Q&A

How do I configure an Atlas for PRI to BRI switching?

Q: How do I configure an Atlas for PRI to BRI switching?

A:

Introduction

The Adtran Atlas supports both Primary and Basic Rate ISDN. Primary Rate ISDN provides up to 23 bearer (B) channels and one signaling channel (D channel). The Atlas T1/PRI interface uses a standard RJ-48C connector. Basic Rate ISDN provides up to two B channels and one D channel. The Atlas Octal BRI Module provides a standard U-interface which uses an RJ-45 connector. Converting the Atlas BRI U-interface to an S/T bus requires the use of an NT1 device.

In switching applications, the Atlas uses a simple configuration scheme known as the **Dial Plan**. There are two parts to the **Dial Plan** - **Network Term** and **User Term**. Typically, the Network Term will be the service line provided by the telco or the line that interfaces with the public network. The User Term is most often the interface used to connect other customer premises equipment to the Atlas.

Before you begin

Before you begin configuration of the ADTRAN Atlas, you need some basic information.

1. Information needed from the PRI service provider:
    a. Switch Type of the PRI line (Ex: National ISDN, DMS-100, 5ESS, 4ESS)
    b. Number of B channels in service
    c. Phone number(s) assigned to the PRI line
2. Information needed from the end user/customer:
    a. Switch Type of the BRI line* (determined by the BRI switch - i.e. Atlas)
    b. Phone Numbers for the BRI (These are the same as the PRI numbers.)
    c. SPIDS for the BRI* (See note on creating these in the BRI Config section.)

*NOTE: The Switch Type and SPIDS for the BRI are user defined. Remember to program the same information in the attached user equipment.

Configuration of the Atlas

To create the network shown in Figure 1, you must program the Atlas in two steps. First, configure the PRI side of the network in the **Network Term** portion of the **Dial Plan**. Then, configure the BRI side of the network in the **User Term** portion. The procedures for both steps are found below.
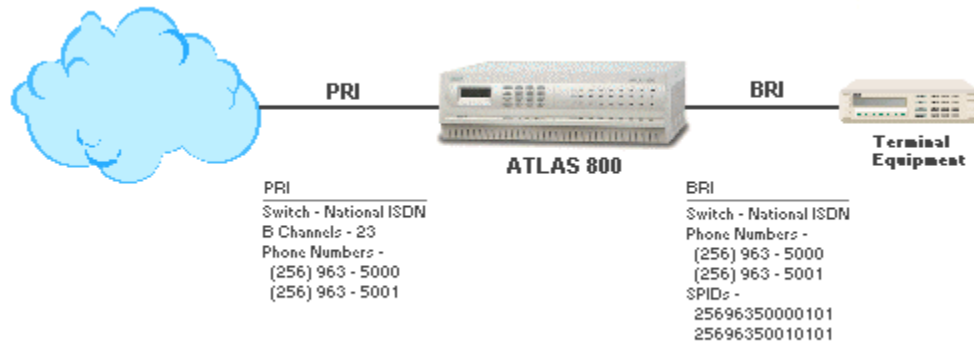

Figure 1

1. **Configuring the PRI in the Atlas**

   The PRI is configured in the **Network Term** portion of the **Dial Plan**. The **Network Term** configuration is concerned with the following fields:
   1. **Out # Accept**
   2. **Out # Rej**
   3. **Ifce Config**
      A. **Switch Type**
      B. **First DS0**
      C. **Number of DS0s**

   NOTE: This is not a complete list of the **Ifce Config** features. For simplicity, any field not mentioned in this document remains in the default state.

   - **Out # Accept** -- typically '$', which represents 'all calls'. This feature can be used to restrict outbound calls. All calls meeting the criteria entered in this field are allowed to pass through. For example, an entry of 'N$' allows only local calls to be sent out the PRI.
   - **Out Number Reject** -- typically left blank. This feature can also be used to restrict outbound calls. In contrast to the Accept List, the Reject List blocks all calls meeting the criteria entered in this field. For example, an entry of '1$' blocks all long distance calls on the PRI.
   - **Interface Config** -- contains provisioning information of the PRI given by the service provider. Figure 1 shows the switch type to be National ISDN, and the number of active B channels to be 23. This signifies a full PRI. Configure this PRI with the following parameters.

   Switch Type: National ISDN

First DS0: 1
Number of DS0s: 23

NOTE: The Atlas automatically uses channel 24 as the D channel. The D channel may not be provided on any other DS0.

Figures 2 and 3 show how the Network Term Entry should look.

Figure 2

```
vlab.adtran.com - PuTTY                                          _ □
ATLAS 550/Dial Plan/Network Term[1]/Interface Configuration
Outgoing Number Accept List  Switch Type              National ISDN
Outgoing Number Reject List  First DS0                1
Interface Configuration      Number of DS0s           23
Substitution Template        Outgoing Number Conv.    ISDN-National As Dialed
                             Strip MSD                None
                             Ntwrk Spec. Fac. - Voice Normal
                             Ntwrk Spec. Fac. - Data  Normal
                             Called Digits Transfered All
                             Outgoing Caller ID       Send as provided
                             Source ID                0
                             Swap ANI/DNIS            Disabled
                             B Channel Selection      Normal
                             Busy Option              Normal




SYS: OK     NETWK1:ONLN    NETWK2:ONLN          1: --    2:ONLN   3:TEST   4:ALRM
                                                                ^Z=help 15:59
```

