3GPP TSG_CN **Tdoc NP-000226**
Plenary Meeting #8, Düsseldorf, Germany
21st – 23rd June 2000.

Source: **TSG_N WG 3**

Title: **CRs to 3G Work Item GSM Maintenance**

Agenda item: **6.4.3**

Document for: **APPROVAL**

Introduction:

This document contains **4** CRs on **Work Item GSM Maintenance** that have been agreed by **TSG_N WG 3,** and are forwarded to **TSG_N Plenary** meeting #8 for approval.

Spec	CR	N3-tdoc	Phase	Subject	Cat	Ver_C	Ver_N
04.21	A015	N3-000147	R96	Harmonization of the split/combine function	F	5.6.1	5.7.0
04.21	A016	N3-000146	R97	Harmonization of the split/combine function	C	6.0.0	6.1.0
04.21	A017	N3-000145	R98	Harmonization of the split/combine function	C	7.0.3	7.1.0
04.21	A018	N3-000144	R99	Harmonization of the split/combine function	C	8.0.0	8.1.0

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Berlin, Germany, 10-14 Apr 2000

***Document* N3-000147**
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04.21	CR	A015	Current Version:	5.6.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-N#08	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	X

Source: TSG-CN3 **Date:** 2000-04-10

Subject: Harmonization of the split/combine function

Work item: GSM maintenance

Category: *(only one category shall be marked with an X)*			**Release:**	
F	Correction	X	Phase 2	
A	Corresponds to a correction in an earlier release		Release 96	X
B	Addition of feature		Release 97	
C	Functional modification of feature		Release 98	
D	Editorial modification		Release 99	
			Release 00	

Reason for change: The distribution of RLP frames in the available subchannels is limited to be cyclical for TCH/F9.6 whereas in the newer TCH/F14.4 case is more flexible offering the possibility of optimization of the use of the available channels.

Clauses affected: 10.1.1, 10.1.2

Other specs affected:			
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

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10 The Split/Combine and Padding-functions

10.1 Data frame distribution into the substreams/channels by the Split/Combine function

10.1.1 Data frame distribution into the substreams/channels by the Split/Combine function (TCH/F9.6 and TCH/F4.8 channel codings)

a) In the transparent case the Split/Combine-function distributes the V.110-frames into the substreams and recombines the overall data stream from the substreams according to the following rules:

In the overall data stream

1) the frame in position p in substream q preceeds the frame in position p in substream q+1,0≤ q < n-1

2) the frame in position p in substream n-1 preceeds the frame in position p+1 in substream 0;

where in the rules above n is the number of substreams.

b) In the non-transparent case the Split/Combine-function distributes the RLP-frames — or the four V.110-frames making up an RLP-frame (Reference: GSM 08.20, Clause 10) — into channels so that one whole RLP-frame is carried through one channel. Furthermore the RLP-frames are distributed into the available channels so that the resulting delay in the overall data stream is kept as small as possible. ~~cyclically; i.e. the frames are sent in the available time slots in a recurring sequence in which only every nth RLP-frame is sent through the same channel (n is the number of the available time slots).~~ The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).

10.1.2 Data block distribution into the substreams by the Split/Combine function (TCH/F14.4 channel coding)

a) Transparent services

The Split/Combine-function distributes the user data carried in the 290-bit blocks (Refer to subclause 8.1.1.2) into the substreams and recombines the overall data stream from the substreams according to the following rules:

In the overall data stream:

1) the data block in position m of multiframe in substream q precedes the data block in position m of multiframe in substream q+1, 0≤ q < n-1, 0≤m≤30.

2) the data block in position m of multiframe in substream n-1 precedes the data block in position m+1 of multiframe in substream 0;

where in the rules above n is the number of substreams.

