3GPP TSG-T (Terminals) Meeting #11
Palm Springs, USA, 14 - 16 March, 2001

Tdoc TP-010039

Source: T3

Title: Change Requests to 3GPP 11.14 and 31.111 "(U)SIM application Toolkit"

Document for: Approval

This document contains several change requests to TS 11.14 v8.5.0 and 31.111 v3.3.0 agreed by T3.

T3 Doc	Spec	CR	Rv	Rel	Subject
T3-010209	11.14	A194		R99	Correction of Annex A: Support of USAT by Mobile Equipment
T3-010051	31.111	025		R99	Correction of TERMINAL PROFILE
T3-010052	31.111	026		Rel-4	Correction of TERMINAL PROFILE
T3-010053	31.111	027		Rel-4	Addition of UTRAN to the technology indicator
T3-010207	31.111	028		Rel-4	Introduction of additional Access Technology Indicator values"
T3-010208	31.111	029		R99	Correction of Annex A: Support of USAT by Mobile Equipment
T3-010210	31.111	030		R99	Alignment with GSM 11.14 for reserved TIA/EIA-136 tags"
T3-010211	31.111	031		R99	Correction of reference to GSM 02.40
T3-010212	31.111	032		Rel-4	Correction of reference to GSM 02.40
T3-010233	31.111	033		Rel-4	Addition of variable timeout to the Display Text command
T3-010234	31.111	034		Rel-4	Correction to display parameters tag
T3-010236	31.111	035		Rel-4	Use of USAT Bearer independent protocol for local links. Client use case.
T3-010237	31.111	036		Rel-4	Use of USAT Bearer independent protocol for local links. server use case.
T3-010221	31.111	037		Rel-4	Correction of Annex A: Support of USAT by Mobile Equipment
T3-010222	31.111	038		Rel-4	Alignment with GSM 11.14 for reserved TIA/EIA-136 tags"
T3-010248	31.111	039		Rel-4	Addition of variable timeout to GetInkey command
T3-010242	31.111	040		Rel-4	Precisions on the PlayTone command

CR-Form-v3

CHANGE REQUEST

⌘ **11.14** **CR** **A194** ⌘ rev **-** ⌘ Current version: **8.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction of Annex A: Support of USAT by Mobile Equipment
Source:	⌘	T3
Work item code:	⌘	***Date:*** ⌘ 01/03/01
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The letter class definition was not clear, an event download card reader status was missing in the letter class 'a' description.
Summary of change:	⌘	Clarification of the Annex A, correction of the letter class 'a' description
Consequences if not approved:	⌘	Error in the specification

Clauses affected:	⌘	Annex A
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex A (normative): Support of SIM Application Toolkit by Mobile Equipment

Support of SIM Application Toolkit is optional for Mobile Equipment. However, if an ME states conformancy with a specific GSM release, it is mandatory for the ME to support all functions of that release.

The support of letter classes, which specify mainly ME hardware dependent features, is optional for the ME and may supplement the SIM Application Toolkit functionality described in this document. If an ME states conformancy to a letter class, it is mandatory to support all functions within the respective letter class.

The table below indicates the commands of the ~~the~~ optional letter classes:

Letter classes	Command/function description
a	Proactive command: GET READER STATUS Proactive command: PERFORM CARD APDU Proactive command: POWER ON CARD Proactive command: POWER OFF CARD Event download: Card reader status
b	Proactive command: RUN AT COMMAND
c	Proactive command: LAUNCH BROWSER Event download: Browser termination ~~event~~
d	Soft key support
e	Proactive command: OPEN CHANNEL Proactive command: CLOSE CHANNEL Proactive command: RECEIVE DATA Proactive command: SEND DATA Proactive command: GET CHANNEL STATUS Event download: Data available ~~event~~ Event download: Channel status ~~event~~

3GPP T3 (USIM) Meeting #17
Berlin, Germany, 15 - 17 January, 2001

Tdoc T3-010051
Revised from T3-010019

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **025** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction of TERMINAL PROFILE
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	15 January 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The description of the seventh bit of the eigth byte of the TERMINAL PROFILE is wrong. In GSM 11.14 V 8.5.0, it indicates the support of the 2nd alpha identifier in SET UP CALL.
Summary of change:	⌘	Description is changed and refers now to the support of the SETUP CALL procative command.
Consequences if not approved:	⌘	Inconsistency with GSM.

Clauses affected:	⌘	Section 5.2		
Other specs affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

. 5.2 Structure and coding of TERMINAL PROFILE

Direction: ME to UICC.

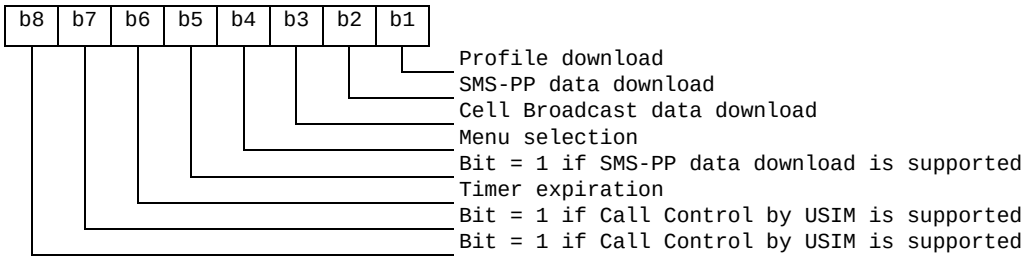
The command header is specified in TS 31.101 [13].

Command parameters/data:

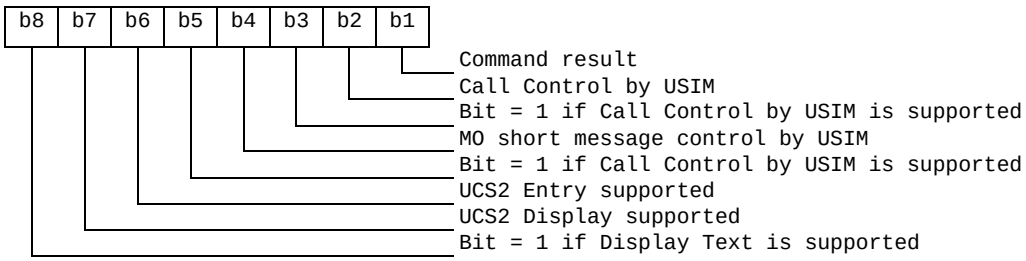
Description	Subclause	M/O/C	Length
Profile	-	M	lgth

- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

  First byte (Download):

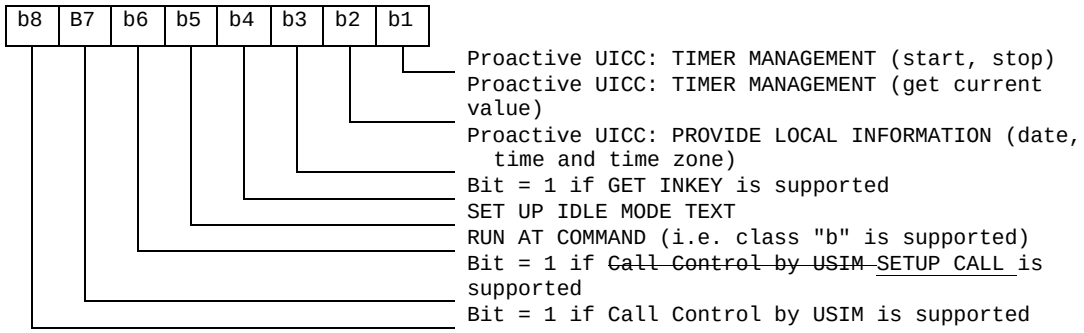


  Second byte (Other):



[...]

  Eighth byte (Proactive UICC):



3GPP T3 (USIM) Meeting #17
Berlin, Germany, 15 - 17 January, 2001

Tdoc T3-010052

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **026** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction of TERMINAL PROFILE
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	15 January 2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The description of the seventh bit of the eigth byte of the TERMINAL PROFILE is wrong. In GSM 11.14 V 8.5.0, it indicates the support of the 2nd alpha identifier in SET UP CALL.
Summary of change:	⌘	Description is changed and refers now to the support of the SETUP CALL procative command.
Consequences if not approved:	⌘	Inconsistency with GSM.

Clauses affected:	⌘	Section 5.2		
Other specs affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

5.2 Structure and coding of TERMINAL PROFILE

Direction: ME to UICC.

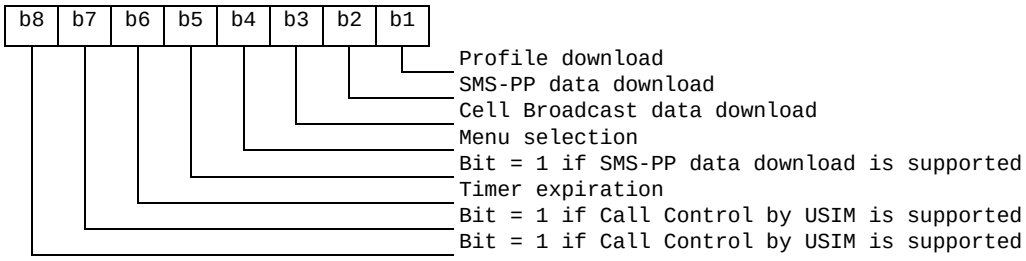
The command header is specified in TS 31.101 [13].

Command parameters/data:

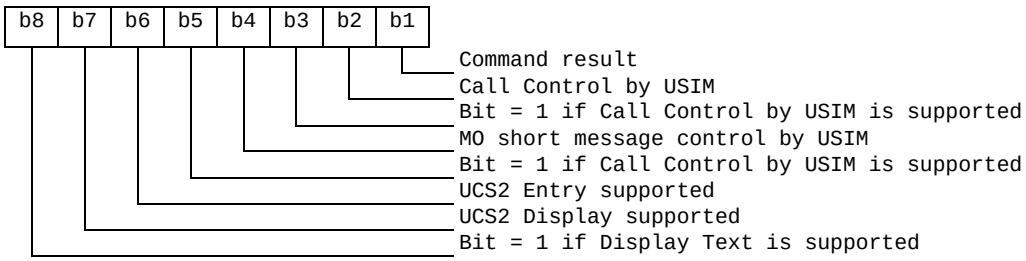
Description	Subclause	M/O/C	Length
Profile	-	M	lgth

- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

  First byte (Download):

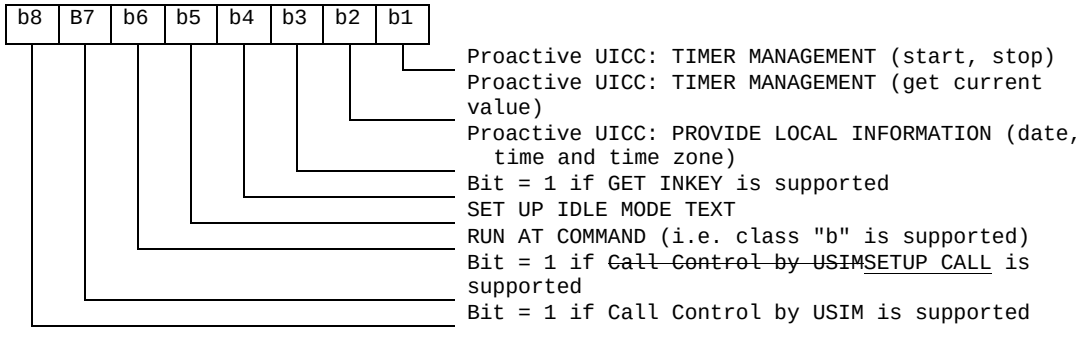


  Second byte (Other):



[…]

  Eighth byte (Proactive UICC):



3GPP T3 (USIM) Meeting #17
Berlin, Germany, 15 - 17 January, 2001

Tdoc T3-010053
Revised from T3-010021

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **027** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Addition of UTRAN to the technology indicator
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	15 January 2001
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	In the access technology indicator, UTRAN is missing
Summary of change:	⌘	addition of UTRAN
Consequences if not approved:	⌘	inconsistency of the specification.

Clauses affected:	⌘	Section 8.61
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

8.61 Access Technology

Byte(s)	Description	Length
1	Access Technology tag	1
2	Length = '01'	1
3	Technology	1

- Technology
  Contents: The ME shall use this information as a mechanism to indicate to the UICC the current access technology that it is using.

  Coding:
  - '00' GSM
  - '01' EIA/TIA-553
  - '02' TIA/EIA-136
  - '03' UTRAN
  - All other values are reserved for future use

.

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **CR-028** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Introduction of additional Access Technology Indicator values
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	29th January 2001
Category:	⌘	**B**
Release:	⌘	*REL-4 (Release 4)*

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Additional Access Technology indicator values are required for CAT and its use in other Access Technologies
Summary of change:	⌘	Definition of additional Access Technology values
Consequences if not approved:	⌘	Impacts on the implementation of a technology independent CAT

Clauses affected:	⌘	8.61
Other specs Affected:	⌘	[ ] Other core specifications ⌘
		[ ] Test specifications
		[ ] O&M Specifications
Other comments:	⌘	The value '03' is used for UTRAN in CR 31.111-027 (Tdoc T3-010053)

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.61 Access Technology

Byte(s)	Description	Length
1	Access Technology tag	1
2	Length = '01'	1
3	Technology	1

- Technology
  Contents: The ME shall use this information as a mechanism to indicate to the UICC the current access technology that it is using.

  Coding:
  - '00' GSM
  - '01' EIA/TIA-553
  - '02' TIA/EIA-136
  - '04' TETRA
  - '05' TIA/EIA-95
  - '06' TIA/EIA/IS-2000
  - All other values are reserved for future use

CR-Form-v3

CHANGE REQUEST

⌘ **31-111** **CR** **CR-029** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction of Annex A: Support of USAT by Mobile Equipment
Source:	⌘	T3
Work item code:	⌘	***Date:*** ⌘ 31/01/01
Category:	⌘ **F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The letter class definition was not clear, an event download card reader status was missing in the letter class 'a' description.
Summary of change:	⌘	Clarification of the Annex A, correction of the letter class 'a' description
Consequences if not approved:	⌘	Error in the specification

Clauses affected:	⌘	Annex A
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex A (normative): Support of USAT by Mobile Equipment

Support of USAT is optional for Mobile Equipment. However, if an ME states conformancy with a specific 3G release, it is mandatory for the ME to support all functions of that release.

The support of letter classes, which specify mainly ME hardware dependent features, is optional for the ME and may supplement the USAT functionality described in the present document. If an ME states conformancy to a letter class, it is mandatory to support all functions within the respective letter class.

The table below indicates the commands and functions of the ~~the~~ optional letter classes.

Letter classes	Command/function description
a	Proactive command: GET READER STATUS Proactive command: PERFORM CARD APDU Proactive command: POWER ON CARD Proactive command: POWER OFF CARD Event download: Card reader status
b	Proactive command: RUN AT COMMAND
c	Proactive command: LAUNCH BROWSER Event download: Browser termination ~~event~~
d	Soft key support
e	Proactive command: OPEN CHANNEL Proactive command: CLOSE CHANNEL Proactive command: RECEIVE DATA Proactive command: SEND DATA Proactive command: GET CHANNEL STATUS Event download: Data available ~~event~~ Event download: Channel status ~~event~~

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **CR-030** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Alignment with GSM 11.14
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	1 February 2001
Category:	⌘	**F**
Release:	⌘	*R99*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Alignment with GSM 11.14
Summary of change:	⌘	TIA/EIA-136 tags which were reserved in GSM 11.14 were not included in 31.111
Consequences if not approved:	⌘	

Clauses affected:	⌘	9.1, 9.3, 9.4		
Other specs Affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9 Tag values

This clause specifies the tag values used to identify the BER-TLV and SIMPLE-TLV data objects used in the present document.

9.1 BER-TLV tags in ME to UICC direction

Description	Length of tag	Value
SMS-PP download tag	1	'D1'
Cell Broadcast download tag	1	'D2'
Menu Selection tag	1	'D3'
Call control tag	1	'D4'
MO Short message control tag	1	'D5'
Event download tag	1	'D6'
Timer expiration	1	'D7'
Reserved for TIA/EIA-136	1	'DF'

9.2 BER-TLV tags in UICC TO ME direction

Description	Length of tag	Value
Proactive UICC command tag	1	'D0'

9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Command details tag	1	'01'	'01' or '81'
Device identity tag	1	'02'	'02' or '82'
Result tag	1	'03'	'03' or '83'
Duration tag	1	'04'	'04' or '84'
Alpha identifier tag	1	'05'	'05' or '85'
Address tag	1	'06'	'06' or '86'
Capability configuration parameters tag	1	'07'	'07' or '87'
Subaddress tag	1	'08'	'08' or '88'
SS string tag	1	'09'	'09' or '89'
USSD string tag	1	'0A'	'0A' or '8A'
SMS TPDU tag	1	'0B'	'0B' or '8B'
Cell Broadcast page tag	1	'0C'	'0C' or '8C'
Text string tag	1	'0D'	'0D' or '8D'
Tone tag	1	'0E'	'0E' or '8E'
Item tag	1	'0F'	'0F' or '8F'
Item identifier tag	1	'10'	'10' or '90'
Response length tag	1	'11'	'11' or '91'
File List tag	1	'12'	'12' or '92'
Location Information tag	1	'13'	'13' or '93'
IMEI tag	1	'14'	'14' or '94'
Help request tag	1	'15'	'15' or '95'
Network Measurement Results tag	1	'16'	'16' or '96'
Default Text	1	'17'	'17' or '97'
Items Next Action Indicator tag	1	'18'	'18' only
Event list tag	1	'19'	'19' or '99'
Cause tag	1	'1A'	'1A' or '9A'
Location status tag	1	'1B'	'1B' or '9B'
Transaction identifier tag	1	'1C'	'1C' or '9C'
BCCH channel list tag	1	'1D'	'1D' or '9D'
Icon identifier	1	'1E'	'1E' or '9E'
Item Icon identifier list	1	'1F'	'1F' or '9F'
Card reader status tag	1	'20'	'20' or 'A0'
Card ATR tag	1	'21'	'21' or 'A1'
C-APDU tag	1	'22'	'22' or 'A2'
R-APDU tag	1	'23'	'23' or 'A3'
Timer identifier tag	1	'24'	'24' or 'A4'
Timer value tag	1	'25'	'25' or 'A5'
Date-Time and Time zone tag	1	'26'	'26' or 'A6'
Call control requested action tag	1	'27'	'27' or 'A7'
AT Command tag	1	'28'	'28' or 'A8'
AT Response tag	1	'29'	'29' or 'A9'
BC Repeat Indicator tag	1	'2A'	'2A' or 'AA'
Immediate response tag	1	'2B'	'2B' or 'AB'
DTMF string tag	1	'2C'	'2C' or 'AC'
Language tag	1	'2D'	'2D' or 'AD'
Timing Advance tag	1	'2E'	'2E' or 'AE'
AID tag	1	'2F'	'2F' or 'AF'
Browser Identity tag	1	'30'	'30' or 'B0'
URL tag	1	'31'	'31' or 'B1'
Bearer tag	1	'32'	'32' or 'B2'
Provisioning Reference File tag	1	'33'	'33' or 'B3'
Browser Termination Cause tag	1	'34'	'34' or 'B4'
Bearer description tag	1	'35'	'35' or 'B5'
Channel data tag	1	'36'	'36' or 'B6'
Channel data length tag	1	'37'	'37' or 'B7'
Channel status tag	1	'38'	'38' or 'B8'
Buffer size tag	1	'39'	'39' or 'B9'

Continued…..

