

**Interface Document
BID-0007
December 1991**

**ISDN Basic Rate Access
Terminal-to-Network Interface**

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DOCUMENT HISTORY

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DISCLAIMER

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1.0 SERVICE DESCRIPTION

In July 1990, Bell Canada disclosed the network interface used in its technology trial of **ISDN BRA**. The technical requirements were given in Bell's disclosure document ID-0003.

Bell Canada will be expanding this trial to include functional supplementary services, and updates to the functional basic call control.

The technical requirements, additional to document ID-0003, that are necessary to access the identified basic call and supplementary service capabilities are described in this document.

Bell Canada's **ISDN BRA** trial will be based on the Northern Telecom DMS-100 Central Office switch. The additional interface requirements are defined in relevant portions of the following Northern Telecom publications:

1. NIS S208-5, Issue 1.1, December 1990, "ISDN Basic Rate Access Interface Specification".
2. NIS S208-4, Issue 1.1, September 1989, "ISDN Basic Rate Access Interface Specification".

These Northern Telecom publications were developed to include markets in addition to Bell Canada, and thus contain information which may not be applicable within Bell Canada.

They may be obtained from:

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2.0 FEATURE DESCRIPTION

2.1 Physical Layer

No changes from requirements disclosed in document ID-0003.

2.2 Data Link Layer

No changes from requirements disclosed in document ID-0003.

2.3 Network Layer

2.3.1 Network Layer - Functional

Basic Call Service Capabilities

In addition to the basic call requirements disclosed in ID-0003, the network layer is updated by Section D of NIS S208-5, Issue 1.1.

The terminal identification procedures described in Section E, NIS S208-5, Issue 1.1, are necessary for CPE that use dynamic TEI (Layer 2).

The Protocol Version Control subscription option, described in Section D, NIS S208-5, Issue 1.1, provides for support of CPE built to both NIS S208-4, Issue 1.1, and NIS S208-5, Issue 1.1. Thus, the basic call control protocol and procedures specified in NIS S208-4, Issue 1.1, Section D are supported as an option.

Supplementary Service Capabilities

Comprehensive standards for supplementary service protocols are not currently available from CCITT, T1S1, or CSA. This section specifies several supplementary service capabilities which, although not yet fully standardized, will be part of the trial.

The network layer for supplementary service capabilities is defined in Section E of NIS S208-5, Issue 1.1. Also included in the trial is the support for supplementary service capabilities as specified in NIS S208-4, Issue 1.1, Section E. This support is also available through the Protocol Version Control option.

A list of individual supplementary services to be trialed, is shown in Table 1 of this document. These capabilities apply to circuit mode voice and data supplementary services as indicated in Table 1.

2.3.2 Network Layer - Stimulus

Basic Call and Supplementary Service Capabilities

In addition to the requirements disclosed in ID-0003, the network layer is updated by Section I of NIS S208-5, Issue 1.1

Table 1
Network Layer - Functional: BRA Supplementary Services

Item	Service
1.	Additional Call Offering ¹
2.	Automatic Dial ⁴
3.	Automatic Line ⁴
4.	Call Back Queuing
5.	Call Forward All Calls
6.	Call Forward Busy
7.	Call Forward Don't Answer
8.	Call Forward Validation
9.	Call Park
10.	Call Pickup
11.	Calling Number Identification ⁴
12.	Electronic Key Telephone Service (EKTS) Group Intercom ²
13.	EKTS Intercom ²
14.	EKTS Shared DN ²
15.	Emergency Service Bureau
16.	Executive Busy Override
17.	Executive Busy Override Exempt
18.	Flexible Calling ³
19.	Feature Code Access
20.	Hold and Retrieve
21.	Hunting ⁴
22.	Last Number Redial ⁴
23.	Loudspeaker and Radio Paging Access
24.	Loudspeaker Paging and Line Termination
25.	Make Set Busy ⁴
26.	Message Waiting and Call Request
27.	Name and Reason Display ⁴
28.	Ring Again ⁴
29.	Speed Calling ⁴
30.	Release ⁴

¹ Additional Call Offering is the **ISDN** version of call waiting. Also applicable to circuit-mode data.

² EKTS is the **ISDN** version of MADN SCA.

³ Flexible Calling is the **ISDN** version of 3-Way Calling with Transfer.

⁴ Also applicable to circuit mode data.

APPENDIX A**Draft Canadian Standards**

1. CAN/CSA T544 "Minimal Set of Bearer Services for the Basic Rate Access Interface".
2. CAN/CSA T542 "Integrated Services Digital Network - Data Link Signalling Specification for Application at the User-Network Interface".
3. CAN/CSA T541 "Integrated Services Digital Network (ISDN) - Basic Access Interface for Use on Metallic Loops for Application on the Network Side of the NT (Layer 1 Specification)".

dpANS Standards (in T1 ballot process)

1. dpANS T1.607 "Digital Subscriber System No. 1 (DSS1) - Layer 3 Signalling Specification for Circuit Switched Bearer Service".
2. dpANS T1.608 "Digital Subscriber System No. 1 (DSS1) - Layer 3 Signalling Specification for X.25 Packet-Switched Bearer Service".
3. dpANS T1.610 "ISDN - Generic Procedures for the Control of the ISDN Supplementary Services".

APPENDIX B

BRA:	Basic Rate Access
CCITT:	The International Telephone and Telegraph Consultative Committee
CSA:	Canadian Standards Association
dpANS:	draft proposed American National Standard
EKTS:	Electronic Key Telephone Service
ISDN:	Integrated Services Digital Network
kbps:	kilobits per second
MADN SCA:	Multiple Appearance Directory Number Single Call Arrangements
NIS:	Network Interface Specification
T1:	Committee T1 of the Exchange Carrier Standards Association
T1S1:	Technical Sub-Committee S1 of Committee T1
TEI:	Terminal Endpoint Identifier