



# SLOVENSKI STANDARD SIST EN 301 140-1:2000

01-januar-2000

---

**Intelligentno omrežje (IN) - Drugi nabor zmožnosti inteligentnega omrežja (CS2) - 1.  
del: Specifikacija protokola**

Intelligent Network (IN); Intelligent Network Application Protocol (INAP); Capability Set 2 (CS2); Part 1: Protocol specification

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Ta slovenski standard je istoveten z: **EN 301 140-1 Version 1.3.4**

SIST EN 301 140-1:2000  
<https://standards.iteh.ai/catalog/standards/sist/ca964e3d-c81d-4aa8-b702-30d457c95972/sist-en-301-140-1-2000>

---

**ICS:**

33.040.35      Telefonska omrežja      Telephone networks

**SIST EN 301 140-1:2000**      **en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 301 140-1:2000

<https://standards.iteh.ai/catalog/standards/sist/ca964e3d-c8fd-4aa8-b702-30d457c95972/sist-en-301-140-1-2000>

# EN 301 140-1 V1.3.4 (1999-06)

*European Standard (Telecommunications series)*

## **Intelligent Network (IN); Intelligent Network Application Protocol (INAP); Capability Set 2 (CS2); Part 1: Protocol specification**

**iTeh STANDARD PREVIEW  
(standards.iteh.ai)**

[SIST EN 301 140-1:2000](#)

<https://standards.iteh.ai/catalog/standards/sist/ca964e3d-c8fd-4aa8-b702-30d457c95972/sist-en-301-140-1-2000>



---

**Reference**

DEN/SPS-03038-1 (ak090j2o.PDF)

---

**Keywords**

CS2, INAP, IN, protocol

**ETSI**

---

**Postal address**

F-06921 Sophia Antipolis Cedex - FRANCE

---

**Office address**

650 Route des Lucioles - Sophia Antipolis  
Valbonne - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C

Association à but non lucratif enregistrée à la  
Sous-Prefecture de Grasse (06) N° 7803/88

<https://standards.etsi.org/standards-search/> <https://standards.etsi.org/standards-search/30d457c95972/sist-en-301-140-1-2000>

---

**Internet**

[secretariat@etsi.fr](mailto:secretariat@etsi.fr)

Individual copies of this ETSI deliverable  
can be downloaded from

<http://www.etsi.org>

If you find errors in the present document, send your  
comment to: [editor@etsi.fr](mailto:editor@etsi.fr)

---

**Copyright Notification**

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1999.  
All rights reserved.

# Contents

Intellectual Property Rights .....	31
Foreword .....	31
1 Scope .....	32
2 References .....	33
3 Definitions and abbreviations .....	35
3.1 Definitions .....	35
3.2 Abbreviations .....	36
4 Interface specification for telecommunication services .....	38
4.1 General .....	38
4.1.1 Definition methodology .....	38
4.1.2 Example physical scenarios .....	38
4.1.2.1 "SCF - External SRF" Communication in the Relay Case .....	45
4.1.3 INAP protocol architecture .....	46
4.1.3.1 INAP signalling congestion control for SS7 .....	47
4.1.4 INAP addressing .....	48
4.1.5 Relationship between ITU-T Recommendation Q.1224 and the present document .....	48
4.1.6 Compatibility mechanisms used for INAP .....	51
4.1.6.1 Introduction .....	51
4.1.6.2 Definition of INAP compatibility mechanisms .....	51
4.1.6.2.1 Procedures for major additions to INAP .....	51
4.1.6.2.2 Procedures for minor additions to INAP .....	51
4.1.6.2.3 Procedures for inclusion of network specific additions to INAP .....	52
4.2 SACF/MACF rules .....	52
4.2.1 Reflection of TCAP AC .....	52
4.2.2 Sequential/parallel execution of operations .....	52
5 Common IN Capability Set 2 (CS2) Types .....	52
5.1 Data types .....	52
5.2 Error types .....	69
5.3 Operation codes .....	71
5.4 Error codes .....	72
5.5 Classes .....	73
5.6 Object Identifiers (IDs) .....	79
6 SSF/CCF - SCF Interface .....	83
6.1 Operations and arguments .....	83
6.2 SSF/SCF packages, contracts and ACs .....	100
6.2.1 (void) .....	100
6.2.2 SSF/SCF ASN.1 module .....	100
7 SCF/SRF interface .....	108
7.1 SCF/SRF operations and arguments .....	108
7.2 SRF/SCF contracts, packages and ACs .....	112
7.2.1 (void) .....	112
7.2.2 SRF/SCF ASN.1 modules .....	112
8 SCF/SDF interface .....	114
8.1 Introduction to the reuse of ITU-T Recommendation X.500 for SDF Interfaces .....	114
8.1.1 Alignment between the ITU-T Recommendation X.500 concepts and the IN .....	114
8.1.2 Use of a limited subset of ITU-T Recommendation X.500 .....	114
8.1.3 Working assumptions .....	115
8.2 The SDF information model .....	115
8.2.1 Information Framework .....	115
8.2.1.1 METHOD .....	115
8.2.1.2 DIT METHOD Use .....	116