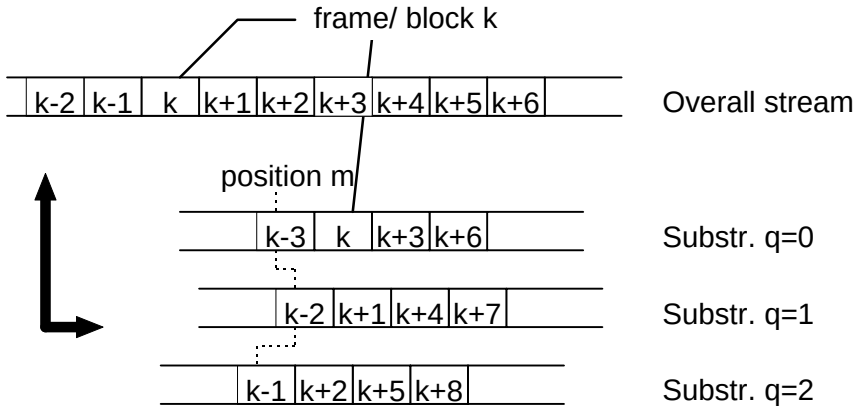

Figure 2a: Distribution of data frames or data blocks into the substreams in transparent operation

b) Non-transparent services

In the non-transparent operation the Split/Combine-function distributes the RLP-frames into substreams so that one whole RLP-frame is carried through one substream. This means that the two 290-bit air-interface blocks carrying one RLP-frame are transmitted through the same substream. Furthermore the RLP-frames are distributed into the available substreams so that the resulting delay in the overall data stream is kept as small as possible. The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).

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***Document* N3-000146**
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04.21	CR	A016	Current Version:	6.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-N#08	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	X

Source: TSG-CN3 **Date:** 2000-04-10

Subject: Harmonization of the split/combine function

Work item: GSM maintenance

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	X
Release 98	
Release 99	
Release 00	

Reason for change: The distribution of RLP frames in the available subchannels is limited to be cyclical for TCH/F9.6 whereas in the newer TCH/F14.4 case is more flexible offering the possibility of optimization of the use of the available channels.

Clauses affected: 10.1.1, 10.1.2

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

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10 The Split/Combine and Padding-functions

10.1 Data frame distribution into the substreams/channels by the Split/Combine function

10.1.1 Data frame distribution into the substreams/channels by the Split/Combine function (TCH/F9.6 and TCH/F4.8 channel codings)

a) In the transparent case the Split/Combine-function distributes the V.110-frames into the substreams and recombines the overall data stream from the substreams according to the following rules:

In the overall data stream

1) the frame in position p in substream q preceeds the frame in position p in substream q+1,0≤ q < n-1

2) the frame in position p in substream n-1 preceeds the frame in position p+1 in substream 0;

where in the rules above n is the number of substreams.

b) In the non-transparent case the Split/Combine-function distributes the RLP-frames — or the four V.110-frames making up an RLP-frame (Reference: GSM 08.20, Clause 10) — into channels so that one whole RLP-frame is carried through one channel. Furthermore the RLP-frames are distributed into the available channels so that the resulting delay in the overall data stream is kept as small as possible.~~cyclically; i.e. the frames are sent in the available time slots in a recurring sequence in which only every nth RLP frame is sent through the same channel (n is the number of the available time slots).~~ The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).

10.1.2 Data block distribution into the substreams by the Split/Combine function (TCH/F14.4 channel coding)

a) Transparent services

The Split/Combine-function distributes the user data carried in the 290-bit blocks (Refer to subclause 8.1.1.2) into the substreams and recombines the overall data stream from the substreams according to the following rules:

In the overall data stream:

1) the data block in position m of multiframe in substream q precedes the data block in position m of multiframe in substream q+1, 0≤ q < n-1, 0≤m≤30.

2) the data block in position m of multiframe in substream n-1 precedes the data block in position m+1 of multiframe in substream 0;

where in the rules above n is the number of substreams.

