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Technical Specification

Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 3: Extended wideband speech services

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Contents

Intellectual Property Rights 11

Foreword 11

1 Scope 12

2 References 12
2.1 Normative references 13
2.2 Informative references 14

3 Definitions, symbols and abbreviations 15
3.1 Definitions 15
3.2 Symbols 16
3.3 Abbreviations 16

4 Description of Services 17
4.1 Enhanced wideband speech 17
4.1.1 Back-compatibility with GAP 17
4.1.2 Further enhancement in audio performance requirements 17
4.2 Wideband speech scenarios 18
4.3 Extended wideband speech services defined in the present document 18

5 Service and feature definitions 19
5.1 New Generation DECT Speech Services 19
5.2 Network (NWK) features 19
5.3 Data Link Control (DLC) service definitions 20
5.4 Medium Access Control (MAC) service definitions 20
5.5 Physical Layer (PHL) service definitions 20
5.6 Speech coding and audio feature definitions 20
5.7 Application features 20

6 Inter-operability requirements 20
6.1 General 20
6.2 New Generation DECT Speech Services support status 21
6.3 Services to DECT feature implementation mappings 21
6.4 NWK features 30
6.5 Data Link Control (DLC) services 31
6.6 Medium Access Control (MAC) services 32
6.7 Physical layer (PHL) services 33
6.8 Speech coding and audio features 33
6.9 Application features 34
6.10 Network (NWK) feature to procedure mapping 35
6.11 Data Link Control (DLC) Service to procedure mapping 41
6.12 Medium Access Control (MAC) service to procedure mapping 42
6.13 Application feature to procedure mapping 44
6.14 General requirements 44
6.14.1 Network (NWK) layer message contents 44
6.14.2 Transaction identifier 44
6.14.3 Length of a Network (NWK) layer message 44
6.14.4 Handling of error and exception conditions 44
6.14.5 Generic Access Profile (GAP) default setup attributes 44
6.14.6 Coexistence of Mobility Management (MM) and Call Control (CC) procedures 45
6.14.7 Coding rules for information elements 45

7 Procedure description 45
7.1 Backward compatibility with Generic Access Profile (GAP) and with New Generation DECT part 1 (wideband speech) equipment 45
7.1.1 Backward compatibility with Generic Access Profile (GAP); Requirements for NG-DECT, part 3 Fixed Parts (FPs) 45

