ADTRAN

TECHNICAL SUPPORT NOTE
How do I Configure the Atlas for PRI to multiple PRI over-subscription?

Introduction
How do I Configure the Atlas for PRI to multiple PRI over-subscription?

Use of the ATLAS dial plan can make greater use of your leased PRI by allowing multiple end devices to access that PRI. This equates to a savings in cost. This application can be applied to connect routers, PBXs, faxes, analog phones, and/or video conference gear to a PRI. In this example, we will over-subscribe a PRI to two end devices; a router and a PBX.

Before You Begin

Before configuring the ATLAS, you will need to determine the switch type of the PRI being delivered from your provider. Additionally, you will need to know the switch types supported by your end equipment. The ATLAS will need to be equipped with the T1/PRI network module in the first network slot, and a dual T1/PRI module in the first open slot.

Configuring the ATLAS
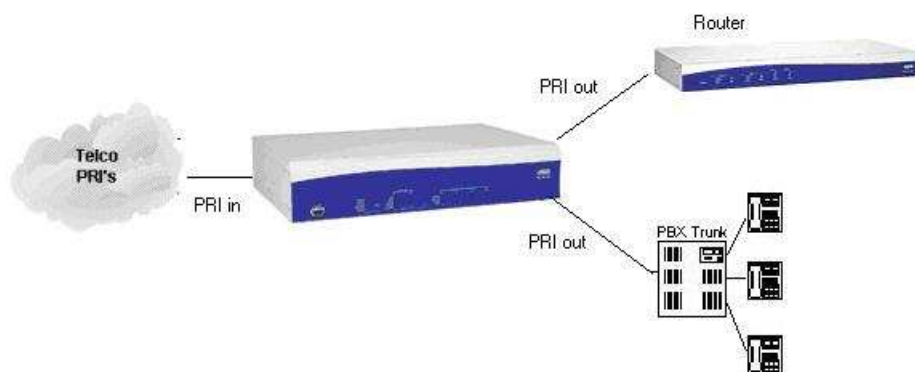
Consider the situation shown below in Figure 1.

Figure 1
Oversubscription of a PRI in a 1:2 ratio

In Figure 1, a PRI comes into the ATLAS and is split into 2 PRIs. One of these PRIs goes to a router, while the other PRI goes to a PBX. The network PRI will connect with slot network 1, port 1. The router will connect to slot 1, port 1 and the PBX will connect with slot 2, port 2. In this setup, the router and PBX must share the 23 channels out to the PSTN, though they are dynamically allocated to the device that needs it on a first come, first serve basis.

An incoming call will ring down the network PRI and terminate in the ATLAS. The ATLAS will route the call to either the router or the PBX based on the DNIS of the incoming call. All outbound calls will go out the PRI to the network.

Configuring Timing

Under the **System Config** menu, **Primary Timing Source** must be changed so that the ATLAS is taking timing from the PRI. In the example network shown in Figure 1, timing will be taken from the PRI on Slot:Ntw1 Port: 1. This configuration is shown in Figure 2 below.

Figure 2 – Screenshot of timing source set correctly

Network Setup

The network PRI is configured in the **Network Term** portion of the **Dial Plan**. The **Network Term** configuration consists of the following fields:

1. **Slot/Svc**
2. **Port/PEP**
3. **Sig**
4. **Out # Accept**
5. **Out # Rej**
6. **Ifce Config**
    - **Switch Type**
    - **First DS0**
    - **Number of DS0s**
7. **Subst Templ**

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.

1. **Slot/Svc** - the slot, or module, that contains the interface that you wish to configure is chosen here. In this case, the network PRI is terminating into the network 1 module, so choose N1) T1/PRI-1.
2. **Port/PEP** - the port on the module that is the interface that you are configuring. Since the network 1 module only has a single T1 port on it, select your only choice of 1) T1/PRI.
3. **Signaling** - Only applicable for T1s, this determines whether you are configuring the T1 as a robbed bit line (such as E+M wink) or a PRI. In this scenario, choose PRI.
4. **Out # Accept** - determines the called phone numbers that will be routed out this interface. This feature can be used to restrict outbound calls. All calls meeting the criteria entered in this

field are allowed to pass through. Since we are routing outbound calls to anywhere on the PSTN out this interface, we will insert '$' into the Accept Number field, which is a wildcard that represents "all calls". A full description of wild cards are available while in this field by pressing <Ctrl-A>.

5. **Out Number Reject** - can 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 '1900$' blocks all outgoing 1-900 numbers from being dialed out. Here, we will leave this field blank.

6. **Interface Configuration** - contains provisioning information of the PRI given by the service provider. We will assume that we are being delivered a full PRI that is provisioned as a NI2 trunk. As such, we will set the following fields in the interface config:
    a. **Switch Type:** National ISDN
    b. **First DS0:** 1
    c. **Number of DS0s:** 23

7. **Substitution Template** – used to substitute ANI or DNIS numbers for those that are received on the interface. We will not be using this feature in this application.