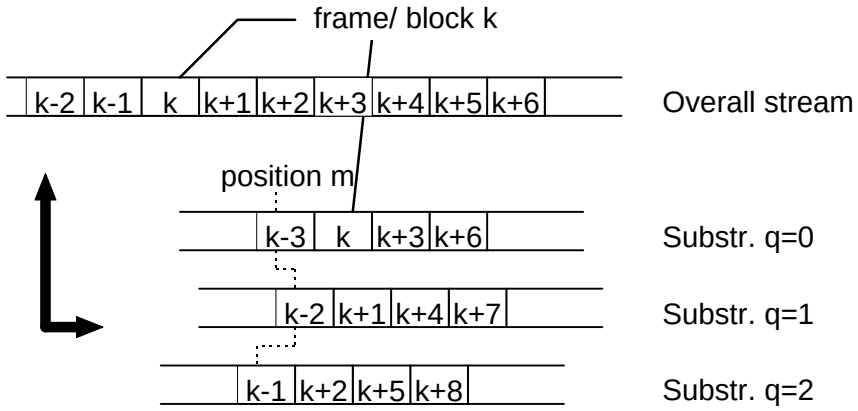

Figure 2a: Distribution of data frames or data blocks into the substreams in transparent operation

b) Non-transparent services

In the non-transparent operation the Split/Combine-function distributes the RLP-frames into substreams so that one whole RLP-frame is carried through one substream. This means that the two 290-bit air-interface blocks carrying one RLP-frame are transmitted through the same substream. Furthermore the RLP-frames are distributed into the available substreams so that the resulting delay in the overall data stream is kept as small as possible. The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).

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04.21	CR	A017	Current Version:	7.0.3

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-N#08	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	X

Source: TSG-CN3 **Date:** 2000-04-10

Subject: Harmonization of the split/combine function

Work item: GSM maintenance

Category: *(only one category shall be marked with an X)*			**Release:**	
F	Correction		Phase 2	
A	Corresponds to a correction in an earlier release	X	Release 96	
B	Addition of feature		Release 97	
C	Functional modification of feature		Release 98	X
D	Editorial modification		Release 99	
			Release 00	

Reason for change: The distribution of RLP frames in the available subchannels is limited to be cyclical for TCH/F9.6 whereas in the newer TCH/F14.4 case is more flexible offering the possibility of optimization of the use of the available channels.

Clauses affected: 10.1.1, 10.1.2

Other specs affected:			
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:


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10.1 Data frame distribution into the substreams/channels by the Split/Combine function

10.1.1 Data frame distribution into the substreams/channels by the Split/Combine function (TCH/F9.6 and TCH/F4.8 channel codings)

a) In the transparent case the Split/Combine-function distributes the V.110-frames into the substreams and recombines the overall data stream from the substreams according to the following rules:

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where in the rules above n is the number of substreams.

b) In the non-transparent case the Split/Combine-function distributes the RLP-frames — or the four V.110-frames making up an RLP-frame (Reference: GSM 08.20, Clause 10) — into channels so that one whole RLP-frame is carried through one channel. Furthermore the RLP-frames are distributed into the available channels so that the resulting delay in the overall data stream is kept as small as possible. ~~cyclically; i.e. the frames are sent in the available time slots in a recurring sequence in which only every nth RLP-frame is sent through the same channel (n is the number of the available time slots).~~ The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).

10.1.2 Data block distribution into the substreams by the Split/Combine function (TCH/F14.4 channel coding)

a) Transparent services

The Split/Combine-function distributes the user data carried in the 290-bit blocks (Refer to subclause 8.1.1.2) into the substreams and recombines the overall data stream from the substreams according to the following rules:

In the overall data stream:

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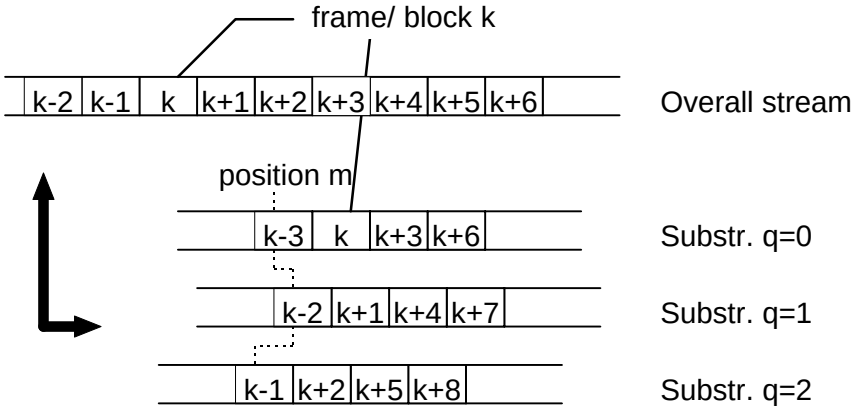