8.2.1.2.1	Overview.....	116
8.2.1.2.2	DIT METHOD Use specification .....	116
8.2.2	Basic Access Control .....	117
8.2.2.1	ProtectedItems .....	117
8.2.2.2	GrantsAndDenials .....	117
8.2.3	Attribute contexts .....	118
8.2.3.1	Basic Service context.....	118
8.2.3.2	Line Identity context.....	118
8.2.3.3	Assignment context.....	119
8.2.4	Attribute Definitions .....	119
8.2.4.1	DIT Method Use operational attribute.....	119
8.3	The SCF-SDF Interface Protocol.....	119
8.3.1	Information types and common procedures .....	119
8.3.1.1	CommonArguments .....	119
8.3.1.2	ServiceControls .....	120
8.3.1.3	Entry Information Selection.....	120
8.3.1.4	EntryInformation .....	120
8.3.1.5	Simple Public Key GSS-API Mechanism (SPKM) Token profile.....	120
8.3.2	Operations .....	121
8.3.2.1	Bind operation .....	121
8.3.2.2	Search operation .....	121
8.3.2.3	AddEntry operation .....	122
8.3.2.4	RemoveEntry operation .....	122
8.3.2.5	ModifyEntry operation .....	122
8.3.2.6	Execute operation .....	123
8.3.2.7	in-directoryUnbind operation .....	124
8.3.3	Errors .....	124
8.3.3.1	Bind error .....	124
8.3.3.2	Service error .....	124
8.3.3.3	(void).....	124
8.3.3.4	execution Error.....	124
8.4	Protocol overview.....	125
8.4.1	Remote operations.....	125
8.4.2	Directory ROS-objects and contracts .....	125
8.4.3	DAP contract and packages.....	125
8.5	Directory protocol abstract syntax .....	126
8.5.1	Abstract syntaxes.....	126
8.5.1.1	DAP abstract syntax .....	127
8.5.1.2	Extended DAP abstract syntax .....	127
8.5.1.3	DAP binding abstract syntax .....	127
8.5.1.4	SESE abstract syntax .....	127
8.5.2	Directory ACs .....	127
8.5.2.1	Directory access AC .....	127
8.5.2.2	Extended Directory Access AC .....	128
8.5.3	Operation codes.....	128
8.5.4	Error codes .....	128
8.5.5	Versions and the rules for extensibility .....	129
8.5.5.1	Version negotiation.....	129
8.5.5.2	DUA side.....	129
8.5.5.2.1	Request and response processing at the DUA side .....	129
8.5.5.2.2	Extensibility rules for error handling at the DUA side.....	129
8.5.5.3	Request processing at the DSA side .....	130
8.6	Conformance.....	130
8.6.1	Conformance by SCFs.....	130
8.6.1.1	Statement requirements.....	130
8.6.1.2	Static requirements .....	130
8.6.1.3	Dynamic requirements .....	131
8.6.2	Conformance by SDFs .....	131
8.6.2.1	Statement requirements.....	131
8.6.2.2	Static requirements .....	132

