

# ETSI TS 129 205 V4.0.0 (2001-03)

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*Technical Specification*

**Universal Mobile Telecommunications System (UMTS);  
Application of Q.1900 series to bearer-independent  
circuit-switched core network architecture;  
Stage 3  
(3GPP TS 29.205 version 4.0.0 Release 4)**

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**Reference**

DTS/TSGN-0429205Uv4

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**Keywords**

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# Foreword

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Version x.y.z

where:

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  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

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# 1 Scope

The present document describes the protocols to be used when ITU-T Q.1902 "Bearer Independent Call Control" is used as call control protocol in a 3GPP Bearer Independent CS core network 3GPP TS 23.205 [1]. The Q.1902 operates between (G)MSC servers. The BICC architecture as described in ITU-T Q.1902 [6]-[10] consists of a number of protocols. The following types of protocols are described: call control protocol, bearer control protocols and a resource control protocol for this architecture. The architecture complies with the requirements imposed by 3GPP TS 23.205 [1] and TS 23.153 [2].

The present document is valid for a 3<sup>rd</sup> generation PLMN (UMTS) complying with Release 4 and later.

Note: Q.1902 can be used in other network architectures than the one defined in 3GPP TS 23.205 [1]

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# 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. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 23.205: "Bearer Independent CS Core Network – Stage 2"
- [2] 3GPP TS 23.153 "Out of Band Transcoder Control - Stage 2"
- [3] 3GPP TS 29.232 "Media Gateway Controller (MGC) – Media Gateway (MGW) Interface; Stage 3"
- [4] 3GPP TS 29.414 "Core Network Nb Data Transport and Signalling Transport"
- [5] ITU-T Q.765.5: "Application Transport Mechanism"
- [6] ITU-T Q.1902.1: "Bearer Independent Call Control CS2 Functional Description"
- [7] ITU-T Q.1902.2: "Bearer Independent Call Control CS2 General Functions of Messages and Signals"
- [8] ITU-T Q.1902.3: "Bearer Independent Call Control CS2 Formats and Codes"
- [9] ITU-T Q.1902.4: "Bearer Independent Call Control CS2 Basic Call Procedures"
- [10] ITU-T Q.1902.5: "Exceptions to the Application Transport Mechanism in the Context of Bearer Independent Call Control"
- [11] ITU-T Q.1902.5: "Generic Signalling Procedures and Support of the ISDN User Part Supplementary Services with the Bearer Independent Call Control Protocol"
- [12] ITU-T Q.1950 "Call Bearer Control Protocol"
- [13] ITU-T Q.2630.1-2: "AAL type 2 signalling protocol"

- [14] ITU-T Q.1990 "BICC tunnelling control protocol"
- [15] ITU-T Q.1970 "IP Bearer Control protocol"
- [16] ITU-T Q.1912.1 "ISUP-BICC Interworking"
- [17] ITU-T Q.1912.2 Interworking between selected Signalling System (PSTN Access DSS1, C5, R1, R2, TUP) AND THE Bearer Independent Call Control Protocol
- [18] ITU-T Q.2150.0 Generic Signalling Transport Service
- [19] ITU-T Q.2150.1 Signalling Transport Converter MTP and MTP3 B.
- [20] ITU-T Recommendation Q.2150.3 –Signalling Transport Converter on SCTP.
- [21] ITU-T H.248: "Media Gateway Control Protocol" (06/00)

**Editors note: The references to the Q.19XX and Q.2150.X recommendations will be replaced by an URL pointing to the 3GPP web. These references will become dated references to those specifications when decided.**

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## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

### 3.2 Symbols

For the purposes of the present document, the following symbols apply:

Nc	Interface between the(G)MSC servers.
Mc	Interface between the server and the media gateway.
Nb	Interface between media gateways (MGW).

