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SCTP Socket API Extensions for Concurrent Multipath Transfer
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Abstract

This document describes extensions to the SCTP sockets API for configuring the CMT-SCTP and CMT/RP-SCTP extensions.

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[1.](#) Introduction

This draft describes extensions to the SCTP sockets API (see [\[2\]](#), [\[1\]](#)) which allow an application to configure the behaviour of the Concurrent Multipath Transfer (CMT) extensions CMT-SCTP, CMT/RPv1-SCTP, CMT/RPv2-SCTP and MPTCP-like (see [\[3\]](#), [\[10\]](#), [\[5\]](#), [\[4\]](#), [\[7\]](#), [\[6\]](#), [\[8\]](#), [\[9\]](#), [\[11\]](#)).

[2.](#) Concurrent Multipath Transfer and Resource Pooling Activation/Deactivation (SCTP_CMT_ON_OFF)

This socket option activates or deactivates CMT and sets the corresponding Resource Pooling variant to be applied. The `sctp_assoc_value` structure is used to specify the association for which the CMT state should be changed and the new CMT state.

Definition of the `sctp_assoc_value` structure:

```
struct sctp_assoc_value {
    sctp_assoc_t  assoc_id;
    uint32_t      assoc_value;
};
```

`assoc_id`: Holds the identifier for the association of which the CMT state should be changed. Ignored for one-to-one style sockets.

`assoc_value`: 0 Turns CMT off.

1 Turns plain CMT-SCTP on. No Resource Pooling is

applied.

2 Turns CMT-SCTP on. CMT/RPv1 Resource Pooling as defined in [9] is applied.

3 Turns CMT-SCTP on. CMT/RPv2 Resource Pooling as defined in [8] is applied.

4 Turns CMT-SCTP on. MPTCP-like Resource Pooling as defined in [6], [8], [5] is applied.

[3.](#) Testbed Platform

A large-scale and realistic Internet testbed platform with support for the multi-homing feature of the underlying SCTP protocol is NorNet. A description of NorNet is provided in [12], [13], some further information can be found on the project website [14].

[4.](#) Security Considerations

Security considerations for the SCTP sockets API are described by [2].

[5.](#) IANA Considerations

This document does not require IANA actions.

[6.](#) Acknowledgments

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