8.6.2.3	Dynamic requirements.....	132
8.7	ASN.1 Modules for the SCF-SDF interface.....	132
8.7.1	IN-CS2-SDF-InformationFramework module.....	133
8.7.2	IN-CS2-SDF-BasicAccessControl module.....	134
8.7.3	IN-CS2-SCF-SDF-Operations module.....	136
8.7.4	IN-CS2-SCF-SDF-Protocol module.....	137
9	SDF/SDF interface.....	140
9.1	Introduction to the IN ITU-T Recommendation X.500 DSP and Directory Information Shadowing Protocol (DISP) subset.....	140
9.2	Working assumptions.....	140
9.3	The IN ITU-T Recommendation X.500 DISP subset.....	141
9.3.1	Shadowing Agreement specification.....	141
9.3.2	DSA Shadow Bind.....	141
9.3.3	IN-DSA Shadow Unbind.....	141
9.3.4	Coordinate Shadow Update.....	141
9.3.5	Update Shadow.....	142
9.3.6	Request Shadow Update.....	143
9.4	The IN ITU-T Recommendation X.500 DSP subset.....	144
9.4.1	Information types and common procedures.....	144
9.4.1.1	Chaining arguments.....	144
9.4.1.2	Chaining results.....	145
9.4.1.3	Reference type.....	146
9.4.1.4	Access Point information.....	146
9.4.1.5	Continuation reference.....	146
9.4.2	DSA Bind.....	147
9.4.3	IN DSA Unbind.....	147
9.4.4	Chained operations.....	148
9.4.5	Chained errors.....	148
9.5	Protocol overview.....	149
9.5.1	ROS-objects and contracts.....	149
9.5.2	DSP contract and packages.....	149
9.5.3	DISP contract and packages.....	150
9.6	Protocol abstract syntax.....	151
9.6.1	DSP abstract syntax.....	151
9.6.2	DISP abstract syntax.....	151
9.6.3	Directory System AC.....	151
9.6.4	Directory Shadow AC.....	152
9.6.5	Versions and the rules for extensibility.....	153
9.6.5.1	Version negotiation.....	153
9.6.5.2	Initiating DSA side.....	153
9.6.5.2.1	Request and response processing at the initiating DSA side.....	153
9.6.5.2.2	Extensibility rules for error handling at the initiating DSA side.....	153
9.6.5.3	Request processing at the responding DSA side.....	154
9.7	Conformance.....	154
9.7.1	Conformance by SDFs.....	154
9.7.1.1	Statement requirements.....	154
9.7.1.2	Static requirements.....	155
9.7.1.3	Dynamic requirements.....	155
9.7.2	Conformance by a shadow supplier.....	156
9.7.2.1	Statement requirements.....	156
9.7.2.2	Static requirements.....	156
9.7.2.3	Dynamic requirements.....	156
9.7.3	Conformance by a shadow consumer.....	157
9.7.3.1	Statement requirements.....	157
9.7.3.2	Static requirements.....	157
9.7.3.3	Dynamic requirements.....	157
9.8	ASN.1 modules for the SDF-SDF interface.....	157
9.8.1	IN-CS2-SDF-SDF-Protocol module.....	157

**STANDARD PREVIEW**  
 (standards.iteh.ai)  
<https://standards.iteh.ai/catalog/standards/sist/ca964e3d-c8fd-4aa8-b702-30d457c95972/sist-en-301-140-1-2000>

10	SCF/SCF interface .....	161
10.1	SCF/SCF Operations and arguments.....	161
10.2	SCF/SCF contracts, packages and ACs.....	170
10.2.1	(void).....	170
10.2.2	ASN.1 modules .....	170
11	SCF/CUSF interface .....	174
11.1	Operations and arguments.....	174
11.2	SCF/CUSF contracts, operation packages, and ACs.....	177
11.2.1	(void).....	177
11.2.2	ASN.1 module.....	177
12	SSF AE procedures .....	180
12.1	General.....	180
12.2	Model and interfaces.....	180
12.3	Relations between SSF Finite State Model (FSM) and the CCF and maintenance functions .....	181
12.4	SSF management (SSME) FSM.....	183
12.5	SSF switching state model (SSM) FSM.....	184
12.5.1	FSM for Call Segment Association (CSA).....	187
12.5.1.1	State a: Idle.....	188
12.5.1.2	State b: Active .....	188
12.5.2	FSM for Call Segment.....	190
12.5.2.1	State a: Idle.....	195
12.5.2.2	State c: Waiting For Instructions .....	196
12.5.2.3	State d: Waiting For End Of User Interaction (WFI) .....	197
12.5.2.4	State e: Waiting For End Of Temporary Connection (WFI).....	198
12.5.2.5	State f: Monitoring.....	198
12.5.2.6	State h: Waiting For End Of User Interaction (Monitoring).....	199
12.5.2.7	State i: Waiting For End Of Temporary Connection (Monitoring).....	200
12.6	Assisting SSF FSM.....	201
12.6.1	State aa: Idle.....	201
12.6.2	State ab: Waiting For Instructions.....	202
12.6.3	State ac: Waiting For End Of User Interaction.....	203
12.7	Handed-off SSF FSM .....	204
12.7.1	State ha: Idle.....	204
12.7.2	State hb: Waiting For Instructions.....	205
12.7.3	State hc: Waiting For End Of User Interaction .....	206
12.8	User Service Interaction (USI) FSM.....	207
13	SCF AE procedures .....	208
13.1	General.....	208
13.2	Model and Interfaces .....	208
13.3	Relationship between the SCF FSM and the SLPs/Maintenance Functions .....	209
13.4	Partial SCME State Transition Diagram .....	211
13.4.1	State M1: .....	211
13.4.2	State M2: .....	211
13.4.3	State M3: "Service filtering idle" .....	212
13.4.4	State M4: "Waiting for SSF service filtering response" .....	212
13.4.5	State M5: "Activity test idle" .....	212
13.4.6	State M6: "Waiting for activity test response" .....	212
13.4.7	State M7: "ManageTriggerData idle".....	213
13.4.8	State M8: "Waiting for ManageTriggerData response" .....	213
13.4.9	The RCO .....	213
13.5	The SCSM .....	214
13.5.1	SSF/SRF Related states (SCSM-SSF/SRF).....	214
13.5.1.1	FSM for SSF/SRF interface.....	215
13.5.1.1.1	State S1: "Idle" .....	216
13.5.1.1.2	State S2: "Preparing SSF/SRF Instructions" .....	216
13.5.1.2	FSM for CSA.....	219
13.5.1.2.1	State I1: "SSF Control Idle".....	219
13.5.1.2.2	State I2: "Preparing SSF Instructions" .....	220