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Card reader identifier tag	1	'3A'	'3A' or 'BA'
Not used	-	'3B'	-
USIM/ME interface transport level	1	'3C'	'3C' or 'BC'
Not used	-	'3D'	-
Other address (data destination address)	1	'3E'	'3E' or 'BE'
Reserved for TIA/EIA-136	1	'60'	'60' or 'E0'
Reserved for TIA/EIA-136	1	'61'	'61' or 'E1'

9.4 Type of Command and Next Action Indicator

The table below shows the values which shall be used for Type of Command coding (see subclause 8.6) and Next Action Indicator coding (see subclause 8.24).

Value	Name	used for Type of Command coding	used for Next Action Indicator coding
'00'		-	-
'01'	REFRESH	X	
'02'	MORE TIME	X	
'03'	POLL INTERVAL	X	
'04'	POLLING OFF	X	
'05'	SET UP EVENT LIST	X	
'10'	SET UP CALL	X	X
'11'	SEND SS	X	X
'12'	SEND USSD	X	X
'13'	SEND SHORT MESSAGE	X	X
'14'	SEND DTMF	X	
'15'	LAUNCH BROWSER	X	X
'20'	PLAY TONE	X	X
'21'	DISPLAY TEXT	X	X
'22'	GET INKEY	X	X
'23'	GET INPUT	X	X
'24'	SELECT ITEM	X	X
'25'	SET UP MENU	X	X
'26'	PROVIDE LOCAL INFORMATION	X	
'27'	TIMER MANAGEMENT	X	
'28'	SET UP IDLE MODEL TEXT	X	X
'30'	PERFORM CARD APDU	X	X
'31'	POWER ON CARD	X	X
'32'	POWER OFF CARD	X	X
'33'	GET READER STATUS	X	X
'34'	RUN AT COMMAND	X	
'35'	LANGUAGE NOTIFICATION	X	
'40'	OPEN CHANNEL	X	X
'41'	CLOSE CHANNEL	X	X
'42'	RECEIVE DATA	X	X
'43'	SEND DATA	X	X
'44'	GET CHANNEL STATUS	X	X
'60'	Reserved for TIA/EIA-136	X	X
'81'	End of the proactive session	not applicable	X

3GPP T3 Plenary Meeting #18
Sophia Anitpolis, France, 1 - 2 March, 2001

Tdoc T3-010211

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **CR-31** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Reference Correction from GSM to 3G specification for GSM 02.40
Source:	⌘	T3 #18
Work item code:	⌘	TEI
Date:	⌘	1 March, 2001
Category:	⌘	D
Release:	⌘	*R99*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Reference to GSM 02.40 was being used,
Summary of change:	⌘	Corrected reference to 3G specification
Consequences if not approved:	⌘	Incorrect reference

Clauses affected:	⌘	2, 6.4.5, 6.6.5, 8.1.6		
Other specs Affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

How to create CRs using this form:
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http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
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[1] 3GPP TS 22.002: "3rd Generation Partnership Project (3GPP); Bearer Services supported by a GSM PLMN".

[2] 3GPP TS 22.030: "3rd Generation Partnership Project (3GPP); Man-Machine Interface (MMI) of the Mobile Station (MS)".

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[4] 3GPP TS 23.038: "3rd Generation Partnership Project (3GPP); Alphabets and language-specific information".

[5] 3GPP TS 23.040: "3rd Generation Partnership Project (3GPP); Technical realization of the Short Message Service (SMS); Point-to-Point (PP)".

[6] 3GPP TS 23.041: "3rd Generation Partnership Project (3GPP); Technical realization of Short Message Service Cell Broadcast (SMSCB)".

[7] 3GPP TS 23.122: "3rd Generation Partnership Project (3GPP); Non Access Stratum functions related to Mobile Station (MS) in idle mode".

[8] 3GPP TS 24.007: "3rd Generation Partnership Project (3GPP); Mobile radio interface signalling layer 3; General aspects".

[9] 3GPP TS 24.008: "3rd Generation Partnership Project (3GPP); Mobile radio interface layer 3 specification".

[10] 3GPP TS 24.011: "3rd Generation Partnership Project (3GPP); Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 24.080: "3rd Generation Partnership Project (3GPP); Mobile radio interface layer 3 supplementary services specification; Formats and coding".

[12] 3GPP TS 27.007: "3rd Generation Partnership Project (3GPP); AT command set for 3G User Equipment (UE)".

[13] 3GPP TS 31.101: "3rd Generation Partnership Project (3GPP); UICC / Terminal Interface; Physical and Logical Characteristics".

[14] 3GPP TS 31.102: "3rd Generation Partnership Project (3GPP); Characteristics of the USIM application".

[15] 3GPP TS 31.110: "3rd Generation Partnership Project (3GPP); Numbering system for telecommunication IC card applications".

[16] ISO/IEC 7816-3 (1997): "Identification cards - Integrated circuit(s) cards with contacts, Part 3: Electronic signals and transmission protocols".

[17] ISO/IEC 7816-4 (1995): "Identification cards - Integrated circuit(s) cards with contacts, Part 4: Inter-industry commands for interchange".

[18] ISO/IEC 7816-6 (1995): "Identification cards - Integrated circuit(s) cards with contacts, Part 6 Inter-industry data elements".

[19] ISO 639 (1988): "Code for the representation of names of languages".

[20] 3GPP TS 02.07: "Digital cellular telecommunications system (Phase 2+); Mobile Stations (MS) features".

[21] 3GPP TS 02.17: "Digital cellular telecommunications system (Phase 2+); Subscriber Identity Modules (SIM) Functional characteristics".

[22] 3GPP TS 22.001 "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN) "~~02.40: "Digital cellular telecommunications system (Phase 2+); Procedures for call progress indications".~~

[23] 3GPP TS 03.48: "Digital cellular telecommunications system (Phase 2+); Security Mechanisms for the SIM application toolkit ".

[24] IETF RFC 1738: "Uniform Resource Locators (URL) : T. Berners-Lee, et al., December 1994. ftp://ds.internic.net/rfc/rfc1738.txt

[25] IETF RFC 768 "User Datagram Protocol (UDP)"

[26] IETF RFC 793 "Transmission Control Protocol (TCP)"

6.4.5 PLAY TONE

This command instructs the ME to play an audio tone.

Upon receiving this command, the ME shall check if it is currently in, or in the process of setting up (SET-UP message sent to the network, see 3G 24.008 [9]), a speech call.

- If the ME is in, or is setting up a speech call, it shall superimpose the tone on top of the downlink audio (if any), for the duration given in the command. The progress or current state of the call shall not be affected in any way. The ME shall send the TERMINAL RESPONSE (Command performed successfully) as soon as possible after the tone has been completed and, if an alpha identifier was included and displayed, the screen is available for subsequent information display.

- If the ME is not in or setting up a speech call, it shall route the audio to the external ringer, or other appropriate audio device, and play the tone for the duration given in the command. The ME shall send the TERMINAL RESPONSE (Command performed successfully) as soon as possible after the tone has been completed and, if an alpha identifier was included and displayed, the screen is available for subsequent information display.

- If the user has indicated the need to end the proactive UICC application session while the ME plays the tone, the ME shall stop playing the tone and shall send a TERMINAL RESPONSE with "Proactive UICC application session terminated by the user" result value.

- If ME support for the specific tone requested is optional, and the ME does not support this particular tone, the ME shall inform the UICC using TERMINAL RESPONSE (Command beyond ME's capabilities).

This proactive command contains no information on how a call is progressing; therefore the ME shall not generate any verbal indication or display any text or graphical indication about the normal meaning of this tone (e.g. display "called subscriber busy"). If the UICC wishes to convey a meaning in text to the user, it shall do this through the alpha identifier data object and/or an icon (see subclause 6.5.4).

The use of this alpha identifier by the ME is described below:

- If the alpha identifier is provided by the SIM and is not a null data object, the ME shall use it to inform the user. If an icon is provided by the SIM, the icon indicated in the command may be used by the ME to inform the user, in addition to, or instead of the alpha identifier, as indicated with the icon qualifier (see subclause 6.5.4).

- If the alpha identifier is provided by the SIM and is a null data object (i.e. length = '00' and no value part), the ME should not give any information to the user.

- If the alpha identifier is not provided by the SIM, the ME may give information to the user concerning what is happening

If the ME is required to generate a supervisory tone due to the progress of the current call (e.g. the network sends the ME call control cause information) as defined in 3GPP TS 22.001 ~~GSM 02.40~~ [22], then the call supervisory tone shall take precedence over the tone requested by the UICC.

6.6.5 PLAY TONE

Description	Subclause	M/O/C	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E+F)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Alpha identifier	8.2	O	N	C
Tone	8.16	O	N	D
Duration	8.8	O	N	E
Icon identifier	8.31	O	N	F

- Tone:

  - Contents: the standard supervisory tone or proprietary ME tone that the ME shall generate, either on its own or on top of the downlink audio path. If no tone is specified, then the ME shall default to "general beep".

NOTE: Some supervisory tones are optional for mobile equipment (see 3GPP TS 22.001 ~~GSM 02.40~~ [22]).

- Duration:

  - Contents: the length of time for which the ME shall generate the tone, if the tone is continuous or repeatable. For single tones, the value of this data object shall be ignored by the ME. If no duration is specified, the ME shall default to a duration determined by the ME manufacturer.

8.16 Tone

~~Editor's Note: Reference on 02.40 must be changed.~~

Byte(s)	Description	Length
1	Tone tag	1
2	Length = '01'	1
3	Tone	1

- Tone:
  - contents: Tones can be either the standard supervisory tone, as defined in 3GPP TS 22.001 ~~GSM 02.40~~ [22], or proprietary tones defined by the ME manufacturer. The code values for proprietary tones shall be supported by the ME. If proprietary tones are not supported the ME shall map these codings to tones that it can generate. The tones to be used are left as an implementation decision by the manufacturer;
  - coding:
    - standard supervisory tones:
      - '01' Dial tone;
      - '02' Called subscriber busy;
      - '03' Congestion;
      - '04' Radio path acknowledge;
      - '05' Radio path not available / Call dropped;
      - '06' Error / Special information;
      - '07' Call waiting tone;
      - '08' Ringing tone.
    - ME proprietary tones:
      - '10' General beep;
      - '11' Positive acknowledgement tone;
      - '12' Negative acknowledgement or error tone.

All other values are reserved.

3GPP T3 Plenary Meeting #18
Sophia Anitpolis, France, 1 - 2 March, 2001

Tdoc T3-010212

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **032** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Reference Correction from GSM to 3G specification for GSM 02.40
Source:	⌘	T3 #18
Work item code:	⌘	TEI
Date:	⌘	1 March, 2001
Category:	⌘	A
Release:	⌘	*Rel-4*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Reference to GSM 02.40 was being used,
Summary of change:	⌘	Corrected reference to 3G specification
Consequences if not approved:	⌘	Incorrect reference

Clauses affected:	⌘	2, 6.4.5, 6.6.5, 8.1.6		
Other specs Affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

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- If ME support for the specific tone requested is optional, and the ME does not support this particular tone, the ME shall inform the UICC using TERMINAL RESPONSE (Command beyond ME's capabilities).

This proactive command contains no information on how a call is progressing; therefore the ME shall not generate any verbal indication or display any text or graphical indication about the normal meaning of this tone (e.g. display "called subscriber busy"). If the UICC wishes to convey a meaning in text to the user, it shall do this through the alpha identifier data object and/or an icon (see subclause 6.5.4).

The use of this alpha identifier by the ME is described below:

- If the alpha identifier is provided by the SIM and is not a null data object, the ME shall use it to inform the user. If an icon is provided by the SIM, the icon indicated in the command may be used by the ME to inform the user, in addition to, or instead of the alpha identifier, as indicated with the icon qualifier (see subclause 6.5.4).

- If the alpha identifier is provided by the SIM and is a null data object (i.e. length = '00' and no value part), the ME should not give any information to the user.

- If the alpha identifier is not provided by the SIM, the ME may give information to the user concerning what is happening

If the ME is required to generate a supervisory tone due to the progress of the current call (e.g. the network sends the ME call control cause information) as defined in 3GPP TS 22.001 ~~GSM 02.40~~ [22], then the call supervisory tone shall take precedence over the tone requested by the UICC.

6.6.5 PLAY TONE

Description	Subclause	M/O/C	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E+F)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Alpha identifier	8.2	O	N	C
Tone	8.16	O	N	D
Duration	8.8	O	N	E
Icon identifier	8.31	O	N	F

- Tone:

  - Contents: the standard supervisory tone or proprietary ME tone that the ME shall generate, either on its own or on top of the downlink audio path. If no tone is specified, then the ME shall default to "general beep".

NOTE: Some supervisory tones are optional for mobile equipment (see 3GPP TS 22.001 ~~GSM 02.40~~ [22]).

- Duration:

  - Contents: the length of time for which the ME shall generate the tone, if the tone is continuous or repeatable. For single tones, the value of this data object shall be ignored by the ME. If no duration is specified, the ME shall default to a duration determined by the ME manufacturer.

8.16 Tone

~~Editor's Note: Reference on 02.40 must be changed.~~

Byte(s)	Description	Length
1	Tone tag	1
2	Length = '01'	1
3	Tone	1

- Tone:
  - contents: Tones can be either the standard supervisory tone, as defined in 3GPP TS 22.001 ~~GSM 02.40~~ [22], or proprietary tones defined by the ME manufacturer. The code values for proprietary tones shall be supported by the ME. If proprietary tones are not supported the ME shall map these codings to tones that it can generate. The tones to be used are left as an implementation decision by the manufacturer;
  - coding:
    - standard supervisory tones:
      - '01' Dial tone;
      - '02' Called subscriber busy;
      - '03' Congestion;
      - '04' Radio path acknowledge;
      - '05' Radio path not available / Call dropped;
      - '06' Error / Special information;
      - '07' Call waiting tone;
      - '08' Ringing tone.
    - ME proprietary tones:
      - '10' General beep;
      - '11' Positive acknowledgement tone;
      - '12' Negative acknowledgement or error tone.

All other values are reserved.

3GPP T3 #18
Sophia Antipolis, France, 1-2 March, 2001

Tdoc T3-010233
(Updated version of T3-010228)

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **033** ⌘ rev ⌘ curent version: **4.1.0** ⌘

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Add variable timeout to the Display Text Proactive command
Source:	⌘	Celltick Technologies
Work item code:	⌘	IEI
Date:	⌘	2 March 2001
Category:	⌘	**C**
Release:	⌘	*REL-4 (Release 4)*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
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REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Advanced display capabilities by the Mobile Equipment (ME) are needed for time-based data services, in which each data item is time sensitive. Content for such a time-based data service could include stock market rates, news, promotional offers, etc. Currently, the timeout for the Display Text command varies between different MEs (3-8 sec). This range is highly inappropriate for advanced USAT applications. Please see document T3-010139 and T3-010140 for more details.
Summary of change:	⌘	This CR suggests changing the fixed timeout of the Display Text command to a possible variable timeout, by adding a duration parameter. The USAT application requests the ME to terminate the Display Text command after a certain timeout if the subscriber did not respond.
Consequences if not approved:	⌘	As a result of the ME's unpredictable behaviour, and therefore the need of the USAT application to assume a display timeout, the quality of the time-based data service is seriously harmed in two ways: the reliability of the service and its appearance. Its reliability is harmed because an ME with a long display time-out may overflow the intended total time of display for a piece of information, causing that ME to miss the next message's time slot. In terms of appearance, an ME with a short display timeout will reach a total display time that is shorter than the intended total time for that message, causing a non-fluent service.

Clauses affected:	⌘	5.2, 6.4.1, 6.6.1, 6.9
Other specs Affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

5.2 Structure and coding of TERMINAL PROFILE

Direction: ME to UICC.

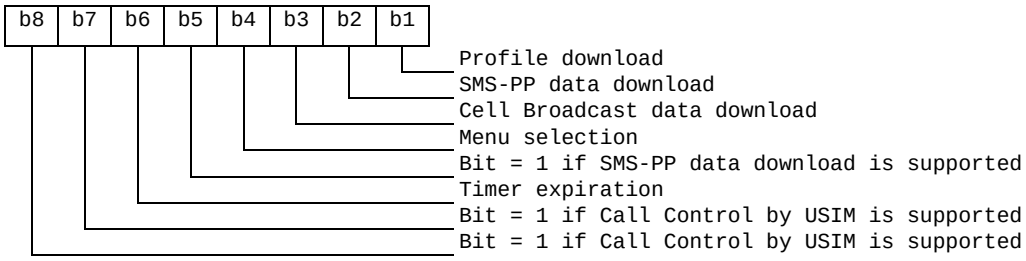
The command header is specified in TS 31.101 [13].

Command parameters/data:

Description	Subclause	M/O/C	Length
Profile	-	M	lgth

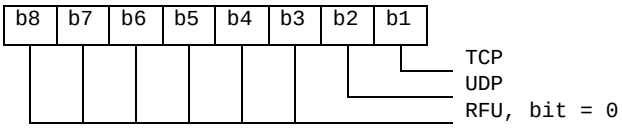
- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

  First byte (Download):

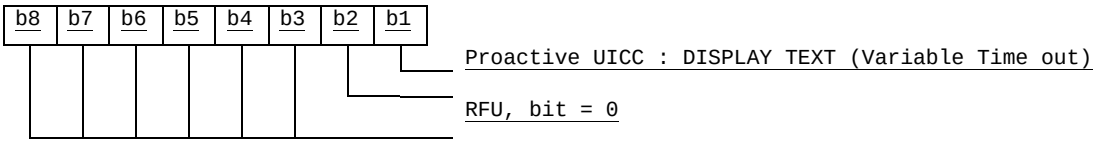


[…]

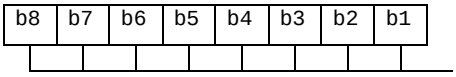
Seventeenth byte: (Bearer independent protocol supported transport interface) for class "e":



Eighteenth byte:



Subsequent bytes:



RFU bits, and all bits of subsequent bytes, are reserved to indicate future facilities. A SIM supporting only the features of SIM Application Toolkit defined here shall not check the value of RFU bits.

