
# ATIS-1000669.1999(S2020)

# Signalling System Number 7 (SS7) – Intermediate Network Selection (INS)



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American National Standard
for Telecommunications –

# Signalling System Number 7 (SS7) – Intermediate Network Selection (INS)

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Approved December 29, 1999

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## Foreword (This foreword is not part of American National Standard T1.669-1999.)

This document is entitled *American National Standard for Telecommunications - Signalling System Number 7 (SS7) - Intermediate Network Selection (INS)*. INS is a network capability that allows an application process in the origination network to specify a single intermediate signalling network for non-circuit-associated signalling messages. This network capability also includes functionality to allow the selected intermediate network to make use of the number portability routing information derived at a number-portability-specific translation node. INS has been developed for use between U.S. networks to meet the anticipated needs and applications of those entities. This standard is the result of extensive work by members of the T1S1.3 Working Group on U.S. Standards for Common Channel Signalling.

This standard is intended for use in conjunction with *American National Standard for Telecommunications - Signalling System Number 7 (SS7) - Signalling Connection Control Part (SCCP)*, T1.112-1996, which includes an overview, messages and signals, protocol formats, procedures, and a chapter on performance. It should be noted, however, that some procedures specific to this standard are extensions beyond T1.112-1996.

Footnotes are not officially part of this standard.

Future control of this document will reside with Accredited Standards Committee on Telecommunications, T1. This control of additions to the specification, such as protocol evolution, new applications and operational requirements, will permit compatibility among U.S. networks. Such additions will be incorporated in an orderly manner with due consideration to the ITU-T layered model principles, conventions, and functional boundaries.

Suggestions for improvement of this standard will be welcome. These should be sent to the Alliance for Telecommunications Industry Solutions, T1 Secretariat, 1200 G Street, NW, Suite 500, Washington DC 20005.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Telecommunications, T1. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the T1 Committee had the following members:

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# Signalling System Number 7 (SS7) – Intermediate Network Selection (INS)

## 1 Scope, Purpose, and Application

The Intermediate Network Selection (INS) network capability allows an application process in the origination network to specify a single intermediate signalling network for non-circuit-associated signalling messages. This network capability also includes functionality that may be used to route non-circuit-associated messages in a number portability environment. Specifically, in a number portability environment, this capability allows the selected intermediate network to use the number portability routing information derived at a special translation node (e.g., 10-digit translation node in the origination network) to route messages towards the destination network.

The INS capability may be invoked by a variety of services and network capabilities. The end user can interact with an end-user service that may invoke the INS capability. The specific end-user service that invokes INS is not within the scope of this capability description. Therefore, the INS capability is not visible to the end user, but allows an end-user service to take place. Thus, there is a "layering" of services and capabilities, and the visible end-user services may need the INS capability to complete.

## 2 Normative Reference

The following standard contains provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and the parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below.

T1.112-1996, *Telecommunications - Signalling System number 7 (SS7) - Signalling Connection Control Part (SCCP)*[1)]

## 3 Definitions and Acronyms

### 3.1 Definitions

**3.1 Constrained routing information:** If a message arriving at an INS-capable STP includes unused constrained routing information, the unused constrained routing information[2)] indicates one intermediate SS7 network that the message will traverse. The constrained routing information will be used to select and direct the message toward the next explicitly indicated network. If this instruction is not followed, the message fails.

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[1)] For electronic copies of some standards, visit ANSI's Electronic Standards Store (ESS) at www.ansi.org. For printed versions of all these standards, contact Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5704, (800) 854-7179.

[2)] Constrained routing information may also indicate a second network that was not populated by the initiating node (e.g., the result of a number portability specific translation).