13.5.1.3	FSM for Call Segment .....	221
13.5.1.3.1	State C1: "CS Control Idle" .....	222
13.5.1.3.2	State C2: "Preparing CS Instructions" .....	224
13.5.1.3.3	State C3: "Suspended and User Interaction" .....	232
13.5.1.3.4	State C4: "Not Suspended and User Interaction" .....	238
13.5.1.4	FSM for Specialized Resource .....	244
13.5.1.4.1	State R1: "SRF Control Idle" .....	244
13.5.1.4.2	State R2: "Controlling SRF" .....	244
13.5.1.5	FSM for Assisting SSF .....	246
13.5.1.5.1	State A1: "Assisting SSF Idle" .....	247
13.5.1.5.2	State A2: "Preparing SSF Instructions" .....	247
13.5.1.5.3	State A3: "User Interaction" .....	248
13.5.1.6	FSM for Handed-off SSF.....	249
13.5.1.6.1	State H1: "Handed-off SSF Idle" .....	250
13.5.1.6.2	State H2: "Preparing SSF Instructions" .....	250
13.5.1.6.3	State H3: "User Interaction" .....	251
13.5.2	SDF related states (SCSM-SDF).....	252
13.5.2.1	State 1: "Idle" .....	252
13.5.2.2	State 2: "Wait for subsequent requests" .....	252
13.5.2.3	State 3: "Wait for Bind result" .....	252
13.5.2.4	State 4: "SDF Bound" .....	253
13.5.3	SCF Related states.....	253
13.5.3.1	Controlling SCF FSM (SCSM-Con).....	254
13.5.3.1.1	State 1: Idle .....	254
13.5.3.1.2	State 2: Preparing Handling Information Request.....	254
13.5.3.1.3	State 3: Waiting for Bind Result .....	254
13.5.3.1.4	State 4: Assisted Mode .....	254
13.5.3.1.5	State 5: Preparing Additional Information .....	256
13.5.3.1.6	State 7: Preparing SCF Unbind request .....	256
13.5.3.2	Supporting SCF FSM (SCSM-Sup).....	257
13.5.3.2.1	State 1: Idle .....	257
13.5.3.2.2	State 2: Processing SCF Bind .....	258
13.5.3.2.3	State 3: Assisting mode .....	258
13.5.3.2.4	State 4: Waiting for Additional Information .....	259
13.5.3.2.5	SCF state transition models for chaining .....	260
13.5.4	(void).....	265
13.5.5	USI_SCF FSM .....	265
14	SRF AE procedures .....	265
14.1	General.....	265
14.2	Model and interfaces.....	266
14.3	Relationship between the SRF FSM and maintenance functions / bearer connection handling .....	266
14.4	The SRSM .....	268
14.4.1	State 1: "Idle" .....	270
14.4.2	State 2: "Connected" .....	271
14.4.3	State 3: "User interaction" .....	272
14.5	Example SRF control procedures .....	273
14.5.1	SRF connect procedures.....	273
14.5.1.1	SRF connect physical procedures .....	273
14.5.2	SRF end user interaction procedures.....	277
14.5.2.1	PA / prompt & collect user information / prompt & receive message (PA/P&C/P&R) .....	277
14.5.3	SRF disconnection procedures .....	279
14.5.3.1	SRF initiated disconnect.....	280
14.5.3.2	SCF initiated disconnect.....	281
14.5.4	Examples illustrating complete user interaction sequences .....	282
14.5.4.1	Message sequences for service assist.....	287
14.5.4.2	Message sequences for hand-off.....	288
15	SDF AE procedures .....	289
15.1	General.....	289
15.2	Model and interfaces.....	289