Figure 2a: Distribution of data frames or data blocks into the substreams in transparent operation

b) Non-transparent services

In the non-transparent operation the Split/Combine-function distributes the RLP-frames into substreams so that one whole RLP-frame is carried through one substream. This means that the two 290-bit air-interface blocks carrying one RLP-frame are transmitted through the same substream. Furthermore the RLP-frames are distributed into the available substreams so that the resulting delay in the overall data stream is kept as small as possible. The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).

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04.21	CR	A018	Current Version:	8.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-N#08	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	X

Source: TSG-CN3 **Date:** 2000-04-10

Subject: Harmonization of the split/combine function

Work item: GSM maintenance

Category: *(only one category shall be marked with an X)*			**Release:**	
F	Correction		Phase 2	
A	Corresponds to a correction in an earlier release	X	Release 96	
B	Addition of feature		Release 97	
C	Functional modification of feature		Release 98	
D	Editorial modification		Release 99	X
			Release 00	

Reason for change: The distribution of RLP frames in the available subchannels is limited to be cyclical for TCH/F9.6 whereas in the newer TCH/F14.4 case is more flexible offering the possibility of optimization of the use of the available channels.

Clauses affected: 11.1.1

Other specs affected:			
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:


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11.1 Data frame distribution into the substreams/channels by the Split/Combine function

11.1.1 Data frame distribution into the substreams/channels by the Split/Combine function (TCH/F9.6 and TCH/F4.8 channel codings)

a) In the transparent case the Split/Combine-function distributes the V.110-frames into the substreams and recombines the overall data stream from the substreams according to the following rules:

In the overall data stream

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where in the rules above n is the number of substreams.

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11.1.2 Data block distribution into the substreams by the Split/Combine function (TCH/F14.4 channel coding)

a) Transparent services

The Split/Combine-function distributes the user data carried in the 290-bit blocks (Refer to subclause 8.1.1.2) into the substreams and recombines the overall data stream from the substreams according to the following rules:

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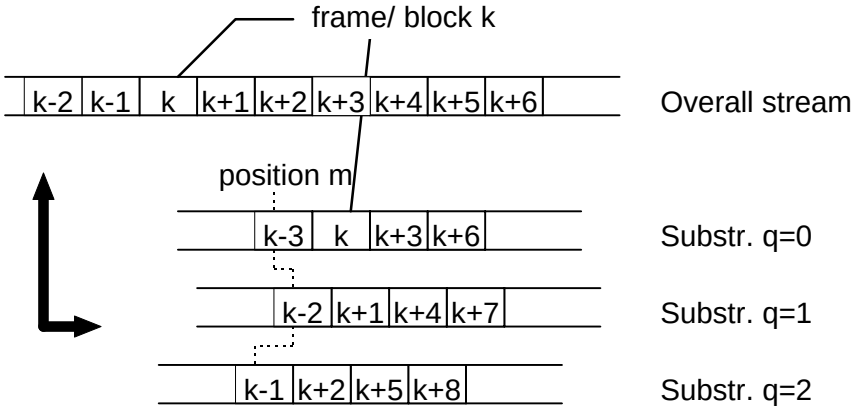

Figure 2a: Distribution of data frames or data blocks into the substreams in transparent operation

b) Non-transparent services

In the non-transparent operation the Split/Combine-function distributes the RLP-frames into substreams so that one whole RLP-frame is carried through one substream. This means that the two 290-bit air-interface blocks carrying one RLP-frame are transmitted through the same substream. Furthermore the RLP-frames are distributed into the available substreams so that the resulting delay in the overall data stream is kept as small as possible. The receiving Split/Combine-function recombines the overall data stream according to the inherent RLP-frame numbering, i.e. the N(S)-numbers in the RLP-frame header (GSM 04.22).