7.1.2 Backward compatibility with Generic Access Profile (GAP); Requirements for NG-DECT, part 3 Portable Parts (PPs) registered on GAP compliant FPs 46
7.1.3 Backward compatibility with New Generation DECT, part 1; Requirements for NG-DECT, part 3 Fixed Parts (FPs)....46
7.1.4 Backward compatibility with New Generation DECT, part 1; Requirements for NG-DECT, part 3 Portable Parts (PPs) registered on NG-DECT Part 1 FPs 46
7.2 Generic Access Profile (GAP) procedures 46
7.3 New Generation DECT; part 1: Wideband Speech procedures....46
7.3.1 Implementation examples of part 1: Wideband Speech specific procedures....46
7.4 Network (NWK) layer procedures specific for part 3 46
7.4.1 Generic events notification 47
7.4.1.1 General....47
7.4.1.2 Voice Message waiting notification....48
7.4.1.3 Missed call notification....49
7.4.1.4 List change notification....51
7.4.2 Date and Time synchronization 52
7.4.2.1 FT initiated Date and Time synchronization....52
7.4.2.2 PT initiated Date and Time synchronization....53
7.4.3 Handling of parallel calls....53
7.4.3.1 Parallel call common requirements 53
7.4.3.2 Control messages 54
7.4.3.3 Codec change for parallel calls 56
7.4.3.4 Sending negative acknowledgement 56
7.4.3.5 Common parallel call procedures (external or internal)....57
7.4.3.5.1 Outgoing parallel call initiation (external or internal) 57
7.4.3.5.2 Call waiting indication (external or internal)....61
7.4.3.5.3 Call toggle (external or internal)....62
7.4.3.5.4 Call release and call release rejection....63
7.4.3.5.5 Void....66
7.4.3.5.6 Call waiting acceptation (from PP to FP) 66
7.4.3.5.7 Call waiting rejection (from PP to FP) 68
7.4.3.5.8 Putting a call on-hold....69
7.4.3.5.9 Resuming a call put on-hold....70
7.4.3.5.10 CLIP on call waiting....70
7.4.3.5.11 CNIP on call waiting indication....71
7.4.3.5.12 Active call release with replacement (from PP to FP)....72
7.4.3.6 Call transfer....73
7.4.3.6.1 Announced call transfer procedure....74
7.4.3.6.2 Unannounced call transfer procedure 77
7.4.3.6.3 Call re-injection to the system (external or internal) 79
7.4.3.6.4 Remote party CLIP on call transfer....80
7.4.3.6.5 Remote party CNIP on call transfer....81
7.4.3.7 3-party conference with established external and/or internal calls....82
7.4.3.7.1 Unsuccessful 3-party conference call 84
7.4.3.7.2 3-party conference call release 84
7.4.3.8 Intrusion call (from PP to FP) 86
7.4.3.8.1 Implicit intrusion call into a line in "single call" mode 86
7.4.3.8.2 Explicit intrusion call 89
7.4.3.9 Internal call codec priority 92
7.4.3.9.1 Description 92
7.4.3.9.2 Exception cases 94
7.4.3.10 Handling of lines where second calls are signalled in-band....94
7.4.3.10.1 General requirements....94
7.4.3.10.2 Basic 'double call with in-band signalling' lines....95
7.4.3.10.3 Off-hook CLIP enabled 'double call with in-band signalling' lines....96
7.4.3.10.4 Use of transparent commands on DCIBS lines (Basic or Off-hook CLIP enabled) or any other line....102
7.4.4 Handling of single call services 103
7.4.4.1 Control messages 103
7.4.4.1.1 Call deflection control messages 103
7.4.4.2 Call deflection....103
7.4.5 Line identification....107

7.4.5.1 Line identification general requirements 107
7.4.5.2 Line identification for external outgoing calls 107
7.4.5.2.1 General line identification requirements for external outgoing calls 107
7.4.5.2.2 Line identification for a *first* external outgoing call using <<CALL INFORMATION>> 108
7.4.5.2.3 Backward compatible line identification for a *first* external outgoing call using << MULTI-KEYPAD >> IE 111
7.4.5.2.4 FP managed line selection for a *first* external outgoing call 112
7.4.5.3 Line identification for external incoming call 118
7.4.5.3.1 General line identification requirements for external incoming calls 118
7.4.5.3.2 Line identification for a *first* external incoming call 118
7.4.6 Call identification 119
7.4.6.1 Call identification general requirements 119
7.4.6.2 Call identifier assignment on first outgoing call (FP to PP) 121
7.4.6.3 Call identifier assignment on first incoming call (FP to PP) 122
7.4.6.4 Call status indication to the handset (FP to PP) 123
7.4.6.4.1 Call status indication general requirements 123
7.4.6.4.2 Call status indication as call information 124
7.4.6.4.3 Call status principles and values 125
7.4.6.4.4 Call status reasons summary and MMI mapping 126
7.4.6.4.5 Call statuses for a first "Outgoing external call" 128
7.4.6.4.6 Call statuses for a first "Outgoing external call" using early {CC-CONNECT} message 129
7.4.6.4.7 Call statuses for an "Outgoing external call"-user busy 130
7.4.6.4.8 Call statuses for an "Outgoing external call"-number not available 131
7.4.6.4.9 Call statuses for a first "Incoming external call" 132
7.4.7 Multiple lines handling 133
7.4.7.1 Multiple lines common requirements 133
7.4.7.1.1 Pre-requisites 133
7.4.7.1.2 Minimum requirements 133
7.4.7.2 Terminal attachment and line settings 134
7.4.7.2.1 Initial attachment 134
7.4.7.2.2 Attachment modification 134
7.4.7.2.3 Line settings 134
7.4.7.3 Incoming and outgoing external calls on a multiple line system 134
7.4.7.4 Internal calls in multiple line context 135
7.4.7.5 Compatibility with non multiple line PP or FP 135
7.4.7.5.1 Non multiple line PP in front of a multiple line FP 135
7.4.7.5.2 Non multiple line FP in front of a multiple line PP 136
7.4.8 Multiple call line handling 136
7.4.8.1 Multiple calls general requirements 136
7.4.8.1.1 Pre-requisites 136
7.4.8.1.2 Minimum requirements 137
7.4.8.2 Incoming and outgoing external calls on a multiple call line 137
7.4.8.2.1 Line set in "single call" mode 137
7.4.8.2.2 Line set in "multiple call" mode 137
7.4.8.3 Busy system or line notification 138
7.4.9 PP and FP capabilities indication and broadcast 139
7.4.9.1 Terminal capability indication 139
7.4.9.2 Higher layer information FP broadcast 140
7.4.9.2.1 Higher layer information in standard FP broadcast (Qh= 3) 141
7.4.9.2.2 Extended Higher Layer capabilities part 2 141
7.4.10 List access service 141
7.4.10.1 General considerations 141
7.4.10.2 List change notification 145
7.4.10.2.1 General rule 145
7.4.10.2.2 Mandatory notifications 147
7.4.10.3 List identifier codings 148
7.4.10.4 List Access Commands 148
7.4.10.4.1 Start and end session 150
7.4.10.4.2 Query supported entry fields 153
7.4.10.4.3 Read entries 154
7.4.10.4.4 Edit entry 156
7.4.10.4.5 Save entry 157