15.3	The SDF FSM structure .....	291
15.4	SDF state transition models .....	292
15.4.1	SDF state transition model for SCF related states .....	292
15.4.1.1	State 1:"Idle" .....	292
15.4.1.2	State 2:"Bind Pending" .....	293
15.4.1.3	State 3:"SCF Bound" .....	293
15.4.2	SDF state transition model for SDF related states .....	294
15.4.2.1	SDF state transition models for shadowing .....	294
15.4.2.2	SDF state transition models for chaining .....	306
16	CUSF AE procedures .....	310
16.1	General.....	310
16.2	Model and interfaces.....	310
16.2.1	Background for the modeling and protocol.....	311
16.2.2	Modelling and protocol.....	311
16.3	Relations between CUSF FSM and the SSF/CCF and maintenance functions .....	312
16.4	CUSF management FSM .....	313
16.5	CUSF state transition diagram .....	313
16.5.1	State a: Idle .....	314
16.5.2	State b: Waiting For Instructions.....	315
16.5.3	State c:"Monitoring" .....	316
16.6	USI FSM.....	316
17	Error procedures .....	317
17.1	Operation related error procedures .....	317
17.1.1	AttributeError.....	317
17.1.1.1	General description.....	317
17.1.1.1.1	Error description.....	317
17.1.1.1.2	Argument description.....	317
17.1.1.2	Operations SCF→SDF .....	317
17.1.1.3	Operations SDF→SDF .....	318
17.1.2	Canceled.....	319
17.1.2.1	General Description.....	319
17.1.2.1.1	Error description .....	319
17.1.2.2	Operations SCF→SRF.....	319
17.1.3	CancelFailed.....	320
17.1.3.1	General description.....	320
17.1.3.1.1	Error description .....	320
17.1.3.1.2	Argument description.....	320
17.1.3.2	Operations SCF→SSF.....	320
17.1.3.3	Operations SCF→SRF.....	321
17.1.4	DSAReferral.....	321
17.1.4.1	General description.....	321
17.1.4.1.1	Error description .....	321
17.1.4.1.2	Argument description.....	321
17.1.4.2	Operations SDF→SDF .....	322
17.1.5	ETCFailed.....	322
17.1.5.1	General description.....	322
17.1.5.1.1	Error description .....	322
17.1.5.2	Operations SCF→SSF .....	323
17.1.6	ExecutionError.....	323
17.1.6.1	General description.....	323
17.1.6.1.1	Error description .....	323
17.1.6.1.2	Argument description.....	323
17.1.6.2	Operations SCF→SDF .....	323
17.1.6.3	Operations SDF→SDF .....	324
17.1.7	ImproperCallerResponse.....	325
17.1.7.1	General description.....	325
17.1.7.1.1	Error description .....	325
17.1.7.2	Operations SCF→SRF.....	325
17.1.7.3	Operations SCF→SCF.....	326

