

Contents

Telcordia GR-2824 - Documentation Information

1. Introduction and Overview	1-1
1.1 Relation to TR-NWT-001187 and TR-TSY-000860	1-2
1.2 Document Organization	1-3
1.3 Requirements Terminology	1-3
2. Background Information	2-1
2.1 Relevant Documents	2-1
2.2 Definition of Terms	2-2
2.3 Assumptions on ICAN PBX Equipment	2-5
3. High-Level Feature Description	3-1
3.1 ICAN Number Provision on PRI (CPNs, RNs, and ConnNs)	3-1
3.2 ICAN Number Delivery on PRIs (CPNs, RNs, and ConnNs)	3-2
3.3 ICAN Number Privacy for PRIs	3-3
3.4 ICAN Number Delivery on BRIs (CPNs, RNs, and ConnNs)	3-4
3.4.1 Calling Number Delivery on BRIs	3-5
3.4.2 Redirecting Number Delivery on BRIs	3-5
3.4.3 Connected Number Delivery on BRIs	3-6
3.5 ICAN Number Provision and Screening for BRIs	3-7
3.6 ICAN Number Privacy for BRIs	3-7
3.7 ICAN Calling Party Subaddress Treatment for PRIs	3-8
3.8 ICAN Redirecting Subaddress Treatment for PRIs	3-8
3.9 ICAN Connected Subaddress Treatment for PRIs	3-9
3.10 ICAN Calling Party Subaddress Treatment for BRIs	3-11
3.11 ICAN Redirecting Subaddress Treatment for BRIs	3-11
3.12 ICAN Connected Subaddress Treatment for BRIs	3-11
4. Feature Requirements	4-1
4.1 Feature Operations	4-1
4.1.1 ICAN Number Provision for PRIs	4-1
4.1.1.1 ICAN Number Provision Procedures for CPNs on PRIs	4-1
4.1.1.2 ICAN Number Provision Procedures for RNs on PRIs	4-3
4.1.1.3 ICAN Number Provision Procedures for ConnNs on PRIs	4-5
4.1.2 ICAN Number Delivery for PRIs	4-7
4.1.2.1 ICAN Calling Number Delivery (CND) for PRIs	4-8
4.1.2.2 ICAN Redirecting Number Delivery (RND) for PRIs	4-10
4.1.2.3 ICAN Connected Number Delivery (ConnND) for PRIs	4-12
4.1.3 ICAN Number Privacy for PRIs	4-14
4.1.4 ICAN Number Delivery for BRIs	4-14
4.1.4.1 ICAN Calling Number Delivery for BRIs	4-15
4.1.4.2 ICAN Redirecting Number Delivery for BRIs	4-19
4.1.4.2.1 Conversion of "Diverting Leg Information 2" Contents	4-19
4.1.4.2.2 Use of "Diverting Leg Information 2" Contents for ICAN BBG RND	4-21
4.1.4.3 ICAN Connected Number Delivery for BRIs	4-28

