

NETCONF Working Group  
Internet-Draft  
Intended status: Standards Track  
Expires: 15 August 2026

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11 February 2026

YANG Groupings for QUIC clients and QUIC servers  
draft-ietf-netconf-quic-client-server-04

Abstract

This document defines five YANG 1.1 modules to support the configuration of QUIC clients and QUIC servers. The modules include basic parameters for configuring QUIC based clients and servers as well as initial modules for the IANA registries "QUIC Versions" and "QUIC Transport Parameters".

Editorial note (To be removed by the RFC Editor)

This draft contains placeholder values that need to be replaced with finalized values at the time of publication. This note summarizes all of the substitutions that are needed. No other RFC Editor instructions are specified elsewhere in this document.

Artwork in this document contains shorthand references to drafts in progress. Please apply the following replacements:

- \* AAAA --> the assigned RFC value for this draft
- \* CCCC --> the assigned RFC value for draft-ietf-netconf-udp-client-server

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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## 1. Introduction

This documents defines two YANG 1.1 [RFC7950] modules to support the configuration of QUIC clients and QUIC servers (QUIC is defined in [RFC9000]), either as standalone or in conjunction with configuration of other protocol layers.

### 1.1. Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

The following terms are defined in [RFC7950] and are not redefined here: client, data model, data tree, feature, extension, module, leaf, leaf-list, and server.

## 2. The "ietf-quic-common" Module

This section defines a YANG 1.1 module called "ietf-quic-common".

This YANG module has normative references to [RFC9000], [RFC9221], [RFC9287], [RFC9312], [RFC9368], and [RFC9369].

### 2.1. Data model overview

This section presents an overview of of the "ietf-quic-common" module in terms of features and groupings.

#### 2.1.1. Groupings

The "ietf-quic-common" module defines the following "grouping" statement:

- \* transport-parameters

This grouping is presented in the following subsection.

##### 2.1.1.1. The "quic-common" Grouping

The following tree diagram [RFC8340] illustrates the "quic-common" grouping:

```
grouping version:
  +-- version*   iana-quic-versions:version
grouping transport-parameters:
  +-- leaf-list? iana-quic-transport:transport-parameter
```

Comments:

- \* This grouping contains common transport parameters for QUIC connections.

## 2.2. YANG Module

<CODE BEGINS> file "ietf-quic-common@2026-02-12.yang"

===== NOTE: '\ ' line wrapping per RFC 8792 =====

```
module ietf-quic-common {
  yang-version 1.1;
  namespace
    "urn:ietf:params:xml:ns:yang:ietf-quic-common";
  prefix quiccmn;

  import iana-quic-versions {
    prefix iana-quic-versions;
    reference "RFC AAAA: YANG Groupings for QUIC clients and QUIC se\
rvers";
  }

  import iana-quic-transport {
    prefix iana-quic-transport;
    reference "RFC AAAA: YANG Groupings for QUIC clients and QUIC se\
rvers";
  }

  organization
    "IETF NETCONF (Network Configuration) Working Group";

  contact
    "WG List: NETCONF WG list <mailto:netconf@ietf.org>
    WG Web:  https://datatracker.ietf.org/wg/netconf
    Author:  Per Andersson <mailto:per.ietf@ionio.se>";

  description
    "This module defines a reusable grouping that is common for
    QUIC clients and QUIC servers. This grouping statement is
    used by both 'ietf-quic-client' and 'ietf-quic-server'
    modules.
```

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This version of this YANG module is part of RFC AAAAA (<https://www.rfc-editor.org/info/rfcAAAA>); see the RFC itself for full legal notices.

