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SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – Signalling network protocols

**Message transfer part level 3 functions and
messages using the services of ITU-T
Recommendation Q.2140**

ITU-T Recommendation Q.2210

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION Q.2210

MESSAGE TRANSFER PART LEVEL 3 FUNCTIONS AND MESSAGES USING THE SERVICES OF ITU-T RECOMMENDATION Q.2140

Summary

This Recommendation specifies Message Transfer Part level 3 functions and messages that are suitable for the control of signalling links that provide the service of ITU-T Recommendation Q.2140.

Source

ITU-T Recommendation Q.2210 was prepared by ITU-T Study Group 11 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 9th of July 1996.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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Recommendation Q.2210**MESSAGE TRANSFER PART LEVEL 3 FUNCTIONS AND MESSAGES USING THE SERVICES OF ITU-T RECOMMENDATION Q.2140***(Geneva, 1996)***1 Scope**

This Recommendation specifies Message Transfer Part level 3 functions and messages that are suitable for the control of signalling links that provide the services of Recommendation Q.2140 [1].

These functions and messages will informally be referred to as MTP-3b within this Recommendation.

Any additional specifications for the interworking between signalling links that provide the services of Recommendation Q.2140 [1] and signalling links offering the services of Recommendation Q.703 [8] are beyond the scope of this Recommendation.

2 References

The following Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision: all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

2.1 Normative references

- [1] ITU-T Recommendation Q.2140 (1995), *B-ISDN signalling ATM Adaptation Layer – Service Specific Coordination Function for signalling at the Network Node Interface (SSCF at NNI)*.
- [2] ITU-T Recommendation Q.704 (1993), *Signalling network functions and messages*.
- [3] CCITT Recommendation Q.707 (1988), *Testing and maintenance*.
- [4] CCITT Recommendation Q.701 (1988), *Functional description of the Message Transfer Part (MTP) of Signalling System No. 7*.
- [5] *Glossary of Terms used in Signalling System No. 7*, CCITT Blue Book, Fascicle VI.7, 1988.
- [6] ITU-T Recommendation Q.751.1 (1995), *Network element management information model for the Message Transfer Part (MTP)*.

2.2 Informative references

- [7] ITU-T Recommendation Q.700 (1993), *Introduction to CCITT Signalling System No. 7*.
- [8] ITU-T Recommendation Q.703 (1996), *Signalling link*.

3 Abbreviations and acronyms

For the purposes of this Recommendation, the following abbreviations are used.

AAL	ATM Adaptation Layer
ATM	Asynchronous Transfer Mode
B-ISDN	Broadband ISDN
DPC	Destination Point Code
FSN	Forward Sequence Number
H0	Heading Code which identifies the message group
H1	Heading Code which identifies the signals in a message group
LSB	Least Significant Bit
LSLA	Signalling link activation function
LSLD	Signalling link deactivation function
LSLR	Signalling link restoration function
MSB	Most Significant Bit
MTP	Message Transfer Part
MTP-3b	Message Transfer Part level 3 functions and messages according to this Recommendation
NNI	Network Node Interface
OPC	Originating Point Code
SAAL	Signalling ATM Adaptation Layer
SDU	Service Data Unit
SIF	Signalling Information Field
SIO	Service Information Octet
SLC	Signalling Link Code
SLS	Signalling Link Selection
SSCF	Service Specific Coordination Function
XCA	Extended Changeover Acknowledgement
XCO	Extended Changeover Order

4 Definitions

Definitions of MTP level 3 terms are provided in the glossary of CCITT *Blue Book*, Fascicle VI.7 [5] and in Annex B/Q.751.1 [6].

5 General description

If MTP level 3 is used for the control of signalling links that provide the services of Recommendation Q.2140 [1], Recommendations Q.704 [2] and Q.707 [3] shall apply with the

modifications as described in this Recommendation. Furthermore specific parts of Recommendation Q.701 [4] shall apply as specified in this Recommendation. In the case of conflicting statements between this Recommendation and Recommendations Q.701 [4], Q.704 [2] or Q.707 [3], this Recommendation takes precedence over Recommendations Q.701 [4], Q.704 [2] and Q.707 [3].

6 Boundaries of MTP level 3 using the services of Recommendation Q.2140

6.1 Definition of the lower boundary of MTP level 3 with SSCF at NNI

The primitives required by MTP level 3 (MTP-3b) at the lower boundary are specified in clause 7/Q.2140 [1].

NOTES

1 – The primitives AAL-FLUSH_BUFFERS and AAL-CONTINUE should not be issued because no remote processor outage indication is provided to MTP level 3 by the underlying SAAL. In fact, due to the SAAL behaviour, the processor outage (both local and remote) always results in Out of Service of the concerned link.

2 – The primitive AAL-LINK_CONGESTED contains the congestion parameter "level" (values from 0 through 3) if the option "multiple congestion thresholds" (3.8.2.2/Q.704 [2]) applies; the level value 0 indicates that the signalling link is uncongested.

3 – The primitive AAL-LINK_CONGESTION_CEASED will not be received if the option "multiple congestion thresholds" applies (see Note 2).

4 – According to the specification of the AAL boundary in Recommendation Q.2140 [1], the primitive AAL-BSNT_NOT_RETRIEVABLE is issued by the underlying layer rather than issued from an "unspecified implementation dependent function" as stated in Recommendation Q.704 [2] [e.g. Figure 27/Q.704 (sheet 2 of 3)].

6.2 Definition of the upper boundary of MTP level 3

The primitives supported by MTP level 3 at the upper boundary are specified in clause 8/Q.701[4].

Table 1 has been replicated from Table 1/Q.701 [4]; only the references have been updated to identify the appropriate Recommendations: