TSG-RAN Meeting #20　　　　　　　　　　　　　　　　　　*RP-030284*
Hämeenlinna, Finland, 03-06 June 2003

Title:　　　　**'Out of Service behaviour' CRs (CRs to TS 25.331) – Solution 1**

Source:　　　　**TSG-RAN WG2**

Agenda item:　　　**7.2.2**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	1964	1	R99	Setting of T317 to infinity	F	3.14.0	3.15.0	R2-031449	TEI
25.331	1965	1	Rel-4	Setting of T317 to infinity	A	4.9.0	4.10.0	R2-031450	TEI
25.331	1966	1	Rel-5	Setting of T317 to infinity	F	5.4.0	5.5.0	R2-031451	TEI5

CR-Form-v7

CHANGE REQUEST

⌘ **25.331 CR 1964** ⌘**rev 1** ⌘ Current version: **3.14.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ **ME X** Radio Access Network **X** Core Network ☐

Title:	⌘	Setting of T317 to infinity		
Source:	⌘	RAN WG2		
Work item code:⌘	TEI		**Date:** ⌘	19 May 2003
Category:	⌘ **F**		**Release:** ⌘	R99

Use <u>one</u> of the following categories:
F (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 <u>one</u> 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)
Rel-6 (Release 6)

Reason for change:	⌘	Setting T317 to infinity can help to avoid the release of the RRC connection in situations where all radio coverage is lost (e.g. elevator, underground car park, etc). In such cases, when T317 expires, the UE would go to idle mode while UTRAN would still believe that it is still in RRC connected state.
Summary of change:⌘		All the values of T317 should be interpreted as "infinity" **Isolated Impact Change Analysis.** This change clarifies the out of service procedure. If the UE does not implement the CR and UTRAN does implement it, the UE may go to idle mode at the T317 expiry, potentially resulting in the loss of UTRAN originated pages. If the UE implements the CR and and UTRAN does not implement it, there would be no problems, since UTRAN may not be aware that the UE is out of service. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	UEs may go to idle mode without UTRAN being aware of it. After a UE goes to idle mode at the T317 expiry, it could lose UTRAN originated pages.

Clauses affected:	⌘	8.5.5.4, 10.3.3.43, 11.3

		Y N	
Other specs	⌘	☐ **X**	Other core specifications ⌘
affected:		☐ **X**	Test specifications

	X	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/specs/CR.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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

[…]

8.5.5.4 T317 expiry

T317 should never expire, i.e. all its value should be assumed to be "infinity".

When the T317 expires, the UE shall:

1> move to idle mode;

1> release all dedicated resources;

1> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;

1> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

1> clear the variable ESTABLISHED_RABS;

1> perform actions specified in subclause 8.5.2 when entering idle mode from connected mode.

[…]

10.3.3.43 UE Timers and Constants in connected mode

This information element specifies timer- and constants values used by the UE in connected mode.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
T301	MD		Integer(100, 200 .. 2000 by step of 200, 3000, 4000, 6000, 8000)	Value in milliseconds. Default value is 2000. This IE should not be used by the UE in this release of the protocol. One spare value is needed.
N301	MD		Integer(0..7)	Default value is 2. This IE should not be used by the UE in this release of the protocol.
T302	MD		Integer(100, 200... 2000 by step of 200, 3000, 4000, 6000, 8000)	Value in milliseconds. Default value is 4000. One spare value is needed.
N302	MD		Integer(0..7)	Default value is 3.
T304	MD		Integer(100, 200, 400, 1000, 2000)	Value in milliseconds. Default value is 2000. Three spare values are needed.
N304	MD		Integer(0..7)	Default value is 2..
T305	MD		Integer(5, 10, 30, 60, 120, 360, 720, infinity)	Value in minutes. Default value is 30. Infinity means no update
T307	MD		Integer(5, 10, 15, 20, 30, 40, 50)	Value in seconds. Default value is 30. One spare value is needed.
T308	MD		Integer(40, 80, 160, 320)	Value in milliseconds. Default value is 160.
T309	MD		Integer(1…8)	Value in seconds. Default value is 5.
T310	MD		Integer(40 .. 320 by step of 40)	Value in milliseconds. Default value is 160.
N310	MD		Integer(0 ..	Default value is 4.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			7)	
T311	MD		Integer(250 .. 2000 by step of 250)	Value in milliseconds. Default value is 2000.
T312	MD		Integer (0..15)	Value in seconds. Default value is 1. The value 0 is not used in this version of the specification.
N312	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200, 400, 600, 800, 1000)	Default value is 1.
T313	MD		Integer (0..15)	Value in seconds. Default value is 3.
N313	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200)	Default value is 20.
T314	MD		Integer(0, 2, 4, 6, 8, 12, 16, 20)	Value in seconds. Default value is 12.
T315	MD		Integer (0,10, 30, 60, 180, 600, 1200, 1800)	Value in seconds. Default value is 180.
N315	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200, 400, 600, 800, 1000)	Default value is 1.
T316	MD		Integer(0, 10, 20, 30, 40, 50, infinity)	Value in seconds. Default value is 30. One spare value is needed.
T317	MD		Integer (0,10, 30, 60, 180, 600, 1200, 1800)	Value in seconds Default value is 180. In this version of the protocol all the values should be interpreted as "infinity".