### 3.3 Abbreviations

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

BICC	Bearer Independent Call Control
MGC	Media Gateway Controller
AAL	ATM Adaptation layer
STC	Signalling Transport Converter
SCTP	Stream Control Transmission Protocol
MTP	Message Transfer Part
DSS 1	Digital Signalling System number 1
R1	Regional Signalling System 1
R2	Regional Signalling System 2
TUP	Telephony User Part
C5	CCITT signalling system number 5

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## 4 Protocols

Implementations providing any of the interfaces or protocols identified in the subclauses below shall implement the requirements of the specifications identified in those subclauses.

## 4.1 Call control protocol (Nc interface)

Q.1902.1	BICC PROTOCOL (CS2) FUNCTIONAL DESCRIPTION [6]
Q.1902.2	BICC PROTOCOL (CS2) AND SIGNALLING SYSTEM NO 7 ISUP GENERAL FUNCTIONS OF MESSAGES AND PARAMETERS [7]
Q.1902.3	BICC PROTOCOL (CS2) AND SIGNALLING SYSTEM NO 7 ISUP FORMATS AND CODES [8]
Q.1902.4	BICC BASIC CALL PROCEDURES [9]
Q.1902.5	EXCEPTIONS TO THE APM IN THE CONTEXT OF BICC AMENDMENT TO Q.765.5 FOR BICC CS2 [10]
Q.1902.6	GENERIC SIGNALLING PROCEDURES AND SUPPORT OF THE ISDN USER PART SUPPLEMENTARY SERVICES WITH THE BEARER INDEPENDENT CALL CONTROL PROTOCOL [11]

## 4.2 Interworking with other protocols

Q.1912.1	ISUP-BICC INTERWORKING[16]
Q.19.12.2	INTERWORKING BETWEEN SELECTED SIGNALLING SYSTEMS (PSTN ACCESS DSS1 C5 R1 R2 TUP) AND THE BEARER INDEPENDENT CALL CONTROL PROTOCOL[17]

## 4.3 Resource control protocol (G)MSC and MGW (Mc Interface)

3GPP TS.29232.	Media Gateway Controller (MGC) – Media Gateway (MGW) Interface;Stage 3 [3]
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## 4.4 Bearer control protocol between MGWs (Nb interface)

3GPP TS.29.414	IP bearer control protocol [15] , BICC tunneling protocol [14] , "AAL type 2 signalling protocol (Q.2630.1-2) [13].
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## 4.5 Signalling Transport

### 4.5.1 Call Control protocols

Q.2150.0	Generic Signalling Transport Service [18]
Q.2150.1	Signalling Transport Converter on MTP3 and MTP3b[19]
Q.2150.3	Signalling Transport Converter on SCTP. [20]

### 4.5.2 Resource control protocol (G)MSC and MGW (Mc Interface)

3GPP TS.29232.	Media Gateway Controller (MGC) – Media Gateway (MGW) Interface;Stage 3 [3] including H.248 [21] Annex H “Transport over SCTP”, and H.248 [21] Annex I “Transport over ATM”
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### 4.5.3 Bearer control protocol between MGWs (Nb interface)

3GPP TS.29.414	Core Network Nb Data Transport and signalling transport. [4] including ITU-T Q.2630.1-2: AAL type 2 signalling protocol [13] and the tunnel-up and tunnel-down procedure in 29.232 [31]
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## Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
17/1/01	CN3/CN4 #66 Beijing			0.1.	New Document approved	-	0.1.0
15/2/01	Ad hoc CN 4#6 in Madrid			0.2	Revised Document approved	0.1.0	0.2.0
01/3/01	CN 4 #7  Sophia— Antopolis			0.3	Forwarded to TSG CN Plenary meeting #11 for approval	0.2.0	2.0.0
03/2001	CN#11	NP-010083			Modifications made during CN#11	2.0.0	2.1.0
03/2001	CN#11	NP-010214			Approved in CN#11	2.1.0	4.0.0

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# History

<b>Document history</b>		
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