Interface configuration

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

IETF 81

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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.

```
+--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

```
$ 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?