Response parameters/data: None.

6.4.1 DISPLAY TEXT

This command instructs the ME to display a text message, and/or an icon (see subclause 6.5.4). It allows the UICC to define the priority of that message, and the text string format.

Two types of priority are defined:

- display normal priority text and/or icon on screen;
- display high priority text and/or icon on screen.

The text string can be in one of three formats:

- packed format in SMS default alphabet - (see subclause 8.15.2);
- unpacked format in SMS default alphabet - (see subclause 8.15.2);
- UCS2 alphabet format - (see subclause 8.15.3).

NOTE 1: The text string may contain up to 240 bytes.

A flag (see command qualifier, subclause 8.6) shall be set to inform the ME whether the availability of the screen for subsequent information display after its use for 'Display Text' should be either after a short delay (the duration of the delay being at the discretion of the ME manufacturer unless an exact duration is indicated by a duration object), or following a user MMI action.

An immediate response object may be included by the UICC, to indicate if the ME should sustain the display beyond sending the TERMINAL RESPONSE. ME support of this feature is indicated in the PROFILE DOWNLOAD. The behaviour of non-supporting MEs is dependent on the Comprehension Required flag.

A duration object that represents the variable display timeout may be included by the UICC. The duration informs the ME about the required duration of the display (Precision and resolution are in accordance with subclause 6.4.21 Timer Management). The requested timeout value replaces the timeout set by the ME manufacturer. ME support of this feature is indicated in the PROFILE DOWNLOAD. The behaviour of MEs that do not support this feature is dependent on the Comprehension Required flag.

- If the user has indicated the need to end the proactive UICC application session, the ME shall send a TERMINAL RESPONSE with "Proactive UICC application session terminated by the user" result value.
- If the user has indicated the need to go backwards in the proactive UICC application session, the ME shall send a TERMINAL RESPONSE with "Backward move in the proactive UICC session requested by the user" result value.
- If a flag of the command qualifier (see subclause 8.6) indicates that the ME shall wait for the user to clear message and if the ME decides that no user response has been received, the ME shall send a TERMINAL RESPONSE with "No response from user" result value.
- If the UICC includes a duration object, the ME shall limit the display time of the message for a period that does not exceed the requested duration. The timer starts when the text is displayed on the screen and stops when the TERMINAL RESPONSE is sent except if the text is to be sustained beyond an immediate response. The timeout may be used with other options of this command. The variable timeout does not affect TERMINAL RESPONSE values that are deriving from other chosen options of this command.
- If the UICC includes an immediate response object, the ME shall immediately send TERMINAL RESPONSE (Command performed successfully). The ME shall continue to display the text until one of the following events occurs:
  - a subsequent proactive command is received containing display data;
  - the expiration of the variable display timeout, if so indicated by the duration object;
  - the expiration of the short delay, if so indicated by the command qualifier;
  - following a user MMI action;
  - when a higher priority event occurs, e.g. an incoming mobile terminated call.

- No further TERMINAL RESPONSE shall be sent when the ME removes the text from the display, regardless of the cause.

- Otherwise, the ME shall send TERMINAL RESPONSE (Command performed successfully) at the expiration of either the short delay or the variable display timeout, or following a user MMI action not described above.

[…]

6.6.1 DISPLAY TEXT

Description	Subclause	M/O/C	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E+F)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Text string	8.15	M	Y	C
Icon identifier	8.31	O	N	D
Immediate response	8.43	O	N	E
Duration	8.8	O	N	F

-

- Duration:

- - Contents: the required duration for execution of the command before the timeout expires.

- Resolution and the precision of the time value are in accordance with Subclause 6.4.21 Timer Management

-

[…]

6.9 Proactive UICC session and ME display interaction

During a proactive session the ME display shall be refreshed by any display data contained in the first and each subsequent proactive command. The refresh shall occur once the ME has retrieved the proactive command using the Fetch instruction, following the proactive command pending status response.

If no proactive command is pending (status response of '90 00' following the Terminal Response), then the session releases the display back into ME control. If this session was terminated in a backwards move, and the session was initiated from an Envelope command containing a Menu Selection, it is recommended that the display returns to the Setup Menu.

If the text is to be sustained, the ME shall display the text of applicable DISPLAY TEXT commands beyond the sending of the TERMINAL RESPONSE and possibly beyond the end of the proactive session.

If a variable display timeout was indicated for a DISPLAY TEXT command, then the session releases the display back into ME control no later then the period stated by the duration. If the text is to be sustained beyond an immediate response, the ME shall display the text for a period that does not exceed the duration.

[…]

3GPP T3 Meeting #18
Sophia Antipolis, 1st-2nd March, 2001

Tdoc T3-010234
supersedes T3-010226

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **034** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Corrections on Display Parameters TLV
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	2 March 2001
Category:	⌘	**F**
Release:	⌘	*REL-4*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The tag value for the Display Parameters TLV is missing, the length indication in the Display Parameters TLV description is not correct.
Summary of change:	⌘	Definition of a tag value for the Display Parameters TLV, correction of length indication within the Display Parameters TLV description.
Consequences if not approved:	⌘	Display Parameters Changed event could not be implemented.

Clauses affected:	⌘	8.6.2, 9.3		
Other specs Affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

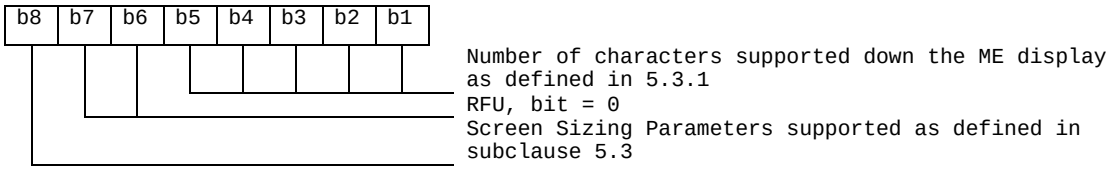
8.62 Display parameters ~~changed~~

Byte(s)	Description	Length
1	Display parameters tag	1
2	Length (3)~~(X) of bytes following~~	1
3 to 5	Parameters list	3~~1~~

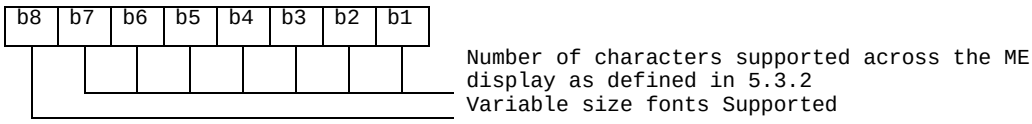
- Parameters list
  Contents: A list of different information regarding the ME's screen.

  Coding:
  1 bit is used to code parameters supported or not :
  bit = 1: parameters supported by ME
  bit = 0: parameters not supported by ME

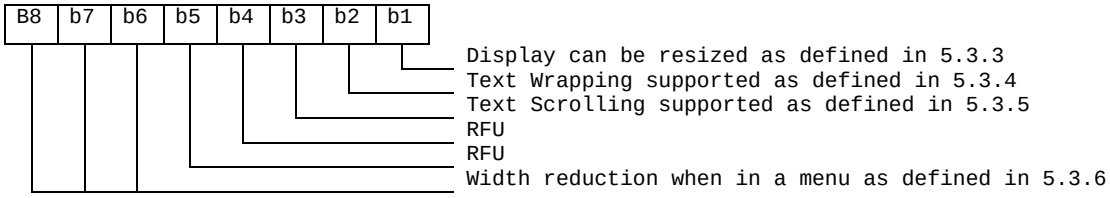
  First byte: (Screen height)



  Second byte: (Screen width)



  Third byte: (Screen effects)



9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Command details tag	1	'01'	'01' or '81'
Device identity tag	1	'02'	'02' or '82'
Result tag	1	'03'	'03' or '83'
Duration tag	1	'04'	'04' or '84'
Alpha identifier tag	1	'05'	'05' or '85'
Address tag	1	'06'	'06' or '86'
Capability configuration parameters tag	1	'07'	'07' or '87'
Subaddress tag	1	'08'	'08' or '88'
SS string tag	1	'09'	'09' or '89'
USSD string tag	1	'0A'	'0A' or '8A'
SMS TPDU tag	1	'0B'	'0B' or '8B'
Cell Broadcast page tag	1	'0C'	'0C' or '8C'
Text string tag	1	'0D'	'0D' or '8D'
Tone tag	1	'0E'	'0E' or '8E'
Item tag	1	'0F'	'0F' or '8F'
Item identifier tag	1	'10'	'10' or '90'
Response length tag	1	'11'	'11' or '91'
File List tag	1	'12'	'12' or '92'
Location Information tag	1	'13'	'13' or '93'
IMEI tag	1	'14'	'14' or '94'
Help request tag	1	'15'	'15' or '95'
Network Measurement Results tag	1	'16'	'16' or '96'
Default Text	1	'17'	'17' or '97'
Items Next Action Indicator tag	1	'18'	'18' only
Event list tag	1	'19'	'19' or '99'
Cause tag	1	'1A'	'1A' or '9A'
Location status tag	1	'1B'	'1B' or '9B'
Transaction identifier tag	1	'1C'	'1C' or '9C'
BCCH channel list tag	1	'1D'	'1D' or '9D'
Icon identifier	1	'1E'	'1E' or '9E'
Item Icon identifier list	1	'1F'	'1F' or '9F'
Card reader status tag	1	'20'	'20' or 'A0'
Card ATR tag	1	'21'	'21' or 'A1'
C-APDU tag	1	'22'	'22' or 'A2'
R-APDU tag	1	'23'	'23' or 'A3'
Timer identifier tag	1	'24'	'24' or 'A4'
Timer value tag	1	'25'	'25' or 'A5'
Date-Time and Time zone tag	1	'26'	'26' or 'A6'
Call control requested action tag	1	'27'	'27' or 'A7'
AT Command tag	1	'28'	'28' or 'A8'
AT Response tag	1	'29'	'29' or 'A9'
BC Repeat Indicator tag	1	'2A'	'2A' or 'AA'
Immediate response tag	1	'2B'	'2B' or 'AB'
DTMF string tag	1	'2C'	'2C' or 'AC'
Language tag	1	'2D'	'2D' or 'AD'
Timing Advance tag	1	'2E'	'2E' or 'AE'
AID tag	1	'2F'	'2F' or 'AF'
Browser Identity tag	1	'30'	'30' or 'B0'
URL tag	1	'31'	'31' or 'B1'
Bearer tag	1	'32'	'32' or 'B2'
Provisioning Reference File tag	1	'33'	'33' or 'B3'
Browser Termination Cause tag	1	'34'	'34' or 'B4'
Bearer description tag	1	'35'	'35' or 'B5'
Channel data tag	1	'36'	'36' or 'B6'
Channel data length tag	1	'37'	'37' or 'B7'
Channel status tag	1	'38'	'38' or 'B8'
Buffer size tag	1	'39'	'39' or 'B9'

Continued…..

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Card reader identifier tag	1	'3A'	'3A' or 'BA'
not used	-	'3B'	-
USIM/ME interface transport level	1	'3C'	'3C' or 'BC'
not used	-	'3D'	-
Other address (data destination address)	1	'3E'	'3E' or 'BE'
Access Technology tag	1	'3F'	'3F' or 'BF'
Display parameters tag	1	'40'	'40' or 'C0'

3GPP T3 Meeting #18
Sophia-Antipolis, France, 1-2 March, 2001

Tdoc T3-010236
T3-010176

CR-Form-v3

CHANGE REQUEST

⌘ **31.111 CR 035** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Use of USAT Bearer independent protocol for local links. Client use case.
Source:	⌘	T3
Work item code:	⌘	Use of local links as a bearer for USAT
Date:	⌘	02/03/01
Category:	⌘	**B**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	The USAT bearer independent protocol does not make use so far of local bearers such as serial cable, IrDA, Bluetooth... This CR introduces local bearers. To achieve this, adaptation of the bearer independent protocol is needed for the UICC to be able to search for and connect to particular services available on surrounding devices (client case); and to be able to offer services to other surrounding devices (server case).
Summary of change:	⌘	" This CR focuses on the client use case. It defines the SERVICE SEARCH and GET SERVICE INFORMATION commands and makes an adaptation of the OPEN CHANNEL command. This CR intends to be generic and applicable to different local links; it is however more detailed for Bluetooth.
Consequences if not approved:	⌘	The UICC will not be able to use local bearers.

Clauses affected:	⌘	2, 3.2, 4.11, 5.2, 6.1, 6.4.X-6.4.XX (new sections), 6.6.27.3 (new), 6.6.X-6.6.XX (new sections), 6.8, 6.8.X (new section), 6.8.Y (new section), 6.11, 8.6., 8.12.11, 8.63 to 8.68 (new sections), 9.3, 9.4, 10, Annex A, Annex X (new annex)
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
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http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[1] 3G TS 22.002: "3rd Generation Partnership Project (3GPP); Bearer Services supported by a GSM PLMN".

[2] 3G TS 22.030: "3rd Generation Partnership Project (3GPP); Man-Machine Interface (MMI) of the Mobile Station (MS)".

[...]

[24] IETF RFC 1738: "Uniform Resource Locators (URL) : T. Berners-Lee, et al., December 1994. ftp://ds.internic.net/rfc/rfc1738.txt

[25] IETF RFC 768 "User Datagram Protocol (UDP)"

[26] IETF RFC 793 "Transmission Control Protocol (TCP)"

[27] Specification of the Bluetooth system

3.2 Abbreviations

For the purpose of the present document, the following abbreviations apply:

ADN	Abbreviated Dialling Number
APDU	Application Protocol Data Unit
ATR	Answer To Reset
BCD	Binary Coded Decimal
BD_ADDR	Bluetooth Device address
BDN	Barred Dialling Number
BER	Basic Encoding Rules of ASN.1
C-APDU	Command Application Protocol Data Unit
CB	Cell Broadcast
CBMI	Cell Broadcast Message Identifier
CCP	Capability/Configuration Parameter
CoD	Class Of Device (Bluetooth related)
CSD	Circuit Switched Data
DTMF	Dual Tone Multiple Frequency
EF	Elementary File
EGPRS	EDGE General Packet Radio Service
ETSI	European Telecommunications Standards Institute
etu	elementary time unit
FDN	Fixed Dialling Number
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
ID	IDentifier
IEC	International Electrotechnical Commission
IMEI	International Mobile Equipment Identity
IMUI	International Mobile User Identity
ISO	International Organization for Standardization
lgth	The (specific) length of a data unit
LND	Last Number Dialled
ME	Mobile Equipment
MMI	Man Machine Interface
NMR	Network Measurement Results (see also 3G 24.008 [9])
NPI	Numbering Plan Identifier
PDP	Packet Data Protocol, e.g., Ip or X25 or PPP
PDU	Protocol Data Unit
RAND	A RANDom challenge issued by the network
R-APDU	Response Application Protocol Data Unit
RFU	Reserved for Future Use
SDP	Service Discovery Protocol (Bluetooth related)
SDU	Service Data Unit
SMS	Short Message Service
SRES	Signed RESponse calculated by a UICC
SS	Supplementary Service
SSC	Supplementary Service Control string
SW1/SW2	Status Word 1 / Status Word 2
TCP	Transmission Control Protocol
TE	Terminal Equipment (e.g. an attached personal computer)
TLV	Tag, length, value
TON	Type Of Number
TP	Transfer layer Protocol
TS	Technical Specification
UDP	User Datagram Protocol
UCS2	Universal two byte coded Character Set
UE	User Equipment
UICC	USIM Integrated Circuit Card
UMTS	Universal Mobile Telecommunication System

4.11 Bearer Independent Protocol

This subclause applies if class "e" is supported.

The set of proactive commands (OPEN CHANNEL, CLOSE CHANNEL, SEND DATA, RECEIVE DATA, and GET CHANNEL STATUS) and events (Data available, Channel status) allows the UICC to establish a data channel with the ME, and through the ME to a remote Server in the Network. The UICC provides information for the ME to select an available bearer at the time of channel establishment. The ME then allows the UICC and the Server to exchange data on this channel, transparently. The SIM uses service of ME lower layer to send data by providing Service Data Unit to ME. The default lower layer is the higher layer of selected bearer.

This subclause applies if class "f" is supported.

The proactive command SERVICE SEARCH allows the UICC to look for services available on remote devices. The proactive command GET SERVICE INFORMATION allows the UICC to get detailed information regarding one service.

5 Profile download

5.1 Procedure

The profile download instruction is sent by the ME to the UICC as part of the UICC initialization procedure. This procedure is specified in TS 31.101 [13]. The profile sent by the ME shall state the facilities relevant to USAT that are supported by the ME.

This procedure is important, as it is by this that the UICC knows what the ME is capable of, and the UICC can then limit its instruction range accordingly. If no command is sent by the ME, the UICC shall assume that the ME does not support USAT.

5.2 Structure and coding of TERMINAL PROFILE

Direction: ME to UICC.

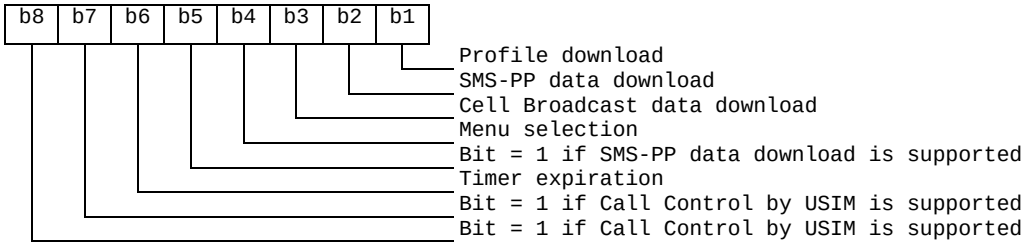
The command header is specified in TS 31.101 [13].