- 4.1.4.4 ICAN Number Delivery for BRIs and ISDN Delivery Feature
Deactivation and Reactivation 4-33
- 4.1.5 ICAN Number Provision and Screening for BRIs 4-34
 - 4.1.5.1 ICAN Calling Number Provision for BRIs 4-34
 - 4.1.5.2 ICAN Calling Number Screening for BRIs 4-34
 - 4.1.5.3 ICAN Redirecting Number Provision for BRIs 4-36
 - 4.1.5.4 ICAN Redirecting Number Screening for BRIs 4-36
 - 4.1.5.5 ICAN Connected Number Provision for BRIs 4-38
 - 4.1.5.6 ICAN Connected Number Screening for BRIs 4-38
- 4.1.6 ICAN Number Privacy for BRIs 4-43
 - 4.1.6.1 ICAN Calling Number Privacy for BRIs 4-43
 - 4.1.6.2 ICAN Redirecting Number Privacy for BRIs 4-43
 - 4.1.6.3 ICAN Connected Number Privacy for BRIs 4-44
- 4.1.7 ICAN Calling Party Subaddress Treatment for PRIs 4-45
- 4.1.8 ICAN Redirecting Subaddress Treatment for PRIs 4-46
 - 4.1.8.1 ICAN Redirecting Subaddress Treatment for Originating PRIs . . . 4-47
 - 4.1.8.2 ICAN Redirecting Subaddress Treatment for Terminating PRIs . . 4-48
- 4.1.9 ICAN Connected Subaddress Treatment for PRIs 4-49
- 4.1.10 ICAN Calling Party Subaddress Treatment for BRIs 4-50
- 4.1.11 ICAN Redirecting Subaddress Treatment for BRIs 4-51
 - 4.1.11.1 Conversion of "Diverting Leg Information 2" Contents 4-51
 - 4.1.11.2 Use of "Diverting Leg Information 2" Contents for ICAN
BBG RS Delivery 4-53
 - 4.1.11.3 RS Delivery: Two Instances of RS Information Available 4-53
- 4.1.12 ICAN Connected Subaddress Treatment for BRIs 4-54
- 4.2 Internal Call Processing Controls 4-55
 - 4.2.1 Class of Service/Configuration 4-55
 - 4.2.2 Screening 4-55
- 4.3 Signaling 4-55
 - 4.3.1 Customer Signaling/User-Network Interface 4-55
 - 4.3.1.1 Messages and Information Elements 4-55
 - 4.3.1.2 Information Elements 4-69
 - 4.3.1.2.1 Calling Party Number 4-69
 - 4.3.1.2.2 Calling Party Subaddress 4-69
 - 4.3.1.2.3 Redirecting Number 4-70
 - 4.3.1.2.4 Redirecting Subaddress 4-70
 - 4.3.1.2.5 Diverting Leg Information 2 Operation:
Redirecting Number 4-70
 - 4.3.1.2.6 Diverting Leg Information 2 Operation:
Redirecting Subaddress 4-78
 - 4.3.1.2.7 Connected Number 4-80
 - 4.3.1.2.8 Connected Subaddress. 4-83
 - 4.3.1.2.9 Display Text Information for Connected Number Display. . . 4-84
 - 4.3.1.2.10 Display Text Information for Connected Number
and Name Display 4-89
 - 4.3.2 SS7 Interface Signaling 4-91
 - 4.3.2.1 SS7 Interface Signaling: Calling Number Delivery 4-92