7.4.10.4.6 Delete entry 159
7.4.10.4.7 Delete list....160
7.4.10.4.8 Search entries 161
7.4.10.4.9 Negative Acknowledgement....164
7.4.10.4.10 Data packet / Data packet last....165
7.4.10.5 Lists and entry fields 167
7.4.10.5.1 Fields description....167
7.4.10.5.2 "List of supported lists" entry fields 173
7.4.10.5.3 "Missed call list" entry fields....174
7.4.10.5.4 "Outgoing call list" entry fields 175
7.4.10.5.5 "Incoming accepted call list" entry fields 175
7.4.10.5.6 "All call list" entry fields 175
7.4.10.5.7 "Contact list" entry fields 176
7.4.10.5.8 "Internal names list" entry fields 177
7.4.10.5.9 "DECT system settings list" entry fields 177
7.4.10.5.10 "Line settings list" entry fields 177
7.4.10.5.11 "All incoming calls list" entry fields....178
7.4.10.6 List access service call and interactions with voice calls 178
7.4.10.6.1 List access setup 179
7.4.10.6.2 List access with possible first voice call initiation....179
7.4.10.6.3 Incoming first voice call during existing list access session....182
7.4.10.6.4 List access during existing voice call with possible second call initiation 183
7.4.10.6.5 Switching between LiA session and voice call....186
7.4.10.6.6 Returning to LiA session after voice call termination 186
7.4.10.7 Generic sequence charts for list access....187
7.4.10.8 Use case examples for list access 187
7.4.11 DECT system and line settings 187
7.4.11.1 DECT system and line settings considerations 187
7.4.11.2 Interactions between registration, attachments of handsets and lists 190
7.4.11.3 DECT system settings list 191
7.4.11.3.1 Field 'Current PIN code' 191
7.4.11.3.2 Field 'Clock master' 192
7.4.11.3.3 Field 'Base reset' 192
7.4.11.3.4 Field 'FP IP address / type'....193
7.4.11.3.5 Field 'FP IP address / value'....194
7.4.11.3.6 Field 'FP IP address / subnet mask'....194
7.4.11.3.7 Field 'FP IP address / gateway' 195
7.4.11.3.8 Field 'FP IP address / DNS server'....195
7.4.11.3.9 Field 'FP version / Firmware version' 196
7.4.11.3.10 Field 'FP version / Eeprom version'....196
7.4.11.3.11 Field 'FP version / Hardware version' field....196
7.4.11.3.12 Field 'Emission mode'....197
7.4.11.3.13 Field 'New PIN code'....197
7.4.11.4 Line settings list 198
7.4.11.4.1 Field 'Line name' 199
7.4.11.4.2 Field 'Line id'....199
7.4.11.4.3 Field 'Attached handsets' 199
7.4.11.4.4 Field 'Dialling Prefix'....200
7.4.11.4.5 Field 'FP melody'....200
7.4.11.4.6 Field 'FP volume'....200
7.4.11.4.7 Field 'Blocked number' 200
7.4.11.4.8 Field 'Multiple calls mode'....201
7.4.11.4.9 Field 'Intrusion call' 201
7.4.11.4.10 Field 'Permanent CLIR' 201
7.4.11.4.11 Field 'Call forwarding unconditional' 202
7.4.11.4.12 Field 'Call forwarding on No Answer'....203
7.4.11.4.13 Field 'Call forwarding on Busy subscriber'....204
7.4.11.5 Virtual contact list and call list per line....204
7.4.12 Calling line identity restriction (CLIR)....205
7.4.12.1 Considerations....205
7.4.12.2 Permanent CLIR mode (all calls)....205
7.4.12.3 Temporary CLIR mode (call by call) 206