Command parameters/data:

Description	Subclause	M/O/C	Length
Profile	-	M	lgth

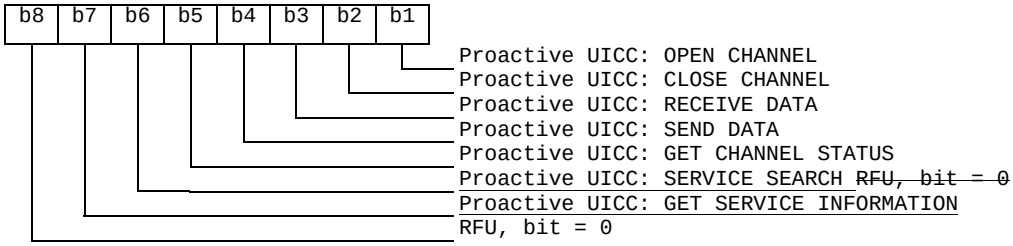
- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

First byte (Download):

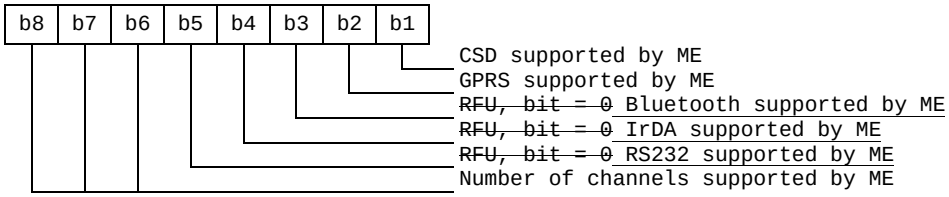


[...]

Twelfth byte: ~~(Bearer independent protocol proactive commands) for class "e"~~:

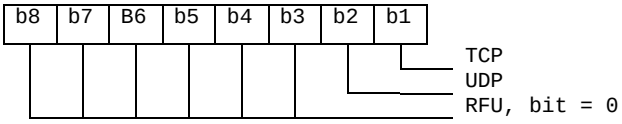


Thirteenth byte ~~(Bearer Independent protocol supported bearers (class "e")~~:

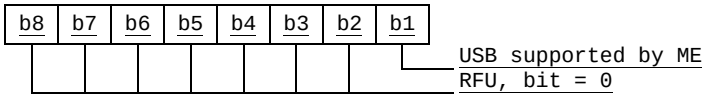


[…]

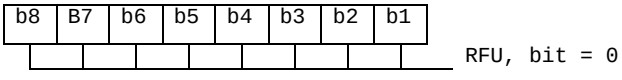
Seventeenth byte: ~~(Bearer independent protocol supported transport interface) for class "e"~~:



Eighteenth byte:



Subsequent bytes:



RFU bits, and all bits of subsequent bytes, are reserved to indicate future facilities. A SIM supporting only the features of SIM Application Toolkit defined here shall not check the value of RFU bits.

Response parameters/data: None.

6.1 Introduction

TS 31.101 [13] defines that the ME communicates to the UICC using the T=0 or T=1 protocols, which are specified in ISO/IEC 7816-3 [16]. The ME is always the "master" and initiates commands to the UICC, and therefore there is no mechanism for the UICC to initiate a communication with the ME. This limits the possibility of introducing new UICC features requiring the support of the ME, as the ME needs to know in advance what actions it should take.

The UICC shall execute all USAT Proactive commands or procedures in such a way as not to jeopardise, or cause suspension, of service provisioning to the user. This could occur if, for example, execution of INTERNAL AUTHENTICATE is delayed by internal USAT activity, which would result in the network denying or suspending service to the user. Specifically, the MORE TIME command shall be used, whenever possible, to allow the ME access to the 3G functionality of the UICC if a USAT application is taking an unreasonable amount of time to complete execution.

NOTE: The maximum work waiting time without sending a MORE TIME command depends on several factors (e.g. the permissible duration of a network-UICC authentication); in some cases as little as 2 seconds could be required. During this period the UICC should respect the work waiting time procedure, defined in TS 31.101 [13].

The proactive UICC service provides a mechanism which stays within the T=0 and T=1 protocols, but adds a new status response word SW1. This status response has the same meaning as the normal ending ('90 00'), and can be used with most of the commands that allow the normal ending, but it also allows the UICC to say to the ME "I have some information to send to you". The ME then uses the FETCH function to find out what this information is.

To avoid cross-phase compatibility problems, these functions shall only be used between a proactive UICC and an ME that supports proactive UICC commands (see subclause 6.2).

The UICC can issue a variety of commands through this mechanism, given in alphabetical order:

- **CLOSE CHANNEL:** which requests the ME to close the specified data channel (if class "e" is supported);
- **DISPLAY TEXT:** which displays text or an icon on screen. A high priority is available, to replace anything else on screen;
- **GET CHANNEL STATUS:** which requests the ME to return the current status of all available data channels (if class "e" is supported);
- **GET INKEY:** which sends text or an icon to the display and requests a single character response in return. It is intended to allow a dialogue between the UICC and the user, particularly for selecting an option from a menu;
- **GET INPUT:** which sends text or an icon to the display and requests a response in return. It is intended to allow a dialogue between the UICC and the user;
- **GET READER STATUS:** which gives information about the additional reader(s) and inserted card(s) (Card x state, e.g. powered on or not, Card x Presence), if class "a" is supported;
- **SERVICE SEARCH**: which requests the ME to look for services available in the ME environment (if class "f" is supported).
- **GET SERVICE INFORMATION:** which requests the ME to look for detailed information on a given service on a given device (if class "f" is supported).
- **LANGUAGE NOTIFICATION:** which allows the UICC to notify the ME about the currently used language in text strings issued by the USAT application;
- **[…]**

6.4.27.3 OPEN CHANNEL related to local bearer

This subclause applies only if classes "e" and "f" are supported.

This command is used to establish a connection using a local bearer (Bluetooth, IrDA, RS232, USB). The UICC can act as a server or a client. In the server use case, the UICC performs an OPEN CHANNEL only after having received a Local Connection event from the ME.

Upon receiving this command, the ME shall decide if it is able to execute the command. The UICC shall indicate whether the ME should establish the link immediately or upon receiving the first transmitted data (on demand).

The UICC provides to the ME a list of parameters necessary to establish a link.

The UICC may request the use of an automatic reconnection mechanism. The UICC may also request an optional maximum duration for the reconnection mechanism. The ME shall attempt at least one link establishment set-up.

The UICC may also request an optional maximum duration for the ME to automatically release the link if no data is exchanged.

Upon receiving this command, the ME shall decide if it is able to execute the command. Examples are given below, but the list is not exhaustive:

- if immediate link establishment is requested and the ME is unable to set-up a channel using the exact parameters provided by the UICC, the ME sets up the channel using the best parameters it can support and informs the UICC of the channel identifier and the modified parameters using TERMINAL RESPONSE (Command performed with modification);

- if immediate link establishment is requested and the ME is unable to set-up the link with the network using the exact parameters provided by the UICC, the ME informs the UICC using TERMINAL RESPONSE (Network currently unable to process command). The operation is aborted;

- if on demand link establishment is requested and the ME is unable to set-up a channel using the exact parameters provided by the UICC, the ME sets up the channel using the best parameters it can support and informs the UICC of the channel identifier and the modified parameters using TERMINAL RESPONSE (Command performed with modification);

- if the command is rejected because the ME has no channel left with the requested bearer capabilities, the ME informs the UICC using TERMINAL RESPONSE (Bearer independent protocol error). The operation is aborted;

- if the user does not accept the channel set-up, the ME informs the UICC using TERMINAL RESPONSE (User did not accept the proactive command). The operation is aborted;

- if the user has indicated the need to end the proactive UICC session, the ME informs the UICC using TERMINAL RESPONSE(Proactive UICC session terminated by the user). The operation is aborted;

- if the command is rejected because the ME is busy on another call, the ME informs the UICC using TERMINAL RESPONSE (ME unable to process command - currently busy on call). The operation is aborted;

- if the command is rejected because the ME is busy on a SS transaction, the ME informs the UICC using TERMINAL RESPONSE (ME unable to process command - currently busy on SS transaction). The operation is aborted.

The ME shall inform the UICC that the command has been successfully executed using TERMINAL RESPONSE:

- if immediate link establishment is requested, the ME allocates buffers, sets up the link and informs the UICC and reports the channel identifier using TERMINAL RESPONSE (Command performed successfully);

- if on demand link establishment is requested, the ME allocates buffers, informs the UICC and reports the channel identifier using TERMINAL RESPONSE (Command performed successfully).

If the ME is able to set up the channel on the requested local bearer, the ME shall:

- alert the user (as for an incoming call). This is the confirmation phase;

- optionally, the UICC may include in this command an alpha-identifier. The use of this alpha-identifier by the ME is described below:

  - if the alpha identifier is provided by the UICC and is not a null data object, the ME shall use it during the user confirmation phase. This is also an indication that the ME should not give any other information to the user during the user confirmation phase. If an icon is provided by the UICC, the icon indicated in the command may be used by the ME to inform the user, in addition to, or instead of the alpha identifier, as indicated with the icon qualifier (see subclause 6.5.4);

  - if the alpha identifier is not provided by the UICC or is a null data object (i.e. length = '00' and no value part), the ME may give information to the user.

- if the user accepts the channel, the ME shall then set up a channel;

- if the user does not accept the channel or rejects the channel, then the ME informs the UICC using TERMINAL RESPONSE (user did not accept the proactive command). The operation is aborted;

- if the user has indicated the need to end the proactive UICC session, the ME shall send a TERMINAL RESPONSE with (Proactive UICC session terminated by the user) result value;

- optionally, during call set-up, the ME can give some audible or display indication concerning what is happening;

- if the first link set-up attempt is unsuccessful:

- if the UICC did not request link re-connection then the ME shall inform the UICC using TERMINAL RESPONSE (network currently unable to process command), and not retry to set-up the link:

  - if the UICC requested link re-connection, then the ME may automatically retry to set-up the link (depending on its configuration capabilities). In this case, the ME shall not send a command result to the UICC concerning the first or any subsequent failed set-up attempts. If the link set-up has not been successful, and the ME is not going to perform any more re-tries, or the time elapsed since the first link set-up attempt has exceeded the duration requested by the UICC, then the ME shall inform the UICC using TERMINAL RESPONSE (network currently unable to process command), and the re-try mechanism shall be terminated;

  - if the user stops the link set-up attempt or the re-try mechanism before a result is received from the network, the ME informs the UICC using TERMINAL RESPONSE (user cleared down call before connection or network release).

[…]

6.4.X SERVICE SEARCH

This subclause applies only if class "f" is supported.

This command is used to search for the availability of a service in the environment of the ME.

The UICC may provide a Device Filter. The devices responding to the service search shall then be part of the set given by Device Filter. If the Device Filter parameter is not present, no filter on the type of equipment is done by the ME.

The UICC provides a Service Search parameter. The devices responding to the service search shall then support the requested service.

Upon receiving this command, the ME shall decide if it is able to execute the command. Examples are given below, but the list is not exhaustive:

- If the command is rejected because the ME is busy on a call, the ME informs the UICC using TERMINAL RESPONSE (ME unable to process command – ME currently busy on call).

- If the command is rejected because the bearer provided in the command is not available, the ME informs the UICC using TERMINAL RESPONSE(ME unable to process command – bearer unavailable)

If the ME is able to execute the command:

- the ME performs the service search, gathers all received responses and informs the UICC using TERMINAL RESPONSE(command performed successfully, Service Availability).

- If the command fails because no device in the radio range supported the requested service, the ME informs the UICC using TERMINAL RESPONSE (Bearer independent protocol error – Service error).

- If the command fails because there is no device reachable, the ME informs the UICC using TERMINAL RESPONSE (Bearer independent protocol error – Remote device is not reachable).

6.4.XX GET SERVICE INFORMATION

This subclause applies only if class "f" is supported.

This proactive command is used to look for the complete service record related to a service. By service record, it is meant all information that allows the UICC to define precisely the service (e.g. protocol stacks).

The UICC provides the Attribute Information parameter which indicates which detailed information is required.

Upon receiving this command, the ME shall decide if it is able to execute the command. Examples are given below, but the list is not exhaustive:

- If the command is rejected because the ME is busy on a call, the ME informs the UICC using TERMINAL RESPONSE (ME unable to process command – ME currently busy on call).

- If the command is rejected because the bearer provided in the command is not available, the ME informs the UICC using TERMINAL RESPONSE(ME unable to process command – bearer unavailable)

If the ME is able to execute the command:

- the ME performs the search for the service details and informs the UICC using TERMINAL RESPONSE(command performed successfully, Service Record). The Service Record shall then be used as argument of an Open Channel proactive command.

- If the command fails because there is no device reachable, the ME informs the UICC using TERMINAL RESPONSE (Bearer independent protocol error – Remote device is not reachable).

If the USAT application already has all information concerning the service, it may directly try to connect the service performing an OPEN CHANNEL, and bypass the GET SERVICE INFORMATION step.

[…]

6.6.27.3 OPEN CHANNEL for local links

Description	Subclause	M/O/C	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E+F+G+H+I+J+K+L)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Alpha identifier	8.2	O	N	C
Icon identifier	8.31	O	N	D
Duration 1	8.8	C	N	E
Duration 2	8.8	O	N	F
Bearer description	8.52	M	Y	G
Buffer size	8.55	M	N	H
Text String (User password)	8.15	O	N	I
SIM/ME interface transport level	8.59	O	N	J
Data destination address	8.58	C	Y	K
Remote Entity Address	8.68	O	N	L

Duration 1 indicates the duration of reconnection tries. If Duration 1 is not present or is null, the UICC imposes no restrictions on the ME. Duration 1 shall be present if Duration 2 is present.

Duration 2 indicates the timeout value before the ME releases the link if there is no data exchanged on the link. If duration 2 is not present the link is never released automatically by the ME.

Bearer Description gives detailed information characterising the bearer. When the UICC acts as a server, local information (local service record data) is included in Bearer Description; in addition, if the UICC provides a Service Record field (which is part of the Bearer Description TLV) different from '00', the ME shall ignore it and proceed with the command. When the UICC acts as a client, remote information (remote service record data) is included in Bearer Description; in addition, if the UICC provides a Service Identifier field (which is part of the Bearer Description TLV) different from 'FF', the ME shall ignore it and proceed with the command.

The UICC may optionally provide a user password that should be used by the ME for authentication. For the Bluetooth local bearer, the user password corresponds to the passkey/PIN as defined in [27].

If the SIM/ME interface transport level is present in the command, then the ME shall provide the requested transport layer protocols under the channel and shall use this object containing a set of parameters required to make the transport connection. If the parameter is not present, the SIM/ME interface is the bearer level. The data that will be received/sent from the SAT to the transport layer is a SDU that will be received/transmitted in the Transport-PDU.

The Data destination address is the end point destination address of sent data. This data destination address is requested when a SIM/ME interface transport is present, otherwise it is ignored. The data destination address is a data network address (e.g. IP address).

The Remote Entity Address parameter provides information to the ME necessary to identify the entity which provides access to the requested resource. Depending on the local technology, this parameter is necessary or not. For Bluetooth, it shall be the BD_ADDR of the remote device.

6.6.X SERVICE SEARCH

Description	Section	M/O	Min	Length
Proactive SIM command Tag	9.3	M	Y	1
Length (A+B+C+D+E+F)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device Identities	8.7	M	Y	B
Alpha identifier	8.2	O	N	C
Icon identifier	8.31	O	N	D
Service search	8.65	M	Y	E
Device filter	8.64	O	N	F

6.6.XX. GET SERVICE INFORMATION

Description	Section	M/O	Min	Length
Proactive SIM command Tag	9.3	M	Y	1
Length (A+B+C+D+E)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device Identities	8.7	M	Y	B
Alpha identifier	8.2	O	N	C
Icon identifier	8.31	O	N	D
Attribute information	8.66	M	Y	E

6.8 Structure of TERMINAL RESPONSE

Direction: ME to UICC.

The command header is specified in TS 31.101 [13]. Length (A+B+ … +V+W+X) is indicated by P3 of the header.

Command parameters/data.

Description	Subclause	M/O/C	Min	Length
Command details	8.6	M	Y	A
Device identities	8.7	M	N	B
Result	8.12	M	Y	C
Duration (only required in response to a POLL INTERVAL proactive command)	8.8	C	N	D
Text string (only required in response to a GET INKEY or GET INPUT or SEND USSD proactive command)	8.15	C	N	E
Item identifier (only required in response to SELECT ITEM proactive command)	8.10	C	N	F
…	…	…	…	…
AT Response (only required in response to RUN AT COMMAND proactive command)	8.41	C	N	P
Text string2 (only required if call control by USIM has modified the proactive command SET UP CALL or SEND SS into a USSD request)	8.15	C	N	Q
Channel data (only required in response to RECEIVE DATA)	8.54	C	N	R
Channel status (only required in response to GET CHANNEL STATUS or OPEN CHANNEL proactive command)	8.56	C	N	$S_0 + … + S_n$
Channel data length (only required in response to RECEIVE DATA or SEND DATA proactive command)	8.54	C	N	T
Bearer description (only required in response to OPEN CHANNEL proactive command)	8.52	C	N	U
Buffer size (only required in response to OPEN CHANNEL proactive command)	8.55	C	N	V
Service availability (only required in response to SERVICE SEARCH proactive command)	8.67	C	N	W
Service record (only required in response to GET SERVICE INFORMATION proactive command)	8.63	C	N	X

Under no circumstances shall the UICC wait indefinitely for a TERMINAL RESPONSE.

For all the Conditional (C) SIMPLE-TLV objects, the ME should not include them in the response to non-applicable situations. However, if one is present, the UICC shall ignore it.

For all SIMPLE-TLV objects with Min=N, the ME should set the CR flag to comprehension not required. Any future additional SIMPLE-TLV objects will be included as Min = N and comprehension not required. This will ensure that any proactive command will end in a predictable way.

Response parameters/data: None.

6.8.X Service Availability

This subclause applies only if class "f" is supported.

When the ME issues a successful TERMINAL RESPONSE for a SERVICE SEARCH command, the TERMINAL RESPONSE shall contain the Service Availability data object.

6.8.Y Service Record

This subclause applies only if class "f" is supported.

When the ME issues a successful TERMINAL RESPONSE for a GET SERVICE INFORMATION command, the TERMINAL RESPONSE shall contain the Service Record data object.

6.11 Proactive commands versus possible Terminal response

Table 6.1 shows for each proactive command the possible terminal response returned (marked by a "•" character).

		PROACTIVE COMMAND														
	TERMINAL RESPONSE	CARD APDU '30'	POWER ON CARD '31'	POWER OFF CARD '32'	GET READ-ER STATUS '33'	RUN AT COMM-AND '34'	LANG NOTIFI CA TION '35'	OPEN CHANN EL '40'	CLOSE CHANN EL '41'	RECEIVE DATA '42'	SEND DATA '43'	GET CHANN EL STATUS '44'	SERVIC E SEARC H 'xx'	GET SERVIC E INFORM ATION 'xx'		
00	Command performed successfully	●	●	●	●	●	●	●	●	●	●	●	●	●		
01	Command performed with partial comprehension	●	●	●	●	●	●	●	●	●	●	●	●	●		
02	Command performed, with missing information	●	●	●	●	●	●	●	●	●	●	●				
03	REFRESH performed with additional EFs read															
04	Command performed succesfully, but requested icon could not be displayed							●	●	●	●	●	●	●		
05	Command performed, but modified by call control by USIM															
06	Command performed successfully, limited service															
07	Command performed with modification							●								
08	REFRESH performed but indicated USIM was not active							●								
10	Proactive UICC session terminated by the user							●	●	●	●	●	●	●		
11	Backward move in the proactive UICC session requested by the user															
12	No response from user															
13	Help information required by the user															
14	USSD or SS Transaction terminated by user															
20	ME currently unable to process command	●	●	●	●	●	●	●	●	●	●	●	●	●		
21	Network currently unable to process command							●			●					
22	User did not accept the proactive command							●								
23	User cleared down call before connection or network release															
24	Action in contradiction with the current timer state															
25	Interaction with call control by USIM, temporary problem							●								
26	Launch browser generic error															
30	Command beyond MEs capabilities	●	●	●	●	●	●	●	●	●	●	●	●	●		
31	Command type not understood by ME	●	●	●	●	●	●	●	●	●	●	●	●	●		
32	Command data not understood by ME	●	●	●	●	●	●	●	●	●	●	●	●	●		
33	Command number not known by ME	●	●	●	●	●	●	●	●	●	●	●	●	●		
34	SS Return Error															
35	SMS RPERROR															
36	Error, required values are missing	●	●	●	●	●	●	●	●	●	●	●	●	●		
37	USSD return error															
38	Multiple Card command error	●	●	●	●											
39	Interaction with call/SM control by USIM, permanent problem															
3A	Bearer Independent Protocol error							●	●	●	●		●	●		
3B	Access Technology unable to process command							●					●	●		

8.6 Command details

Byte(s)	Description	Length
1	Command details tag	1
2	Length = '03'	1
3	Command number	1
4	Type of command	1
5	Command Qualifier	1

- Command number
  - for contents and coding, see subclause 6.5.1.
- Type of command:
  - contents: The Type of Command specifies the required interpretation of the data objects which follow, and the required ME procedure;
  - coding:
    - see subclause 9.4;
    - the ME shall respond to reserved values (i.e. values not listed) with the result "Command type not understood".
- Command Qualifier:
  - contents: Qualifiers specific to the command;
  - coding:
    - REFRESH:
      - '00' = USIM Initialization and Full File Change Notification;
      - '01' = File Change Notification;

[...]

-

- GET CHANNEL STATUS:

- —this byte is RFU.

- SERVICE SEARCH (if class "f" is supported)
  This byte is RFU

- GET SERVICE INFORMATION (if class "f" is supported)
  This byte is RFU

The ME shall respond to reserved values with the result "Command type not understood".

8.12.11 Additional information for Bearer Independent Protocol

This subclause applies only if class "e" or "f" is supported.

For the general result " Bearer Independent Protocol error ", it is mandatory for the ME to provide additional information, the first byte of which is defined below:

- '00' = No specific cause can be given;
- '01' = No channel available;
- '02' = Channel closed;
- '03' = Channel identifier not valid;
- '04' = Requested buffer size not available;
- '05' = Security error (unsuccessful authentication);
- '06' = Requested SIM/ME interface transport level not available.
- 'xx' = remote device is not reachable (not present, not physically connected, switched off…)
- 'yy' = Service error (service not available on remote device)

All other values shall be interpreted by the UICC as '00'.

The coding '00' shall only be used by the ME if no others apply.

8.52 Bearer description

Byte(s)	Description	Length
1	Bearer description tag	1
2	Length (X+1)	1
3	Bearer type	1
4 to (3+X)	Bearer parameters	X

- Bearer Type coding:
  - '01' = CSD;
  - '02' = GPRS;
  - '03' = default bearer for requested transport layer.
  - '04' = local link technology independent
  - '05' = Bluetooth
  - '06' = IrDA
  - '07' = RS232
  - '10' = USB

All other values are reserved.

8.52.4 Bearer parameters for local links (Bluetooth, IrDA, RS232, USB)

In this case, X= variable

Contains

"Service Identifier" and "Service Record" fields as defined in 8.63 and according to the Bearer Type coding.

8.63 Service Record

This service record can have different formats that are dependent on the technology they are associated with.

This object can be used in both directions (ME to UICC or UICC to ME), when a USAT application needs to declare a service that it supports (DECLARE SERVICE command) and when USAT application searches for a service (GET SERVICE INFORMATION).

Byte(s)	Description	Length
1	Item tag	1
2 to Y+1	Length (X+2)	Y
Y+2	Local Bearer technology identifier	1
Y+3	Service Identifier	1
Y+4 to Y+X+3	Service Record	X

- Local Bearer Technology identifier

- Technology independent: '00'
- Bluetooth : '01'
- IrDA : '02'
- RS232 : '03'
- USB : '04'
- RFU : '05' to 'FF'

- Service identifier

When declaring a service, the UICC associates a Service Identifier to the Service Record. When the Service Record TLV is returned in response to GET SERVICE INFORMATION, Service Identifier shall be set to 'FF'.

- '00' to '07' Service x (0 to 7). Value assigned by USIM.
- 'FF' = Service Record related to the service provided by a remote device.
- Other value reserved for future use.

- Service Record:

When the Service Record field is not meaningful, it shall be assigned the value = '00'

- **Technology Independent**:
  RFU

- **Bluetooth:**

  In Bluetooth a Service record gives all needed information that must be used by a device to connect and use this service.

  The full description of the coding of these records is given in the Bluetooth Specification in the SDP section [27]. When Service Record is returned in response to GET SERVICE INFORMATION, it corresponds to the AttributeList parameter contained in the SDP_ServiceAttributeResponse PDU [27].

  Strings should be limited to 20 bytes because of the T=0 protocol limitation (255 bytes) and because the service record may include several text strings with length possibly higher than 255 bytes.

- **IrDA:**
  RFU

- **RS232:**
  RFU

- **USB:**
  RFU

Depending on the proactive command, the parameters of this TLV could be either meaningful or optional. The following table indicates in which case the parameters are required.

Proactive command	**Service Identifier required**	**Service Record field required**
DECLARE SERVICE (add)	Yes	Yes
DECLARE SERVICE (delete)	Yes	No (value '00' assigned)
Terminal response of a GET SERVICE INFORMATION	No (value 'FF' assigned)	Yes
OPEN CHANNEL (client)	No (value 'FF' assigned)	Yes
OPEN CHANNEL (server)	Yes	No (value '00' assigned)
Local Connection event	Yes	No (value '00' assigned)

8.64 Device Filter

Byte(s)	**Description**	**Length**
1	Item tag	1
2 to Y+1	Length (1+X1+X2+…+Xn)	Y
Y+2	Local Bearer technology identifier	1
Y+3 to Y+2+X	Device Filter	X

- Local Bearer Technology identifier: see 8.63

- Device filter

If the Local Bearer Technology Identifier is different from '00', the device filter coding is technology dependent.

- **Technology Independent**:
  RFU

- **Bluetooth**:
  The Device Filter parameter is used to filter the responses to a service search. For Bluetooth, it is a list of Class_Of_Device and Class_Of_Device_Mask.
  Device Filter =
  Class_Of_Device_1 [3 bytes], Class_Of_Device_Mask_1 [3 bytes],
  Class_Of_Device_2 [3 bytes], Class_Of_Device_Mask_2 [3 bytes],
  …,
  Class_Of_Device_n [3 bytes], Class_Of_Device_Mask_n [3 bytes].

- **IrDA:**
  RFU

- **RS232:**
  RFU

- **USB:**
  RFU

8.65 Service Search

Byte(s)	Description	Length
1	Item tag	1
2 to Y+1	Length (X+1)	Y
Y+2	Local Bearer technology identifier	1
Y+3 to Y+X+1	Service Search	X

- Local Bearer Technology identifier: see 8.63

- Service search

If the Local Bearer Technology Identifier is different from '00', the Service search coding is technology dependent.

- **Technology Independent**:
  RFU
- **Bluetooth**:
  The Service Search field is the *ServiceSearchPattern* parameter of the *SDP_ServiceSearchRequest* command as defined in [27].

- **IrDA:**
  RFU

- **RS232:**
  RFU

- **USB:**
  RFU

8.66 Attribute Information

Byte(s)	Description	Length
1	Item tag	1
2 to Y+1	Length (X+1)	Y
Y+2	Local Bearer technology identifier	1
Y+3 to Y+X+2	Attribute Information	X

- Local Bearer Technology identifier: see 8.63

- Attribute Information

If the Local Bearer Technology Identifier is different from '00', the Attribute Information coding is technology dependent.

- **Technology Independent**:
  RFU

- **Bluetooth**:

The Attribute Information field consists of a *BD_ADDR*, followed by the *ServiceRecordHandle* and the *AttributeIDList* parameters of the SDP_ServiceAttributeRequest command as defined in [27].

The BD_ADDR is the Bluetooth device address of the device the ME shall connect to. The ME shall use the *ServiceRecordHandle* and the *AttributeIDList* parameters to perform the SDP_ServiceAttributeRequest. The *ServiceRecordHandle* has been previously retrieved with the SERVICE SEARCH command.

- **IrDA:**
  RFU

- **RS232:**
  RFU

- **USB:**
  RFU

8.67 Service Availability

The Service Availability parameter contains a list of available services that the SERVICE SEARCH command returns. This object is formatted according to the local bearer technology identifier byte set in the SERVICE SEARCH command arguments.

Byte(s)	Description	Length
1	Service General Information tag	1
2 to Y+1	Length='X1'+ 'X2' + 'X3' +... 'Xn' (n maxi = 7)	Y
Y+2 to Y+X1+1	Service_1	X1
Y+X1+2 to Y+X1+X2+1	Service_2	X2
...	...	...
Y+X1+…+X(n-1)+2 to Y+X1+…+Xn+1	Service_n	Xn

- **Technology Independent**:
  RFU

- **Bluetooth**

  For Bluetooth, Service_i = BD_ADDR_i[6 bytes] + ServiceRecordHandle_i[4 bytes] + CoD_i[3 bytes] + Device_Name_i[20 bytes], those parameters being defined in [27]. Device Name parameter should be truncated to 20 bytes because of the T=0 protocol limitation (255 bytes) and because device name parameter length can be higher than 255 bytes.

Byte(s)	Description	Length
1	Service General Information tag	1
2 to Y+1	Length='X1'+ 'X2' + 'X3' +... 'Xn' (n maxi = 7)	Y
Y+2 to Y+X1+1	BD_ADDR + ServiceRecordHandle + CoD + Device_Name	X1
Y+X1+2 to Y+X1+X2+1	BD_ADDR + ServiceRecordHandle + CoD + Device_Name	X2
...	...	...
Y+X1+…+X(n-1)+2 to Y+X1+…+Xn+1	BD_ADDR + ServiceRecordHandle + CoD + Device_Name	Xn

- **IrDA:**
  RFU

- **RS232:**
  RFU

- **USB:**
  RFU

8.68 Remote Entity Address

Byte(s)	Description	Length
1	Item tag	1
2 to Y+1	Length (X+1)	Y
Y+2	Coding Type	1
Y+3 to Y+X+2	Remote Entity address	X

- Coding Type

'00' : IEEE-802 48-bit address

'01' to 'FF' are reserved values

- Remote Entity Address according to Coding Type

9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Command details tag	1	'01'	'01' or '81'
Device identity tag	1	'02'	'02' or '82'
[...]			
Text String (User password)	1	'3B'	'3B' or 'BB'
SIM/ME interface transport level	1	'3C'	'3C' or 'BC'
URL (data destination address)	1	'3D'	'3D' or 'BD'
Other address (data destination address)	1	'3E'	'3E' or 'BE'
Service Record	1	'xx'	'xx' or 'xy'
Device Filter	1	'xx'	'xx' or 'xy'
Service Search	1	'xx'	'xx' or 'xy'
Attribute information	1	'xx'	'xx' or 'xy'
Service Availability	1	'xx'	'xx' or 'xy'

9.4 Type of Command and Next Action Indicator

The table below shows the values which shall be used for Type of Command coding (see subclause 8.6) and Next Action Indicator coding (see subclause 8.24).

Value	Name	used for Type of Command coding	used for Next Action Indicator coding
'00'		-	-
'01'	REFRESH	X	
'02'	MORE TIME	X	
'03'	POLL INTERVAL	X	
'04'	POLLING OFF	X	
'05'	SET UP EVENT LIST	X	
'10'	SET UP CALL	X	X
'11'	SEND SS	X	X
'12'	SEND USSD	X	X
'13'	SEND SHORT MESSAGE	X	X
'14'	SEND DTMF	X	
'15'	LAUNCH BROWSER	X	X
'20'	PLAY TONE	X	X
'21'	DISPLAY TEXT	X	X
'22'	GET INKEY	X	X
'23'	GET INPUT	X	X
'24'	SELECT ITEM	X	X
'25'	SET UP MENU	X	X
'26'	PROVIDE LOCAL INFORMATION	X	
'27'	TIMER MANAGEMENT	X	
'28'	SET UP IDLE MODEL TEXT	X	X
'30'	PERFORM CARD APDU	X	X
'31'	POWER ON CARD	X	X
'32'	POWER OFF CARD	X	X
'33'	GET READER STATUS	X	X
'34'	RUN AT COMMAND	X	
'35'	LANGUAGE NOTIFICATION	X	
'40'	OPEN CHANNEL	X	X
'41'	CLOSE CHANNEL	X	X
'42'	RECEIVE DATA	X	X
'43'	SEND DATA	X	X
'44'	GET CHANNEL STATUS	X	X
'xx'	SERVICE SEARCH	X	X
'yy'	GET SERVICE INFORMATION	X	X
'81'	End of the proactive session	not applicable	X

10 Allowed Type of command and Device identity combinations

Only certain types of commands can be issued with certain device identities. These are defined below.

Command description	Source	Destination
CALL CONTROL	ME	UICC
CELL BROADCAST DOWNLOAD	Network	UICC
COMMAND RESULT	ME	UICC
DISPLAY TEXT	UICC	Display
EVENT DOWNLOAD		
- MT call	Network	UICC
- Call connected at near end (MT call)	ME	UICC
- Call connected at far end (MO call)	Network	UICC
- Call disconnected at near end	ME	UICC
- Call disconnected at far end	Network	UICC
- Location status	ME	UICC
- User activity	ME	UICC
- Idle screen available	Display	UICC
- Card reader status	ME	UICC
- language selection	ME	UICC
- data available	ME	UICC
- channel status	ME	UICC
- access Technology Change	ME	UICC
GET INKEY	UICC	ME
GET INPUT	UICC	ME
GET READER STATUS	UICC	ME or Card reader x
LANGUAGE NOTIFICATION	UICC	ME
LAUNCH BROWSER	UICC	ME
MENU SELECTION	Keypad	UICC
MO SHORT MESSAGE CONTROL	ME	UICC
MORE TIME	UICC	ME
PERFORM CARD APDU	UICC	Card reader x
PLAY TONE	UICC	Earpiece (see note)
POLLING OFF	UICC	ME
POLL INTERVAL	UICC	ME
POWER ON CARD	UICC	Card reader x
POWER OFF CARD	UICC	Card reader x
PROFILE DOWNLOAD	ME	UICC
PROVIDE LOCAL INFORMATION	UICC	ME
REFRESH	UICC	ME
RUN AT COMMAND	UICC	ME
SELECT ITEM	UICC	ME
SEND DTMF	UICC	Network
SEND SHORT MESSAGE	UICC	Network
SEND SS	UICC	Network
SEND USSD	UICC	Network
SET UP CALL	UICC	Network
SET UP EVENT LIST	UICC	ME
SET UP IDLE MODE TEXT	UICC	ME
SET UP MENU	UICC	ME
SMS-PP DOWNLOAD	Network	UICC
TIMER MANAGEMENT	UICC	ME
TIMER EXPIRATION	ME	UICC
OPEN CHANNEL	UICC	ME
CLOSE CHANNEL	UICC	Channel x
RECEIVE DATA	UICC	Channel x
SEND DATA	UICC	Channel x
GET CHANNEL STATUS	UICC	ME
SERVICE SEARCH	UICC	ME
GET SERVICE INFORMATION	UICC	ME
NOTE: The ME may route the tone to other loudspeakers (external ringer, car kit) if more appropriate.		

Annex A (normative): Support of USAT by Mobile Equipment

Support of USAT is optional for Mobile Equipment. However, if an ME states conformancy with a specific 3G release, it is mandatory for the ME to support all functions of that release.

The support of letter classes, which specify mainly ME hardware dependent features, is optional for the ME and may supplement the USAT functionality described in the present document. If an ME states conformancy to a letter class, it is mandatory to support all functions within the respective letter class.

The table below indicates the commands and functions of the the optional letter classes.

Letter classes	Command/function description
a	GET READER STATUS PERFORM CARD APDU POWER ON CARD POWER OFF CARD
b	RUN AT COMMAND
c	LAUNCH BROWSER Browser termination event
d	Soft key support
e	OPEN CHANNEL CLOSE CHANNEL RECEIVE DATA SEND DATA GET CHANNEL STATUS Data available event Channel status event
f	SERVICE SEARCH GET SERVICE INFORMATION

Annex X (informative): Use of USAT Bearer independent protocol for local links Bluetooth case

This annex applies only if classes "e" and "f" are supported.

Bluetooth services to be run by the USIM should be developed so that he access to their service record is open and does not necessitate any security mechanism (no authentication or encryption).

SERVICE SEARCH command:

The Local Bearer Technology Identifier is Bluetooth. Service Search consists for the ME in first performing a device discovery of the devices that conform to the Device Filter (inquiry responses are filtered according to the list of Class of Device given in the Device Filter); then performing an SDP_ServiceSearchRequest, as defined in [27], on each device to check the support of the given service. The ME shall then return the Service Availability data object which is a list of BD_ADDR, ServiceRecordHandle, CoD and Device Name.

Note for Handset Manufacturers:

As the mobile is not always connected to other devices present in the remote environment (e.g. Bluetooth), when performing a service search, it is up to the ME to set a procedure that allows:

- A "scan" of the environment to discover new devices
- A connection to Service Discovery Servers of discovered devices
- A match with the requested service to set up the response to the USAT application.

GET SERVICE INFORMATION command:

The Local Bearer Technology Identifier is Bluetooth, GET SERVICE INFORMATION consists for the ME in connecting to a specific device and performing a SDP_ServiceAttributeRequest PDU as defined in [27]. The ME shall then return the Service Record data object.