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```
revision 2026-02-12 {
  description
    "Initial version";
  reference
    "RFC AAAAA: YANG Groupings for QUIC Clients and QUIC Servers";
}

// Groupings

grouping version {
  description
    "A reusable grouping for QUIC Versions.";
  reference
    "RFC 9000: QUIC: A UDP-Based Multiplexed and Secure Transport
    RFC 9369: QUIC Version 2";

  leaf-list version {
    type iana-quic-versions:version;
    description
      "The QUIC versions supported.";
  }
}

grouping transport-parameters {
  description
    "A reusable grouping for QUIC Transport Parameters.";
  reference
```

```
"RFC 9000: QUIC: A UDP-Based Multiplexed and Secure Transport
RFC 9221: An Unreliable Datagram Extension to QUIC
RFC 9287: Greasing the QUIC Bit
RFC 9312: Manageability of the QUIC Transport Protocol
RFC 9368: Compatible Version Negotiation for QUIC";
```

```
leaf leaf-list {
  type iana-quic-transport:transport-parameter;
  description
    "A leaf list containing the QUIC transport parameters.";
}
}
```

<CODE ENDS>

### 3. The "ietf-quic-client" Module

This section defines a YANG 1.1 module called "ietf-quic-client".

#### 3.1. Data model overview

This section presents an overview of of the "ietf-quic-client" module in terms of features and groupings.

##### 3.1.1. Features

The module itself does not define any features. However, in order to require TLS 1.3 the following "if-feature" is defined "tls:tls13 not tls:tls12". For QUIC TLS requirements see [RFC9001].

For further details about available features see the "ietf-tls-client" and "ietf-udp-client" modules. defined in [RFC9645] and [I-D.ietf-netconf-udp-client-server] respectively.

##### 3.1.2. Groupings

The "ietf-quic-client" module defines the following "grouping" statement:

```
* quic-client
```

This grouping is presented in the following subsection.

###### 3.1.2.1. The "quic-client" Grouping

The following tree diagram [RFC8340] illustrates the "quic-client" grouping:

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

Comments:

- \* This grouping uses the "tls-client-grouping" grouping discussed in [RFC9645]. Note that QUIC requires TLS 1.3 (or later), thus the "if-feature" invariant "tlscmn:tls13 and not tlscmn:tls12" is defined for this grouping.
- \* This grouping uses the "udp-client-grouping" grouping discussed in [I-D.ietf-netconf-udp-client-server].

### 3.2. YANG Module

This YANG module has normative references to [RFC9645] and [I-D.ietf-netconf-udp-client-server].

<CODE BEGINS> file "ietf-quic-client@2026-02-12.yang"

```
module ietf-quic-client {
  yang-version 1.1;
  namespace
    "urn:ietf:params:xml:ns:yang:ietf-quic-client";
  prefix quicc;

  import ietf-quic-common {
    prefix quiccmn;
    reference
      "RFC AAAA: YANG Groupings for QUIC Clients and QUIC Servers";
  }

  import ietf-tls-client {
    prefix tlsc;
    reference
      "RFC 9645: YANG Groupings for TLS Clients and TLS Servers";
  }

  import ietf-tls-common {
    prefix tlscmn;
    reference
      "RFC 9645: YANG Groupings for TLS Clients and TLS Servers";
  }

  import ietf-udp-client {
```

```
    prefix udpc;
    reference
        "RFC CCCC: YANG Groupings for UDP Clients and UDP Servers";
}

organization
    "IETF NETCONF (Network Configuration) Working Group";

contact
    "WG List: NETCONF WG list <mailto:netconf@ietf.org>
    WG Web:  https://datatracker.ietf.org/wg/netconf
    Author:  Per Andersson <mailto:per.ietf@ionio.se>";

description
    "This module defines reusable groupings for QUIC clients that
    can be used as a basis for specific QUIC client instances.

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    The key words 'MUST', 'MUST NOT', 'REQUIRED', 'SHALL',
    'SHALL NOT', 'SHOULD', 'SHOULD NOT', 'RECOMMENDED',
    'NOT RECOMMENDED', 'MAY', and 'OPTIONAL' in this document
    are to be interpreted as described in BCP 14 (RFC 2119)
    (RFC 8174) when, and only when, they appear in all
    capitals, as shown here."

revision 2026-02-12 {
    description
        "Initial version";
    reference
        "RFC AAAAA: YANG Groupings for QUIC Clients and QUIC Servers";
}

// Groupings

grouping quic-client {
```

```
description
  "Grouping to configure a QUIC client.";
reference
  "RFC 9000: QUIC: A UDP-Based Multiplexed and Secure Transport";

uses tlsc:tls-client-grouping {
  if-feature "tlscmn:tls13 and not tlscmn:tls12";
  description
    "QUIC requires that TLS 1.3 (or later) is used.";
  reference
    "RFC 9001: Using TLS to Secure QUIC";
}
uses udpc:udp-client;
uses quiccmn:transport-parameters;
}

