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OF ITU

I.610

Corrigendum 1
(03/2000)

SERIES I: INTEGRATED SERVICES DIGITAL
NETWORK

Maintenance principles

B-ISDN operation and maintenance principles and
functions

Corrigendum 1

ITU-T Recommendation I.610 – Corrigendum 1

(Formerly CCITT Recommendation)

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B-ISDN operation and maintenance principles and functions

CORRIGENDUM 1

Summary

This corrigendum contains only editorial corrections, but no technical changes, to the third revision (02/99) of ITU-T Recommendation I.610.

Source

Corrigendum 1 to ITU-T Recommendation I.610 was prepared by ITU-T Study Group 13 (1997-2000) and approved under the WTSC Resolution 1 procedure on 10 March 2000.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSC Resolution 1.

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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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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ITU-T Recommendation I.610

B-ISDN operation and maintenance principles and functions

CORRIGENDUM 1

1) Introduction

This corrigendum contains only editorial corrections, but no technical changes, to the third revision (02/99) of ITU-T Recommendation I.610.

2) Corrections

2.1) Subclause 9.2.2.1.1.3

Change the title of this subclause to "Segment sink Vc-AIS state".

2.2) Subclause 9.2.1.1.3.2

Add to items 1), 2) and 6) in subclause 9.2.1.1.3.2 the word "VP" in front of "CPs".

Replace in item 3) "5 seconds" with " 6 ± 1 seconds".

2.3) Subclause 9.2.2.1.3.2

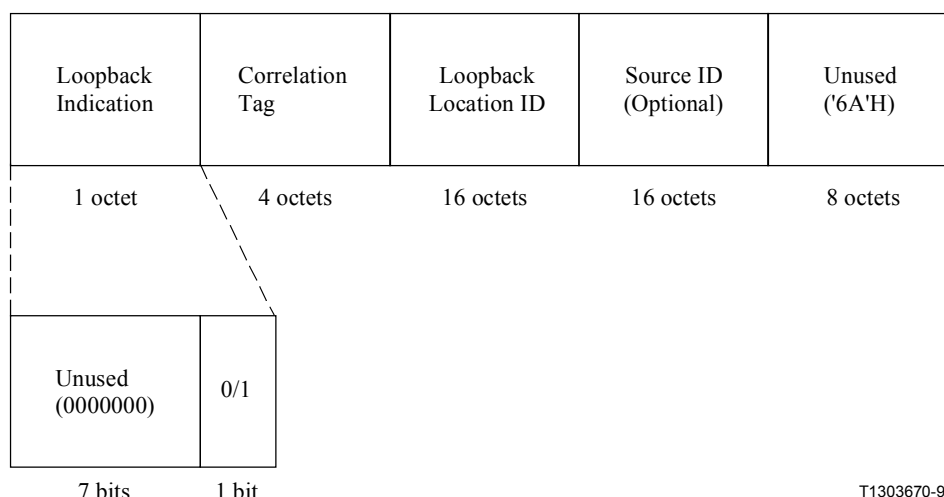
Add to items 1), 2) and 6) in subclause 9.2.2.1.3.2 the word "VC" in front of "CPs".

Replace in item 3) "5 seconds" with " 6 ± 1 seconds".

2.4) Subclause 10.2.3

Replace the words "address type" by "location identifier type" in the paragraph starting with "For backwards compatibility ...".

Delete the note in Figure 14/I.610. The modified Figure 14/I.610 is reproduced below:



T1303670-95

Figure 14/I.610 – Specific fields for loopback cell

2.5) Figure C.1

Delete the reference to Note 2) from the right-bottom test operation labelled "Loopback Location ID correct" in Figure C.1. The modified Figure C.1/I.610 is reproduced below:

