



Provisioning the Switch

This appendix provides the information necessary for properly provisioning a switch for T1 access, T1 PRI access, E1 access, E1 PRI access and ISDN BRI access to the WAN. This appendix covers these topics:

- [Provisioning the switch for T1 access](#)
- [Provisioning the switch for T1 PRI access](#)
- [What you need from your E1/PRI service provider](#)
- [Supported WAN switched services](#)
- [Provisioning the switch for ISDN BRI access](#)

Provisioning the switch for T1 access

If you use an inband signaling line, the T1 circuit at the Point-of-Presence (POP) must support the translations listed in [Table A-1](#) for compatibility with the MAX.

Table A-1. T1 access provisioning information

Translation	Optional or required
Two-state DTMF (Dual-Tone Multifrequency) dialing	Required
Outgoing wink start	Required
Incoming Immediate seizure	Optional for a switch Does not apply on T1 lines to a PBX
Incoming wink start	Optional for a switch Required on T1 lines to a PBX
Incoming digits suppressed	Required, except when a PBX is connected to T1 line supplied by the MAX through PRI-to-T1 conversion
Answer supervision	Required
Switched data	Required No voice/digital loss plan is allowed, but the drop-and-insert channels to a PBX and the channels to digital modems can be voice channels

Four-state A bit signaling, four-state B bit signaling, and pulse dialing are not supported; however, lines using these types of signaling are passed through transparently when the MAX performs drop-and-insert between lines #1 and #2.

For further information on wink-start and inband signaling, see the description of the Rob Ctl parameter in the *MAX Reference Guide*.

Provisioning the switch for T1 PRI access

Request the following information from your WAN provider about your WAN interface:

- Whether the line uses inband or ISDN D-channel signaling
- Whether the line uses B8ZS or AMI line encoding
- Whether the line uses ESF or D4 framing
- Each phone number assigned to the line on a channel-by-channel or service-by-service basis
- The number of nailed-up channels, if any
- The number of unused channels, if any
- The types of call-by-call services (also called NSF identifiers) on the switched channels
- Whether the line uses B channel, H0 channel, or H11 channel provisioning
- The D-channel assignment
- The NFAS ID number (if the T1 PRI line is provisioned for NFAS)

Keep this additional information in mind:

- In general, ESF framing and B8ZS line encoding are both recommended for T1 PRI-based applications; in addition, channel 24 must be the D channel, except for applications using Non-Facility Associated signaling (NFAS).
- Applications that require NFAS must be connected to an AT&T or Northern Telecom switch provisioned with NFAS.

The service provider supplies guidelines for NFAS ID assignments and D-channel assignments. Note that the MAX must have D-channel signaling functionality and at least two WAN ports to use NFAS.

- The MAX can receive multichannel calls using Cominet or MP encapsulation only if all channels of the call share a common phone number (namely, a hunt group).

You can request that your service provider supply you with a hunt group.

What you need from your E1/PRI service provider

You need the following information from your E1/PRI service provider:

- The phone numbers assigned to your E1/PRI interface, channel-by-channel
- Nailed-up channels (also called private WAN), if any
- Unused channels, if any
- Switch type (or emulation)-DPNSS only
- Switch layers 2 and 3 configuration-DASS 2 and DPNSS only (A/B end, X/Y end)
- Rate adaption protocol-DASS 2 and DPNSS only (X.30 and V.110)

Note: The MAX can receive multichannel calls using Combinet or MP encapsulation only if all channels of the call share a common phone number (namely, a hunt group). You can request that your service provider supply you with a hunt group.

Supported WAN switched services

The MAX E1 PRI supports the following WAN switched services:

- 56 kbps and 64 kbps data services
- GloBanD (and GVPN in CCITT countries) PRI network services-multiples of 64 kbps

When ordering a data service, make sure it is available end-to-end. Otherwise, the data carried by the call will be corrupted or the carrier will reject the call. For example, a GloBanD 512 kbps call made at a PRI interface is rejected when the called end is BRI, because GloBanD does not support BRI.

Provisioning the switch for ISDN BRI access

The tables that follow supply provisioning information for the ISDN BRI interface when a Net/BRI module (MX-SL-8BRIN) is installed. These requirements vary by switch type. [Table A-2](#) provides information for AT&T 5ESS® switches operating in Point-to-Point (PTP), Multi-Point (MP), or National ISDN-1 (NI-1) mode.