Figure 3 display the setup **Interface Configuration**, while Figure 4 displays the final look of the **Network Term** configuration.
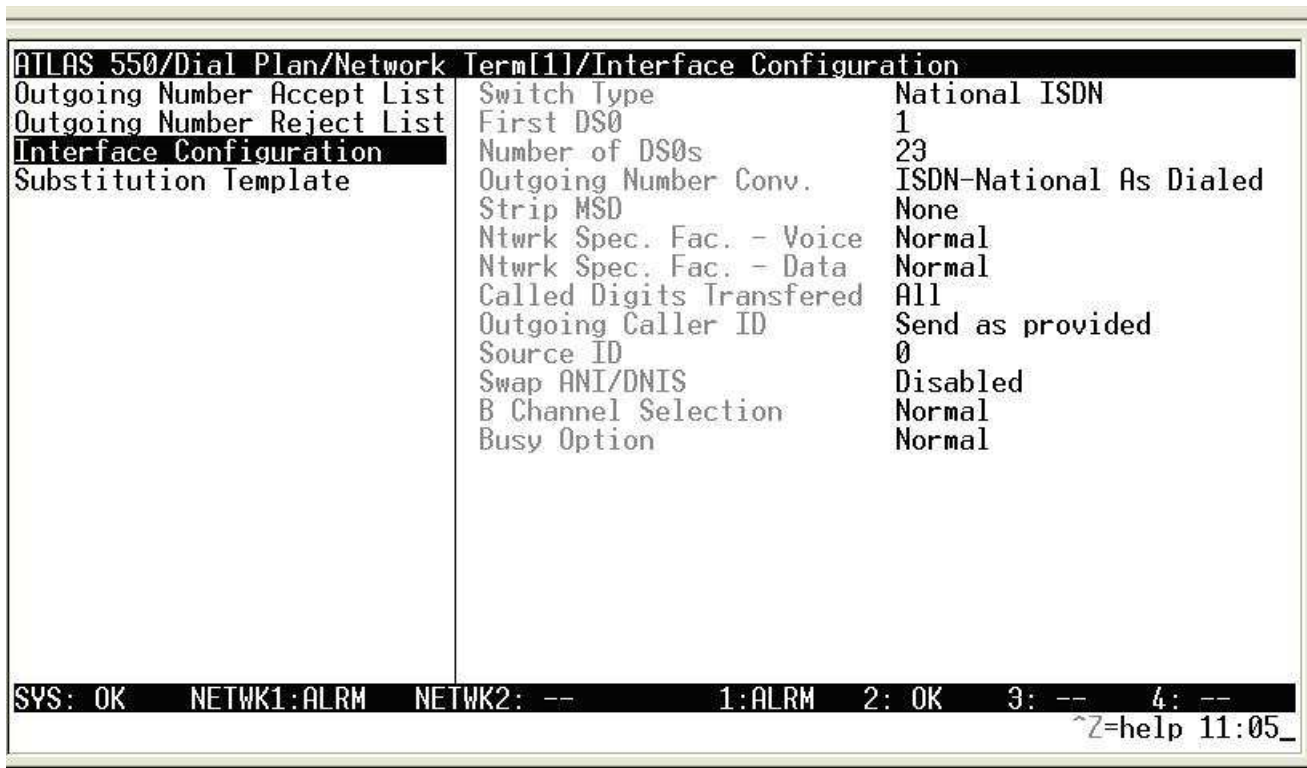

Figure 3
Interface Configuration of the network PRI

```
ATLAS 550/Dial Plan/Network Term[1]
Network Term  #   Slot/Svc    Port/PEP   Sig Out#Accept   Out#Rej   Ifce Config
User Term      1  N1)T1/PRI-1  1)T1/PRI   PRI    [$]         [+]        [+]
Global Param





















SYS: OK     NETWK1:ALRM    NETWK2: --          1:ALRM   2: OK    3: --    4: --
                                                    INS/DEL      ^Z=help 11:06
```

Figure 4
The final Network Term configuration

Configuring the CPE PRIs

The PRIs that will terminate into the router and PBX will be configured in the **User Term** of the **Dial Plan**. The **User Term** has very similar fields to the **Network Term** and you will configure your two PRIs in the same way as you configured your network PRI. In order to add a second entry in the **User Term**, highlight the index number of the last entry, in this case it's the number 1 found under the # field. While the number 1 is highlighted, press <I> to insert a new entry.

In the **User Term**, the field **In#Accept** functions the same way as the **Out#Accept** in the **Network Term**. You will supply a pattern that the dialed phone number must match to have a call routed to that interface. For this example, let's pretend you have been given a block of DIDs numbering from 5200-5299. We will assign 5200 to the router, and the rest of your numbers to your users through the PBX. Under the **In#Accept** field for your slot 1/port 1 interface, insert 5200. For the slot 1/port 2 interface, insert 52XX. Your final **User Term** configuration should look like Figure 5. (**Note:** While the number 5200 will match on the wildcard entry of 52XX for your PBX, the **ATLAS** will correctly route your incoming call to the router because the router's entry of 5200 is more specific.)

```
ATLAS 550/Dial Plan/User Term[1]
Network Term   #   Slot/Svc   Port/PEP   Sig   In#Accept   Out#Rej   Ifce Config
User Term      1  S1)T1/PRI-2  1)T1/PRI   PRI   [5200]       [+]        [+]
Global Param   2  S1)T1/PRI-2  2)T1/PRI   PRI   [52XX]       [+]        [+]
```

```
SYS: OK     NETWK1:ALRM    NETWK2: --          1:ALRM   2: OK   3: --    4: --
                                                    INS/DEL          ^Z=help 16:54_
```

Figure 5
The final User Term configuration

If you experience any problems using your ADTRAN product, please contact ADTRAN Technical Support.

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