Conditional Attributes for Constrained RESTful Environments

draft-ietf-core-conditional-attributes

(https://github.com/core-wg/conditional-attributes)

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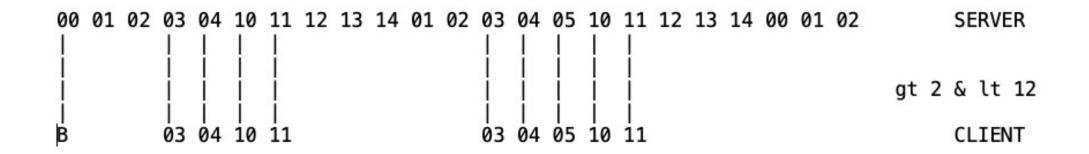IETF Core WG Interim Meeting 2022-02-24

Latest developments

- Continuing to incorporating feedback received for updates, corrections and clarifications

- 3 Github issues closed since last reported progress

- Draft has moved from -00 to -02

Resolved Issue 1: Value of "Band" attribute

- Conditional attributes "lt" and "gt" indicates the limits where the value of the resource SHOULD cross before triggering 1 (and only 1) notification

```
00 01 02 03 04 10 11 12 13 14              SERVER
|                  |                   gt 6
|                  |
B                  10                       CLIENT
```

Technical Issue 1: Value of "Band" attribute

- Band enabled and gt=2 and lt=12

```
00 01 02 03 04 10 11 12 13 14 01 02 03 04 05 10 11 12 13 14 00 01 02        SERVER
 |        |  |  |  |                 |  |  |  |  |
 |        |  |  |  |                 |  |  |  |  |
 |        |  |  |  |                 |  |  |  |  |           gt 2 & lt 12
 |        |  |  |  |                 |  |  |  |  |
 B        03 04 10 11                03 04 05 10 11          CLIENT
```
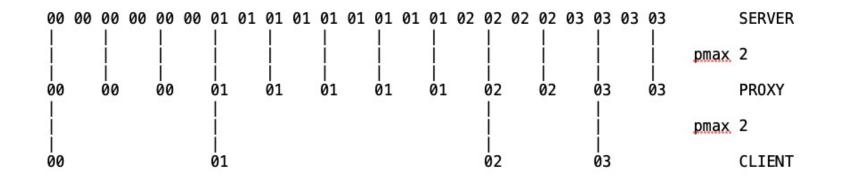
Resolved Issue 1: Value of "Band" attribute

- Band is an xs:Boolean but is its value significant?
  - Github Comment 1: "The band attribute is defined as a boolean type, but the use of the band attribute is determined by its presence, not its value. We should probably explicitly explain that."
    - Accept both band=1 and band=0 as setting the notification band
  - Github Comment 2: "Do we need the band attribute to have a value to begin with? This query component can simply be a name, instead of name-value pair (i.e band does not have any datatype)."
    - Example: /temperature?band&gt=30&lt=35
- Resolution: "band" will be a query parameter without a value. See bullet point above
  - Should the text provide guidance about what to do if the band parameter is sent with a value?

Resolved Issue 2: Proxy considerations

- The following text has been added in the Implementation Considerations:
  - "This specification defines conditional attributes that can be used with CoRE Observe relationships between CoAP clients and CoAP servers. However, it is recognised that the presence of 1 or more proxies between a client and a server can interfere with clients receiving resource updates, if a proxy does not supply resource representations if the value remains unchanged (eg if pmax is set, and the server sends multiple updates when the resource state contains the same value). A server SHOULD use the Max-Age option to mitigate this by setting Max-Age to be less than or equal to pmax."

```
00 00 00 00 00 00 01 01 01 01 01 01 01 01 01 02 02 02 02 03 03 03 03      SERVER
 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
 |     |     |     |     |     |     |     |     |     |     |     |    pmax 2
 |     |     |     |     |     |     |     |     |     |     |     |
00    00    00    01    01    01    01    01    02    02    03    03       PROXY
 |           |                             |           |
 |           |                             |           |             pmax 2
 |           |                             |           |
00          01                            02          03               CLIENT
```

Security Considerations

- "The security considerations in Section 11 of {{RFC7252}} apply. Additionally, the security considerations in Section 7 of {{RFC7641}} also apply."

IANA Considerations

- "This memo requests a new Conditional Attributes registry to ensure attributes map uniquely to parameter names."

Attribute	Parameter	Value	Reference
Minimum Period (s)	pmin	xs:decimal (>0)	This memo
Maximum Period (s)	pmax	xs:decimal (>0)	This memo
Minimum Evaluation Period (s)	epmin	xs:decimal (>0)	This memo
Maximum Evaluation Period (s)	epmax	xs:decimal (>0)	This memo
Confirmable Notification	con	xs:boolean	This memo
Greater Than	gt	xs:decimal	This memo
Less Than	lt	xs:decimal	This memo
Change Step	st	xs:decimal (>0)	This memo
Notification Band	band	(none)	This memo
Edge	edge	xs:boolean	This memo

Next Steps

- Continue getting feedback and reviews
- Ready for WGLC?

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Thank you!