

Guidelines and Registration Procedures for Interface Types and Tunnel Types

draft-thaler-iftypereg-04

Dave Thaler

Dan Romascanu

Document status

- Suresh Krishnan is AD Sponsoring this doc
- -01 presented at IETF 104 INTAREA WG
- Four issues raised since then, tracked in github:
 - <https://github.com/dthaler/iftypereg/issues>
- All have been addressed in doc updates (see next slides)
 - #1: UDP-based tunnels
 - #2: tunnelType registry reference
 - #3: Confusion around registries vs registry formats
 - #4: Registration Template for tunnel types

#3: Confusion around registries vs registry formats

- Problem:
 - Belief by some that draft-ietf-softwire-iftunnel (now in RFC Ed Queue) was creating a new registry
- Resolution:
 - draft-thaler-ifttype-reg-03 clarified:
 - MIB module & YANG module are simply *alternate formats* in which these registries can be retrieved, just like HTML, XML, CSV already are
 - Added Section 5 (“Available Formats”) with this discussion
 - Some confusion stems from current presentation/labels on IANA site
 - ifType & tunnelType registries did not list MIB/YANG as formats, but looked more like links to other registries
 - YANG module “registry” pages were close already (e.g., “See ifType definitions registry.”), but MIB module “registry” page had no such statement
 - Draft proposes changes to present them as Available Formats, not “registries”

Structure of Management Inform

Last Updated

2019-07-16

Note

For the management of hosts and gateways on the Inte structure for the information has been defined. This should be used with any of several possible managemer as the "Simple Network Management Protocol" (SNMP) [I "Common Management Information Protocol over TCP" (CI

The data structure is the "Structure and Identificat

-
-
-

1.3.6.1.6	snmpV2
1.3.6.1.6.1	snmpDomains
1.3.6.1.6.2	snmpProxys
1.3.6.1.6.3	snmpModules
1.3.6.1.7	mail
1.3.6.1.8	features

Available Formats



XML



HTML



Plain text

ifType Definitions

Registration Procedure(s)

Expert Review

Expert(s)

Dave Thaler (primary), Dan Romascanu (secondary)

Description

iso.org.dod.internet.mgmt.mib-2.interface.ifTable.ifEntry.ifType (1.3.6.1.2.1.2.2.1.3)

Reference

[RFC1213][RFC2863][RFC7224]

Note

For every ifType registration, the corresponding transmission number value should be registered or marked "Reserved." In addition, the [IANAifType-MIB] and [iana-if-type YANG] modules should be updated in accordance with [RFC2863] and [RFC7224], respectively.

Note

For a functional mib language definition please see the following:
[IANA registry [ianaiftype-mib](#)]

Rules for real mib names:

```
#NAME?  
"-if its made of several words,"  
the second and later word's first letter is uppercase  
#NAME?  
#NAME?  
#NAME?
```

Thus by way of example we have:

```
traif          kosher  
-----  
ddn-x25       "ddnX25(4),"  
FDDI          "fddi(15),"  
smds-dxi      "smdsDxi(43),"  
IEEE802.11    "ieee80211(71),"
```

"-Finally, the last item in the list has no comma,"
while all previous items have a comma

