duration.)

Discuss 1 – item 2/2 – response options

- Response options
  - To fully benefit from the « repeated » capability and save updates the Client MAY use the SSE services ans subscribe to the Calendaring updates if available (with the limitations of pub/sub services)
  - An ALTO Server SHOULD NOT make changes to the metric values in a Calendar unless a major unexpected incident in the network motivates it. Hence the Server should only provide Calendars for information that has few chances to change
    - ➔ Need to specify what « few chances » means…

- This comment actually applies to calendared information in general. It is adressed in last paragraph of Security Considerations (§6).
  - ➔ **Needs to update security considerations**

Discuss 2:

- This document replaces draft-randriamasy-alto-cost-calendar, but this information is not reflected in the datatracker. The individual draft has an IPR declaration attached to it [1], but the failure to link the two documents has resulted in the IPR indication not carrying over.   The direct effect is that the IETF Last Call [2] explicitly says that "No IPR declarations have been submitted directly on this I-D.«
  - Datatracker has been updated IPR now reflects correctly
  - A new ID will be submitted with updates WRT all comments and discuss
  - WGLC will start upon WG agreement on updates

Comments – examples – formats

- Section 4: correct description of the time zone

    →UTC, per RFC 7231,

- JSON errors

    →JSON parsing needed

- Addresses in the IPv6 space in 2000::/3

    → use addresses from the 2001:db8::/32
    documentation prefix instead

Comments - highlights

- 4.1.2 definition of "Calendar-start-time" Please elaborate on why the start time SHOULD be no later than the current date?

  - An ALTO Client requesting a Calendar will likely want to use «predictive» information as soon as possible. An ALTO Server may release periodical Calendars. So the time period covered by the Calendar in the response SHOULD cover the date of the Client request.

- (Also, consider "SHOULD NOT be later...") ➔ OK

Comments

- Section 2 No mention of how historic data would be used
  - → « historic » = example on how to interpret Calendars
- § 2.2.1: ellaborate on «carefully » managed
- How about cyclic pattern repeating indefinitely?
  - → Proposal: set « repeat » value to 100000?
- Security (section 6)
  - – Would it really help a Client to double check repeated patterns after a while?
  - – Replace use of TLS 1.2 by of TLS 1.3?
- Many other comments asking for clarifications and elaboration

Next steps

- Propose solutions to solve DISCUSS items

- Respond to AD mails with DISCUSS

- Address comments

- Mailing list discussions

- Submit new version before WGLC

Back-up

ALTO Cost Calendar in a nutshell

- ALTO Calendar: allows deciding where to connect *and when*
  - Array of time-dependent cost values for a given metric,
  - Set of attributes describing time scope of the calendar
- Allows Delay tolerant applications to schedule their connections
  - Optimal time for data transfers
- Allows ALTO Clients to schedule their Calendar requests
  - ALTO servers may save transactions on repeated value arrays
- Applicable to
  - time-sensitive ALTO metrics
  - Filtered Cost Map (FCM)
    - for full Cost Map: use empty SRC & DEST
  - Endpoint Cost Map (ECM)
- Addresses target WG item: cost extensions (May 2014)

ALTO Calendar design

- Backwards compatibility with legacy Clients and Multi-Cost Map
  - Calendars associated to ALTO information resources
  - Calendar attributes specified in
    - IRD information resources of IRD
    - "meta" member of ALTO Server responses
- Does not introduce a new mode
- Does not introduce new media types
- Compatible with **all** cost-modes
  - numerical, string, …

ALTO Calendar v02- example IRD - §3.3

```
"endpoint-cost-calendar-map" : {
    "uri" : "http://custom.alto.example.com/calendar/endpointcost/calendar/lookup",
    "media-types" : [ "application/alto-endpointcost+json" ],
    "accepts" : [ "application/alto-endpointcostparams+json" ],
    "capabilities" : {
     "cost-constraints" : true,
     "cost-type-names" : [ "num-routingcost", "num-latency",
                   "num-pathbandwidth", "string-service-status" ],
     "calendar-attributes" : [
       {"cost-type-names" : "num-routingcost",
        "time-interval-size" : "1 hour",
        "number-of-intervals" : 24
        },

       // … calendar attributes for "num-latency", "num-pathbandwidth" …

       {"cost-type-names" : "string-service-status",
        "time-interval-size" : "2 minute",
        "number-of-intervals" : 30
        },
        ]
     "uses": [ "my-default-network-map" ]
    } // ECM capab
```

> Calendar-aware clients understand text in blue. Legacy ALTO clients ignore it

ALTO Calendar v05- example ECM - § 4.2.3

POST /calendar/endpointcost/lookup HTTP/1.1
Host: alto.example.com Content-Length: [TODO]
Content-Type: application/alto-endpointcostparams+json
Accept: application/alto-endpointcost+json,application/alto-error+json

```
{   "cost-type" : {"cost-mode" : "numerical", "cost-metric" : "routingcost"},
    "calendared" : [true],
    "endpoints" : {
     "srcs": [ "ipv4:192.0.2.2" ],
     "dsts": [
       "ipv4:192.0.2.89",
       "ipv4:198.51.100.34",
       "ipv4:203.0.113.45"     ]
   }
}
```

ALTO Calendar v05- examples ECM - §4.2.3

```
HTTP/1.1 200 OK
Content-Length: [TODO]
Content-Type: application/alto-endpointcost+json

{   "meta" : {
    "cost-type" : {"cost-mode" : "numerical", "cost-metric" : "routingcost"},
    "calendar-response-attributes" : [
       { "calendar-start-time" : Mon, 30 Jun 2014 00:00:00 GMT,
         "time-interval-size" : "1 hour",
         "number-of-intervals" : 24,
         "repeated": 4 }        ], // means: same value array for Monday, Tuesday, Wednesday, Thursday
     } // end meta

    "endpoint-cost-map" : {
     "ipv4:192.0.2.2": {
      "ipv4:192.0.2.89"    : [v1, v2, ... v24],
      "ipv4:198.51.100.34" : [v1, v2, ... v24],
      "ipv4:203.0.113.45"  : [v1, v2, ... v24]
     }
    }
  }
```