<CODE ENDS>
```

#### 4. The "ietf-quic-server" Module

This section defines a YANG 1.1 module called "ietf-quic-server".

##### 4.1. Data model overview

This section presents an overview of of the "ietf-quic-server" module in terms of features and groupings.

###### 4.1.1. Features

The module itself does not define any features. However, in order to require TLS 1.3 the following "if-feature" is defined "tlscmn:tls13 not tlscmn:tls12". For QUIC TLS requirements see [RFC9001].

For further details about available features see the "ietf-tls-server" and "ietf-udp-server" modules, defined in [RFC9645] and [I-D.ietf-netconf-udp-client-server] respectively.

###### 4.1.2. Groupings

The "ietf-quic-server" module defines the following "grouping" statement:

```
* quic-server
```

This grouping is presented in the following subsection.

## 4.1.2.1. The "quic-server" Grouping

The following tree diagram [RFC8340] illustrates the "quic-server" grouping:

```

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

```

Comments:

- \* This grouping uses the "tls-server-grouping" grouping discussed in [RFC9645]. Note that QUIC requires TLS 1.3 (or later), thus the "if-feature" invariant "tlscmn:tls13 and not tlscmn:tls12" is defined for this grouping.
- \* This grouping uses the "udp-server-grouping" grouping discussed in [I-D.ietf-netconf-udp-client-server].

## 4.2. YANG Module

This YANG module has normative references to [RFC9645] and [I-D.ietf-netconf-udp-client-server].

<CODE BEGINS> file "ietf-quic-server@2026-02-12.yang"

```

module ietf-quic-server {
  yang-version 1.1;
  namespace
    "urn:ietf:params:xml:ns:yang:ietf-quic-server";
  prefix quics;

  import ietf-quic-common {
    prefix quiccmn;
    reference
      "RFC AAAA: YANG Groupings for QUIC Clients and QUIC Servers";
  }

  import ietf-tls-server {
    prefix tlss;
    reference
      "RFC 9645: YANG Groupings for TLS Clients and TLS Servers";
  }

  import ietf-tls-common {
    prefix tlscmn;
  }

```

```
reference
  "RFC 9645: YANG Groupings for TLS Clients and TLS Servers";
}

import ietf-udp-server {
  prefix udps;
  reference
    "RFC CCCC: YANG Groupings for UDP Clients and UDP Servers";
}

organization
  "IETF NETCONF (Network Configuration) Working Group";

contact
  "WG List: NETCONF WG list <mailto:netconf@ietf.org>
  WG Web:  https://datatracker.ietf.org/wg/netconf
  Author:  Per Andersson <mailto:per.ietf@ionio.se>";

description
  "This module defines reusable groupings for QUIC servers that
  can be used as a basis for specific QUIC server instances.

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  'SHALL NOT', 'SHOULD', 'SHOULD NOT', 'RECOMMENDED',
  'NOT RECOMMENDED', 'MAY', and 'OPTIONAL' in this document
  are to be interpreted as described in BCP 14 (RFC 2119)
  (RFC 8174) when, and only when, they appear in all
  capitals, as shown here."

revision 2026-02-12 {
  description
    "Initial version";
  reference
    "RFC AAAAA: YANG Groupings for QUIC Clients and QUIC Servers";
```

```

    }

    // Features

    // FIXME feature quic-call-home

    // Groupings

    grouping quic-server {
        description
            "Grouping to configure a QUIC server.";
        reference
            "RFC 9000: QUIC: A UDP-Based Multiplexed and Secure Transport";

        uses tlss:tls-server-grouping {
            if-feature "tlscmn:tls13 and not tlscmn:tls12";
            description
                "QUIC requires that TLS 1.3 (or later) is used.";
            reference
                "RFC 9001: Using TLS to Secure QUIC";
        }
        uses udps:udp-server;
        uses quiccmn:transport-parameters;
    }
}