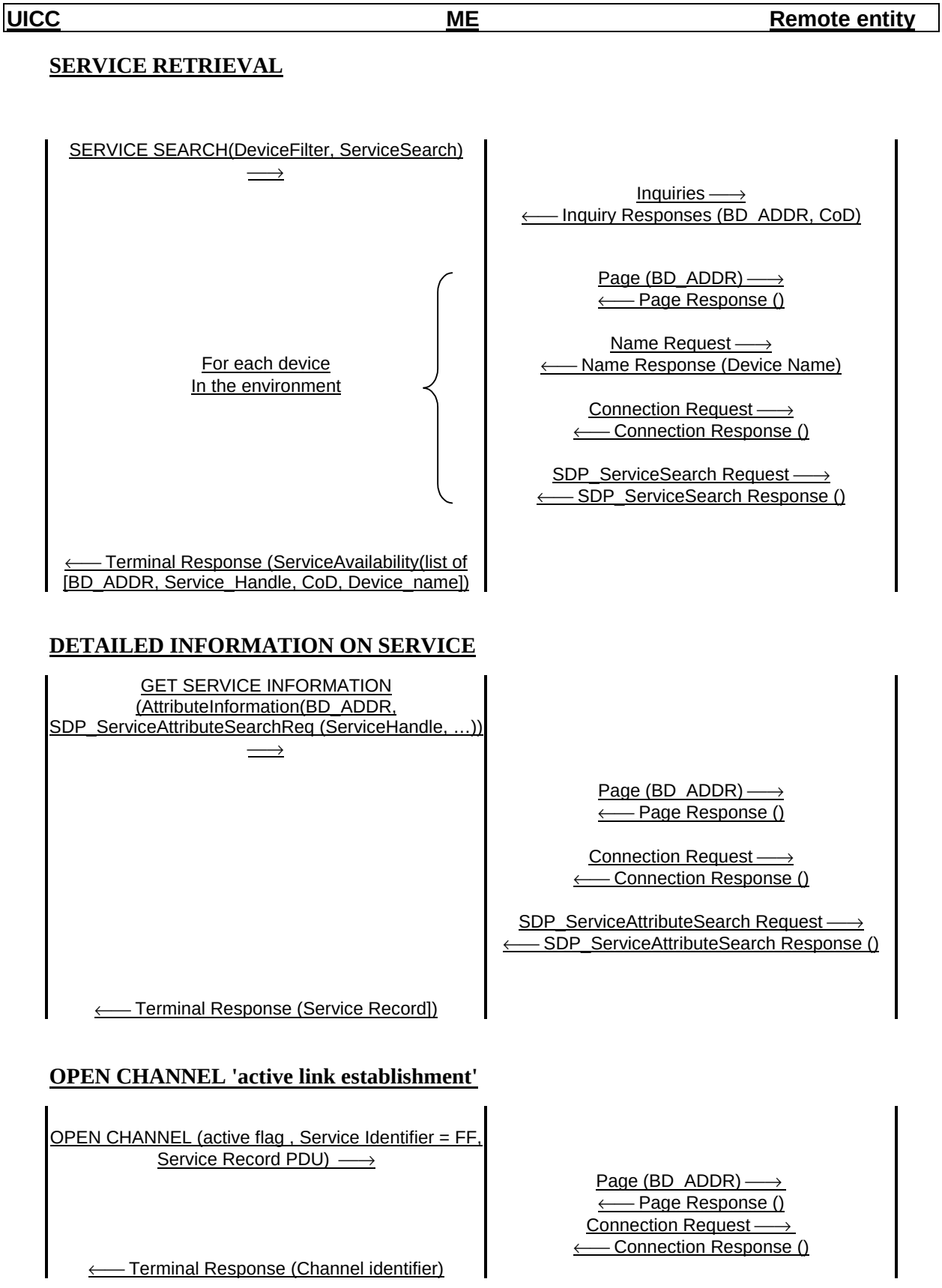
Note: When performing a GET SERVICE INFORMATION, it is up to the ME to set up a connection with the requested device and perform the SDP exchange.

OPEN CHANNEL command:

If the SIM/ME interface parameter is not present, the SIM/ME interface is the bearer level which is the RFCOMM level.

The Remote Entity Address shall be present and shall be the BD_ADDR of the remote device.

Interaction example, USAT client case:



⟵ ENVELOPE (Data available, Channel Identifier) RECEIVE DATA (Channel identifier, Channel Data length) ⟶ ⟵ Terminal Response(Data<=Length)	⟵ Data (remote connection request)

3GPP T3 Meeting #18
Sophia-Antipolis, France, 1-2 March, 2001

Tdoc T3-010237
T3-010178

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **036** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Use of USAT Bearer independent protocol for local links. Server use case.
Source:	⌘	T3
Work item code:	⌘	Use of local links as a bearer for USAT
Date:	⌘	02/03/01
Category:	⌘	**B**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	The USAT bearer independent protocol does not make use so far of local bearers such as serial cable, IrDA, Bluetooth... This CR introduces local bearers. To achieve this, adaptation of the bearer independent protocol is needed for the UICC to be able to search for and connect to particular services available on surrounding devices (client case); and to be able to offer services to other surrounding devices (server case).
Summary of change:	⌘	This CR focuses on the server use case. As a server which provides a service to an external device through a local link, USAT should be able to declare its service to the ME and should be able to activate the link when it receives a connection request coming from an external device. This CR intends to add a new proactive command DECLARE SERVICE and a new event Local Connection. This CR intends to be generic and applicable to different local links; the new feature is detailed for Bluetooth.
Consequences if not approved:	⌘	The UICC will not be able to use local bearers.

Clauses affected:	⌘	2, 4.11, 5.2, 6.1, 6.4.32(new), 6.6.32(new), 7.5.14(new), 8.6, 8.25, 8.63(new), 9.3, 9.4, 10, Annexes A, F, X, and XX (2 latter are new sections)
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	This CR is related to the CR introducing the client use case.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

…

[26] IETF RFC 793 "Transmission Control Protocol (TCP)"

[27] Specification of the Bluetooth system.

4 Overview of USAT

The USAT provides mechanisms which allow applications, existing in the UICC, to interact and operate with any ME which supports the specific mechanism(s) required by the application.
If class "a" is supported, a UICC supporting USAT shall be able to communicate with the additional card(s) and get information about the additional reader(s) via the ME.
The following mechanisms have been defined. These mechanisms are dependent upon the commands and protocols relevant to USAT in TS 31.101 [13].

…

4.11 Bearer Independent Protocol

This subclause applies if class "e" is supported.
The set of proactive commands (OPEN CHANNEL, CLOSE CHANNEL, SEND DATA, RECEIVE DATA, and GET CHANNEL STATUS) and events (Data available, Channel status) allows the UICC to establish a data channel with the ME, and through the ME either to a remote Server in the Network or to a remote device in the Personal Area Network. The UICC provides information for the ME to select an available bearer at the time of channel establishment. The ME then allows the UICC and the Server to exchange data on this channel, transparently. The SIM uses service of ME lower layer to send data by providing Service Data Unit to ME. The default lower layer is the higher layer of selected bearer.

This subclause applies if class "f" is supported.
The proactive command DECLARE SERVICE allows the UICC to add or delete a service to the ME service database. The event Local Connection allows to inform the UICC of a connection request on a local bearer.

5 Profile download

5.1 Procedure

The profile download instruction is sent by the ME to the UICC as part of the UICC initialization procedure. This procedure is specified in TS 31.101 [13]. The profile sent by the ME shall state the facilities relevant to USAT that are supported by the ME.
This procedure is important, as it is by this that the UICC knows what the ME is capable of, and the UICC can then limit its instruction range accordingly. If no command is sent by the ME, the UICC shall assume that the ME does not support USAT.

5.2 Structure and coding of TERMINAL PROFILE

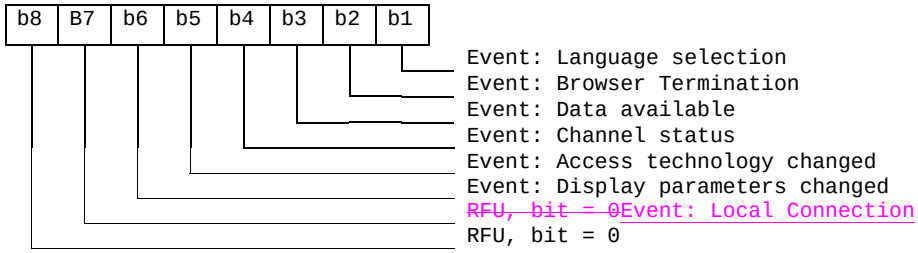
Direction: ME to UICC.
The command header is specified in TS 31.101 [13].
Command parameters/data:

Description	Subclause	M/O/C	Length
Profile	-	M	lgth

- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

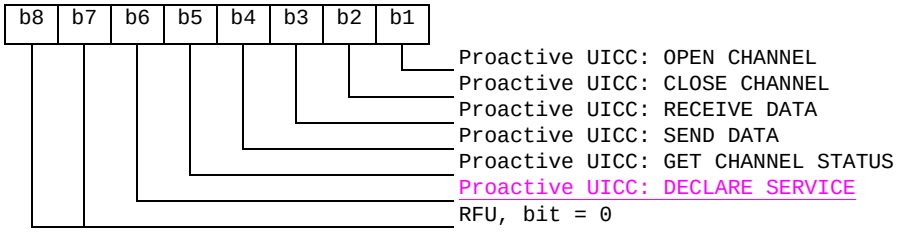
[…]

Sixth byte (Event driven information extensions):

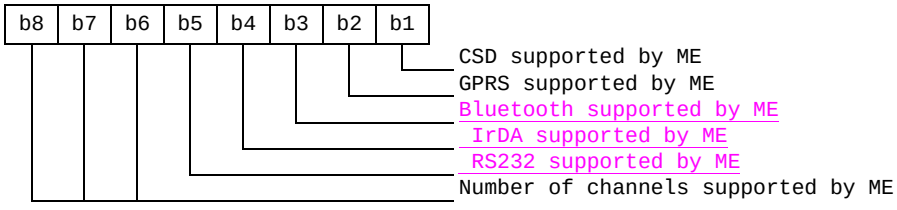


[…]

Twelfth byte: ~~(Bearer independent protocol proactive commands) for class "e"~~:

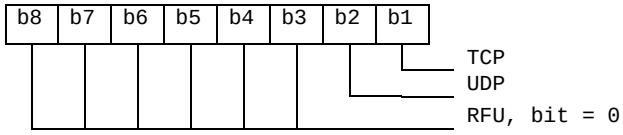


Thirteenth byte ~~(Bearer Independent protocol supported bearers (class "e"))~~:

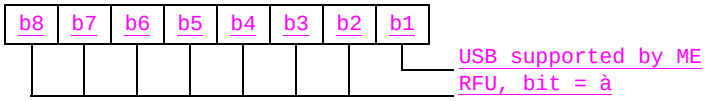


[…]

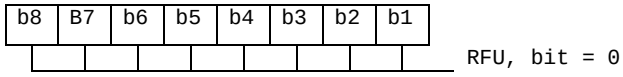
Seventeenth byte:



Eighteenth byte:



Subsequent bytes:



6 Proactive UICC

6.1 Introduction

TS 31.101 [13] defines that the ME communicates to the UICC using the T=0 or T=1 protocols, which are specified in ISO/IEC 7816-3 [16]. The ME is always the "master" and initiates commands to the UICC, and therefore there is no mechanism for the UICC to initiate a communication with the ME. This limits the possibility of introducing new UICC features requiring the support of the ME, as the ME needs to know in advance what actions it should take.

The UICC shall execute all USAT Proactive commands or procedures in such a way as not to jeopardise, or cause suspension, of service provisioning to the user. This could occur if, for example, execution of INTERNAL AUTHENTICATE is delayed by internal USAT activity, which would result in the network denying or suspending service to the user. Specifically, the MORE TIME command shall be used, whenever possible, to allow the ME access to the 3G functionality of the UICC if a USAT application is taking an unreasonable amount of time to complete execution.

NOTE: The maximum work waiting time without sending a MORE TIME command depends on several factors (e.g. the permissible duration of a network-UICC authentication); in some cases as little as 2 seconds could be required. During this period the UICC should respect the work waiting time procedure, defined in TS 31.101 [13].

The proactive UICC service provides a mechanism which stays within the T=0 and T=1 protocols, but adds a new status response word SW1. This status response has the same meaning as the normal ending ('90 00'), and can be used with most of the commands that allow the normal ending, but it also allows the UICC to say to the ME "I have some information to send to you". The ME then uses the FETCH function to find out what this information is.

To avoid cross-phase compatibility problems, these functions shall only be used between a proactive UICC and an ME that supports proactive UICC commands (see subclause 6.2).

The UICC can issue a variety of commands through this mechanism, given in alphabetical order:

- **CLOSE CHANNEL:** which requests the ME to close the specified data channel (if class "e" is supported);

- **DECLARE SERVICE :** which requests the ME to add or remove a service from its service database (the list of the resources available through a local bearer). (if class "f" is supported)

- **DISPLAY TEXT:** which displays text or an icon on screen. A high priority is available, to replace anything else on screen;

[…]

6.4.32 DECLARE SERVICE

This subclause applies only if class "f" is supported.

This command allows the UICC to download into the ME service database the services that the card provides as a server. The declaration is to be made on a service by service basis, at the set up (e.g. after the profile download). The UICC shall indicate whether the ME is required to add a new service in the ME service database or to remove a service from the ME service database.
When adding a new service, the UICC shall provide a Service Record that the ME is required to register into its local service database.
When removing a service, the UICC shall provide the Service Identifier which uniquely identifies the service to be deleted from the database.

Upon receiving this command, the ME shall decide if it is able to execute the command. Examples are given below, but the list is not exhaustive:

- If the command is rejected because the ME is busy on a call, the ME informs the UICC using TERMINAL RESPONSE (ME unable to process command – ME currently busy on call).
- If the command is rejected because the ME has not enough memory available to store the service record, the ME informs the UICC using TERMINAL RESPONSE(Bearer Independent Protocol Error – Requested buffer size not available).
- If the command for deletion is rejected because the service identifier is not valid, the ME informs the UICC using TERMINAL RESPONSE(Bearer Independent Protocol Error- Service identifier unknown)
- If the command is performed with modification of certain parameters of the Service Record (of which value is dynamically assigned by the ME), the ME informs the UICC using TERMINAL RESPONSE (command performed with modification).

If the ME is able to execute the command:

- The ME shall inform the UICC that the command has been successfully performed using TERMINAL RESPONSE (command performed successfully).
- When performing a DECLARE SERVICE for deletion, if the UICC provides a Service Identifier parameter different from 'FF', the ME shall ignore the parameter and proceed with the command.

Note that a service can be coded using a coding type issued from a specific local bearer technology (e.g. Bluetooth or IrDA); however this service shall be considered by the ME as available for any bearer.

6.6.32 DECLARE SERVICE

Description	Section	M/O	Min	Length
Proactive SIM command Tag	9.3	M	Y	1
Length (A+B+C+D)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device Identities	8.7	M	Y	B
Service Record	8.63	M	Y	C
SIM/ME interface	8.59	O	N	D

For Device identities field, Destination Device Identity is required to be the ME.
The SIM/ME interface parameter specifies the protocol stack the UICC will be connected to on the ME.
If the SIM/ME interface data object is not present, the SIM/ME interface is the bearer level as defined in the OPEN CHANNEL command.

6.11 Proactive commands versus possible Terminal response

Table 6.1 shows for each proactive command the possible terminal response returned (marked by a "•" character).

		PROACTIVE COMMAND														
		CARD APDU	POWER ON CARD	POWER OFF CARD	GET READ-ER STATUS	RUN AT COMM-AND	LANG NOTIFI CA TION	OPEN CHANN EL	CLOSE CHANN EL	RECEIVE DATA	SEND DATA	GET CHANN EL STATUS	DECLA RE SERVIC E			
TERMINAL RESPONSE		'30'	'31'	'32'	'33'	'34'	'35'	'40'	'41'	'42'	'43'	'44'	'xx'			
00	Command performed successfully	●	●	●	●	●	●	●	●	●	●	●	●			
01	Command performed with partial comprehension	●	●	●	●	●	●	●	●	●	●	●	●			
02	Command performed, with missing information	●	●	●	●	●	●	●	●	●	●	●	●			
03	REFRESH performed with additional EFs read															
04	Command performed succesfully, but requested icon could not be displayed							●	●	●	●	●				
05	Command performed, but modified by call control by USIM															
06	Command performed successfully, limited service															
07	Command performed with modification							●					●			
08	REFRESH performed but indicated USIM was not active							●								
10	Proactive UICC session terminated by the user							●	●	●	●	●				
11	Backward move in the proactive UICC session requested by the user															
12	No response from user															
13	Help information required by the user															
14	USSD or SS Transaction terminated by user															
20	ME currently unable to process command	●	●	●	●	●	●	●	●	●	●	●	●			
21	Network currently unable to process command							●			●					
22	User did not accept the proactive command							●								
23	User cleared down call before connection or network release															
24	Action in contradiction with the current timer state															
25	Interaction with call control by USIM, temporary problem							●								
26	Launch browser generic error															
30	Command beyond MEs capabilities	●	●	●	●	●	●	●	●	●	●	●	●			
31	Command type not understood by ME	●	●	●	●	●	●	●	●	●	●	●	●			
32	Command data not understood by ME	●	●	●	●	●	●	●	●	●	●	●	●			
33	Command number not known by ME	●	●	●	●	●	●	●	●	●	●	●	●			
34	SS Return Error															
35	SMS RPERROR															
36	Error, required values are missing	●	●	●	●	●	●	●	●	●	●	●	●			
37	USSD return error															
38	Multiple Card command error	●	●	●	●											
39	Interaction with call/SM control by USIM, permanent problem															
3A	Bearer Independent Protocol error							●	●	●	●		●			
3B	Access Technology unable to process command							●								

7.5.14 Local Connection event

7.5.14.1 Procedure

If the Local Connection event is part of the current event list (as set up by the last SET UP EVENT LIST command, see subclause 6.4.16), then when the ME receives an incoming connection request on a local bearer using a service previously declared by the UICC, the ME shall inform the UICC that it has occurred, by using the ENVELOPE (EVENT DOWNLOAD – Local Connection) command as defined below. The ME shall then wait for an OPEN CHANNEL with the parameters given in the event before proceeding with the local connection establishment.

7.5.14.2 Structure of ENVELOPE (EVENT DOWNLOAD – Local Connection)

Direction: ME to UICC.
The command header is specified in TS 31.101 [13].
Command parameters/data.