7.4.13 Call forwarding (external calls) 206
7.4.13.1 Call forwarding common requirements 206
7.4.13.2 External Call Forwarding Unconditional (CFU) to external number 207
7.4.13.3 External Call Forwarding on No Answer (CFNA) to external number 208
7.4.13.4 External Call Forwarding on Busy subscriber (CFB) to external number 209
7.4.14 DTMF handling 210
7.4.14.1 Uplink DTMF transmission 210
7.4.14.1.1 Uplink DTMF transmission at call setup when FP connected to classic switching network 210
7.4.14.1.2 Uplink DTMF transmission when connected 211
7.4.14.2 Downlink DTMF reception 211
7.4.14.3 Local DTMF feedback of dialled digits 212
7.4.15 Tones provision 213
7.4.15.1 General considerations 213
7.4.15.2 Tones provision by the system 215
7.4.15.2.1 Tones provision for a NG-DECT Part 3 FP in front of a NG-DECT Part 3 PP 215
7.4.15.2.2 Tones provision for a NG-DECT Part 3 FP in front of a GAP or NG-DECT Part 1 PP 217
7.4.15.3 Transparency to tones provision by the network or PABX 222
7.4.16 Headset management 223
7.4.16.1 Headset considerations 223
7.4.16.2 Headset call interception 224
7.4.16.2.1 Initiation of the call 224
7.4.16.2.2 Call interception 224
7.4.16.3 Headset incoming call 228
7.4.16.4 Re-dial of last outgoing call 228
7.4.16.5 Re-dial of last incoming call 228
7.4.16.6 Switching from headset to handset (headset initiated) 229
7.4.16.7 Switching from headset to handset (handset initiated) 229
7.4.16.8 Compatibility with other telephony features and profiles 229
7.4.16.8.1 Compatibility with other telephony features for a headset portable part (HPP) 229
7.4.16.8.2 Compatibility of a NG-DECT Part 3 headset portable part with other profiles 231
7.4.17 UTF-8 CNIP 231
7.4.17.1 UTF-8 CNIP sending from the FP to PP 231
7.4.17.2 Display of UTF-8 characters on PP side 232
7.5 Data Link Control (DLC) layer procedures 232
7.5.1 DLC services 232
7.6 Medium Access Control (MAC) layer procedures 232
7.6.1 MAC services 232
7.6.2 Frame formats and multiplexers 232
7.6.3 Downlink broadcast 232
7.6.3.1 N_T message 232
7.6.3.2 Q_T - static system information 232
7.6.3.3 Q_T - Fixed Part capabilities 233
7.6.3.4 Q_T - Extended Fixed Part capabilities 233
7.6.3.5 Q_T - Extended Fixed Part capabilities part 2 233
7.6.3.6 Q_T - SARI list contents 234
7.6.4 Paging broadcast 234
7.6.5 "no-emission" mode 234
7.7 Physical layer (PHL) requirements 234
7.7.1 Modulation 234
7.7.2 Slot type (Physical packets) 234
7.8 Requirements regarding the speech transmission 234
7.8.1 General 234
7.8.2 Speech codecs 234
7.8.3 Audio performance requirements 234
7.9 Management procedures 234
7.10 Application procedures 234
7.10.1 Easy PIN code and easy pairing registration 235
7.10.1.1 Easy PIN code registration 235
7.10.1.1.1 Searching mode and PIN code requests 235
7.10.1.2 Easy pairing registration 236
7.10.1.2.1 Easy pairing registration description 236
7.10.1.2.2 Base station limited registration mode 236