<CODE ENDS>

```

## 5. Security Considerations

This section follows the template defined in Section 3.7.1 of [RFC8407].

The YANG modules specified in this document defines a schema for data that is designed to be accessed via network management protocols such as NETCONF [RFC6241] or RESTCONF [RFC8040]. The lowest NETCONF layer is the secure transport layer, and the mandatory-to-implement secure transport is Secure Shell (SSH) [RFC6242]. The lowest RESTCONF layer is HTTPS, and the mandatory-to-implement secure transport is TLS [RFC8446].

The Network Configuration Access Control Model (NACM) [RFC8341] provides the means to restrict access for particular NETCONF or RESTCONF users to a preconfigured subset of all available NETCONF or RESTCONF protocol operations and content.

The modules presented in this draft does not contain any protocol accessible nodes, and thus the security considerations for such are not provided here.

Furthermore, the modules defines groupings, these considerations are primarily for the designers of other modules that use these groupings.

Security considerations for the groupings used in the modules are discussed in [RFC9645] and [I-D.ietf-netconf-udp-client-server], refer to these documents for further details.

Since the modules does not define any RPCs or actions or notifications, and thus the security considerations for such are not provided here.

## 6. IANA Considerations

### 6.1. The "IETF XML" Registry

This document registers five URIs in the "ns" subregistry of the IETF XML Registry [RFC3688] maintained at <https://www.iana.org/assignments/xml-registry/xml-registry.xhtml#ns>. Following the format in [RFC3688], the following registration is requested:

URI: urn:ietf:params:xml:ns:yang:ietf-quic-common  
Registrant Contact: The IESG.  
XML: N/A, the requested URI is an XML namespace.

URI: urn:ietf:params:xml:ns:yang:ietf-quic-client  
Registrant Contact: The IESG.  
XML: N/A, the requested URI is an XML namespace.

URI: urn:ietf:params:xml:ns:yang:ietf-quic-server  
Registrant Contact: The IESG.  
XML: N/A, the requested URI is an XML namespace.

URI: urn:ietf:params:xml:ns:yang:iana-quic-versions  
Registrant Contact: IANA  
XML: N/A, the requested URI is an XML namespace.

URI: urn:ietf:params:xml:ns:yang:iana-quic-transport  
Registrant Contact: IANA  
XML: N/A, the requested URI is an XML namespace.

## 6.2. The "YANG Module Names" Registry

This document registers five YANG modules in the YANG Module Names registry [RFC6020] maintained at <https://www.iana.org/assignments/yang-parameters/yang-parameters.xhtml>. Following the format defined in [RFC6020], the below registration is requested:

```
name: ietf-quic-common
namespace: urn:ietf:params:xml:ns:yang:ietf-quic-common
prefix: quiccmn
RFC: AAAA
```

```
name: ietf-quic-client
namespace: urn:ietf:params:xml:ns:yang:ietf-quic-client
prefix: quicc
RFC: AAAA
```

```
name: ietf-quic-server
namespace: urn:ietf:params:xml:ns:yang:ietf-quic-server
prefix: quics
RFC: AAAA
```

```
name: iana-quic-versions
namespace: urn:ietf:params:xml:ns:yang:iana-quic-versions
prefix: iana-quic-versions
RFC: AAAA
```