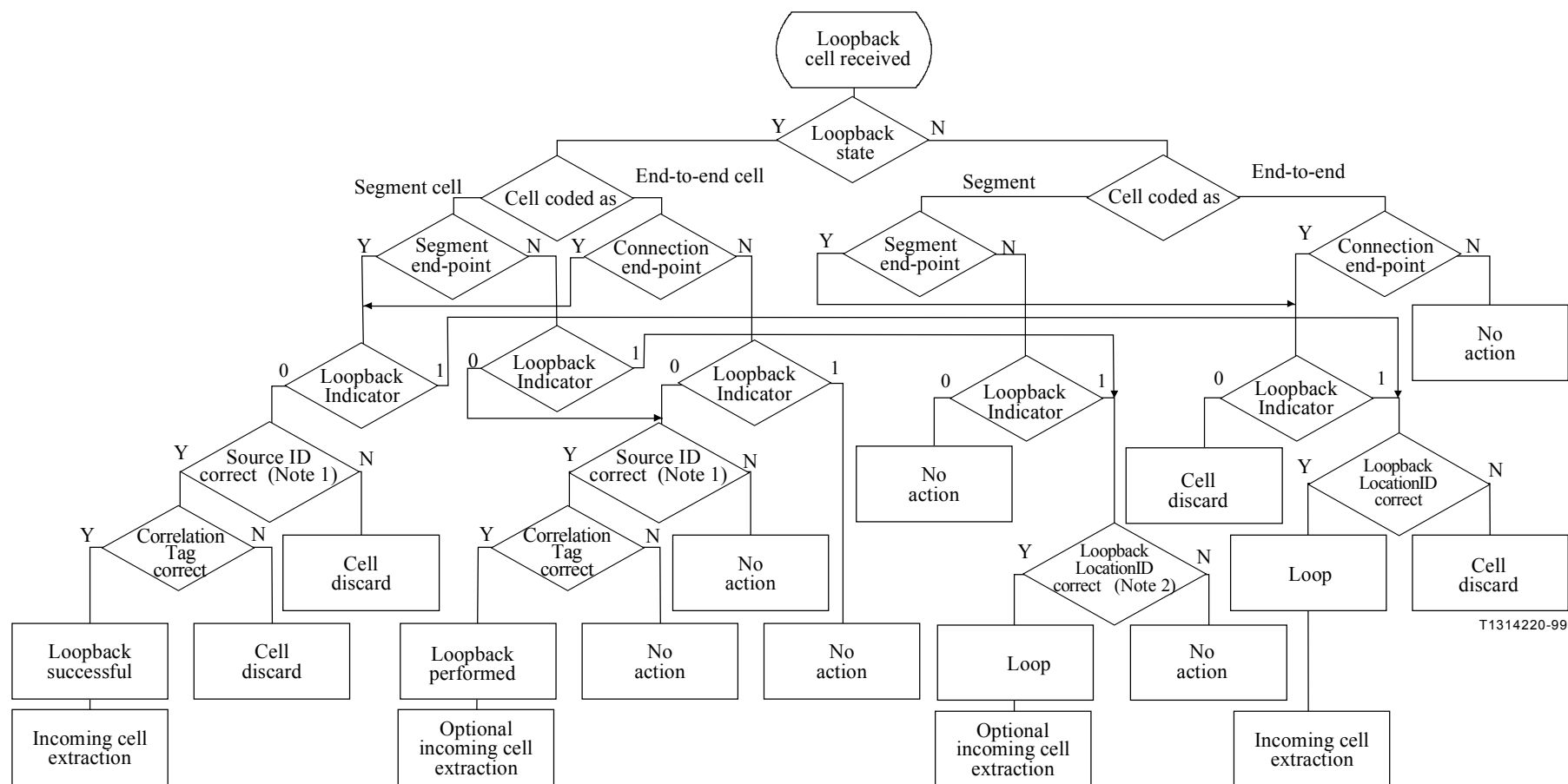


Figure C.1/I.610 –Flow diagram for seg_LB cells

2.6) Annex C

Replace the dash list in Annex C (above subclause C.1) with:

- A segment (or end-to-end) loopback "parent" point function located within a CP or segment endpoint shall enter the LB state as soon as a seg_LB or an e-t-e_LB cell is forwarded from this CP or segment endpoint [cell sent with LB Indication field (LI) = 1]. An end-to-end loopback "parent" point function located within a connection endpoint shall enter the LB state as soon as an e-t-e_LB cell is forwarded from this connection endpoint [cell sent with LB Indication field (LI) = 1].
- At a CP, segment endpoint, or connection endpoint the LB state is defined for a given type of loopback procedure which is characterized by both the type of LB cells used (i.e. seg_LB or e-t-e_LB) and the direction of sending (i.e. towards the outside or the inside of a network element). Therefore it should be possible to manage four LB states simultaneously at a given CP, two LB states simultaneously at any given segment endpoint, and one LB state at any given connection endpoint.
- Exit from this state shall occur after a waiting time of 6 seconds \pm 1 second.
- While in the LB state for a given type of loopback procedure, a loopback "parent" point within a CP, segment endpoint, or connection endpoint shall not initiate another loopback procedure of the same type.