7.10.1.2.3 Searching mode request 236
7.10.1.3 Common procedures to easy PIN code and easy pairing 238
7.10.1.3.1 Registration mode automatic access 238
7.10.1.3.2 Base station name selection 238
7.10.1.3.3 Registration user feedback 240
7.10.2 Handset locator 240

Annex A (normative): System parameters 243

A.1 CC timers 243

A.2 Application timers 243

Annex B (normative): Procedure diagrams 244

B.1 Events notification diagrams 244
B.1.1 Event notification when there is no existing connection 244
B.1.2 Event notification during existing connection 245
B.1.3 Event notification when the PP is switched on 245
B.1.4 Event notification using call connection 246
B.1.5 Event notification for "Missed call notification" 246

B.2 Date-time synchronization diagrams 247
B.2.1 Date-time synchronization when there is no existing connection 247
B.2.2 Date-time synchronization during existing connection 247
B.2.3 Date-time synchronization when the PP is switched on 248
B.2.4 Date-time synchronization using call connection 248

B.3 List access service basic sequence diagrams 248
B.3.1 Start/end session when PP is in idle mode 249
B.3.2 Start/end session when a call is already established to PP 250
B.3.3 Query supported entry fields 250
B.3.4 Read entries 251
B.3.5 Edit entry 252
B.3.6 Save entry 253
B.3.7 Delete entry 253
B.3.8 Delete list 254
B.3.9 Search entries 254

Annex C (informative): Recommended implementation of procedures 255

C.1 General 255

C.2 Multiple lines diagrams 255
C.2.1 Attaching a new PP to one or several lines 255
C.2.2 Outgoing first call on a line 257
C.2.2.1 PP attached to 1 line 257
C.2.2.2 PP attached to several lines 257
C.2.2.2.1 Line identification by PP using <<CALL-INFORMATION>> 257
C.2.2.2.2 Line identification by PP using the <<MULTI-KEYPAD>> 257
C.2.3 First incoming call on a line 258
C.2.3.1 PP attached to 1 line 258
C.2.3.2 PP attached to several lines 259
C.2.4 Missed call 260
C.2.5 Voice message waiting indication on a specific line 261
C.2.6 Missed call notification scenario 261
C.2.6.1 After call on line 1 262
C.2.6.2 After two almost simultaneous calls on line 2 262
C.2.6.3 After incoming internal call 262
C.2.6.4 After call on line 1 263
C.2.6.5 A PP reads one of the two 'unread' entries for line 1 in the missed call list 263
C.2.6.6 A PP reads the remaining 'unread' entry for line 1, and a missed call arrives on line 1 almost simultaneously 263

C.3 Multiple calls diagrams 264

C.3.1 First incoming call on the line or system 264
C.3.2 Second incoming call on the line or system 265
C.3.3 First outgoing call on the line or system....267
C.3.4 Second outgoing call on the line or system 268

C.4 Parallel calls complex or alternative diagrams 269
C.4.1 Call identification for outgoing parallel calls 269
C.4.1.1 All in one PP message - line identification by PP....269
C.4.1.2 All in one PP message - FP-managed line selection 270
C.4.1.3 Line pre-selection by PP - Manual dialling of called number....271
C.4.1.4 FP-managed line selection - Manual dialling of called number....272
C.4.1.5 Unsupported new outgoing parallel call 273
C.4.2 Incoming parallel calls 274
C.4.2.1 Two simultaneous incoming calls on two different lines....274
C.4.2.2 FP release of waiting call when remote party hangs up....275
C.4.2.3 Two incoming calls before user answers 275
C.4.3 Call waiting represented as first call when user hangs up 276

