        Stream Control Transmission Protocol Chunk Flags Registration
                draft-tuexen-tsvwg-sctp-chunk-flags-00.txt

Abstract

   The current definition of the Stream Control Transmission Protocol
   (SCTP) is missing a procedure for registering chunk flags for already
   defined chunk types. This document defines this procedure. It does
   not change SCTP in any other way.

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1. Introduction

   [RFC4960], which currently defines the Stream Control Transmission
   Protocol (SCTP), provides a procedure to define new chunk types.
   However, several protocol extensions currently being discussed need
   to define new chunk flags for existing chunks. The only way to do
   this is to obsolete [RFC4960], which is not appropriate.

   This document overcomes this limitation and provides the procedure to
   register chunk flags for existing chunk types. The protocol is not
   changed in any other way. Therefore only Section 14.1 of [RFC4960]
   is affected.

2. Conventions

   The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
   "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
   document are to be interpreted as described in [RFC2119].

3. IANA Considerations

   Section 3.1 describes the updated procedure for chunk type
   registration and replaces Section 14.1 of [RFC4960]. Section 3.2
   defines the new procedure for chunk flag registration.

   The initial values of the tables for the chunk flags for already
   defined chunk types is given in Section 3.3.

3.1. Updated IETF Chunk Extension

   The assignment of new chunk parameter type codes is done through an
   IETF Review action, as defined in [RFC5226]. Documentation of a new
   chunk MUST contain the following information:

   a) A long and short name for the new chunk type;

   b) A detailed description of the structure of the chunk, which MUST
       conform to the basic structure defined in section 3.2 of
       [RFC4960];

   c) A detailed definition and description of intended use of each
       field within the chunk, including the chunk flags if any.
       Defined chunk flags will be used as initial entries in the chunk
       flags table for the new chunk type;

   d) A detailed procedural description of the use of the new chunk
       type within the operation of the protocol.

   The last chunk type (255) is reserved for future extension if
   necessary.

   IANA creates for each new chunk type a registration table for the
   chunk flags for this type. The procedure for registering particular
   chunk flags is described in the following Section 3.2.

3.2. New IETF Chunk Flags Registration

   The assignment of new chunk flags is done through an RFC required
   action, as defined in [RFC5226]. Documentation of the chunk flags
   MUST contain the following information:

   a) A name for the new chunk flag;

   b) A detailed procedural description of the use of the new chunk
       flag within the operation of the protocol. It MUST be considered
       that implementations not supporting the flag will just ignore it.

   IANA selects a chunk flags value, exactly one of 0x01, 0x02, 0x04,
   0x08, 0x10, 0x20, 0x40, or 0x80, which MUST be unique within the
   chunk flag values for the specific chunk type.

3.3. Initial Registrations

   This section describes the initially defined chunk flag tables, one
   table per chunk. Most of the tables are currently empty.

3.3.1. DATA Chunk Flags

Chunk Flag Value	Chunk Flag Name	Reference
0x01	E bit	[RFC4960]
0x02	B bit	[RFC4960]
0x04	U bit	[RFC4960]

3.3.2. INIT Chunk Flags

Chunk Flag Value	Chunk Flag Name	Reference

3.3.3. INIT ACK Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.4. SACK Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.5. HEARTBEAT Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.6. HEARTBEAT ACK Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.7. ABORT Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
| 0x01             | T bit           | [RFC4960] |
+-----------------+-----------------+-----------+
```

3.3.8. SHUTDOWN Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.9. SHUTDOWN ACK Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.10. ERROR Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.11. COOKIE ECHO Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.12. COOKIE ACK Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.13. ECNE Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.14. CWR Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.15. SHUTDOWN COMPLETE Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
| 0x01            | T bit           | [RFC4960] |
+-----------------+-----------------+-----------+
```

3.3.16. AUTH Chunk Flags

```
+-----------------+-----------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+-----------------+-----------------+-----------+
```

3.3.17. ASCONF ACK Chunk Flags

```
+------------------+------------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+------------------+------------------+-----------+
```

3.3.18. PAD Chunk Flags

```
+------------------+------------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+------------------+------------------+-----------+
```

3.3.19. FORWARD TSN Chunk Flags

```
+------------------+------------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+------------------+------------------+-----------+
```

3.3.20. ASCONF Chunk Flags

```
+------------------+------------------+-----------+
| Chunk Flag Value | Chunk Flag Name | Reference |
+------------------+------------------+-----------+
```

4. Security Considerations

This document does not add any additional security considerations in
addition to the ones given in [RFC4960].

5. Normative References

   [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate
              Requirement Levels", BCP 14, RFC 2119, March 1997.

   [RFC4960] Stewart, R., "Stream Control Transmission Protocol",
              RFC 4960, September 2007.

   [RFC5226] Narten, T. and H. Alvestrand, "Guidelines for Writing an
              IANA Considerations Section in RFCs", BCP 26, RFC 5226,
              May 2008.

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