
Agenda Item: 6.7, 12.1
Title: SCTP Evaluation
Date: September 20 - 27, 1999
Source: Motorola

1. Introduction

It has been discussed ad nauseam in past RAN WG3 meetings and the email reflector about the readiness and availability of SCTP (formerly known as MDTP and CTP) for formal reference in 3GPP specifications. This contribution discusses IETF & 3GPP standardization processes, current state of the SCTP & Adaptation Modules, and the so-called "evaluation" of SCTP for 3GPP Release 99.

2. IETF and 3GPP Standardization Processes

The IETF standardization process is significantly different from the standardization process of traditional telecommunication standardization bodies such as 3GPP, ETSI, ITU, etc. The IETF standardization process is defined in section 6 of RFC 2026 [1]. For the purpose of this discussion, it is useful to present following definitions extracted from [1]:

4.1.1 Proposed Standard

A Proposed Standard specification is generally stable, has resolved known design choices, is believed to be well-understood, has received significant community review, and appears to enjoy enough community interest to be considered valuable. However, further experience might result in a change or even retraction of the specification before it advances.

Usually, neither implementation nor operational experience is required for the designation of a specification as a Proposed Standard. However, such experience is highly desirable, and will usually represent a strong argument in favor of a Proposed Standard designation.

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4.1.2 Draft Standard

A specification from which at least two independent and interoperable implementations from different code bases have been developed, and for which sufficient successful operational experience has been obtained, may be elevated to the "Draft Standard" level. For the purposes of this section, "interoperable" means to be functionally equivalent or interchangeable components of the system or process in which they are used. If patented or otherwise controlled technology is required for implementation, the separate implementations must also have resulted from separate exercise of the licensing process. Elevation to Draft Standard is a major advance in status, indicating a strong belief that the specification is mature and will be useful.

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The SCTP meets all of the criteria mentioned above to be a Proposed Standard since it is scheduled to be submitted to IESG by September 20th (See <http://standards.nortelnetworks.com/archives/sigtran.html> "Schedule and Design Team Notes"). It even goes beyond Proposed Standard level given the fact there are at least 3 independent implementations of SCTP today. Therefore, it can also be argued it meets some the

Draft Standard criteria as well, which according to [1], “is normally considered to be a final specification, and changes are likely to be made only to solve specific problems encountered.”

In fact, therein lies a fundamental difference between an IETF standards process and the 3GPP standards process. In the IETF, it is important to demonstrate a protocol is implementable and interoperable before reaching a formal approved standards status. This is not necessarily the case in forums such as 3GPP. The need to implement and prove inter-operation introduces a new dimension to the schedule of the IETF standardization process. It is important to bear this in mind when comparing the two standardization processes and the maturity levels of their respective deliverables.

To better visualize the two distinctly different standards processes, the following figure juxtaposes IETF standards track and 3GPP track and shows where each Sigtran deliverables are currently (the dates indicating last actions):

