YANG Types for DNS Classes and Resource Record Types

draft-lhotka-dnsop-iana-class-type-yang-01

Ladislav Lhotka
⟨lhotka@nic.cz⟩

Petr Špaček
⟨petr.spacek@nic.cz⟩

26 March 2019
Summary

Two IANA registries from [1] are defined as YANG derived types:

- DNS CLASSes
- Resource Record (RR) Types

Changes since -00

- Only in the I-D text: more details about the context and use cases.
- The YANG module is exactly the same as in -00.

Issues raised

1. Can the YANG module and registry ever get out of sync?
2. Semantics of deprecated.

YANG Derived Types

One type is an enumeration of mnemonic names, the other also permits a numeric reference (cf. RFC 3597).

typedef dns-class-name {
    type enumeration {
        enum IN {
            value "1";
            ...
        }
        enum CH {
            value "3";
            ...
        }
    }
}

typedef rr-type-name {
    type enumeration {
        enum A {
            value "1";
            ...
        }
        enum NS {
            value "2";
            ...
        }
    }
}

typedef dns-class {
    type union {
        type uint16;
        type dns-class-name;
    }
    ...
}

typedef rr-type {
    type union {
        type uint16;
        type rr-type-name;
    }
    ...
}
Issue #1: YANG module versus registry

If there is a flaw in the registry, can it be fixed in the YANG module independently of the registry?

We recommend not to do so: it could break the assumption that further updates to the module will be done by IANA based on the registry changes.
Issue #2: semantics of deprecated

- RFC 8126 (IANA registries):
  
  *Specific entries in a registry can be marked as “obsolete” (no longer in use) or “deprecated” (use is not recommended).*

- RFC 7950 (YANG):
  
  “deprecated” indicates an obsolete definition, but it permits new/continued implementation in order to foster interoperability with older/existing implementations.

This issue is currently being discussed in the NETMOD WG, and should be resolved in the next version of YANG.