Available Formats



CSV

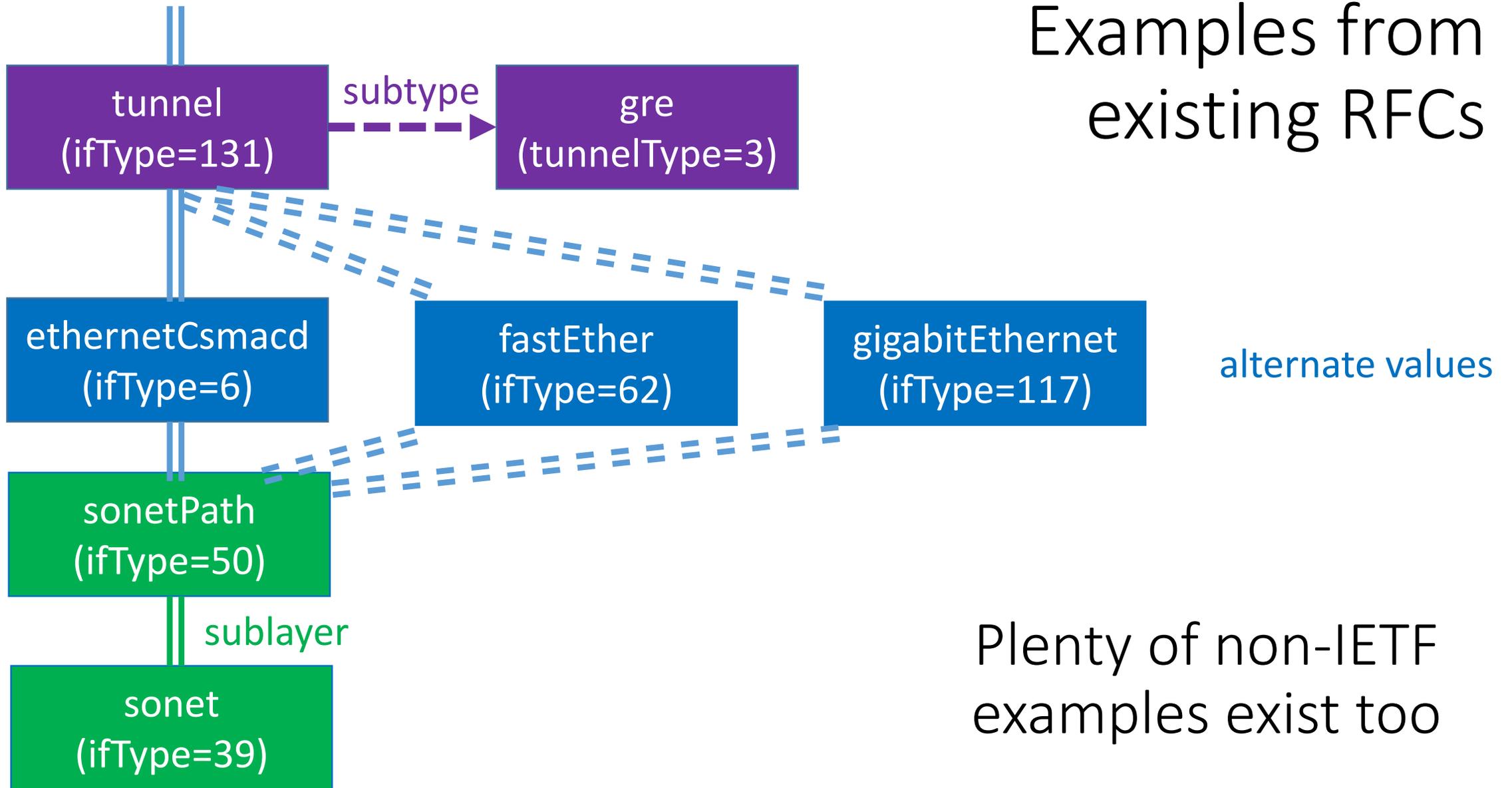
#2: tunnelType registry reference

- Problem:
 - As discussed last IETF, the tunnelType registry is intentionally defined to always use the same assignment policy as ifType, and it has same Designated Experts
 - Part of ifType/tunnelType Expert Review includes verifying the right one of the two is being assigned
 - Tunnel types were mentioned, but large portions of -01 only covered ifType
- Resolution:
 - Title changed to add “and Tunnel Types”
 - Content now covers both ifType and tunnelType equally

#4: Registration Template for tunnel types

- Problem:
 - ifType had a registration template in the draft (and in previous RFCs), and has an optional IANA form that matches it
 - “This template describes the fields that MUST be supplied in a registration request suitable for adding to the ifType registry:”
 - tunnelType had neither, and so hard to apply the same “MUST” standard
 - Conflicts with the RFC requirement to use “same assignment policy”
- Resolution:
 - Added a registration template in the draft, that has parity with ifType one
 - (no statement about whether IANA should have a form, this is up to IANA)

Examples from existing RFCs



#1: UDP-based tunnels (1/2)

- Mohamed Boucadair:
 - “Add some text to encourage UDP-based tunnel protocol designers to register their own code instead of reusing the one currently assigned to generic UDP encap (8).”
- -01 had section on “Interface Sub-Layers and Sub-Types” but nothing explicit on alternate values
- -04 adds section 4.1 “Alternate Values” and uses Ethernet (see previous slide) and the UDP tunnel issue as 2 very different examples
 - The (unfortunately-named) udp(8) was originally added for [RFC1234] encap, which supports things like multicast
 - In contrast, other UDP encap mechanisms like teredo got different values because the link model is quite different

#1: UDP-based tunnels (1/2)

- After discussion of the two examples, concludes with:
 - “In summary, definers of new interface or tunnel mechanisms should use a **new ifType or tunnelType value** rather than reusing an existing value
 - when key aspects such as the **header format or the link model** (point-to-point, non-broadcast multi-access, broadcast capable multi-access, unidirectional broadcast, etc.) are significantly **different** from existing values,
 - but **reuse the same value**
 - when the differences can be expressed in terms of **differing values of existing objects**, other than ifType/tunnelType, in the standard YANG or MIB module.”

Questions?