17.1.8	MissingCustomerRecord	326
17.1.8.1	General description	326
17.1.8.1.1	Error description	326
17.1.8.2	Operations SCF→SSF	327
17.1.8.3	Operations SSF→SCF	327
17.1.8.4	Operations SRF→SCF	327
17.1.8.5	Operations SCF→SCF	328
17.1.8.6	Operations CUSF → SCF	332
17.1.9	MissingParameter	332
17.1.9.1	General description	332
17.1.9.1.1	Error description	332
17.1.9.2	Operations SCF→SSF	332
17.1.9.3	Operations SSF→SCF	334
17.1.9.4	Operations SCF→SRF	334
17.1.9.5	Operations SRF→SCF	335
17.1.9.6	Operations SCF→SCF	335
17.1.9.7	Operations SCF→ CUSF	339
17.1.9.8	Operations CUSF → SCF	340
17.1.10	NameError	341
17.1.10.1	General description	341
17.1.10.1.1	Error description	341
17.1.10.1.2	Argument description	341
17.1.10.2	Operations SCF→SDF	341
17.1.10.3	Operations SDF→SDF	342
17.1.11	ParameterOutOfRange	342
17.1.11.1	General description	342
17.1.11.1.1	Error description	342
17.1.11.2	Operations SCF→SSF	343
17.1.11.3	Operations SSF→SCF	343
17.1.11.4	Operations SCF→SRF	343
17.1.11.5	Operations SCF → SCF	343
17.1.11.6	Operations SCF→ CUSF	344
17.1.11.7	Operations CUSF → SCF	344
17.1.12	Referral	345
17.1.12.1	General description	345
17.1.12.1.1	Error description	345
17.1.12.1.2	Argument description	345
17.1.12.2	Operations SCF→SDF	345
17.1.13	RequestedInfoError	346
17.1.13.1	General description	346
17.1.13.1.1	Error description	346
17.1.13.1.2	Argument description	346
17.1.13.2	Operations SCF→SSF	346
17.1.14	ScfReferral	346
17.1.14.1	General description	346
17.1.14.1.1	Error description	346
17.1.14.1.2	Argument description	346
17.1.14.2	Operations SCF→SCF	346
17.1.15	Security	348
17.1.15.1	General description	348
17.1.15.1.1	Error description	348
17.1.15.1.2	Argument description	348
17.1.15.2	Operations SCF→SDF	348
17.1.15.3	Operations SDF→SDF	349
17.1.15.4	Operations SCF→SCF	349
17.1.16	Service	355
17.1.16.1	General description	355
17.1.16.1.1	Error description	355
17.1.16.1.2	Argument description	355
17.1.16.2	Operations SCF→SDF	355

17.1.16.3	Operations SDF→SDF .....	356
17.1.17	Shadow .....	356
17.1.17.1	General description .....	356
17.1.17.1.1	Error description .....	356
17.1.17.1.2	Argument description .....	356
17.1.17.2	Operations SDF→SDF .....	357
17.1.18	SystemFailure .....	358
17.1.18.1	General description .....	358
17.1.18.1.1	Error description .....	358
17.1.18.2	Argument description .....	359
17.1.18.2a	Operations SCF→SSF .....	359
17.1.18.3	Operations SSF→SCF .....	360
17.1.18.4	Operations SCF→SRF .....	360
17.1.18.5	Operations SRF→SCF .....	360
17.1.18.6	Operations SCF→SCF .....	360
17.1.18.7	Operations SCF→CUSF .....	361
17.1.18.8	Operations CUSF → SCF .....	361
17.1.19	TaskRefused .....	361
17.1.19.1	General introduction .....	361
17.1.19.1.1	Error description .....	361
17.1.19.1.2	Argument description .....	362
17.1.19.2	Operations SCF→SSF .....	362
17.1.19.3	Operations SSF→SCF .....	363
17.1.19.4	Operations SCF→SRF .....	363
17.1.19.5	Operations SRF→SCF .....	363
17.1.19.6	Operations SCF→CUSF .....	363
17.1.19.7	Operations CUSF → SCF .....	363
17.1.20	UnavailableResource .....	364
17.1.20.1	General description .....	364
17.1.20.1.1	Error description .....	364
17.1.20.2	Operations SCF→SRF .....	364
17.1.21	UnexpectedComponentSequence .....	365
17.1.21.1	General description .....	365
17.1.21.1.1	Error description .....	365
17.1.21.2	Operations SCF→SSF .....	365
17.1.21.3	Operations SSF→SCF .....	366
17.1.21.4	Operations SCF→SRF (only applicable for direct SCF-SRF case) .....	366
17.1.21.5	Operations SRF→SCF .....	366
17.1.21.6	Operations SCF→SCF .....	366
17.1.21.7	Operations SCF→CUSF .....	367
17.1.21.8	Operations CUSF → SCF .....	367
17.1.22	UnexpectedDataValue .....	367
17.1.22.1	General description .....	367
17.1.22.1.1	Error description .....	367
17.1.22.2	Operations SCF→SSF .....	368
17.1.22.3	Operations SSF→SCF .....	368
17.1.22.4	Operations SCF→SRF .....	369
17.1.22.5	Operations SRF→SCF .....	369
17.1.22.6	Operations SCF→SCF .....	369
17.1.22.7	Operations SCF→CUSF .....	370
17.1.22.8	Operations CUSF → SCF .....	370
17.1.23	UnexpectedParameter .....	370
17.1.23.1	General description .....	370
17.1.23.1.1	Error description .....	370
17.1.23.2	Operations SCF→SSF .....	370
17.1.23.3	Operations SSF→SCF .....	371
17.1.23.4	Operations SCF→SRF .....	371
17.1.23.5	Operations SRF→SCF .....	372
17.1.23.6	Operations SCF→SCF .....	372
17.1.23.7	Operations SCF→CUSF .....	373

