

ISO/IEC 18052:2011-09 (E)

Information technology - Telecommunications and information exchange between systems - Protocol for Computer Supported Telecommunications Applications (CSTA) Phase III

Contents		Page
Foreword		x
Introduction		xi
1	Scope	1
2	Conformance	1
2.1	Static Requirements	1
2.2	Dynamic Requirements	1
2.3	PICS Requirement	2
3	Normative references	2
4	Terms and definitions	2
5	CSTA Service Definition Model	3
5.1	CSTA Application Layer Structure	3
5.2	Remote Operations	3
5.3	The CSTA Service Response	3
5.4	Cross Referencing of Event Reports	3
5.5	Handling of Private Data	4
6	Interconnection service boundary	4
7	Security	4
8	Association Management	4
8.1	Implicit association	4
8.2	Dynamic association management using ACSE	4
8.2.1	Encoding of application context name	5
8.2.2	Encoding of application context information	5
9	CSTA parameter types	10
9.1	Switching function objects	10
9.2	Device Identifiers	11
9.3	Call and connection identifiers	13
9.4	Connection states	14
9.5	Status reporting	15
9.6	Device and feature types and other parameters	18
9.7	Security	24
9.8	Common extensions	25
9.9	Call control	26
9.10	Capability Exchange	30
9.11	Call Detail Record	94
9.12	Charge information	97
9.13	Data call types	98
9.14	Escape types	99
9.15	Media services	100
9.16	Physical device features	103

9.17	Data Collection	105
9.18	Event Cause	106
9.19	Error Value	109
10	Event Report Service	115
11	Capability exchange services	121
11.1	Services	121
11.1.1	Get CSTA-Features	121
11.1.2	Get logical device information	123
11.1.3	Get physical device information	125
11.1.4	Get switching function capabilities	127
11.1.5	Get switching function devices	131
11.1.6	Switching function devices	133
12	System services	134
12.1	Registration services	134
12.1.1	Change system status filter	134
12.1.2	System register	135
12.1.3	System register abort	136
12.1.4	System register cancel	137
12.2	Services	138
12.2.1	Request system status	138
12.2.2	System status	139
12.2.3	Switching function capabilities changed	140
12.2.4	Switching function devices changed	141
12.2.5	Get Registrations	142
12.2.6	Registration Info	143
13	Monitoring services	144
13.1	Services	144
13.1.1	Change monitor filter	144
13.1.2	Monitor start	145
13.1.3	Monitor stop	146
13.1.4	Get Monitor	147
13.1.5	Monitor Info	148
14	Snapshot services	149
14.1	Services	149
14.1.1	Snapshot call	149
14.1.2	Snapshot device	151
14.1.3	Snapshot calldata	152
14.1.4	Snapshot devicedata	153
15	Call control services and events	154
15.1	Services	154
15.1.1	Accept call	154
15.1.2	Alternate call	155
15.1.3	Answer call	156
15.1.4	Call back call-related	157
15.1.5	Call back message call-related	158
15.1.6	Camp on call	159
15.1.7	Clear call	160
15.1.8	Clear Connection	161
15.1.9	Conference call	162
15.1.10	Consultation call	163
15.1.11	Deflect call	165
15.1.12	Dial digits	167
15.1.13	Directed pickup call	168
15.1.14	Group pickup call	169
15.1.15	Hold call	170
15.1.16	Intrude call	171

