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Inteligentno omrežje (IN) - Nabor zmožnosti 1 (CS1) inteligentnega omrežja - Jedrni aplikacijski protokol inteligentnega omrežja (INAP) - 3. del: Specifikacija zgradbe preskušalnega niza in nameni preskušanja (TSS&TP) za funkcijo komutacije storitev (SSF) in funkcijo posebnih virov (SRF)

Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for Service Switching Function (SSF) and Specialized Resource Function (SRF)

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Foreword

This second edition European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 3 of a multi-part standard covering the Capability Set 1 (CS1) core Intelligent Network Protocol (INAP) as described below:

Part 1: "Protocol specification";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for Service Switching Function (SSF) and Specialized Resource Function (SRF)";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for SSF and SRF";

Part 5: "Protocol specification for the Service Control Function (SCF) - Service Data Function (SDF) interface";

Part 6: "PICS proforma specification for the SCF-SDF interface".

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Date of adoption:	5 December 1997
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1 Scope

This third part of ETS 300 374 provides the Test Suite Structure and Test Purposes (TSS&TP) for conformance testing of the Service Switching Function (SSF) and the Specialized Resource Function (SRF) of the core Intelligent Network Application Protocol (INAP) of Intelligent Network (IN) Capability Set 1 (CS1) according to ETS 300 374-1 [1].

ISO/IEC 9646-1 [3] and ISO/IEC 9646-2 [4] are used as the basis for the test methodology.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ETS 300 374-1 (1994): "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 1: Protocol specification".

[2] ETS 300 374-2 (1996): "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification for Service Switching Function (SSF), Specialized Resource Function (SRF) and Service Control Function (SCF)".

[3] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[4] ISO/IEC 9646-2: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the following definitions apply:

- terms defined in ETS 300 374-1 [1];
- terms defined in ISO/IEC 9646-1 [3] and in ISO/IEC 9646-2 [4].

In particular, the following terms defined in ISO/IEC 9646-1 [3] apply:

- Abstract Test Suite (ATS);
- Implementation Under Test (IUT);
- System Under Test (SUT);
- Protocol Implementation Conformance Statement (PICS).

3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

aS	assisting SSF
aSSP	assisting SSP
ATS	Abstract Test Suite
BI	Invalid Behaviour tests
BO	Inopportune Behaviour tests
bS	tests for SSP basic functions
BV	Valid Behaviour tests
CA	Capability tests
cI	IP with direct path to SCP
EDP-N	Event Detection Point - Notification
EDP-R	Event Detection Point - Request
FE	Functional Entity
FSM	Finite State Machine
IN	Intelligent Network
INAP	Intelligent Network Application Protocol
IP	Intelligent Peripheral
iS	initiating SSF
iSSP	initiating SSP
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PDU	Protocol Data Unit
rS	SSF relay
SCF	Service Control Function
SCP	Service Control Point
SDF	Service Data Function
SDP	Service Data Point
SRF	Specialized Resource Function
SRSM	SRF call State Model
SSF	Service Switching Function
SSME	SSF Management Entity
SSP	Service Switching Point
SUT	System Under Test
TCAP	Transaction Capabilities Application Part
TDP	Trigger Detection Point
TP	Test Purpose
TSS	Test Suite Structure

4 Test Suite Structure (TSS)

4.1 Overview

Tables 1 and 2 show the structure of the test suites for SSF and SRF.

Table 1: Test suite structure of the SSF tests

SUT	Interface	Category	State	Group
SSP	SCF-SSF **bS**: SSP basic functions	CA	State 1	Network event
				Operation
			State 3	Operation
			State 6	Network event
			State 7	Operation
		BV	State 1	Network event
				Operation
			State 3	Network event
				Operation
				Operation error
			State 6	Network event
				Operation
				Operation error
			State 7	Operation
			State 8	Network event
		BI	State 1	Operation
			State 3	Operation
				Operation error
			State 6	Operation
			State 7	Operation
		BO	State 1	Operation
			State 3	Operation
			State 6	Operation
	SCF-SSF-SRF **rS**: add. for SSP with relay functions	BV	State 3	Operation
			State 4	Network event
				Operation
				Operation error
		BI	State 3	Operation
			State 4	Operation
		BO	State 1	Operation
			State 3	Operation
			State 4	Operation
			State 6	Operation

(continued)

Table 1 (concluded): Test suite structure of the SSF tests

SUT	Interface	Category	State	Group
SSP	SCF-SSF **iS**: add. for SSP acting as initiating SSP	BV	State 3	Operation
			State 5	Network event
				Operation
				Operation error
		BI	State 3	Operation
			State 5	Operation
		BO	State 1	Operation
			State 3	Operation
			State 5	Operation
			State 6	Operation
	SCF-SSF **aS**: add. for SSP acting as assisting SSP	BV	State 1	Network event
			State 3	Network event
				Operation
				Operation error
			State 4	Network event
				Operation
				Operation error
		BI	State 3	Operation
			State 4	Operation
		BO	State 3	Operation
			State 4	Operation

Table 2: Test suite structure of the SRF tests

SUT	Interface	Category	State	Group
IP	SCF-SRF **cI (**IP direct path to SCP)	BV	State 1	Network event
			State 2	Network event
				Operation
				Operation error
			State 3	Network event
				Operation
		BI	State 2	Operation
			State 3	Operation
		BO	State 1	Operation
			State 2	Operation

4.2 Physical scenarios

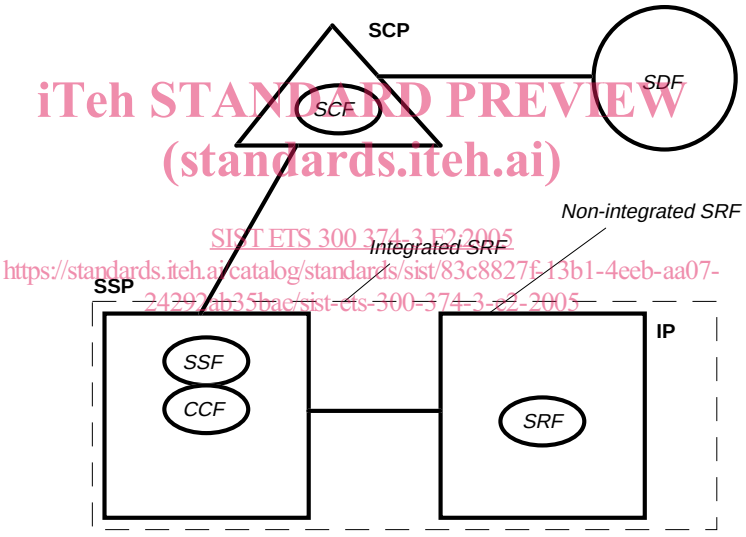
The test suites given in subclause 4.1 are based on the mapping of Functional Entities (FE) to Physical Entities (PE) as shown in table 3.

Table 3: Mapping of functional entities to physical entities

PE	FE			
	SRF	**SSF**	**SCF**	**SDF**
SSP	o	m	n/a	n/a
SCP	n/a	n/a	m	o
SDP	n/a	n/a	n/a	m
IP	m	n/a	n/a	n/a

The application of the test suites according to subclause 4.1 is given in figures 1 to 5 for a number of different example physical scenarios.

The following figures illustrate mainly the SRF configurations. The SDP is included for better understanding of the whole IN configuration. Nevertheless, it possible to support an SCP with an integrated SDF.



applied test suite groups for SSP testing: bS + rS

Figure 1: Example for SCP with single SSP Non-integrated or Integrated SRF