17.1.23.8	Operations CUSF → SCF.....	373
17.1.24	UnknownLegID.....	373
17.1.24.1	General description.....	373
17.1.24.1.1	Error description.....	373
17.1.24.2	Operations SCF→SSF.....	373
17.1.24.3	Operations SCF→CUSF.....	374
17.1.25	Update.....	374
17.1.25.1	General description.....	374
17.1.25.1.1	Error description.....	374
17.1.25.1.2	Argument description.....	374
17.1.25.2	Operations SCF→SDF.....	374
17.1.25.3	Operations SDF→SDF.....	375
17.1.26	ChainingRefused.....	376
17.1.26.1	General description.....	376
17.1.26.1.1	Error description.....	376
17.1.26.1.2	Argument description.....	376
17.1.26.2	Operations SCF→SCF.....	376
17.1.27	DirectoryBindError.....	378
17.1.27.1	General description.....	378
17.1.27.1.1	Error description.....	378
17.1.27.1.2	Argument description.....	378
17.1.27.2	Operations SCF→SDF.....	378
17.1.27.3	Operations SDF→SDF.....	379
17.1.28	ScfBindFailure.....	380
17.1.28.1	General description.....	380
17.1.28.1.1	Error description.....	380
17.1.28.1.2	Argument description.....	380
17.1.28.2	Operations Controlling SCF→ Supporting SCF.....	380
17.1.28.3	Operations Chaining Initiator Supporting SCF→ Terminator Supporting SCF.....	381
17.1.29	ScfTaskRefused.....	381
17.1.29.1	General introduction.....	381
17.1.29.1.1	Error description.....	381
17.1.29.1.2	Argument description.....	381
17.1.29.2	Operations SCF→SCF.....	382
17.2	Entity related error procedures.....	382
17.2.1	Expiration of T <sub>SSF</sub> .....	382
17.2.1.1	General description.....	382
17.2.1.1.1	Error description.....	382
17.2.1.2	Procedures SSF→SCF.....	383
17.2.2	Expiration of T <sub>SRF</sub> .....	383
17.2.2.1	General Description.....	383
17.2.2.1.1	Error description.....	383
17.2.2.2	Procedures SRF→SCF.....	383
17.2.3	Expiration of T <sub>cusf</sub> .....	384
17.2.3.1	General description.....	384
17.2.3.1.1	Error description.....	384
17.2.3.2	Procedures CUSF→SCF.....	384
18	Detailed operation procedures.....	384
18.1	ActivateServiceFiltering procedure.....	384
18.1.1	General description.....	384
18.1.1.1	Parameters.....	384
18.1.2	Invoking entity (SCF).....	387
18.1.2.1	Normal procedure.....	387
18.1.2.2	Error handling.....	387
18.1.3	Responding entity (SSF).....	388
18.1.3.1	Normal procedure.....	388
18.1.3.2	Error handling.....	389
18.2	ActivityTest procedure.....	389
18.2.1	General description.....	389
18.2.1.1	Parameters.....	389