15.1.17	Join call	172
15.1.18	Make call	173
15.1.19	Make connection	175
15.1.20	Make predictive call	177
15.1.21	Park call	179
15.1.22	Reconnect call	180
15.1.23	Retrieve call	181
15.1.24	Single step conference call	182
15.1.25	Send Message	184
15.1.26	Single step transfer call	186
15.1.27	Transfer call	188
15.2	Events	189
15.2.1	Bridged	189
15.2.2	Call cleared	191
15.2.3	Conferenced	192
15.2.4	Connection cleared	194
15.2.5	Delivered	196
15.2.6	Digits dialed	198
15.2.7	Diverted	200
15.2.8	Established	202
15.2.9	Failed	204
15.2.10	Held	206
15.2.11	Network capabilities changed	207
15.2.12	Network reached	209
15.2.13	Offered	211
15.2.14	Originated	213
15.2.15	Queued	215
15.2.16	Retrieved	217
15.2.17	Service initiated	218
15.2.18	Transferred	220
16	Call associated features	222
16.1	Services	222
16.1.1	Associate data	222
16.1.2	Cancel telephony tones	224
16.1.3	Change Connection Information	225
16.1.4	Generate digits	226
16.1.5	Generate telephony tones	227
16.1.6	Send user information	228
16.2	Events	229
16.2.1	Call information	229
16.2.2	Charging	230
16.2.3	Digits generated	231
16.2.4	Telephony tones generated	232
16.2.5	Service completion failure	233
17	Media attachment services and events	234
17.1	Services	234
17.1.1	Attach media service	234
17.1.2	Detach media service	236
17.2	Events	237
17.2.1	Media attached	237
17.2.2	Media detached	238
18	Routeing services	239
18.1	Registration services	239
18.1.1	Route register	239
18.1.2	Route register abort	240
18.1.3	Route register cancel	241
18.2	Services	242
18.2.1	Re-Route	242
18.2.2	Route end	243

18.2.3	Route reject	244
18.2.4	Route request	245
18.2.5	Route select	247
18.2.6	Route used	248
19	Physical device features	249
19.1	Services	249
19.1.1	Button press	249
19.1.2	Get auditory apparatus information	250
19.1.3	Get button information	251
19.1.4	Get display	252
19.1.5	Get hookswitch status	253
19.1.6	Get lamp information	254
19.1.7	Get lamp mode	255
19.1.8	Get message waiting indicator	256
19.1.9	Get microphone gain	257
19.1.10	Get microphone mute	258
19.1.11	Get ringer status	259
19.1.12	Get speaker mute	260
19.1.13	Get speaker volume	261
19.1.14	Set button information	262
19.1.15	Set display	263
19.1.16	Set hookswitch status	264
19.1.17	Set lamp mode	265
19.1.18	Set message waiting indicator	266
19.1.19	Set microphone gain	267
19.1.20	Set microphone mute	268
19.1.21	Set ringer status	269
19.1.22	Set speaker mute	270
19.1.23	Set speaker volume	271
19.2	Events	272
19.2.1	Button information	272
19.2.2	Button press	273
19.2.3	Display updated	274
19.2.4	Hookswitch	275
19.2.5	Lamp mode	276
19.2.6	Message waiting	277
19.2.7	Microphone gain	278
19.2.8	Microphone mute	279
19.2.9	Ringer status	280
19.2.10	Speaker mute	281
19.2.11	Speaker volume	282
20	Logical device features	283
20.1	Services	283
20.1.1	Call back non-call-related	283
20.1.2	Call back message non-call-related	284
20.1.3	Cancel call back	285
20.1.4	Cancel call back message	286
20.1.5	Get agent state	287
20.1.6	Get auto answer	288
20.1.7	Get auto work mode	289
20.1.8	Get Call Back	290
20.1.9	Get caller id status	291
20.1.10	Get do not disturb	292
20.1.11	Get forwarding	293
20.1.12	Get last number dialed	294
20.1.13	Get routeing mode	295
20.1.14	Set agent state	296
20.1.15	Set auto answer	297
20.1.16	Set auto work mode	298
20.1.17	Set caller id status	299

