Technical Specification Group Services and System Aspects
Meeting #19, Birmingham, UK, 17-20 March 2003

TSGS#19(03)0033

Source: **SA1**

Title: **CR to 22.950 addressing progression of priority level when interworking with external networks (Rel-6)**

Document for: **Approval**

Agenda Item: **7.1.3**

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-030033	22.950	006	-	Rel-6	C	CR to TS 22.950 addressing progression of priority level when interworking with external networks	6.1.0	6.2.0	S1-030185

CR-Form-v7

CHANGE REQUEST

⌘ **22.950** **CR** **006** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

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

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

Title:	⌘	Progression of priority level when interworking with external networks
Source:	⌘	SA1 (Ericsson)
Work item code:	⌘	PRIOR-FS
Date:	⌘	21/01/2003
Category:	⌘	**C**
Release:	⌘	Rel-6

Use one 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 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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	For priority calls to be set up properly to or from external networks, the priority level has to be signalled transparently through all networks involved. To achieve this it is specified that the 3GPP eMLPP service shall interwork with priority services supported within the external networks (e.g. the ISDN MLPP service.) For external networks which support priority services that do not require a transparent transfer of the priority level through the network, this implies that network operators need to agree on the mapping of priority level indications between their respective networks. This should be indicated in the table showing the eMLPP support for the Priority Service.
Summary of change:	⌘	Relevant text added in the table in 6.2.2.
Consequences if not approved:	⌘	TR 22.950 doesn't show that inter-network operator agreements are needed to fulfill the requirements for inter-network Priority calls.

Clauses affected:	⌘	6.2.2			
Other specs affected:	⌘	**Y**	**N**		
			N	Other core specifications	⌘
			N	Test specifications	
			N	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.

6.2.2 Support for Priority Service

The following table identifies eMLPP support for Priority Service.

Table 5: eMLPP Gap Analysis

Priority Service Requirement Item	Description	eMLPP Support	Comments
1 Priority Call Origination	A call shall receive priority treatment (priority access to voice or traffic channels) on the originating side, when the call is setup by a Service User using the priority service dialling procedure described in section 4.9.	Supported	Based on subscribed priority level
2 Priority Call Termination	A call shall receive priority treatment (priority access to voice or traffic channels) on the terminating side, when the call is setup by a Service User using the priority service dialling procedure described in section 4.9.	Supported	Based on priority level of calling party
3 Priority Progression	The user should receive priority call treatment/progression through the mobile network(s). A priority call should be given higher priority over normal calls in the originating mobile network, to interconnected networks supporting priority (including the PSTN) and in the terminating network.	Supported depending on inter-operator agreements	Requires interworking with priority services supported within the interconnected networks (e.g. ISDN MLPP.) Requires special agreements between network operators to achieve transparent progression of priority level between networks.
4 Priority Radio Resource Queuing	When a Priority Service call encounters a "no radio available" condition in the call path involving an access or egress air-interface, or both, and, at call origination, and upon recognition of the Priority Service dialing pattern, the Priority Service call is queued in the cell serving the calling party and processed for the next available radio channel in that cell in accordance with the caller's priority level and call initiation time. at call termination upon recognition of a priority call indication in an incoming call, the Priority Service call is queued in the cell serving the called party and processed for the next available radio channel in that cell in accordance with the call's priority level and arrival time.	Partially Supported	Priority levels with no pre-emption capability allocated shall only have queuing priority 22.067, ch 4. Note: BSS implementations should have internal functionality to handle signaling channels overload, however in case of complete congestion there may not be way to guarantee priority access to network, however due to large capacity of paging and random access channels the complete overload of signaling channels very rare and thus is not likely to be the bottle neck.
5 Priority Level	The subscriber should be assigned one of *n* priority levels. Priority levels are defined as 1, 2, 3,…,*n* , with 1 being the highest priority level and n being the lowest priority level..	Partially supported	Seven priority levels (with five available for subscription). Priority Service priority levels could map to eMLPP priority levels.
6 Invocation on Demand	Priority Service is invoked only when requested and an idle voice or traffic channel required for an origination request is not available.	Supported	If the user has an eMLPP subscription, the call shall have the priority level selected by the user at set-up or the priority level predefined by the subscriber as default priority level by registration.
7 Applicability to Telecommunications Services	Priority Service shall be applicable to voice and data telecommunications services that require a voice or traffic channel assignment.	Supported	eMLPP is a supplementary service and shall be provided to a subscriber for all basic services subscribed to and for which eMLPP applies.
8 Authorization	A subscriber invoking Priority Service on call origination is	Supported	Priority level stored in the SIM.

	authorized based on the caller's subscription. It should also be possible for an additional second level of authentication (e.g., by the use of PIN) to identify that the user is authorized to make a priority call. In this case, authorization of the subscriber may be realized by the usage of a PIN.		
9 Priority Service service code	Priority Service is manually requested by adding on the Priority Service service code to the origination request.	Partially supported	The exact MMI proposed is not supported. The MMI supported by eMLPP is specified in 22.030. The service code is 75.
10 Roaming	Priority Service shall be supported during roaming when the roaming network supports Priority Service.	Supported	eMLPP is applicable in case of roaming, if supported by the related networks.
11 Handover	Priority Service shall be supported during handover.	Partially supported	When pre-emption applies, at handover to a congested cell, higher priority calls shall replace those of the lowest priority. The pre-empted user shall receive an indication for congestion as defined in GSM 02.40.
12 Priority Service charging data record	The system should record the following Priority Service charging data information, in addition to non-Priority Service CDR information: Priority Service invocation attempts, Call legs (origination and/or termination) on which Priority Service was used to gain access to the radio channel. Recording of appropriate Priority Service information.	Supported	TS 22.067 ch 5.11.The utilized precedence level shall be able to be extracted from the event records if different from the default precedence level.
13 Priority Trunk Queuing	Priority Service shall be able to support queuing of Priority Service calls for trunk resources.	Not supported	eMLPP Stage 2, TS 23.067 ch 4, items c. and d. refer to "contention in gaining terrestrial resources," which may be interpreted as referring to Trunk Queuing. However, neither the Stage 1 (TS 22.067) nor the Stage 3 (TS 24.067) has any additional specification associated with trunk queuing.
14 Coexistence with eMLPP	As a service provider option, it shall be possible to offer Priority Service and eMLPP within the same network, but not to the same user.	Not supported	