

# YANG Groupings for QUIC clients and QUIC servers

draft-ietf-netconf-quic-client-server-02

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**I E T F**<sup>®</sup>

# Intro

- Defining reusable YANG groupings for the QUIC protocol
- Reusing tls-client-server and udp-client-server
- Adding IANA YANG modules for quic-versions and quic-transport parameters
- Used by draft-ietf-netconf-over-quic

# Updates

- Added initial IANA YANG modules
  - quic-versions
  - quic-transport
- Updated ietf-quic-common to use IANA YANG modules
- Editorial fixes

# iana-quic-versions

```
typedef quic-version {  
    type enumeration {  
        enum 0x00000000 { ... }  
        enum 0x00000001 { ... }  
        ...  
        enum 0x709a50c4 { ... }  
    }  
}  
}
```

```
typedef version {  
    type quic-version;  
}
```

# iana-quirk-versions: issues

- Enum values maybe not able to represent IANA quirk-versions values
  - Using “value” limitations
    - range -2147483648 to 2147483647  
(-8000 0000, 7FFF FFFF)
  - Registry value represented as string (enum name)

# iana-quick-transport

```
typedef quick-transport-parameter {  
    type enumeration {  
        enum original_destination_  
connection_id {  
        value 0x00;  
    }  
    enum max_idle_timeout {  
        value 0x01;  
    }  
    ...  
}
```

```
typedef transport-parameter {  
    type quick-transport-parameter;  
}
```

# iana-quic-transport: issues

- More or less same issues as iana-quic-versions
- Use identities?
- Value range actually out of scope with current registry contents

```
enum enable_multipath-06 {  
    value 0x0f739bbc1b666d06;  
    description "(provisional)";  
    reference  
        "draft-ietf-quic-multipath-06";  
}
```

# Solution to issues

- Use identities instead of enums?
  - Raised by Med in review
- Use name/string and let implementations map actual numeric values?
  - Mention the value in the description?

# quiccmn:versions

```
grouping versions {  
    ...  
    leaf-list versions {  
        type iana-quic-\  
versions:version;  
    }  
}
```

- Grouping containing the “quic-versions” parameters
- Leaf-list with enum
  - Replace with identities?

# quiccmn:transport-parameters

```
grouping transport-parameters {  
    ...  
    leaf-list transport-\  
parameters {  
    type iana-quic-\  
versions:version;  
    }  
}
```

- Grouping containing the “quic-transport” parameters
- Leaf-list with enum
  - Replace with identities?

# Next steps

- Is it the correct abstraction level for ietf-quic-common?
- Use identities instead of enum for versions and transport parameters?
- How to encode registry values in the YANG module
- Possibility for arbitrary version and transport parameter values?
  - E.g. allow values not defined in IANA YANG modules

Thank you!

Questions?

# Common YANG model

name: ietf-quic-common

namespace: urn:ietf:params:xml:ns:yang:ietf-quic-common

prefix: quiccmn

# ietf-quic-client

grouping quic-client:

```
+---u tlsc:tls-client-grouping
|      {tlscmn:tls13 and not tlscmn:tls12}?
+---u udpc:udp-client
+---u quiccmn:versions
+---u quiccmn:transport-parameters
```

# ietf-quic-server

grouping quic-server:

```
+---u tlss:tls-server-grouping
|      {tlscmn:tls13 and not tlscmn:tls12}?
+---u udps:udp-server
+---u quiccmn:versions
+---u quiccmn:transport-parameters
```