18.2.2	Invoking entity (SCF).....	389
18.2.2.1	Normal procedure.....	389
18.2.2.2	Error handling.....	389
18.2.3	Responding entity (SSF).....	390
18.2.3.1	Normal procedure.....	390
18.2.3.2	Error handling.....	390
18.2.4	Responding entity (CUSF).....	390
18.2.4.1	Normal procedure.....	390
18.2.4.2	Error handling.....	390
18.2.5	Responding entity (controlling SCF or supporting SCF).....	390
18.2.5.1	Normal procedure.....	390
18.2.5.2	Error handling.....	391
18.3	AddEntry procedure.....	391
18.3.1	General description.....	391
18.3.1.1	Parameters.....	391
18.3.2	Invoking entity (SCF).....	391
18.3.2.1	Normal procedure.....	391
18.3.2.2	Error handling.....	391
18.3.3	Responding entity (SDF).....	392
18.3.3.1	Normal procedure.....	392
18.3.3.2	Error handling.....	392
18.4	ApplyCharging procedure.....	392
18.4.1	General description.....	392
18.4.1.1	Parameters.....	392
18.4.2	Invoking entity (SCF).....	393
18.4.2.1	Normal procedure.....	393
18.4.2.2	Error handling.....	393
18.4.3	Responding entity (SSF).....	393
18.4.3.1	Normal procedure.....	393
18.4.3.2	Error handling.....	393
18.5	ApplyChargingReport procedure.....	394
18.5.1	General description.....	394
18.5.1.1	Parameters.....	394
18.5.2	Invoking entity (SSF).....	394
18.5.2.1	Normal procedure.....	394
18.5.2.2	Error handling.....	394
18.5.3	Responding entity (SCF).....	395
18.5.3.1	Normal procedure.....	395
18.5.3.2	Error handling.....	395
18.6	AssistRequestInstructions procedure.....	395
18.6.1	General description.....	395
18.6.1.1	Parameters.....	395
18.6.2	Invoking entity (SSF/SRF).....	395
18.6.2.1	Normal procedure.....	395
18.6.2.2	Error handling.....	396
18.6.3	Responding entity (SCF).....	396
18.6.3.1	Normal procedure.....	396
18.6.3.2	Error handling.....	396
18.7	CallGap procedure.....	397
18.7.1	General description.....	397
18.7.1.1	Parameters.....	397
18.7.2	Invoking entity (SCF).....	399
18.7.2.1	Normal procedure.....	399
18.7.2.2	Error handling.....	399
18.7.3	Responding entity (SSF).....	399
18.7.3.1	Normal procedure.....	399
18.7.3.2	Error handling.....	400
18.8	CallInformationReport procedure.....	400
18.8.1	General description.....	400
18.8.1.1	Parameters.....	400



18.8.2	Invoking entity (SSF) .....	401
18.8.2.1	Normal procedure .....	401
18.8.2.2	Error handling .....	401
18.8.3	Responding entity (SCF) .....	402
18.8.3.1	Normal procedure .....	402
18.8.4	Error handling .....	402
18.9	CallInformationRequest procedure .....	402
18.9.1	General description .....	402
18.9.1.1	Parameters .....	402
18.9.2	Invoking entity (SCF) .....	403
18.9.2.1	Normal procedure .....	403
18.9.2.2	Error handling .....	403
18.9.3	Responding entity (SSF) .....	403
18.9.3.1	Normal procedure .....	403
18.9.3.2	Error handling .....	404
18.10	Cancel procedure .....	404
18.10.1	General description .....	404
18.10.1.1	Parameters .....	404
18.10.2	Invoking entity (SCF) .....	404
18.10.2.1	Normal procedure .....	404
18.10.2.2	Error handling .....	405
18.10.3	Responding entity (SRF) .....	405
18.10.3.1	Normal procedure .....	405
18.10.3.2	Error handling .....	405
18.10.4	Responding entity (SSF) .....	405
18.10.4.1	Normal procedure .....	405
18.10.4.2	Error handling .....	405
18.11	ChainedAddEntry procedure .....	406
18.11.1	General description .....	406
18.11.1.1	Parameters .....	406
18.11.2	Invoking entity (SDF) .....	406
18.11.2.1	Normal procedure .....	406
18.11.2.2	Error handling .....	406
18.11.3	Responding entity (SDF) .....	407
18.11.3.1	Normal procedure .....	407
18.11.3.2	Error handling .....	407
18.12	ChainedConfirmedNotificationProvided procedure .....	407
18.12.1	General description .....	407
18.12.1.1	Parameters .....	407
18.12.2	Invoking entity (chaining initiator supporting SCF) .....	408
18.12.2.1	Normal procedure .....	408
18.12.2.2	Error handling .....	408
18.12.3	Responding entity (chaining terminator supporting SCF) .....	408
18.12.3.1	Normal procedure .....	408
18.12.3.2	Error handling .....	408
18.13	ChainedConfirmedReportChargingInformation procedure .....	409
18.13.1	General description .....	409
18.13.1.1	Parameters .....	409
18.13.2	Invoking entity (chaining initiator supporting SCF) .....	409
18.13.2.1	Normal procedure .....	409
18.13.2.2	Error handling .....	409
18.13.3	Responding entity (chaining terminator supporting SCF) .....	409
18.13.3.1	Normal procedure .....	409
18.13.3.2	Error handling .....	409
18.14	ChainedEstablishChargingRecord procedure .....	410
18.14.1	General Description .....	410
18.14.1.1	Parameters .....	410
18.14.2	Invoking entity (chaining terminator supporting SCF) .....	410
18.14.2.1	Normal procedure .....	410
18.14.2.2	Error handling .....	410