Table A-2. AT&T 5ESS provisioning information

Element	Value	Comments
Terminal Type	A	
Number of CSD (circuit switched data)	2	Except when it handles calls to digital modems, the MAX is a data device, and you can substitute voice service for data service only if end-to-end data integrity is guaranteed. Voice service is required if digital modems are installed.
Number of CSV (circuit switched voice)	1	Except when it handles calls to digital modems, the MAX is a data device, and you can substitute voice service for data service only if end-to-end data integrity is guaranteed. Voice service is required if digital modems are installed.
Number of Call	1	This value is not relevant for proper operation of the MAX.

Appearances		
Ringing/Idle Call Appearances	Idle	This value is the default for Terminal Type A.
Autohold is Y/N	No	This value is the default for Terminal Type A.
Onetouch is Y/N	No	This value is the default for Terminal Type A.

[Table A-3](#) provides provisioning information for Northern Telecom switches.

Table A-3. Northern Telecom provisioning information

Element	Value	Comments
Signaling	Functional	
Protocol version control (PVC)	1 or 2	1 is NTI custom. 2 is NI-1 (National ISDN-1), which requires a TID to be assigned as a suffix to the SPID.
TEI assignment	Dynamic	
Release Key	No	This value is not relevant for proper operation of the MAX.
Ringing Indicator	No	This value is not relevant for proper operation of the MAX.
EKTS (electronic key telephone system)	off	

Note: The MAX can receive multichannel calls using Combinet or MP encapsulation only if all channels of the call share a common phone number (namely, a hunt group). You can request that your service provider supply you with a hunt group.

Information required from the ISDN BRI provider

If a Net/BRI module (MX-SL-8BRIN) is installed, your ISDN BRI provider must provide you with the following information:

- The phone number assigned to your ISDN BRI line.
- The SPIDs assigned to your ISDN BRI line (for lines running in any mode other than AT&T Point-to-Point)
- Which channels are nailed up or unused, if any

SPIDs for AT&T 5ESS switches

If your ISDN BRI line comes from an AT&T 5ESS switch operating in Multi-Point (MP) or National ISDN-1 (NI-1) mode, each SPID has the following format:

```
01 NNNNNNN 0 TT
```

- NNNNNNN is the 7-digit phone number of the ISDN BRI line.

- TT is the 2-digit TID (required only for NI-1).

The TID can be a value from 00 to 62. It is assigned by your carrier. Ascend recommends that you use 00 as the TID for all SPIDs.

For example, suppose that 555-1212 is the 7-digit phone number of an ISDN BRI line using Multi-Point mode. The telephone company gives you the following SPID:

```
0155512120
```

Now, suppose that 555-6001 and 555-6002 are the 7-digit phone numbers of an ISDN BRI line using NI-1 mode. You choose TID=00 for both numbers and the telephone company gives you the following SPIDs:

```
017696001000
```

```
017696002000
```

If your ISDN BRI line operates in Point-to-Point (PTP) mode, SPIDs are not required.

SPIDs for Northern Telecom DMS-100 switches

If your ISDN BRI line comes from a Northern Telecom (NTI DMS-100) switch, each SPID has the following format:

```
AAANNNNNNN SS TT
```

- AAA is the 3-digit area code of your ISDN BRI line.
- NNNNNNN is the 7-digit phone number of your ISDN BRI line.
- SS is the SPID suffix, which can contain zero, one, or two digits as follows:
 - Empty
 - 1 and 2 for each ISDN BRI line
 - 01 and 02 for each ISDN BRI line
- TT is the 2-digit TID (required only for NI-1 [PVC=2])

The TID can be a value from 00 to 62. It is assigned by your carrier. Ascend recommends you use 00 as the TID for all SPIDs.

For example, suppose you are using Northern Telecom in NTI Custom mode [PVC=1]). 415-555-1212 is the phone number of your ISDN BRI line, including the area code. The telephone company gives you the following SPID:

```
415555121201
```

Now, suppose you are using Northern Telecom in NI-1 mode [PVC=2]). 510-555-6001 and 510-555-6002 are the phone numbers of your ISDN BRI line. You choose TID=00 for both numbers and the telephone company gives you the following SPIDs:

5107690010100

5107690020200

[HOME](#) [CONTENTS](#) [PREVIOUS](#) [NEXT](#) [INDEX](#)

techpubs@eng.ascend.com

Copyright © 1998, Ascend Communications, Inc. All rights reserved.