[…]

11.3   Information element definitions

[…]

```
-- All the values should be interpreted as "infinity"
T-317 ::=                          ENUMERATED {
                    s0, s10, s30, s60, s180,
                    s600, s1200, s1800 }
```
[…]

CR-Form-v7

CHANGE REQUEST

⌘ **25.331 CR 1965** ⌘**rev 1** ⌘ Current version: **4.9.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Setting of T317 to infinity	
Source: ⌘	RAN WG2	
Work item code: ⌘	TEI	**Date:** ⌘ 19 May 2003

Category: ⌘ **A**

Use <u>one</u> of the following categories:
F (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.

Release: ⌘ Rel-4

Use <u>one</u> 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)
Rel-6 (Release 6)

Reason for change: ⌘	Setting T317 to infinity can help to avoid the release of the RRC connection in situations where all radio coverage is lost (e.g. elevator, underground car park, etc). In such cases, when T317 expires, the UE would go to idle mode while UTRAN would still believe that it is still in RRC connected state.
Summary of change: ⌘	All the values of T317 should be interpreted as "infinity" **Isolated Impact Change Analysis.** This change clarifies the out of service procedure. If the UE does not implement the CR and UTRAN does implement it, the UE may go to idle mode at the T317 expiry, potentially resulting in the loss of UTRAN originated pages. If the UE implements the CR and and UTRAN does not implement it, there would be no problems, since UTRAN may not be aware that the UE is out of service. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved: ⌘	UEs may go to idle mode without UTRAN being aware of it. After a UE goes to idle mode at the T317 expiry, it could lose UTRAN originated pages.
Clauses affected: ⌘	8.5.5.4, 10.3.3.43, 11.3

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	

	X	O&M Specifications	

Other comments: ⌘

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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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

[…]

8.5.5.4 T317 expiry

T317 should never expire, i.e. all its value should be assumed to be "infinity".

When the T317 expires, the UE shall:

1> move to idle mode;

1> release all dedicated resources;

1> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;

1> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

1> clear the variable ESTABLISHED_RABS;

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[…]

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Information Element/Group name	Need	Multi	Type and reference	Semantics description
T301	MD		Integer(100, 200 .. 2000 by step of 200, 3000, 4000, 6000, 8000)	Value in milliseconds. Default value is 2000. This IE should not be used by the UE in this release of the protocol. One spare value is needed.
N301	MD		Integer(0..7)	Default value is 2. This IE should not be used by the UE in this release of the protocol.
T302	MD		Integer(100, 200... 2000 by step of 200, 3000, 4000, 6000, 8000)	Value in milliseconds. Default value is 4000. One spare value is needed.
N302	MD		Integer(0..7)	Default value is 3.
T304	MD		Integer(100, 200, 400, 1000, 2000)	Value in milliseconds. Default value is 2000. Three spare values are needed.
N304	MD		Integer(0..7)	Default value is 2..
T305	MD		Integer(5, 10, 30, 60, 120, 360, 720, infinity)	Value in minutes. Default value is 30. Infinity means no update
T307	MD		Integer(5, 10, 15, 20, 30, 40, 50)	Value in seconds. Default value is 30. One spare value is needed.
T308	MD		Integer(40, 80, 160, 320)	Value in milliseconds. Default value is 160.
T309	MD		Integer(1…8)	Value in seconds. Default value is 5.
T310	MD		Integer(40 .. 320 by step of 40)	Value in milliseconds. Default value is 160.
N310	MD		Integer(0 ..	Default value is 4.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			7)	
T311	MD		Integer(250 .. 2000 by step of 250)	Value in milliseconds. Default value is 2000.
T312	MD		Integer (0..15)	Value in seconds. Default value is 1. The value 0 is not used in this version of the specification.
N312	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200, 400, 600, 800, 1000)	Default value is 1.
T313	MD		Integer (0..15)	Value in seconds. Default value is 3.
N313	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200)	Default value is 20.
T314	MD		Integer(0, 2, 4, 6, 8, 12, 16, 20)	Value in seconds. Default value is 12.
T315	MD		Integer (0,10, 30, 60, 180, 600, 1200, 1800)	Value in seconds. Default value is 180.
N315	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200, 400, 600, 800, 1000)	Default value is 1.
T316	MD		Integer(0, 10, 20, 30, 40, 50, infinity)	Value in seconds. Default value is 30. One spare value is needed.
T317	MD		Integer (0,10, 30, 60, 180, 600, 1200, 1800)	Value in seconds Default value is 180. In this version of the protocol all the values should be interpreted as "infinity".