```
name: iana-quic-transport
namespace: urn:ietf:params:xml:ns:yang:iana-quic-transport
prefix: iana-quic-transport
RFC: AAAA
```

## 6.3. Considerations for IANA Maintained Modules

The initial YANG modules are created with the iana-yang tool from <https://github.com/llhotka/iana-yang>.

### 6.3.1. The "iana-quic-versions" Module

IANA is requested to maintain a YANG module called "iana-quic-versions" that shadows the "QUIC Versions" registry [IANA-QUIC-VERSIONS].

This registry defines a YANG enumeration for each QUIC version.

An initial version of this module can be found in Appendix A.1.

- \* Note that this module was created on July 6th, 2025, and that additional entries may have been added before this document's publication. If this is the case, IANA may publish an updated module containing the new entries, or publish the initial module with a "revision" containing the additional QUIC versions.

### 6.3.2. The "iana-quic-transport" Module

IANA is requested to maintain a YANG module called "iana-quic-transport" that shadows the "QUIC Transport Parameters" registry [IANA-QUIC-TRANSPORT].

This registry defines a YANG enumeration for each QUIC transport parameter.

An initial version of this module can be found in Appendix A.2.

Since the QUIC Transport Parameters registry may have provisionally registered names change value when they are made permanent, make the following considerations.

- \* If an existing name exists in the module, update the value in the description field.
- \* Since normative changes to enum descriptions are non-backwards-compatible, the YANG Semver version need to update the MAJOR version number. Note that this follows normal YANG Semver versioning rules. [I-D.ietf-netmod-yang-semver].
- \* Note that this module was created on July 6th, 2025, and that additional entries may have been added before this document's publication. If this is the case, IANA may publish an updated module containing the new entries, or publish the initial module with a "revision" containing the additional QUIC transport parameters.

## 7. References

### 7.1. Normative References

[I-D.ietf-netconf-udp-client-server]  
Feng, A. H., Francois, P., and K. Watsen, "YANG Groupings for UDP Clients and UDP Servers", Work in Progress, Internet-Draft, draft-ietf-netconf-udp-client-server-10, 16 December 2025, <<https://datatracker.ietf.org/doc/html/draft-ietf-netconf-udp-client-server-10>>.

- [I-D.ietf-netmod-yang-semver]  
Clarke, J., Wilton, R., Rahman, R., Lengyel, B., Sterne, J., and B. Claise, "YANG Semantic Versioning", Work in Progress, Internet-Draft, draft-ietf-netmod-yang-semver-24, 29 September 2025, <<https://datatracker.ietf.org/doc/html/draft-ietf-netmod-yang-semver-24>>.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <<https://www.rfc-editor.org/info/rfc2119>>.
- [RFC3688] Mealling, M., "The IETF XML Registry", BCP 81, RFC 3688, DOI 10.17487/RFC3688, January 2004, <<https://www.rfc-editor.org/info/rfc3688>>.
- [RFC6241] Enns, R., Ed., Bjorklund, M., Ed., Schoenwaelder, J., Ed., and A. Bierman, Ed., "Network Configuration Protocol (NETCONF)", RFC 6241, DOI 10.17487/RFC6241, June 2011, <<https://www.rfc-editor.org/info/rfc6241>>.
- [RFC6242] Wasserman, M., "Using the NETCONF Protocol over Secure Shell (SSH)", RFC 6242, DOI 10.17487/RFC6242, June 2011, <<https://www.rfc-editor.org/info/rfc6242>>.
- [RFC7950] Bjorklund, M., Ed., "The YANG 1.1 Data Modeling Language", RFC 7950, DOI 10.17487/RFC7950, August 2016, <<https://www.rfc-editor.org/info/rfc7950>>.
- [RFC8040] Bierman, A., Bjorklund, M., and K. Watsen, "RESTCONF Protocol", RFC 8040, DOI 10.17487/RFC8040, January 2017, <<https://www.rfc-editor.org/info/rfc8040>>.
- [RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174, May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.
- [RFC8341] Bierman, A. and M. Bjorklund, "Network Configuration Access Control Model", STD 91, RFC 8341, DOI 10.17487/RFC8341, March 2018, <<https://www.rfc-editor.org/info/rfc8341>>.
- [RFC8407] Bierman, A., "Guidelines for Authors and Reviewers of Documents Containing YANG Data Models", BCP 216, RFC 8407, DOI 10.17487/RFC8407, October 2018, <<https://www.rfc-editor.org/info/rfc8407>>.

- [RFC8446]    Rescorla, E., "The Transport Layer Security (TLS) Protocol Version 1.3", RFC 8446, DOI 10.17487/RFC8446, August 2018, <<https://www.rfc-editor.org/info/rfc8446>>.
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## 7.2. Informative References

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## Appendix A. YANG Modules for IANA

The initial YANG modules are created with the iana-yang tool from <<https://github.com/llhotka/iana-yang>>.

### A.1. Initial Module for the "QUIC Versions" Registry

This YANG module has normative references to [RFC9000] and [RFC9369].

<CODE BEGINS> file "iana-quic-versions@2025-09-23.yang"