Description	Subclause	M/O/C	Min	Length
Event download tag	9.1	M	Y	1
Length (A+B+C+D)	-	M	Y	1 or 2
Event list	8.25	M	Y	A
Device identities	8.7	M	Y	B
Service Record	8.63	M	Y	D
Remote Entity Address	8.X	O	N	C

- Event list: the event list object shall contain only one event (value part of length 1 byte), and ME shall set the event to:
  - Local connection.
- Device identities: the ME shall set the device identities to:
  - source: Network;
  - destination: UICC.
- Service Record: this data object shall contain the service record of the service being connected by a remote device. If the ME provides a Service Record different from '00', the UICC shall ignore it.

Response parameters/data:
- none.

8.6 Command details

Byte(s)	Description	Length
1	Command details tag	1
2	Length = '03'	1
3	Command number	1
4	Type of command	1
5	Command Qualifier	1

- Command number
  - for contents and coding, see subclause 6.5.1.
- Type of command:
  - contents: The Type of Command specifies the required interpretation of the data objects which follow, and the required ME procedure;
  - coding:
    - see subclause 9.4;
    - the ME shall respond to reserved values (i.e. values not listed) with the result "Command type not understood".
- Command Qualifier:
  - contents: Qualifiers specific to the command;
  - coding:
    - REFRESH:
      - '00' = USIM Initialization and Full File Change Notification;
      - '01' = File Change Notification;
      - '02' = USIM Initialization and File Change Notification;
      - '03' = USIM Initialization;
      - '04' = UICC Reset;
      - '05' = USIM Application Reset;
      - '06' = 3G Session Reset;
      - '07' to 'FF' = reserved values.

…

- DECLARE SERVICE (if class "f" is supported)
  - bit1 : 0 = add a new service to the ME service database
    1 = delete a service from the ME service database
  - bit 2 to 8 RFU

[…]

8.12.11 Additional information for Bearer Independent Protocol

This subclause applies only if class "e" is supported.
For the general result " Bearer Independent Protocol error ", it is mandatory for the ME to provide additional information, the first byte of which is defined below:

- '00' = No specific cause can be given;
- '01' = No channel available;
- '02' = Channel closed;
- '03' = Channel identifier not valid;
- '04' = Requested buffer size not available;
- '05' = Security error (unsuccessful authentication);
- '06' = Requested SIM/ME interface transport level not available.
- 'xx' = Service identifier unknown

All other values shall be interpreted by the UICC as '00'.
The coding '00' shall only be used by the ME if no others apply.
[…]

8.25 Event list

Byte(s)	Description	Length
1	Event list tag	1
2 to Y+1	Length (X) of bytes following	Y
Y+2 to X+Y+1	Event list	X

- Event list:
  - contents: A list of events, of variable length. Each byte in the list defines an event. Each event type shall not appear more than once within the list;
  - coding: Each byte in the event list shall be coded with one of the values below:
    - '00' = MT call;
    - '01' = Call connected;
    - '02' = Call disconnected;
    - '03' = Location status;
    - '04' = User activity;
    - '05' = Idle screen available;
    - '06' = Card reader status;
    - '07' = Language selection;
    - '08' = Browser termination;
    - '09' = Data available;
    - '0A' = Channel status;
    - '0B' = Access technology changed;
    - '0C' = Display parameters changed.
    - 'xx' = Local connection

8.63 Service Record

This service record can have different formats that are dependent on the technology they are associated with. This object can be used in both directions (ME to UICC or UICC to ME), when a USAT application needs to declare a service that it supports (DECLARE SERVICE command) and when USAT application searches for a service (GET SERVICE INFORMATION).

Byte(s)	Description	Length
1	Item tag	1
2 to Y+1	Length (X+2)	Y
Y+2	Local Bearer technology identifier	1
Y+3	Service Identifier	1
Y+4 to Y+X+3	Service Record	X

- Local Bearer Technology identifier

- Technology independent: '00'
- Bluetooth : '01'
- IrDA : '02'
- RS232 : '03'
- USB : '04'
- RFU : '05' to 'FF'

- Service identifier

- When declaring a service, the UICC associates a Service Identifier to the Service Record. When the Service Record TLV is returned in response to GET SERVICE INFORMATION, Service Identifier shall be set to 'FF'.

- '00' to '07' Service x (0 to 7). Value assigned by USIM.
- 'FF' = Service Record related to the service provided by a remote device.
- Other value reserved for future use.

- Service Record:

When the Service Record field is not meaningful, it shall be assigned the value = '00'

- **Technology Independent**:
  RFU

- **Bluetooth:**
  In Bluetooth a Service record gives all needed information that must be used by a device to connect and use this service.
  The full description of the coding of these records is given in the Bluetooth Specification in the SDP section [27]. When Service Record is returned in response to GET SERVICE INFORMATION, it corresponds to the AttributeList parameter contained in the SDP_ServiceAttributeResponse PDU [27].
  Strings should be limited to 20 bytes because of the T=0 protocol limitation (255 bytes) and because the service record may include several text strings with length possibly higher than 255 bytes.
- **IrDA:**
  RFU

- **RS232:**
  RFU

- **USB:**
  RFU

Depending on the proactive command, the parameters of this TLV could be either meaningful or optional. The following table indicates in which case the parameters are required.

Proactive command	Service Identifier required	Service Record field required
DECLARE SERVICE (add)	Yes	Yes
DECLARE SERVICE (delete)	Yes	No (value '00' assigned)
Terminal response of a GET SERVICE INFORMATION	No (value 'FF' assigned)	Yes
OPEN CHANNEL (client)	No (value 'FF' assigned)	Yes
OPEN CHANNEL (server)	Yes	No (value '00' assigned)
Local Connection event	Yes	No (value '00' assigned)

8.X Remote Entity Address

Byte(s)	Description	Length
1	Item tag	1
2 to Y+1	Length (X+1)	Y
Y+2	Coding Type	1
Y+3 to Y+X+2	Remote Entity address	X

- Coding Type
  - '00' : IEEE-802 48-bit address
  - '01' to 'FF' are reserved values
- Remote Entity Address according to Coding Type

9 Tag values

This clause specifies the tag values used to identify the BER-TLV and SIMPLE-TLV data objects used in the present document.

9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
[...]	...	...	...
Card reader identifier tag	1	'3A'	'3A' or 'BA'
not used	-	'3B'	-
USIM/ME interface transport level	1	'3C'	'3C' or 'BC'
not used	-	'3D'	-
Other address (data destination address)	1	'3E'	'3E' or 'BE'
Access Technology tag	1	'3F'	'3F' or 'BF'
Service Record	1	'xx'	'xx' or 'xy'

9.4 Type of Command and Next Action Indicator

The table below shows the values which shall be used for Type of Command coding (see subclause 8.6) and Next Action Indicator coding (see subclause 8.24).

Value	Name	used for Type of Command coding	used for Next Action Indicator coding
'00'		-	-
'01'	REFRESH	X	
'02'	MORE TIME	X	
'03'	POLL INTERVAL	X	
'04'	POLLING OFF	X	
'05'	SET UP EVENT LIST	X	
'10'	SET UP CALL	X	X
'11'	SEND SS	X	X
'12'	SEND USSD	X	X
'13'	SEND SHORT MESSAGE	X	X
'14'	SEND DTMF	X	
'15'	LAUNCH BROWSER	X	X
'20'	PLAY TONE	X	X
'21'	DISPLAY TEXT	X	X
'22'	GET INKEY	X	X
'23'	GET INPUT	X	X
'24'	SELECT ITEM	X	X
'25'	SET UP MENU	X	X
'26'	PROVIDE LOCAL INFORMATION	X	
'27'	TIMER MANAGEMENT	X	
'28'	SET UP IDLE MODEL TEXT	X	X
'30'	PERFORM CARD APDU	X	X
'31'	POWER ON CARD	X	X
'32'	POWER OFF CARD	X	X
'33'	GET READER STATUS	X	X
'34'	RUN AT COMMAND	X	
'35'	LANGUAGE NOTIFICATION	X	
'40'	OPEN CHANNEL	X	X
'41'	CLOSE CHANNEL	X	X
'42'	RECEIVE DATA	X	X
'43'	SEND DATA	X	X
'44'	GET CHANNEL STATUS	X	X
'45'	DECLARE SERVICE	X	
'81'	End of the proactive session	not applicable	X

10 Allowed Type of command and Device identity combinations

Only certain types of commands can be issued with certain device identities. These are defined below.

Command description	Source	Destination
CALL CONTROL	ME	UICC
CELL BROADCAST DOWNLOAD	Network	UICC
COMMAND RESULT	ME	UICC
DISPLAY TEXT	UICC	Display
EVENT DOWNLOAD		
- MT call	Network	UICC
- Call connected at near end (MT call)	ME	UICC
- Call connected at far end (MO call)	Network	UICC
- Call disconnected at near end	ME	UICC
- Call disconnected at far end	Network	UICC
- Location status	ME	UICC
- User activity	ME	UICC
- Idle screen available	Display	UICC
- Card reader status	ME	UICC
- language selection	ME	UICC
- data available	ME	UICC
- channel status	ME	UICC
- local connection	Network	UICC
GET INKEY	UICC	ME
GET INPUT	UICC	ME
GET READER STATUS	UICC	ME or Card reader x
LANGUAGE NOTIFICATION	UICC	ME
LAUNCH BROWSER	UICC	ME
MENU SELECTION	Keypad	UICC
...	...	...
RECEIVE DATA	UICC	Channel x
SEND DATA	UICC	Channel x
GET CHANNEL STATUS	UICC	ME
DECLARE SERVICE	UICC	ME
NOTE: The ME may route the tone to other loudspeakers (external ringer, car kit) if more appropriate.		

Annex A (normative): Support of USAT by Mobile Equipment

Support of USAT is optional for Mobile Equipment. However, if an ME states conformancy with a specific 3G release, it is mandatory for the ME to support all functions of that release.
The support of letter classes, which specify mainly ME hardware dependent features, is optional for the ME and may supplement the USAT functionality described in the present document. If an ME states conformancy to a letter class, it is mandatory to support all functions within the respective letter class.
The table below indicates the commands and functions of the the optional letter classes.

Letter classes	Command/function description
a	GET READER STATUS PERFORM CARD APDU POWER ON CARD POWER OFF CARD
b	RUN AT COMMAND
c	LAUNCH BROWSER Browser termination event
d	Soft key support
e	OPEN CHANNEL CLOSE CHANNEL RECEIVE DATA SEND DATA GET CHANNEL STATUS Data available event Channel status event
f	DECLARE SERVICE Local connection event

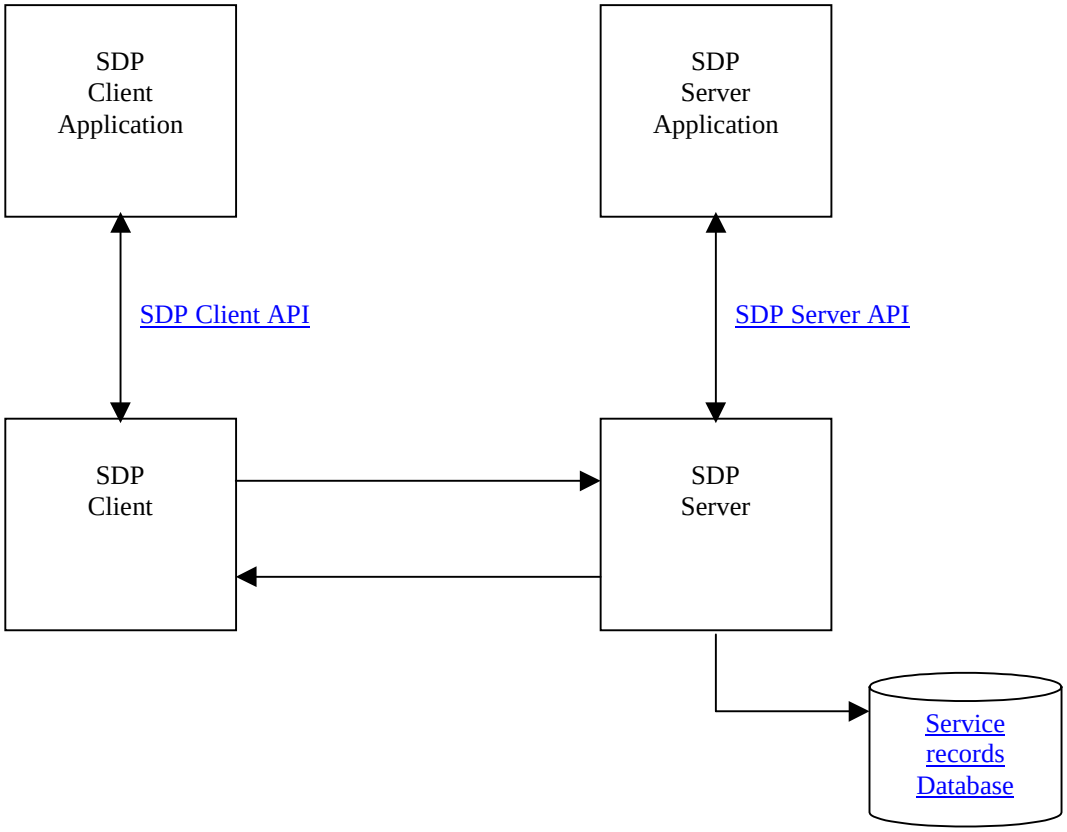
Annex F (informative): Monitoring of events

Some of the events monitored through the event download mechanism are reported by the mobile each time the event occurs, while other events are reported only once (the ME removes the event type from the current event list once the event occurs). This is summarised in the table below.

Event	Continuously reported	Reported once
MT call	X	
Call connected	X	
Call disconnected	X	
Location status	X	
User activity		X
Idle screen available		X
Card reader status	X	
Language selection	X	
Data available	X	
Channel status	X	
Browser termination	X	
Access technology changed	X	
Display parameters changed	X	
Local connection	X	

Annex X (informative): Bluetooth Service Discovery protocol

The service Bluetooth protocol is used to provide a way to get information of services offered by device present in a same Bluetooth environment. Each device providing a service must have a SDP Server software that can be connected by any other device. This connection is set-up by a SDP Client software and is performed in a one to one process.



The server maintains a Service Record Database that describe the characteristics of services associated with the server. Each service record contains information about a single service. A client may retrieve information from a service record maintained by the SDP Server by issuing an SDP request.
The notion of Service Record need to be presented here for a better understanding of function set introduced. We have seen that the SDP server must maintain a list of record describing services present on the device.
The service record consists entirely of a list of service attributes.
A service record handle is a 32-bit number that uniquely identifies each service record within an SDP server.

Service Attribute:

Each service attribute describes a single characteristic of a service. Each service attribute consists of two components: an attribute ID and an attribute value. The set of attributes characterising one service are gathered in a service record. The table below introduces examples of attributes that can be used in a service record.

ServiceClassIdList	Identifies the type of service represented by a service record. In other words, the list of classes of which the service is an instance
ServiceID	Uniquely identifies a specific instance of a service
ProtocolDescriptorList	Specifies the protocol stack(s) that may be used to utilise a service
ProviderName	The textual name of the individual or organisation that provides a service
ServiceName	A text string containing a human readable name for the service
ServiceDescription	A text string describing the service

The USAT application shall provide such record to the SDP server in order to become reachable by any other device. Information shall be presented to the SDP server in the good format (see Bluetooth specification [27]) to be easily integrated in its own Service record Database.

Following is a brief description of the way by which a USAT application could retrieve a service residing on another device.

A Bluetooth device can perform a search by Patterns (Service UUID or Attributes) or by browsing. A service browsing must interact with the user. We here prefer that the USAT application simply sends a search that the SDP Client ME software will perform. The USAT application will perform a Service Search with a service search pattern. A service search pattern is a list of UUIDs used to locate matching service records. The USAT application will prepare PDU(s) that the SDP client software will just have to push to L2CAP layer and to SDP Server software residing on another device. Once the USAT gets the list of services available, it can get further information on the services and then select one to perform an OPEN CHANNEL.

Annex XX (informative):
Use of USAT Bearer independent protocol for local links, server case

This annex applies only if classes "e" and "f" are supported.

UICC	ME	Remote entity
SERVICE DECLARATION		
DECLARE SERVICE (add flag, Service Identifier = X, Service Record PDU) ⟶ ⟵ Terminal Response ()		
OPEN CHANNEL as server		
		⟵ connection request on service identifier X
⟵ Envelope (Local connection) OPEN CHANNEL (Service Identifier = X, Service Record PDU=00) ⟶ ⟵ Terminal Response (Channel identifier)		
RECEIVE DATA		
		⟵ Data (remote connection request)
⟵ ENVELOPE (Data available, Channel Identifier) RECEIVE DATA (Channel identifier, Channel Data length) ⟶ ⟵ Terminal Response(Data<=Length)		
SERVICE REMOVAL		
DECLARE SERVICE (delete flag, Service Identifier, Service Record PDU=00)⟶ ⟵ Terminal Response ()		

CR-Form-v3

CHANGE REQUEST

⌘ **31-111** **CR** **037** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction of Annex A: Support of USAT by Mobile Equipment
Source:	⌘	T3
Work item code:	⌘	***Date:*** ⌘ 31/01/01
Category:	⌘	**A** ***Release:*** ⌘ REL-4

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The letter class definition was not clear, an event download card reader status was missing in the letter class 'a' description.
Summary of change:	⌘	Clarification of the Annex A, correction of the letter class 'a' description
Consequences if not approved:	⌘	Error in the specification

Clauses affected:	⌘	Annex A
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex A (normative): Support of USAT by Mobile Equipment

Support of USAT is optional for Mobile Equipment. However, if an ME states conformancy with a specific 3G release, it is mandatory for the ME to support all functions of that release.

The support of letter classes, which specify mainly ME hardware dependent features, is optional for the ME and may supplement the USAT functionality described in the present document. If an ME states conformancy to a letter class, it is mandatory to support all functions within the respective letter class.

The table below indicates the commands and functions of the ~~the~~ optional letter classes.