4.3.2.2 SS7 Interface Signaling: Redirecting Number Delivery	4-95
4.3.2.3 SS7 Interface Signaling: Connected Number Delivery	4-96
4.4 Operations and Administration	4-101
4.4.1 Memory Administration: Service Changes/Subscription Parameters . .	4-101
4.4.1.1 ICAN Number Provision for PRIs	4-102
4.4.1.1.1 Calling Party Number Provision	4-102
4.4.1.1.2 Redirecting Number Provision (Redirecting Information Transfer)	4-102
4.4.1.1.3 Connected Number Provision	4-102
4.4.1.2 ICAN Number Delivery for PRIs	4-102
4.4.1.2.1 Calling Number Delivery	4-102
4.4.1.2.2 Redirecting Number Delivery (Redirecting Information Delivery)	4-103
4.4.1.2.3 Connected Number Delivery	4-103
4.4.1.3 ICAN Number Delivery for BRIs	4-103
4.4.1.3.1 Calling Number Delivery	4-103
4.4.1.3.2 Redirecting Number Delivery	4-104
4.4.1.3.3 Connected Number Delivery	4-104
4.4.1.4 ICAN Number Provision for BRIs	4-106
4.4.1.4.1 Calling Number Provision	4-106
4.4.1.4.2 Redirecting Number Provision	4-106
4.4.1.4.3 Connected Number Provision	4-106
4.4.1.5 ICAN Number Privacy for BRIs	4-106
4.4.1.5.1 Calling Number Privacy	4-106
4.4.1.5.2 Redirecting Number Privacy	4-107
4.4.1.5.3 Connected Number Privacy	4-107
4.4.1.6 Force Number Privacy for Public Network Numbers on ICAN Calls	4-109
4.4.1.7 ICAN BBG Redirecting Number Generation	4-109
4.4.1.8 Surveillance	4-110
4.4.1.9 Testing	4-110
4.4.2 Network Data Collection	4-110
4.4.3 Network Traffic Management	4-111
4.4.3.1 General Traffic Measurements	4-111
4.4.3.2 Service-Specific Traffic Measurements	4-111
4.4.3.3 ICAN Number Provision for PRIs: CPNs	4-113
4.4.3.4 ICAN Number Provision for PRIs: RNs	4-113
4.4.3.5 ICAN Number Provision for PRIs: ConnNs	4-113
4.4.3.6 ICAN Calling Number Delivery for PRIs	4-113
4.4.3.7 ICAN Redirecting Number Delivery for PRIs	4-114
4.4.3.8 ICAN Connected Number Delivery for PRIs	4-114
4.4.3.9 ICAN Calling Party Subaddress Treatment for PRIs	4-115
4.4.3.10 ICAN Redirecting Subaddress Treatment for PRIs	4-115
4.4.3.11 ICAN Connected Party Subaddress Treatment for PRIs	4-115
4.4.3.12 ICAN Calling Party Subaddress Treatment for BRIs	4-116
4.4.3.13 ICAN Redirecting Subaddress Treatment for BRIs	4-116
4.4.3.14 ICAN Connected Party Subaddress Treatment for BRIs	4-116

- 4.4.4 Billing and Comptroller 4-116
 - 4.4.4.1 Aggregate AMA for Calling Number Delivery 4-117
 - 4.4.4.2 Aggregate AMA for Redirecting Number Delivery 4-117
 - 4.4.4.3 Aggregate AMA for Connected Number Delivery 4-117
 - 4.4.4.4 Detailed and Aggregate Recording for Calling Party Subaddress Delivery 4-118
 - 4.4.4.5 Detailed and Aggregate Recording for Redirecting Subaddress Delivery 4-118
 - 4.4.4.6 Detailed and Aggregate Recording for Connected Subaddress Delivery 4-118
 - 4.4.4.7 Detailed Recording for Calling Number Privacy 4-118
 - 4.4.4.8 Detailed Recording for Redirecting Number Privacy 4-118
 - 4.4.4.9 Detailed Recording for Connected Number Privacy 4-119
- 4.5 Interactions 4-119
 - 4.5.1 ISDN Calling Number Identification Services [for BRIs] (TR-TSY-000860, Issue 1 , plus Supplement 1, Supplement 2, and Revision 1) 4-119
 - 4.5.1.1 Calls from an ICAN BBG BRI to an ICAN PRI 4-119
 - 4.5.1.2 Calls from an ICAN PRI to an ICAN BBG BRI 4-119
 - 4.5.2 ISDN Call Forwarding ^[41] (TR-TSY-000853) and ISDN Selective Call Forwarding ^[42] (TR-NWT-001101) 4-120
 - 4.5.2.1 Calls Forwarded from an ICAN BBG BRI to an ICAN PRI 4-120
 - 4.5.2.2 Calls from an ICAN PRI to an ICAN BBG BRI with Call Forwarding Active and Reminder Notification 4-120
 - 4.5.3 ICAN Electronic Tandem Switching Services 4-121
 - 4.5.3.1 Number Delivery on Hop-Off Calls from an ICAN ETS Service 4-121
 - 4.5.3.2 Number Privacy on ICAN Calls Routed by an ICAN ETS Service 4-122
- 4.6 Limitations and Restrictions 4-123
- 4.7 Timing and Tolerances 4-123
- Appendix A: Data Dictionary for ICAN CNIS A-1
 - A.1 Scope and Definition A-1
 - A.2 Allowed Data Values A-2
 - A.3 Data Dictionary A-3
- Appendix B: Feature Flow Diagrams for ICAN CNIS B-1
 - B.1 PBX-to-PBX Calls With VPF Access Using ETS Service B-4
 - B.2 PBX-to-PBX Calls With VPF Access Using CxC Service Selection B-12
 - B.3 BBG-to-BBG Calls With VPF Access Using ETS Service B-16
- Appendix C: References C-1
- Appendix D: Glossary D-1

