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Signalling System Number 7 (SS7) – Transaction Capabilities Application Part (TCAP)

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American National Standard for Telecommunications

SIGNALLING SYSTEM NUMBER 7 (SS7) – TRANSACTION CAPABILITIES APPLICATION PART (TCAP)

Secretariat

Alliance for Telecommunications Industry Solutions

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American National Standards Institute, Inc.

Abstract

This document is based on T1.114-2000, and allows functions similar to those in ITU-T Recommendations Q.771 through Q.774 of the White Book specification of Signalling System No. 7 for international use, issued by the ITU-T Study Group XI (Vol. VI Fascicle VI.9).

FOREWORD

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

This document is entitled *Signalling System Number 7 (SS7) – Transaction Capabilities Application Part (TCAP)*. It is based on T1.114-2000, and allows functions similar to those in ITU-T Recommendations Q.771 through Q.774 of the White Book specification of Signalling System No. 7 for international use, issued by the ITU-T Study Group XI (Vol. VI Fascicle VI.9).

A change bar on the right margin indicates a change from the 2000 American National Standard. These change bars are advisory only, and reflect the editors' views of which textual changes constitute significant technical changes. Because of the differences in style and content between this standard and the ITU-T Recommendations, it is not possible to indicate differences using margin marks.

This standard is intended for use in conjunction with T1.110-1999, *Signalling System Number 7 (SS7) – General information*, which includes an overview of SS7, a glossary, and a chapter on abbreviations.

Information contained in an informative annex in these specifications is not considered part of this standard but is rather auxiliary to the standard. Similarly, footnotes are not officially part of this standard.

ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages.

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Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, PTSC Secretariat, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time it approved this document, PTSC, which is responsible for the development of this Standard, had the following members:

R. Hall, T1S1 Chair
J. Zebarth, T1S1 Vice-Chair
S. Carioti, ATIS Disciplines
S. Barclay, ATIS Secretariat
C. Underkoffler, ATIS Chief Editor
S. Goldman, T1S1 Technical Editor

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Alcatel USA Inc.	Ken Biholar
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National Communications System	Nicholas Andre Jean Trakinat (Alt.)
Nortel Networks	Joseph A. Zebarth David Bench (Alt.)
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Siemens Info & Comm Ntwks, Inc.	Ron Franks David E. Francisco (Alt.)
Sprint Corporation	Mark L. Jones
Telcordia Technologies	Wesley Downum Cliff Halevi (Alt.)

Organization Represented	Name of Representative
Tellabs Operations, Inc.	William A. Walker
Tridea Works	Greg Ratta
Turin Networks	Matthew Nguyen
Verizon Communications	Dave Morris Wendy Pugh (Alt.)

The Interoperability Subcommittee (PTSC-IOP) – formerly T1S1.3, the Transaction Capabilities and Application [illegible] Working Group -- was responsible for the development of this document and had the following members:

Wesley Downum, T1S1.3 Chair
Brian Foster, T1S1.3 Chair
Stuart Goldman, T1S1.3 (TC & AL) convener and T1S1.3 Vice Chair
Stuart Goldman, T1S1.3Senior Technical Editor
Wesley Downum, T1S1.3 Editor
Paul Garvey, T1S1.3 Editor
Alex Leung, T1S1.3 Editor
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Anne Marie Livingstone
Clarence Nurse
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Yatendra [illegible]
Mike Pier[illegible]
[illegible] Rausch
[illegible] Rengasami
[illegible] Roehr
Jonn Roquet
Kraig Sanders
N. Sandesara
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Ray Singh
Glenn Sisson
Al Varney
Stan Wainberg
Volnie Whyte
Albert Yuhan
Yi Zhao

American National Standard for Telecommunications –

Signalling System Number 7 (SS7) – Transaction Capabilities Application Part (TCAP)

This standard contains the following five chapters:

- T1.114.1, *Functional Description of Transaction Capabilities*
- T1.114.2, *Definitions and Functions of Transaction Capabilities Messages*
- T1.114.3, *TC Formats and Codes*
- T1.114.4, *Transaction Capabilities Procedures*
- T1.114.5, *Definitions and Functions of Transaction Capabilities Operations, Parameters, and Error Codes*

Chapter T1.114 1

Functional Description of Transaction Capabilities

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Functional Description of Transaction Capabilities

1 SCOPE, PURPOSE, AND APPLICATION

1.1 General

This chapter specifies Transaction Capabilities (TC) for Signalling System Number 7 (SS7). The term *Transaction Capabilities* refers to the Application layer protocol, called Transaction Capabilities Application Part (TCAP), plus the supporting Presentation, Session, and Transport layers, called the Application Service Part (ASP). To date, only SS7 MTP plus SCCP transport has been considered.

NOTE - For MTP, see –T1.111-2001, *Signalling System Number 7 (SS7) - Message Transfer Part (MTP)*. For SCCP, see T1.112-2001, *Signalling System Number 7 (SS7) - Signalling Connection Control Part (SCCP)*.

Any standard OSI Network layer may be used in place of the MTP plus SCCP provided that performance requirements of the services being supported by the higher layers can be met.

This chapter may contain requirements that reference other American National Standards. If so, when the American National Standards referenced in the requirements are superseded by revisions, the revisions shall apply.

1.2 Definition of Transaction Capabilities

Transaction Capabilities in the SS7 protocol are functions that control non-circuit-related information transfer between two or more signalling nodes via a signalling network.

1.3 Scope of Transaction Capabilities

Transaction Capabilities in a SS7 network should be considered for use between:

(1) Exchanges;

(2) Exchanges and network service centers -- e.g., databases, service control points, Operation, Administration, Maintenance and Provisioning (OAM&P) centers; and

(3) Subscribers and network service centers (in conjunction with the subscriber access protocol -- e.g., CCITT Recommendation Q.931[1].

Although Transaction Capabilities in a SS7 network could be considered for use between subscribers, the standardization of subscriber-to-subscriber information content is outside the scope of SS7.

Furthermore, Transaction Capabilities in a SS7 network may interwork with a transaction-oriented information transfer originated in or destined for networks using other data communications protocols.

Transaction Capabilities provides a set of procedures that can be used for a variety of services, thereby avoiding the inefficiency of creating specific procedures tailored to a particular need. Thus, Transaction Capabilities provides a framework for a common approach to new services within a network as well as a framework for service architecture for cooperative internetwork services.

[1] T1.607 corresponds to CCITT Recommendation Q.931. All CCITT (now ITU-T) Recommendations are available from the International Telecommunications Union. < http://www.itu.int/ITU-T/ >.