```
module iana-quic-versions {
  yang-version 1.1;
  namespace "urn:ietf:params:xml:ns:yang:iana-quic-versions";
  prefix iana-quic-versions;

  organization
    "Internet Assigned Numbers Authority (IANA)";

  contact
    "Internet Assigned Numbers Authority

    ICANN
    12025 Waterfront Drive, Suite 300
    Los Angeles, CA 90094

    Tel: +1 424 254 5300

    <mailto:iana@iana.org>";

  description
    "This YANG module translates IANA registry 'QUIC Versions' to
    YANG derived types.
```

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This version of this YANG module was generated from the corresponding IANA registry using an XSLT stylesheet from the 'iana-yang' project (<https://github.com/llhotka/iana-yang>).";

reference

"QUIC (<https://www.iana.org/assignments/quic/>)";

revision 2025-09-23 {

  description

    "Current revision as of the revision date specified in the XML representation of the registry page.";

  reference

    "<https://www.iana.org/assignments/quic/quic.xml>";

}

/\* Typedefs \*/

typedef quic-version {

  type enumeration {

    enum 0x00000000 {

      description

        "(permanent) Reserved for Version Negotiation";

      reference

        "RFC 9000";

    }

    enum 0x00000001 {

      description

        "(permanent)";

      reference

        "RFC 9000";

    }

    enum 0x51303433 {

      description

        "(provisional) Google QUIC Q043";

    }

    enum 0x51303436 {

      description

        "(provisional) Google QUIC Q046";

```

    }
    enum 0x51303530 {
        description
            "(provisional) Google QUIC Q050";
    }
    enum 0x6b3343cf {
        description
            "(permanent)";
        reference
            "RFC 9369";
    }
    enum 0x709a50c4 {
        description
            "(provisional) QUIC v2 draft codepoint";
        reference
            "RFC 9369";
    }
}
description
    "This enumeration type defines QUIC protocol versions.";
reference
    "RFC 9000: QUIC: A UDP-Based Multiplexed and Secure
    Transport";
}

typedef version {
    type quic-version;
    description
        "This type allows reference to a QUIC version using the
        assigned value.";
}
}

<CODE ENDS>

```

#### A.2. Initial Module for the "QUIC Transport Parameters" Registry

This YANG module has normative references to [RFC9000], [RFC9221], [RFC9287], [RFC9312], and [RFC9368],

```
<CODE BEGINS> file "iana-quic-transport@2025-09-23.yang"
```

```

module iana-quic-transport {
    yang-version 1.1;
    namespace "urn:ietf:params:xml:ns:yang:iana-quic-transport";
    prefix iana-quic-transport;

    organization

```

```
"Internet Assigned Numbers Authority (IANA)";
```

```
contact
```

```
"Internet Assigned Numbers Authority
```

```
ICANN  
12025 Waterfront Drive, Suite 300  
Los Angeles, CA 90094
```

```
Tel: +1 424 254 5300
```

```
<mailto:iana@iana.org>;
```

```
description
```

```
"This YANG module translates IANA registry 'QUIC Transport  
Parameters' to YANG derived types.
```

