Yang-Push Notification Capabilities

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The problem

A contract − "MAYBe"

› Publishers generally supporting on-change notifications will not always be able to push on-change updates for some object types
  - Frequent change (inOctets counter)
  - Meaningless small change (temperature changing 0.1 degrees)
  - Not implemented
  - Resource limitation (missing HW)
  - Small constrained network node

› Support for on-change does not mean that notifications are sent for any specific object

› Need a way to indicate which object types support on-change updates

Changes 01 - 02

› On-change capability can be defined per datastore

› Added "if-feature yp:on-change" where relevant

› Unified units used (centiseconds)

› Added instance data examples

› Ready for WGLC ?

Yang Model

› Document notification capabilities

› Yang module ietf-notification-capabilities

- On-change capability per *datastore* and per data node (yes or no)
  › 2 top level default values
  › Inherited down the data tree
  › + a *few* exceptions for specific data nodes
- Other capacity related capabilities
  › Max objects per update
  › update & dampening period

module: ietf-notification-capabilities
  ro datastore-subscription-capabilities
        +--ro (update-period)?
        | +--:(minimum-update-period)
        | | +--ro minimum-update-period?   uint32
        | +--:(supported-update-period)
        | +--ro supported-update-period*   uint32
        +--ro max-objects-per-update?   uint32
        +--ro minimum-dampening-period?   uint32 {yp:on-change}?
        +--ro on-change-capable-nodes* [datastore] {yp:on-change}?
           +--ro *datastore*   union
           +--ro notification-sent-for-config-default?   boolean
           +--ro notification-sent-for-state-default?   boolean
           +--ro on-change-notification-capability* [node-selector]
              +--ro node-selector   nacm:node-instance-identifier
              +--ro on-change-supported   boolean

Example capabilities

Blue items send
on-change notifications

module: ietf-interfaces

+--rw interfaces
  +--rw interface* [name]
    +--rw name   string
    +--rw type   identityref
    +--rw enabled?   boolean
    +--ro oper-status   enumeration
    +--ro statistics
      +--ro in-octets?   counter64
      +--ro in-broadcast-pkts? counter64
      +--ro in-multicast-pkts?   counter64
      +--ro out-octets?   counter64

yangpush-notification-capabilities

notification-sent-for-config-default =
true (by default)

_____

notification-sent-for-state-default =
true

/interfaces/interface/statistics :
   on-change-notification-sent = false
/interfaces/interface/statistics/out-octets :
/interfaces/interface/statistics/in-octets :
   on-change-notification-sent = true