C.5 List access service use case examples....277
C.5.1 General 277
C.5.2 Use case: transfer number from missed call list to contact list....278
C.5.3 Use case: select and call internal party....280
C.5.4 Use case: select and call number from contact list 281
C.5.5 Use case: save entry with invalid format....282
C.5.6 Use case: read invalid start index 282
C.5.7 Use case: modify a PP internal name 283
C.5.8 Use case: entry distributed over two data packets....284

C.6 List access service with voice calls (additional use cases and procedure diagrams)....285
C.6.1 General 285
C.6.2 List access when a voice call is already ongoing 285
C.6.2.1 Use case: Consult a list during a voice call....285
C.6.2.2 Use case: call transfer using internal names list (first call explicitly put on hold)....286
C.6.2.3 Use case: call transfer using internal names list (first call implicitly put on hold by internal call) 287
C.6.2.4 Use case: establishing a parallel call using contact list....289

C.7 DECT system settings diagrams....289
C.7.1 General 289
C.7.2 Modifying the PIN code....290
C.7.3 Resetting the base....292
C.7.4 Resetting the base (PIN code protected field) 293

C.8 Line settings diagrams....295
C.8.1 General 295
C.8.2 Changing the settings of a line 295
C.8.3 Changing the name of a line....298
C.8.4 Changing the name of a line (PIN protected field)....299

C.9 Use cases for 'Off-hook CLIP enabled DCIBS' lines 301
C.9.1 Remote party hangup 'double call with in-band signalling' line....301
C.9.1.1 Call waiting after 'remote party hangup' 301
C.9.1.2 Outgoing parallel call after 'remote party hangup' 303

Annex D (informative): Guidelines for implementation of DTMF 306

D.1 Uplink DTMF transmission from FP to network 306

D.2 DTMF format 306

Annex E (informative): Tones format in ITU-T recommendations....307

Annex F (informative): Services and features defined in other specifications 308

F.1 Services and features defined in TS 102 527-1 (New Generation DECT; part 1) 308
F.1.1 New Generation DECT; part 1, Speech Services (clause 5.1 of TS 102 527-1)....308

F.1.2 New Generation DECT; part 1, Network (NWK) features (clause 5.2 of TS 102 527-1) 308
F.1.3 New Generation DECT; part 1, Data Link Control (DLC) services (clause 5.3 of TS 102 527-1) 308
F.1.4 New Generation DECT; part 1, Medium Access Control (MAC) services (clause 5.4 of TS 102 527-1) 309
F.1.5 New Generation DECT; part 1, Physical Layer (PHL) services (clause 5.5 of TS 102 527-1) 309
F.1.6 New Generation DECT; part 1, Speech coding and audio features (clause 5.6 of TS 102 527-1) 309

F.2 Services and features defined in EN 300 444 (GAP) 313
F.2.1 GAP Network (NWK) features (clause 4.1 of EN 300 444) 313
F.2.2 GAP Speech coding and audio features (clause 4.2 of EN 300 444) 314
F.2.3 GAP Application features (clause 4.3 of EN 300 444) 316
F.2.4 DLC service definitions (clause 5.1 of EN 300 444) 316
F.2.5 GAP MAC service definitions (clause 5.2 of EN 300 444) 317

F.3 GAP Feature/service to procedure mapping tables 317
F.3.1 GAP NWK feature to procedure mapping table (clause 6.8.1 of EN 300 444) 318
F.3.2 GAP DLC service to procedure mapping table (clause 6.8.2 of EN 300 444) 320
F.3.3 GAP MAC service to procedure mapping table (clause 6.8.3 of EN 300 444) 321
F.3.4 GAP Application feature to procedure mapping table (clause 6.8.4 of EN 300 444) 322

Annex G (informative): Bibliography 323

History 324

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Digital Enhanced Cordless Telecommunications (DECT).

The present document is based on EN 300 175 parts 1 [1] to 8 [8] and EN 300 444 [12]. General attachment requirements and speech attachment requirements are based on EN 301 406 [11] (replacing TBR 006 [i.2]) and EN 300 176-2 [10] (previously covered by TBR 010 [i.3]). Further details of the DECT system may be found in TR 101 178 [i.1].