2.7) Subclause C.1

Replace "CP" by "CP or segment end point".

Add the underlined words:

- iii) The content of the incoming seg_LB cells shall be analysed at all crossed CPs or segment end points that support loopback processing and for which the LLID option is enabled. The content of the incoming seg_LB cells shall always be analysed at the sink/source segment endpoints. Analysing an incoming seg_LB cell shall be a non-intrusive process. The following analysis shall be performed:

...

- if the LI field of the incoming seg_LB cell is equal to "0", then two cases have to be considered:
 - the segment loopback "parent" point within the CP or segment endpoint is in the "LB state" in which case the correlation tag (and optionally the source ID) of the incoming seg_LB cell shall be analysed so as to check whether the loopback was performed or not. If the loopback is performed (see Note 2 in C.2) then the "incoming" seg_LB cell may optionally be extracted and the value of the LLID field of the "returned" seg_LB cell shall be stored in the ATM Network Element (NE) for further processing;

2.8) Subclause C.2

Add the underlined words and delete the struck through words.

- ii) The content of the incoming e-t-e_LB cells shall be analysed at all crossed CPs for which the LLID option is enabled, and segment and connection endpoints that support loopback processing. Analysing an incoming e-t-e_LB cell shall be a non-intrusive process. The following analysis shall be performed:
 - if the Loopback Indication field (LI) of the incoming e-t-e_LB cell is equal to "1" (in which case this cell is referred to as a "parent cell") then the cell has to be processed accordingly to the following procedure:

- If the e-t-e_LB cell is received at a connection endpoint two cases have to be considered:

...

LLID is set to the value of the CPID (ID of the connection endpointCP which returns the LB cell);

...

- if the LI field of the incoming e-t-e_LB cell is equal to "0", then two cases have to be considered:
 - the end-to-end loopback "parent" point within the CP, segment endpoint or connection endpoint is in the "LB state" in which case the correlation tag (and optionally the source ID) of the incoming e-t-e_LB cell shall be analysed so as to check whether the loopback was performed or not. If the loopback is performed (see Note 2) then the value of the LLID field of the "returned" e-t-e_LB cell shall be stored in the ATM NE for further processing. As an option, the incoming e-t-e_LB cell may be removed at an intermediate CP or ~~(this includes)~~ segment end-points in case of a performed loopback;

Appendix III

2.9) Subclause III.1

Replace the second paragraph in subclause III.1 with:

Failure categories b) and c) are supposed to affect the two directions of the VPC/VCC. In case of a bidirectional VPC/VCC carrying unidirectional communication, the reverse direction carries only the OAM cells (i.e. in particular the "returned" seg_LB cells).

Add at the end of subclause III.1 the following Note:

NOTE 2 – In the event of a misrouting or misinsertion fault, segment OAM cells may be present outside the segment boundary as a consequence of this fault in the network.

2.10) Subclause III.2.2

Replace the first paragraph in subclause III.2.2 with:

A seg_LB cell is issued from a segment endpoint with a LLID value equal to all "0"s and looped back at all CPs and segment endpoints within and outside the segments that receive this seg_LB cell, support the loopback function and have their LLID option enabled (this LLID value being a "universal address"). For each seg_LB cell issued, one seg_LB cell is returned by each CP within the segment portion in-between the source point of the seg_LB cell and the failure location (see Figure III.3/I.610), and by each CP outside the segment portion that is connected via a misrouting or unintended connection branch failure to the segment for which the loopback function is supported and the LLID option is enabled. By monitoring the LLID values of the multiple "returned" seg_LB cells it is possible to localize type a), b), c1) and c2) failures as illustrated in III.3.1.2.

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