

SCTP NAT Support: YANG

draft-ietf-tsvwg-natsupp

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RFC8512

2.4. Other Transport Protocols

The module is structured to support protocols other than UDP, TCP, and ICMP. Concretely, the module allows the operator to enable translation for other transport protocols when required (/nat/instances/instance/policy/transport-protocols). Moreover, the mapping table is designed so that it can indicate any transport protocol. For example, this module may be used to manage a NAT capable of the Datagram Congestion Control Protocol (DCCP) that adheres to [RFC5597].

Future extensions may be needed to cover NAT-related considerations that are specific to other transport protocols such as the Stream Control Transmission Protocol (SCTP) [NAT-SUPP].

But, are there any SCTP specifics?

- RFC8512 assumes the following:

```
A TCP/UDP mapping entry maintains an association between the
following information:
```

```
(internal-src-address, internal-src-port) (internal-dst-address,
internal-dst-port) <=> (external-src-address, external-src-port)
(external-dst-address, external-dst-port)
```

- Which means that the SCTP specific variant of NAT defined in draft-ietf-tsvwg-natsupp is not supported
- **Solution:** A NAT mapping entry can be extended to record two optional SCTP-specific parameters:
 - Internal Verification Tag (Int-VTag)
 - External Verification Tag (Ext-VTag)

Required Changes are Straightforward

```
module ietf-nat-sctp {
  yang-version 1.1;
  namespace "urn:ietf:params:xml:ns:yang:ietf-nat-sctp";
  prefix nat-sctp;

  import ietf-nat {
    prefix nat;
  }
  feature sctp-nat {
    description
      "This feature means that Sctp NAT is supported.";
  }

  augment "/nat:nat/nat:instances/nat:instance"
    + "/nat:mapping-table/nat:mapping-entry" {
    if-feature "sctp-nat";
    description
      "Extends mapping entry with Sctp specifics.";
    leaf int-VTag {
      when "../transport-protocol = 132";
      type uint32;
      description
        "Internal Verification Tag.";
    }
    leaf ext-VTag {
      when "../transport-protocol = 132";
      type uint32;
      description
        "External Verification Tag .";
    }
  }
}
```

A Proposal

- Integrate the proposed YANG module in draft-ietf-tsvwg-natsupp:
 - This a natural recipient to provide the required SCTP augmentation to the NAT YANG module
 - No need to edit another yet document
- Any objections? Thoughts?