
D-Channel Message Performance Monitoring and Control

Contents

Preface	Preface-1
1. Introduction	1-1
1.1 Purpose and Scope	1-1
1.2 Background	1-2
1.3 Terminal Assumptions	1-3
1.4 Requirements Terminology	1-4
1.5 Requirement Labeling Conventions	1-4
1.5.1 Numbering of Requirement and Related Objects	1-4
1.5.2 Requirement, Conditional Requirement, and Objective Object Identification	1-5
2. General Information	2-1
2.1 High-Level Feature Description	2-1
2.2 User Perspective	2-5
3. Feature Requirements	3-1
3.1 Feature Operations	3-1
3.1.1 Main Feature Operations	3-1
3.1.1.1 Monitoring of D-Channel Messages - Terminal Level	3-1
3.1.1.2 Monitoring of D-Channel Messages - Interface Level	3-2
3.1.1.3 Monitoring of D-Channel Messages - Common Resource Level	3-3
3.1.1.4 D-Channel Messaging Limit Parameters - Terminal Level	3-3
3.1.1.5 D-Channel Messaging Limit Parameters - Interface Level	3-4
3.1.1.6 D-Channel Messaging Limit Parameters - Common Resource Level	3-4
3.1.1.7 Summary of Messaging Limits for Terminals, Interfaces, and Common Resources	3-5
3.1.1.8 Effect of Measurement Interval on Messaging Limits	3-6
3.1.1.9 Near-Overload Condition - BRI Terminals and PRIs	3-6
3.1.1.10 Overload Condition - BRI Terminals and PRIs	3-8
3.1.1.11 Out of Service Condition - BRI Terminals and PRIs	3-8
3.1.1.12 In-Service Condition - BRI Terminals and PRIs	3-11
3.1.1.13 Permanent Out-of-Service Condition - BRI Terminals and PRIs	3-14
3.1.1.14 Overload Condition - Common Resource Level	3-16
3.1.1.15 No-Overload Condition - Common Resource Level	3-19

3.1.2	Other Feature Operations	3-20
3.1.2.1	BRI Display for Near-Overload Condition.....	3-20
3.1.2.2	BRI Display for Overload/Out-Of-Service Condition.....	3-20
3.1.2.3	BRI Display for In-Service Condition	3-21
3.1.3	Error Treatment and Abnormal Events	3-21
3.2	Internal Call-Processing Controls	3-21
3.3	Signaling/Message Structure.....	3-21
3.3.1	ASN.1-Encoded Notification Indicator Values	3-23
3.4	Administration/Operations	3-25
3.4.1	Memory Administration (Service Changes/Subscription Parameters)....	3-25
3.4.1.1	D-Channel Messaging Limit Parameters - BRI Terminal Level	3-25
3.4.1.2	D-Channel Messaging Limit Parameters - PRI Level	3-26
3.4.1.3	D-Channel Messaging Limit Parameters - Common Resource Level	3-26
3.4.2	Network Maintenance	3-27
3.4.2.1	Surveillance	3-28
3.4.2.2	Testing	3-28
3.4.3	Network Data Collection (NDC)	3-28
3.4.4	Network Traffic Management (NTM)	3-29
3.4.4.1	BRI-Terminal-Related Periodic Measurements	3-30
3.4.4.2	PRI-Related Periodic Measurements	3-30
3.4.4.3	Common-Resource-Related Periodic Measurements	3-30
3.4.4.4	Per-BRI-Terminal Special Study Measurements.....	3-32
3.4.4.5	Per-PRI Special Study Measurements	3-33
3.4.4.6	Per-Common-Resource Special Study Measurements	3-33
3.4.5	Billing and Comptroller	3-34
3.4.6	Switching System Workstation and OS/NE Interface Messages for BRI/ PRI “Out-Of-Service” and “In-Service” Conditions	3-34
3.4.7	Switching System Workstation and OS/NE Interface Messages for “Common Resource Overload” Conditions	3-37
3.4.8	Per-BRI-Terminal and Per-PRI State Changes for “Out-Of-Service” and “In-Service” Conditions	3-38
3.4.9	Per-Common Resource State Changes for “Overload” and “No- Overload” Conditions	3-41
3.5	Interactions	3-42
3.5.1	Essential Lines	3-42
3.5.2	Network-Determined Busy (NDB) Conditions for BRI Terminals .	3-42
3.5.3	EKTS.....	3-43
3.5.4	Network-Determined Busy (NDB) Conditions for BRI Terminals .	3-44
3.6	Limitations and Restrictions	3-44
3.7	Timing and Tolerances.....	3-44

Appendix A: Data Dictionary for D-Channel Message Performance Monitoring and Control	Appendix-1
A.1 Scope and Definition	Appendix-1
A.2 Allowed Data Values	Appendix-2
A.3 ISDN Switch Data Dictionary	Appendix-3
References	References-1
Glossary	Glossary-1
Requirement-Object Index	ROI-1

List of Figures

Figure 2-1.	Example of “Common Resources” for D-Channel Message Processing in a Generic ISDN Switch	2-3
Figure 3-1.	ASN.1 Description of DCMPMC Notification Indicators	3-24

List of Tables

Table 3-1.	Overload Messaging Limits for Terminals, Interfaces, and Common Resources	3-5
Table 3-2.	Network Indication of Near-Overload Condition (Network-to-User NOTIFY Message)	3-22
Table 3-3.	Network Indication of Overload/Out-of-Service Condition (Network- to-User NOTIFY Message)	3-22
Table 3-4.	Network Indication of In-Service Condition (Network-to-User NOTIFY Message)	3-23