The present document has been developed in accordance to the rules of documenting a profile specification as described in ISO/IEC 9646-6 [13].

The information in the present document is believed to be correct at the time of publication. However, DECT standardization is a rapidly changing area, and it is possible that some of the information contained in the present document may become outdated or incomplete within relatively short time-scales.

The present document is part 3 of a multi-part deliverable covering the New Generation DECT as identified below:

Part 1: "Wideband speech";

Part 2: "Support of transparent IP packet data";

Part 3: "Extended wideband speech services";

Part 4: "Light Data Services: Software Update Over The Air (SUOTA), Content Downloading and HTTP based applications ".

1 Scope

The present document specifies a set of functionalities of the New Generation DECT.

The New Generation DECT provides the following basic new functionalities:

- Wideband speech service (part 1 of this multi-part deliverable [21]).
- Packet-mode data service supporting Internet Protocol with efficient spectrum usage and high data rates (part 2 of this mutli-part deliverable [i.4]).
- Extended wideband speech services (the present document).
- Light Data Services: Software Update Over The Air (SUOTA), Content Downloading and HTTP based applications (part 4 of this mutli-part deliverable [i.5]).

All New Generation DECT devices will offer at least one or several of these services.

The present document describes the part 3: Extended wideband speech services:

- For the description of the wideband speech service, see TS 102 527-1 [21].
- For the description of the support of transparent IP packet data, see TS 102 527-2 [i.4].
- For the description of the Light Data Services: Software Update Over The Air (SUOTA), Content Downloading and HTTP based applications, see TS 102 527-4 [i.5].

The part 3 "Extended wideband speech services" is defined as an extension of part 1 of this mutli-part deliverable "Wideband speech service" [21]. All devices compliant to part 3 specification (the present document) shall implement at least all mandatory features and may implement the optional features defined in part 1 "Wideband speech"[21]. In addition to that, the present document defines additional mandatory or optional features.

The part 1 [21], and therefore part 3, are also defined as extensions of the "Generic Access Profile (GAP)" [12]. All DECT devices offering Wideband speech services (part 1 or part 1 plus part 3) shall also be compliant with the "Generic Access Profile (GAP)" [12], and shall offer the DECT standard 32 kbit/s voice service according to GAP.

All DECT devices claiming to be compliant with this Application Profile will offer at least the basic services defined as mandatory. In addition to that, optional features can be implemented to offer additional DECT services.

The aim of the present document is to guarantee a sufficient level of interoperability and to provide an easy route for development of DECT wideband speech applications, with the features of the present document being a common fall-back option available in all compliant to this profile equipment.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[1] ETSI EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] ETSI EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".

[3] ETSI EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4] ETSI EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5] ETSI EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[6] ETSI EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".

[7] ETSI EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[8] ETSI EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech and audio coding and transmission".

[9] Void.

[10] ETSI EN 300 176-2: "Digital Enhanced Cordless Telecommunications (DECT); Test specification; Part 2: Audio and speech".

[11] ETSI EN 301 406: "Digital Enhanced Cordless Telecommunications (DECT); Harmonized EN for Digital Enhanced Cordless Telecommunications (DECT) covering the essential requirements under article 3.2 of the R&TTE Directive; Generic radio".

[12] ETSI EN 300 444: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

[13] ISO/IEC 9646-6: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".

[14] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[15] ITU-T Recommendation G.726 (1990): "40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM) ".

[16] ITU-T Recommendation G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".

[17] ITU-T Recommendation G.722 (1988): "7 kHz audio-coding within 64 kbit/s".

[18] ITU-T Recommendation G.729.1 (2006): "G.729 based Embedded Variable bit-rate coder: An 8-32 kbit/s scalable wideband coder bitstream interoperable with G.729".

[19] ISO/IEC JTC1/SC29/WG11 (MPEG): International Standard ISO/IEC 14496-3:2005/ AMD 1:2007: "Coding of audio-visual objects - Part 3: Audio; AMENDMENT 1: Low Delay AAC profile".