20.1.18	Set do not disturb	300
20.1.19	Set forwarding	301
20.1.20	Set routeing mode	302
20.2	Events	303
20.2.1	Agent busy	303
20.2.2	Agent logged off	304
20.2.3	Agent logged on	305
20.2.4	Agent not ready	306
20.2.5	Agent ready	307
20.2.6	Agent working after call	308
20.2.7	Auto answer	309
20.2.8	Auto work mode	310
20.2.9	Call back	311
20.2.10	Call back message	312
20.2.11	Caller id status	313
20.2.12	Do not disturb	314
20.2.13	Forwarding	315
20.2.14	Routeing mode	316
21	Device maintenance events	317
21.1	Events	317
21.1.1	Back in service	317
21.1.2	Device capabilities changed	318
21.1.3	Out of service	319
21.1.4	Partially in Service	320
22	I/O services	321
22.1	Registration services	321
22.1.1	I/O register	321
22.1.2	I/O register abort	322
22.1.3	I/O register cancel	323
22.2	Services	324
22.2.1	Data path resumed	324
22.2.2	Data path suspended	325
22.2.3	Fast data	326
22.2.4	Resume data path	327
22.2.5	Send broadcast data	328
22.2.6	Send data	329
22.2.7	Send multicast data	330
22.2.8	Start data path	331
22.2.9	Stop data path	332
22.2.10	Suspend data path	333
23	Data Collection Services	334
23.1	Services	334
23.1.1	Data Collected	334
23.1.2	Data Collection Resumed	336
23.1.3	Data Collection Suspended	337
23.1.4	Resume Data Collection	338
23.1.5	Start Data Collection	339
23.1.6	Stop Data Collection	340
23.1.7	Suspend Data Collection	341
24	Voice unit services and events	342
24.1	Services	342
24.1.1	Activate	342
24.1.2	Clear	343
24.1.3	Concatenate message	344
24.1.4	Deactivate	345
24.1.5	Delete message	346
24.1.6	Play message	347
24.1.7	Query voice attribute	348

24.1.8	Queue	350
24.1.9	Record message	351
24.1.10	Reposition	352
24.1.11	Resume	353
24.1.12	Review	354
24.1.13	Set voice attribute	355
24.1.14	Start	357
24.1.15	Stop	358
24.1.16	Suspend	359
24.1.17	Synthesize message	360
24.2	Events	361
24.2.1	Bookmark Reached	361
24.2.2	Completed	362
24.2.3	DTMF Detected	363
24.2.4	Emptied	364
24.2.5	Interruption Detected	365
24.2.6	Not Recognized	366
24.2.7	Play	367
24.2.8	Recognized	368
24.2.9	Record	369
24.2.10	Review	370
24.2.11	Silence Timeout Expired	371
24.2.12	Speech Detected	372
24.2.13	Started	373
24.2.14	Stop	374
24.2.15	Suspend play	375
24.2.16	Suspend record	376
24.2.17	Voice attribute changed	377
24.2.18	VoiceErrorOccurred	379
25	Call detail record services	380
25.1	Services	380
25.1.1	Call detail records notification	380
25.1.2	Call detail records report	381
25.1.3	Send stored call detail records	382
25.1.4	Start call detail records transmission	383
25.1.5	Stop call detail records transmission	384
26	Location Services	385
26.1	Services	385
26.1.1	Get Location Information	385
26.1.2	Set Location Information	386
26.1.3	Location tracking session resumed	387
26.1.4	Location tracking session suspended	388
26.1.5	Resume Location tracking session	389
26.1.6	Location Information Report	390
26.1.7	Start Location Tracking Session	391
26.1.8	Stop Location Tracking Session	393
26.1.9	Suspend Location Tracking Session	394
26.1.10	Get Location Tracking Capabilities	395
26.1.11	Get Location Tracking Sessions	397
26.1.12	Location Session Info	398
27	Vendor specific extensions services and events	399
27.1	Registration services	399
27.1.1	Escape register	399
27.1.2	Escape register abort	400
27.1.3	Escape register cancel	401
27.2	Services	402
27.2.1	Escape	402
27.2.2	Private data version selection	403
27.3	Events	404

27.3.1	Private event	404
Annex A (normative) Protocol Implementation Conformance Statement (PICS) Proforma		405
A.1	Introduction	405
A.2	Conformance	405
A.3	Instructions for completing the PICS proforma	405
A.4	Implementation identification	406
A.5	PICS proforma	406
A.5.1	CSTA Profiles	406
A.5.2	Capability Exchange Services	408
A.5.3	System Services	415
Bibliography		565