```
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```

```
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forth in Section 4.c of the IETF Trust's Legal Provisions  
Relating to IETF Documents  
(https://trustee.ietf.org/license-info).
```

```
This version of this YANG module was generated from the  
corresponding IANA registry using an XSLT stylesheet from the  
'iana-yang' project (https://github.com/llhotka/iana-yang).";
```

```
reference
```

```
"QUIC (https://www.iana.org/assignments/quic/)";
```

```
revision 2025-09-23 {
```

```
  description
```

```
    "Current revision as of the revision date specified in the XML  
    representation of the registry page.";
```

```
  reference
```

```
    "https://www.iana.org/assignments/quic/quic.xml";
```

```
}
```

```
/* Typedefs */
```

```
typedef quic-transport-parameter {
```

```
  type enumeration {
```

```
    enum original_destination_connection_id {  
      description
```

```
        "0x00 (permanent)";
    reference
        "RFC 9000";
}
enum max_idle_timeout {
    description
        "0x01 (permanent)";
    reference
        "RFC 9000";
}
enum stateless_reset_token {
    description
        "0x02 (permanent)";
    reference
        "RFC 9000";
}
enum max_udp_payload_size {
    description
        "0x03 (permanent)";
    reference
        "RFC 9000";
}
enum initial_max_data {
    description
        "0x04 (permanent)";
    reference
        "RFC 9000";
}
enum initial_max_stream_data_bidi_local {
    description
        "0x05 (permanent)";
    reference
        "RFC 9000";
}
enum initial_max_stream_data_bidi_remote {
    description
        "0x06 (permanent)";
    reference
        "RFC 9000";
}
enum initial_max_stream_data_uni {
    description
        "0x07 (permanent)";
    reference
        "RFC 9000";
}
enum initial_max_streams_bidi {
    description
```

```
        "0x08 (permanent)";
    reference
        "RFC 9000";
}
enum initial_max_streams_uni {
    description
        "0x09 (permanent)";
    reference
        "RFC 9000";
}
enum ack_delay_exponent {
    description
        "0x0a (permanent)";
    reference
        "RFC 9000";
}
enum max_ack_delay {
    description
        "0x0b (permanent)";
    reference
        "RFC 9000";
}
enum disable_active_migration {
    description
        "0x0c (permanent)";
    reference
        "RFC 9000";
}
enum preferred_address {
    description
        "0x0d (permanent)";
    reference
        "RFC 9000";
}
enum active_connection_id_limit {
    description
        "0x0e (permanent)";
    reference
        "RFC 9000";
}
enum initial_source_connection_id {
    description
        "0x0f (permanent)";
    reference
        "RFC 9000";
}
enum retry_source_connection_id {
    description
```

```
        "0x10 (permanent)";
    reference
        "RFC 9000";
}
enum version_information {
    description
        "0x11 (permanent)";
    reference
        "RFC 9368";
}
enum max_datagram_frame_size {
    description
        "0x20 (permanent)";
    reference
        "RFC 9221";
}
enum discard {
    description
        "0x173e (provisional) Receiver silently discards.";
    reference
        "https://github.com/quicwg/base-drafts/wiki/Quantum-Readiness-test";
}
enum google_handshake_message {
    description
        "0x26ab (provisional) Used to carry Google internal handshake message";
}
enum grease_quic_bit {
    description
        "0x2ab2 (permanent)";
    reference
        "RFC 9287";
}
enum initial_rtt {
    description
        "0x3127 (provisional) Initial RTT in microseconds";
}
enum google_connection_options {
    description
        "0x3128 (provisional) Google connection options for experimentation";
}
enum user_agent {
    status deprecated;
    description
        "0x3129 (provisional) User agent string (deprecated)";
}
```

```
enum google_version {
    description
        "0x4752 (provisional) Google QUIC version downgrade
        prevention";
}
enum version_information_draft {
    status deprecated;
    description
        "0xff73db (provisional) Deprecated; use version_information
        instead";
    reference
        "draft-ietf-quic-version-negotiation-13";
}
enum google_debug_1 {
    description
        "0x219bbcd0 (provisional)";
}
enum min_ack_delay {
    description
        "0xff04delb (provisional)";
    reference
        "draft-ietf-quic-ack-frequency-07";
}
enum enable_multipath {
    description
        "0x0f739bbclb666d05 (provisional)";
    reference
        "draft-ietf-quic-multipath-05";
}
enum enable_multipath-06 {
    description
        "0x0f739bbclb666d06 (provisional)";
    reference
        "draft-ietf-quic-multipath-06";
}
enum initial_max_path_id {
    description
        "0x0f739bbclb666d0d (provisional)";
    reference
        "draft-ietf-quic-multipath-15";
}
enum bdp_frame {
    description
        "0x4143414213370002 (provisional)";
    reference
        "draft-misell-quic-bdp-token-02";
}
}
```

```
    description
      "This enumeration type defines QUIC transport parameters.";
    reference
      "RFC 9000: QUIC: A UDP-Based Multiplexed and Secure
      Transport";
  }

  typedef transport-parameter {
    type quic-transport-parameter;
    description
      "This type allows reference to a QUIC transport parameters
      using the assigned value.";
  }
}

<CODE ENDS>
```

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