Letter classes	Command/function description
a	Proactive command: GET READER STATUS Proactive command: PERFORM CARD APDU Proactive command: POWER ON CARD Proactive command: POWER OFF CARD Event download: Card reader status
b	Proactive command: RUN AT COMMAND
c	Proactive command: LAUNCH BROWSER Event download: Browser termination ~~event~~
d	Soft key support
e	Proactive command: OPEN CHANNEL Proactive command: CLOSE CHANNEL Proactive command: RECEIVE DATA Proactive command: SEND DATA Proactive command: GET CHANNEL STATUS Event download: Data available ~~event~~ Event download: Channel status ~~event~~

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **038** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Alignment with GSM 11.14
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	1 February 2001
Category:	⌘	**A**
Release:	⌘	*REL-4*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Alignment with GSM 11.14
Summary of change:	⌘	TIA/EIA-136 tags which were reserved in GSM 11.14 were not included in 31.111
Consequences if not approved:	⌘	
Clauses affected:	⌘	9.1, 9.3, 9.4
Other specs Affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9 Tag values

This clause specifies the tag values used to identify the BER-TLV and SIMPLE-TLV data objects used in the present document.

9.1 BER-TLV tags in ME to UICC direction

Description	Length of tag	Value
SMS-PP download tag	1	'D1'
Cell Broadcast download tag	1	'D2'
Menu Selection tag	1	'D3'
Call control tag	1	'D4'
MO Short message control tag	1	'D5'
Event download tag	1	'D6'
Timer expiration	1	'D7'
Reserved for TIA/EIA-136	1	'DF'

9.2 BER-TLV tags in UICC TO ME direction

Description	Length of tag	Value
Proactive UICC command tag	1	'D0'

9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Command details tag	1	'01'	'01' or '81'
Device identity tag	1	'02'	'02' or '82'
Result tag	1	'03'	'03' or '83'
Duration tag	1	'04'	'04' or '84'
Alpha identifier tag	1	'05'	'05' or '85'
Address tag	1	'06'	'06' or '86'
Capability configuration parameters tag	1	'07'	'07' or '87'
Subaddress tag	1	'08'	'08' or '88'
SS string tag	1	'09'	'09' or '89'
USSD string tag	1	'0A'	'0A' or '8A'
SMS TPDU tag	1	'0B'	'0B' or '8B'
Cell Broadcast page tag	1	'0C'	'0C' or '8C'
Text string tag	1	'0D'	'0D' or '8D'
Tone tag	1	'0E'	'0E' or '8E'
Item tag	1	'0F'	'0F' or '8F'
Item identifier tag	1	'10'	'10' or '90'
Response length tag	1	'11'	'11' or '91'
File List tag	1	'12'	'12' or '92'
Location Information tag	1	'13'	'13' or '93'
IMEI tag	1	'14'	'14' or '94'
Help request tag	1	'15'	'15' or '95'
Network Measurement Results tag	1	'16'	'16' or '96'
Default Text	1	'17'	'17' or '97'
Items Next Action Indicator tag	1	'18'	'18' only
Event list tag	1	'19'	'19' or '99'
Cause tag	1	'1A'	'1A' or '9A'
Location status tag	1	'1B'	'1B' or '9B'
Transaction identifier tag	1	'1C'	'1C' or '9C'
BCCH channel list tag	1	'1D'	'1D' or '9D'
Icon identifier	1	'1E'	'1E' or '9E'
Item Icon identifier list	1	'1F'	'1F' or '9F'
Card reader status tag	1	'20'	'20' or 'A0'
Card ATR tag	1	'21'	'21' or 'A1'
C-APDU tag	1	'22'	'22' or 'A2'
R-APDU tag	1	'23'	'23' or 'A3'
Timer identifier tag	1	'24'	'24' or 'A4'
Timer value tag	1	'25'	'25' or 'A5'
Date-Time and Time zone tag	1	'26'	'26' or 'A6'
Call control requested action tag	1	'27'	'27' or 'A7'
AT Command tag	1	'28'	'28' or 'A8'
AT Response tag	1	'29'	'29' or 'A9'
BC Repeat Indicator tag	1	'2A'	'2A' or 'AA'
Immediate response tag	1	'2B'	'2B' or 'AB'
DTMF string tag	1	'2C'	'2C' or 'AC'
Language tag	1	'2D'	'2D' or 'AD'
Timing Advance tag	1	'2E'	'2E' or 'AE'
AID tag	1	'2F'	'2F' or 'AF'
Browser Identity tag	1	'30'	'30' or 'B0'
URL tag	1	'31'	'31' or 'B1'
Bearer tag	1	'32'	'32' or 'B2'
Provisioning Reference File tag	1	'33'	'33' or 'B3'
Browser Termination Cause tag	1	'34'	'34' or 'B4'
Bearer description tag	1	'35'	'35' or 'B5'
Channel data tag	1	'36'	'36' or 'B6'
Channel data length tag	1	'37'	'37' or 'B7'
Channel status tag	1	'38'	'38' or 'B8'
Buffer size tag	1	'39'	'39' or 'B9'

Continued…..

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Card reader identifier tag	1	'3A'	'3A' or 'BA'
not used	-	'3B'	-
USIM/ME interface transport level	1	'3C'	'3C' or 'BC'
not used	-	'3D'	-
Other address (data destination address)	1	'3E'	'3E' or 'BE'
Access Technology tag	1	'3F'	'3F' or 'BF'
Reserved for TIA/EIA-136	1	'60'	'60' or 'E0'
Reserved for TIA/EIA-136	1	'61'	'61' or 'E1'

9.4 Type of Command and Next Action Indicator

The table below shows the values which shall be used for Type of Command coding (see subclause 8.6) and Next Action Indicator coding (see subclause 8.24).

Value	Name	used for Type of Command coding	used for Next Action Indicator coding
'00'		-	-
'01'	REFRESH	X	
'02'	MORE TIME	X	
'03'	POLL INTERVAL	X	
'04'	POLLING OFF	X	
'05'	SET UP EVENT LIST	X	
'10'	SET UP CALL	X	X
'11'	SEND SS	X	X
'12'	SEND USSD	X	X
'13'	SEND SHORT MESSAGE	X	X
'14'	SEND DTMF	X	
'15'	LAUNCH BROWSER	X	X
'20'	PLAY TONE	X	X
'21'	DISPLAY TEXT	X	X
'22'	GET INKEY	X	X
'23'	GET INPUT	X	X
'24'	SELECT ITEM	X	X
'25'	SET UP MENU	X	X
'26'	PROVIDE LOCAL INFORMATION	X	
'27'	TIMER MANAGEMENT	X	
'28'	SET UP IDLE MODEL TEXT	X	X
'30'	PERFORM CARD APDU	X	X
'31'	POWER ON CARD	X	X
'32'	POWER OFF CARD	X	X
'33'	GET READER STATUS	X	X
'34'	RUN AT COMMAND	X	
'35'	LANGUAGE NOTIFICATION	X	
'40'	OPEN CHANNEL	X	X
'41'	CLOSE CHANNEL	X	X
'42'	RECEIVE DATA	X	X
'43'	SEND DATA	X	X
'44'	GET CHANNEL STATUS	X	X
'60'	Reserved for TIA/EIA-136	X	X
'81'	End of the proactive session	not applicable	X

3GPP T3 #18
Sophia Antipolis, France, 1-2 March, 2001

Tdoc T3-010248

(Updated version of T3-010204)

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **039** ⌘ rev ⌘ Current version: **4.1.0** ⌘

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Addition of variable timeout to the GetInkey Proactive command
Source:	⌘	Celltick Technologies
Work item code:	⌘	TEI
Date:	⌘	2 March 2001
Category:	⌘	**C**
Release:	⌘	*REL-4 (Release 4)*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ Time sensitive, interactive data services are being developed to provide added value to the users. Such services supply data with relevancy to a specific point in time. Therefore, these services require simple means to achieve fluent synchronization to the rhythm of the service among different MEs. A basic mechanism that provides such behavior is the ability to determine the display duration of a command that captures the screen. Such services require optimal display capabilities when implemented over a limited device.

Summary of change: ⌘ This CR suggests:

- Adding a variable timeout to the Get Inkey command. The USAT requests the ME to terminate the Get Inkey command after a certain timeout if the subscriber did not respond.
- Sending back to the USAT the total display text duration *(command execution duration)* using the TERMINAL RESPONSE.
- The USAT application may request the ME to enable the usage of "Yes/No" keys and/or the digits 0-9, * and # (but not +). When the user has entered a key, the ME shall pass the entered key transparently to the UICC, using TERMINAL pad and dedicate the entire screen for display purposes.

Consequences if not approved: ⌘ As a result of the ME's unpredictable behaviour, the quality of the time-based data service is seriously harmed in two ways: the reliability of the service and its appearance. Its reliability is harmed because an ME with a long display time-out may overflow the intended total time of display for a piece of information, causing that ME to miss the next message's time slot. In terms of appearance, an ME with a short display timeout will reach a total display time that is shorter than the intended total time for that message, causing a non-fluent service. In terms of display capabilities, the amount of displayed data might be reduced by up to 30%.

Clauses affected: ⌘ 5.2, 6.4.2, 6.6.2, 6.8, 6.8.22

Other specs Affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

5.2 Structure and coding of TERMINAL PROFILE

Direction: ME to UICC.

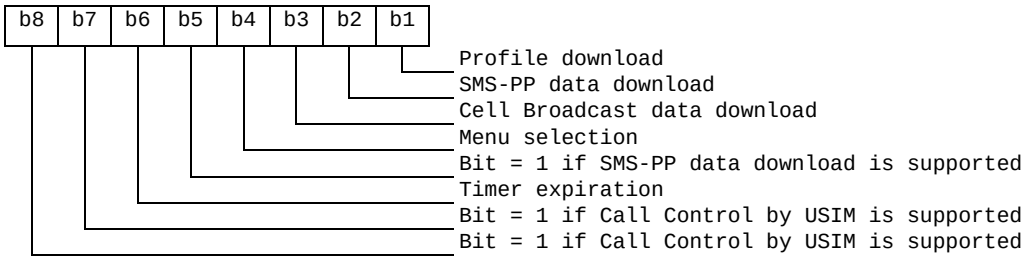
The command header is specified in TS 31.101 [13].

Command parameters/data:

Description	Subclause	M/O/C	Length
Profile	-	M	lgth

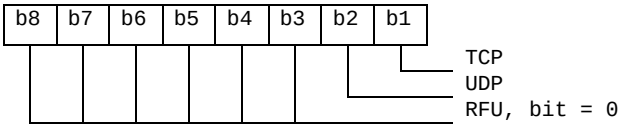
- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

  First byte (Download):

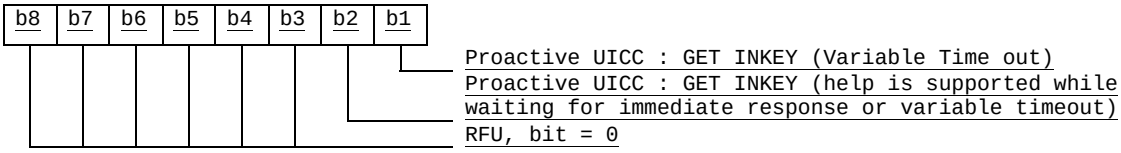


[…]

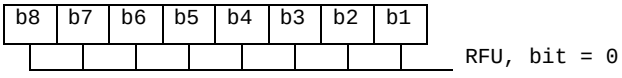
Seventeenth byte: (Bearer independent protocol supported transport interface) for class "e":



Eighteenth byte:



Subsequent bytes:



RFU bits, and all bits of subsequent bytes, are reserved to indicate future facilities. A SIM supporting only the features of SIM Application Toolkit defined here shall not check the value of RFU bits.

Response parameters/data: None.

6.4.2 GET INKEY

This command instructs the ME to display text and/or an icon (see subclause 6.5.4) and to expect the user to enter a single character. Any response entered by the user shall be passed transparently by the ME to the UICC.

The text can be in one of three formats:

- packed format in SMS default alphabet - (see subclause 8.15.2);
- unpacked format in SMS default alphabet - (see subclause 8.15.2);
- UCS2 alphabet format - (see subclause 8.15.3).

The response can be from one of three character sets. This is specified by the UICC:

- digits only (0-9, *, #, and +);
- characters from the SMS default alphabet;
- characters from the UCS2 alphabet.

Upon receiving the command, the ME shall display the text. The ME shall allow the user to enter a single character in response.

- If the user has indicated the need to go backwards in the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Backward move in the proactive UICC session requested by the user" result value.
- If the user has indicated the need to end the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Proactive UICC session terminated by the user" result value.
- If the ME decides that no user response has been received, the ME shall send a TERMINAL RESPONSE with "No response from user" result value.
- If the UICC requests an immediate digit response, the ME shall only allow the user to enter a character that can be entered by a single key press (that means for MEs providing only the keypad as defined in 3G TS 22.030 [2], the digits 0-9, * and # (but not +)). When the user has entered a digit, the ME shall pass the entered digit transparently to the UICC, using TERMINAL RESPONSE. The ME shall not display the entered digit in any way. The ME shall not allow the user to change the entered digit. The ME shall not request the user to confirm the response.

NOTE 1: A larger portion of the screen may be used for display purposes, since the ME shall not display the entered digit in any way.

- If the UICC requests a digit only, the ME shall only allow the user to enter a character from the digits 0-9, *, # and +. When the user has entered a digit, the ME shall pass the entered digit transparently to the UICC, using TERMINAL RESPONSE.
- If help information is available for the command and if the user has indicated the need to get help information, the ME shall send a TERMINAL RESPONSE with "help information required by the user" result value. Depending of ME implementation, combination with the option "immediate response" and/or the option “variable timeout” may result that the user is unable to request the help.
- The ME support of help information combined with immediate response and/or timeout is indicated in the TERMINAL PROFILE.
- If the UICC requests a character from the SMS default alphabet, the ME shall allow the user to enter a character using characters from this alphabet. When the user has entered a character, the ME shall pass the entered character transparently to the UICC, using TERMINAL RESPONSE.
- If the UICC requests a “Yes/No” response, the ME shall allow the user to enter either a positive or a negative decision using MMI means left to ME manufacturer's choice (keypad, touch screen, softkey,...). The ME may use SEND, ACCEPT or END functions in relation to GET INKEY "Yes/No" response. If used, the SEND and ACCEPT functions as defined in 3G 22.030 [2] shall mean positive decision and the END function as defined in 3G 22.030 [2] shall mean a negative one. Depending on the user's choice, the ME shall pass the positive or a negative value to the UICC, using TERMINAL RESPONSE.

- If the UICC requests a “Yes/No” response together with immediate digit response, the ME shall combine the behaviour of “Yes/No” UICC request with the behaviour of an immediate digit response UICC request.

- If the UICC requests a variable timeout, the ME shall wait until either the user enters a single character or the timeout expires. The timer starts when the text is displayed on the screen and stops when the TERMINAL RESPONSE is sent. The ME shall pass the total display text duration *(command execution duration)* to the UICC using the TERMINAL RESPONSE. The time unit of the response is identical to the time unit of the requested variable timeout. The timeout may be used with other options of this command. The variable timeout does not affect TERMINAL RESPONSE values that are deriving from other chosen options of this command. ME support of this feature is indicated in the PROFILE DOWNLOAD. The behaviour of MEs that do not support this feature is dependent on the Comprehension Required flag.

NOTE 2: If the MMI of the ME requires more than one keypress in order to select a character, it is an implementation decision for the ME manufacturer how to indicate completion (e.g. timeout, pressing SEND, OK). It may be useful to echo the input character on the display.

For digits only (0-9,*,# and +) and SMS default alphabet characters sets, the response shall be coded using the SMS default alphabet in unpacked format.

[…]

6.6.2 GET INKEY

Description	Subclause	M/O/C	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Text string	8.15	M	Y	C
Icon identifier	8.31	O	N	D
Duration	8.8	O	N	E

- Text string:

  - Contents: text for the ME to display in conjunction with asking the user to respond.

- Duration:

- Contents: the duration for execution of the command before the timeout expires.

- Resolution and the precision of the time value are in accordance with subclause 6.4.21 Timer Management

[…]

6.8 Structure of TERMINAL RESPONSE

Direction: ME to UICC.

The command header is specified in TS 31.101 [13]. Length (A+B+ … +W~~V~~) is indicated by P3 of the header.

Command parameters/data.

Description	Subclause	M/O/C	Min	Length
Command details	8.6	M	Y	A
Device identities	8.7	M	N	B
Result	8.12	M	Y	C

[…]

Buffer size (only required in response to OPEN CHANNEL proactive command)	8.55	C	N	V
Total display duration (only required in response to a GET INKEY proactive	8.8	C	N	W

command)				

[…]

6.8.22 Total Display Duration

When the ME issues a TERMINAL RESPONSE for a GET INKEY proactive command with variable timeout, it shall supply the total display text duration *(command execution duration)*. The time unit of the response is identical to the time unit of the requested variable timeout.

Resolution and the precision of the time value are in accordance with subclause 6.4.21 Timer Management.

[…]

3GPP T3 meeting #18
Sophia Antipolis, 1 - 2 March, 2001

Tdoc T3-010242
(Revised version of Tdoc T3-010177)

CR-Form-v3

CHANGE REQUEST

⌘ **31.111** **CR** **CR-040** ⌘ rev ⌘ Current version: **4.1.0** ⌘

Proposed change affects: ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Improvement of the PlayTone command
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	2001-03-02
Category:	⌘	**C**
Release:	⌘	*REL-4 (Release 4)*

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The tones played with the PlayTone command do not necessary match the user's settings (silent mode, vibrator switched on).
Summary of change:	⌘	This CR introduces two new proprietary tones: • Ringing tone as selected by the user for incoming speech call, • Alert tone as selected by the user for incoming SMS
Consequences if not approved:	⌘	MEs won't have any standardized way of playing the tones. Some tones may be played in the earpiece instead of an external ringer. Other tones may be played loud when the ME is in silent mode.

Clauses affected:	⌘	8.16		
Other specs Affected:	⌘	[ ] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

8.16 Tone

Editor's Note: Reference on 02.40 must be changed.

Byte(s)	Description	Length
1	Tone tag	1
2	Length = '01'	1
3	Tone	1

- Tone:
  - contents: Tones can be either the standard supervisory tone, as defined in GSM 02.40 [22], or proprietary tones defined by the ME manufacturer. The code values for proprietary tones shall be supported by the ME. If proprietary tones are not supported the ME shall map these codings to tones that it can generate. The tones to be used are left as an implementation decision by the manufacturer;
  - coding:
    - standard supervisory tones:
      - '01' Dial tone;
      - '02' Called subscriber busy;
      - '03' Congestion;
      - '04' Radio path acknowledge;
      - '05' Radio path not available / Call dropped;
      - '06' Error / Special information;
      - '07' Call waiting tone;
      - '08' Ringing tone.
    - ME proprietary tones:
      - '10' General beep;
      - '11' Positive acknowledgement tone;
      - '12' Negative acknowledgement or error tone~~.~~,
      - '13' Ringing tone as selected by the user for incoming speech call,
      - '14' Alert tone as selected by the user for incoming SMS.

All other values are reserved.