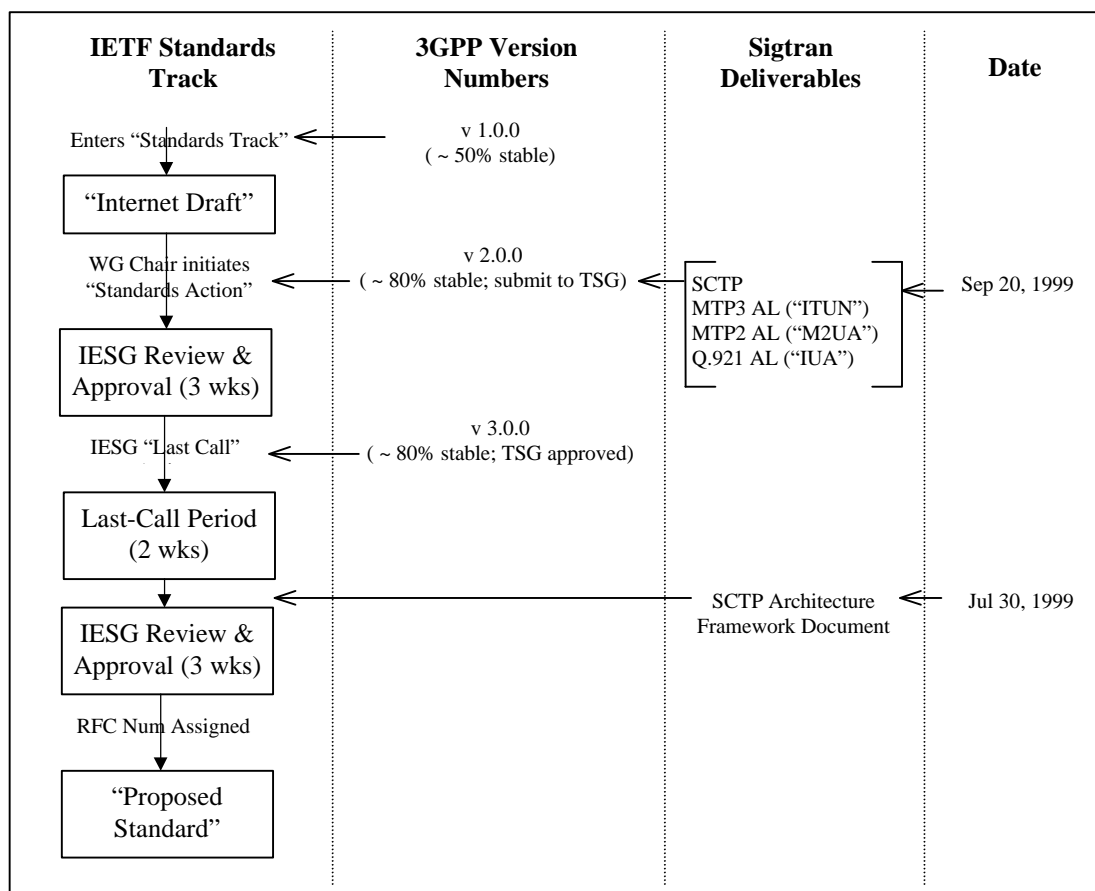


Figure 1 : IETF and 3GPP Standards Tracks

It is clear that a protocol can be in a mature advanced stage even before it gets an RFC number. Therefore, for 3GPP purpose, the Sctp Architecture Framework document [2] can be considered to be “v3.0.0” and Sctp and the three Adaptation Modules to be “v2.0.0”. It is important to note that as far as progressing down the standards track is concerned, the Sctp and all the 3 Adaptation Modules are aligned in terms of schedule.

The three Adaptation Modules that will be delivered together with the Sctp are:

- “ITUN”: SS7 ISUP Tunneling [3]. This adaptation module is suitable for the transport of SS7 ISDN User Part (ISUP) and SCCP.

4. Proposal

Based on the information presented in this contribution, it is clear that the SCTP and the Adaptation Modules are mature enough to be referenced in 3GPP specifications.

Therefore, it is proposed that the RAN WG3 considers SCTP and the three Adaptation Modules to be stable and mature enough for inclusion as formal reference in 3GPP R99 specifications.

5. Reference

[1] Scott Bradner, “The Internet Standards Process – Revision 3”, RFC 2026, IETF, October 1996.

[2] Lyndon Ong, et al, “Framework Architecture for Signaling Transport”, draft-ietf-sigtran-framework-arch-03.txt (Work In Progress), IETF, June 1999.

[3] G. Sidebottom, L. Ong , “SS7 ISUP Tunneling”, draft-ietf-sigtran-itun-00.txt (Work In Progress), IETF, June 1999.

[4] Ken Morneault , Mallesh Kalla, “SS7 MTP2-User Adaptation Layer”, draft-ietf-sigtran-m2ua-00.txt (Work In Progress), IETF, June 1999.

[5] M. Kalla , K. Morneault, “ISDN Q.921-User Adaptation Layer”, draft-ietf-sigtran-iua-00.txt (Work In Progress), IETF, August 1999.