

# Conditional Attributes for Constrained RESTful Environments

draft-ietf-core-conditional-attributes

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

Bill Silverajan

IETF 113 Core WG Meeting 2022-03-25

# Updates

- Explanation of the term “attribute”
- Discussion on the need for a Conditional attributes registry
- Moving on to WGLC

# Describing conditional attributes

- Old text:

- *This specification defines conditional attributes, which provide for fine-grained control of notification and state synchronization when using CoRE Observe [RFC7641]. When resource interfaces following this specification are made available over CoAP, the CoAP Observation mechanism [RFC7641] MAY also be used to observe any changes in a resource, and receive asynchronous notifications as a result. A resource marked as Observable in its link description SHOULD support these conditional attributes.*

- New text:

- *This specification defines conditional attributes for use with CoRE Observe [RFC7641]. Conditional attributes provide fine-grained control of notification and synchronization of resource states. When observing a resource, a CoAP client conveys conditional attributes as metadata using the query component of a CoAP URI. A conditional attribute can be represented as a “name=value” query parameter or simply a “name” without a value. Multiple conditional attributes in a query component are separated with an ampersand “&”. A resource marked as Observable in its link description SHOULD support these conditional attributes.*

# IANA Considerations: Do we need a registry?

- “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

# Pros and Cons of a Registry

- Removes ambiguity of how conditional attributes can be defined and used:
  - Eg “lt” in this draft refers to “less than”, while “lt” can also be used to describe lifetime in another query parameter (eg in CoRE Resource Directory)
  - CoRE Resource Directory defines an “RD Parameters” sub-registry under “CoRE Parameters”
- Excerpt from RFC 8820 Sections 2.4 and 3:
  - Extensions MUST NOT constrain the format or semantics of queries, to avoid collisions and erroneous client assumptions. For example, an Extension that indicates that all query parameters with the name "sig" indicate a cryptographic signature would collide with potentially preexisting query parameters on sites and lead clients to assume that any matching query parameter is a signature.
  - Specifying more elaborate structures in an attempt to avoid collisions is not an acceptable solution and does not address the issues described in [Section 1](#). For example, prefixing query parameters with "myapp " does not help, because the prefix itself is subject to the risk of collision (since it is not "reserved").
- More thoughts?

# Conditional Attributes for Constrained RESTful Environments

Thank you!