List of Figures

Figure 4-1	CPN, RN CPS, and RS Information Signaled by Calling PBX in SETUP Message (Sheet 1 of 2)	4-57
Figure 4-1	CPN, RN, CPS, and RS Information Signaled by Calling PBX in SETUP Message (Sheet 2 of 2)	4-58
Figure 4-2	ConnN and ConnS Information Signaled by Answering PBX in CONNECT Message	4-59
Figure 4-3	CPN, CPS, RN, and RS Information Delivered to Called PBX in SETUP Message (Sheet 1 of 3)	4-60
Figure 4-3	CPN, CPS, RN, and RS Information Delivered to Called PBX in SETUP Message (Sheet 2 of 3)	4-61
Figure 4-3	CPN, CPS, RN, and RS Information Delivered to Called PBX in SETUP Message (Sheet 3 of 3)	4-62
Figure 4-4	ConnN and ConnS Information Delivered to Calling PBX in CONNECT Message	4-63
Figure 4-5	CPN, CPS, RN, RS and Display Information Delivered to Called ICAN BBG BRI in SETUP Message; (Sheet 1 of 3)	4-65
Figure 4-5	CPN, CPS, RN, RS and Display Information Delivered to Called ICAN BBG BRI in SETUP Message (Sheet 2 of 3)	4-66
Figure 4-5	CPN, CPS, RN, RS and Display Information Delivered to Called ICAN BBG BRI in SETUP Message (Sheet 3 of 3)	4-67
Figure 4-6	ConnN, ConnS, and Display Information Delivered to Calling ICAN BBG BRI in CONNECT Message; (Sheet 1 of 2)	4-68
Figure 4-6	ConnN, ConnS, and Display Information Delivered to Calling ICAN BBG BRI in CONNECT Message; (Sheet 2 of 2)	4-69

List of Tables

Table 4-1	Type of Number/Numbering Plan versus Length of CPN Value . . .	4-2
Table 4-2	Type of Number/Numbering Plan versus Length of ConnN Value . .	4-6
Table 4-3	Facility Information Element	4-71
Table 4-4	NFE Component Content	4-72
Table 4-5	Interpretation Component Content	4-72
Table 4-6	Service (Invoke) Component Content	4-73
Table 4-7	Connected Number Information Element	4-80
Table 4-8	Connected Subaddress Information	4-83
Table 4-9	Coding of ICAN Connected Number Display Information	4-85
Table 4-10	Coding of ICAN Connected Number Display, 7 Digit ICAN (On-Net) Number Case	4-86
Table 4-11	Coding of ICAN Connected Number Display, 10 Digit ICAN (On-Net) Number Case	4-87
Table 4-12	Coding of ICAN Connected Number Display, 10 Digit National Number Case	4-88
Table 4-13	Coding of ICAN Connected Number Display, 15 Digit International Number Case	4-89
Table 4-14	Coding of ICAN Connected Number and Number Display Information (Sheet 1 of 2)	4-90
Table 4-14	Coding of ICAN Connected Name and Number Display Information (Sheet 2 of 2)	4-91
Table 4-15	Conversions Between CPNIE Values and SS7 GAP Values at Originating SPCS	4-93
Table 4-16	Conversions Between SS7 GAP Values and CPNIE Values at Terminating SPCS	4-94
Table 4-17	Conversions Between ConnNIE Values and SS7 GAP Values at Terminating SPCS	4-98
Table 4-18	Conversions Between SS7 GAP Values and ConnNIE Values at Originating SPCS	4-99