[…]

11.3   Information element definitions

[…]

```
-- All the values should be interpreted as "infinity"
T-317 ::=                            ENUMERATED {
                     s0, s10, s30, s60, s180,
                     s600, s1200, s1800 }
```

[…]

CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.331** CR **1966** | ⌘**rev** **1** | ⌘ Current version: **5.4.0** ⌘ |

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

Proposed change affects: UICC apps⌘ ☐ ME **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Setting of T317 to infinity	
Source: ⌘	RAN WG2	
Work item code: ⌘	TEI5	**Date:** ⌘ 19 May 2003
Category: ⌘ **F**		**Release:** ⌘ Rel-5

Use <u>one</u> of the following categories:
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A (corresponds to a correction in an earlier release)
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Reason for change: ⌘	Setting T317 to infinity can help to avoid the release of the RRC connection in situations where all radio coverage is lost (e.g. elevator, underground car park, etc). In such cases, when T317 expires, the UE would go to idle mode while UTRAN would still believe that it is still in RRC connected state.
Summary of change: ⌘	All the values of T317 shall be interpreted as "infinity" **Isolated Impact Change Analysis.** This change clarifies the out of service procedure. If the UE does not implement the CR and UTRAN does implement it, the UE may go to idle mode at the T317 expiry, potentially resulting in the loss of UTRAN originated pages. If the UE implements the CR and and UTRAN does not implement it, there would be no problems, since UTRAN may not be aware that the UE is out of service. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved: ⌘	UEs may go to idle mode without UTRAN being aware of it. After a UE goes to idle mode at the T317 expiry, it could lose UTRAN originated pages.
Clauses affected: ⌘	8.5.5.4, 10.3.3.43, 11.3

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

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[…]

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Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
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N301	MD		Integer(0..7)	Default value is 2. This IE should not be used by the UE in this release of the protocol.	
T302	MD		Integer(100, 200... 2000 by step of 200, 3000, 4000, 6000, 8000)	Value in milliseconds. Default value is 4000. One spare value is needed.	
N302	MD		Integer(0..7)	Default value is 3.	
T304	MD		Integer(100, 200, 400, 1000, 2000)	Value in milliseconds. Default value is 2000. Three spare values are needed.	
N304	MD		Integer(0..7)	Default value is 2..	
T305	MD		Integer(5, 10, 30, 60, 120, 360, 720, infinity)	Value in minutes. Default value is 30. Infinity means no update	
T307	MD		Integer(5, 10, 15, 20, 30, 40, 50)	Value in seconds. Default value is 30. One spare value is needed.	
T308	MD		Integer(40, 80, 160, 320)	Value in milliseconds. Default value is 160.	
T309	MD		Integer(1…8)	Value in seconds. Default value is 5.	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
T310	MD		Integer(40 .. 320 by step of 40)	Value in milliseconds. Default value is 160.	
N310	MD		Integer(0 .. 7)	Default value is 4.	
T311	MD		Integer(250 .. 2000 by step of 250)	Value in milliseconds. Default value is 2000.	
T312	MD		Integer (0..15)	Value in seconds. Default value is 1. The value 0 is not used in this version of the specification.	
N312	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200, 400, 600, 800, 1000)	Default value is 1.	
T313	MD		Integer (0..15)	Value in seconds. Default value is 3.	
N313	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200)	Default value is 20.	
T314	MD		Integer(0, 2, 4, 6, 8, 12, 16, 20)	Value in seconds. Default value is 12.	
T315	MD		Integer (0,10, 30, 60, 180, 600, 1200, 1800)	Value in seconds. Default value is 180.	
N315	MD		Integer (1, 2, 4, 10, 20, 50, 100, 200, 400, 600, 800, 1000)	Default value is 1.	
T316	MD		Integer(0, 10, 20, 30, 40, 50, infinity)	Value in seconds. Default value is 30. One spare value is needed.	
T317	MD		~~Integer (0,10, 30, 60, 180, 600, 1200, 1800)~~	~~Value in seconds~~ Default value is ~~180~~infinity.	
			Enumerated (infinity, infinity, infinity, infinity, infinity, infinity, infinity, infinity)	All the values are changed to "infinity" in Rel-5	REL-5

[…]

11.3   Information element definitions

[…]

```
-- All the values are changed to "infinity" in Rel-5
T-317 ::=                                    ENUMERATED {
                           s0infinity0, s10 infinity1, s30 infinity2, infinity3s60,
infinity4s180,
                           infinity5s600, infinity6s1200, s1800 infinity7}
```

[…]