Interface configuration

draft-ietf-netmod-interfaces-cfg-01
draft-ietf-netmod-iana-if-type-00
draft-bjorklund-netmod-ip-cfg-00

IETF 81
Martin Björklund
mbj@tail-f.com
Changes from last IETF

• Use an enumeration instead of identity for interface types.
  – Spoke with IANA, draft-ietf-netmod-iana-if-type is the result.

• Added link-up-down-trap-enable which maps to ifLinkUpDownTrapEnable from IF-MIB.
Open Issues 1(3)

- The interface type was originally an identityref.
  - Pro: Extensible
  - Con: People are used to IANAifType values
- So now the interface type is an enumeration, like in SMIv2
- Alternative solution: Let IANA maintain the standard identities
Open Issues 2(3)

// OLD
enum ethernetCsmacd {
    value 6;
    description
        "For all ethernet-like interfaces, regardless of speed,
        as per RFC3635."
    reference
        "RFC 3635 - Definitions of Managed Objects for the
        Ethernet-like Interface Types.";
}

// NEW
identity ethernetCsmacd {
    base if:interface-type;
    description
        "For all ethernet-like interfaces, regardless of speed,
        as per RFC3635.";
    reference
        "RFC 3635 - Definitions of Managed Objects for the
        Ethernet-like Interface Types.";
}
Open Issues 3(3)

• Pros:
  - Extensible
  - Well-known values are used

• Con:
  - Extensible
  - non-IANA-assigned identities would have to map to interface type 'other' in ifTable
Static IP address configuration

- It was requested that we add static IP address configuration objects.
- draft-bjorklund-netmod-ip-cfg augments the interface list with additional objects for static IP address configuration.

```plaintext
+--rw if:interfaces
   +--rw if:interface [name]
      ...
     +--rw ipv4
        | +--rw address [ip]
        |   +--rw ip               inet:ipv4-address
        |   +--rw prefix-length?   uint8
     +--rw ipv6
        +--rw address [ip]
           +--rw ip               inet:ipv6-address
           +--rw prefix-length?   uint8
```
Reality Check 1(2)

• Ladislav Lhotka experiment:

  <interface>
    <name>GigabitEthernet1/1</name>
    <description>
      External interface.
    </description>
    <type>ethernetCsmacd</type>
    <location>1/1</location>
    <mtu>8192</mtu>
    <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
      <address>
        <ip>192.0.2.1</ip>
        <prefix-length>24</prefix-length>
      </address>
    </ipv4>
    <ipv6 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
      <address>
        <ip>2001:CAFE::1</ip>
        <prefix-length>64</prefix-length>
      </address>
    </ipv6>
  </interface>
Reality Check 2(2)

- Run a XSLT script to produce

```bash
$ xsltproc cisco-ios.xsl test-get-config-reply.xml

! Created from NETCONF get-config reply

interface GigabitEthernet1/1
   description External interface.
   mtu 8192
   ip address 192.0.2.1 255.255.255.0
   ipv6 address 2001:CAFE::1/64
!
interface GigabitEthernet1/2
   description Internal interface.
   ip address 192.0.3.129 255.255.255.128
   ipv6 address 2001:F00B::1/64
!
end
```
Next Steps

- draft-ietf-netmod-interfaces-cfg-01 and draft-ietf-netmod-iana-if-type-00 are ready for WGLC. Need reviews!
- Adopt draft-bjorklund-netmod-ip-cfg as a WG document?