Figure 3

2. **Configuring the BRI**

The BRI is configured in the **User Term** portion of the **Dial Plan**. The **User Term**
configuration is concerned with the following fields:
   0. **In # Accept**
   1. **Out # Rej**
   2. **Infce Config**
        A. **Switch Type**
        B. **SPID List**

- **In # Accept** -- represents the phone number associated with the BRI Line.
  Remember that telco provides these numbers on the PRI. Calls coming into the
  Atlas matching the In # Accept list are routed to this port. For example, if all
  calls to phone number 963-5000 should be routed to the BRI on Slot 1, Port 1
  (1.1), the In # Accept List for 1.1 will contain the number 963-5000.
- **Out Number Reject List** -- typically left blank. This feature can also be used to
  restrict outbound calls. In contrast to the Accept List, the Reject List blocks all
  calls meeting the criteria entered in this field. For example, an entry of '1$' blocks
  all long distance calls on the PRI.
- **Interface Configuration** -- contains user defined provisioning information for
  the BRI. The user defined information is local to the Atlas and the BRI terminal

equipment. Do not contact your telco for this information; this is completely independent of the PRI provisioning. Figure 1 shows the switch type to be National ISDN, and the number of active B channels to be 2. The BRI has two phone numbers associated with it along with two corresponding SPIDS. Configure this BRI with the following parameters.
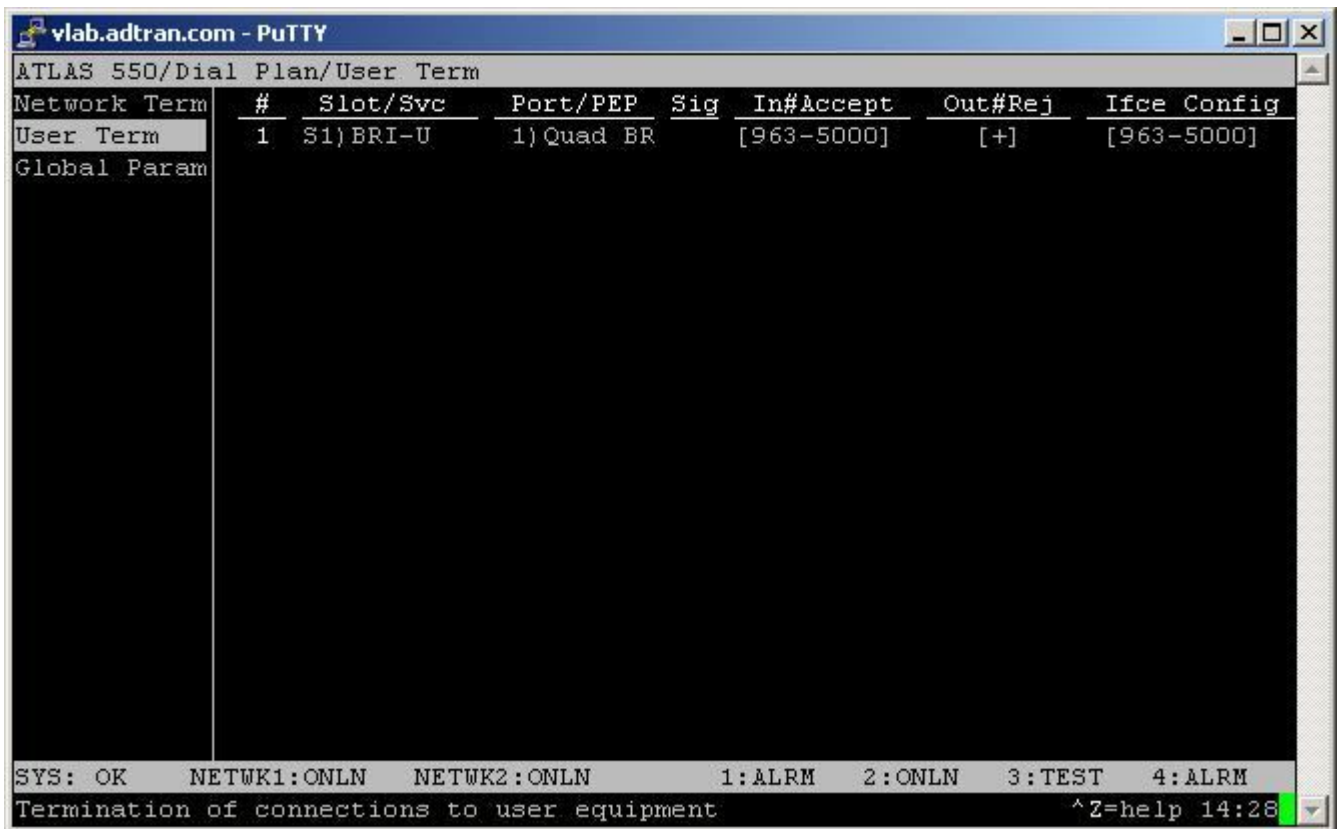
Switch Type: National ISDN
SPID LIST:

Phone Number	SPID	Calls
963-5000	25696350000101	1
963-5001	25696350010101	1

NOTE: The SPIDS were created using a standard format of area code, phone number, and suffix of 0101. Use this format to avoid any problems with minimum length requirements. Make sure to program the same SPIDS in the BRI terminal equipment as well as the Atlas. Also, the **Phone Number** must be identical to the number placed in the **In#Accept** field.

Figures 4 through 7 show how the User Term entry should look for this scenario.

Figure 4

Figure 5

Figure 6

Figure 7