

ADSL Configuration



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Installing ADSL Module (Case 1)



◆ No external connection needed

● iBG2016

- Supported on mini-module slot 0/0

● iBG2006

- Supported on mini-module slots 0/0 and 0/2

● iBG1003

- Supported on mini-module slot 0/2

● iBG1004

- Supported on mini-module slots 0/0 and 0/3

Installing ADSL Module (Case 2)



● iBG3026/2016/2006

- Can be installed on any mini-module slot except for ones used for Case 1
- Ethernet port on ADSL module should be connected with Ethernet port on main system using CAT5 cable

Connecting ADSL Module (Case 2 Installation)



- 'connect-dsl 0/1' enables connection with ADSL module on slot 0/1
- 'connect-dsl 0/1' command fails in Case 1 installation

```
iBG2006# configure terminal
iBG2006/configure# interface ethernet 0/1
iBG2006/configure/interface/ethernet (0/1)#connect-dsl 0/1
iBG2006/configure/interface/ethernet (0/1)#show adsl status

*** ADSL Module: 0/1 (Annex A) ***
=====
*Connected Status: [Ethernet 0/1]
*Communication Status: [Success]
*Firmware Version: [1.4.0.A]
*Link Status: [UP/adsl2p<auto>], ds_rate:24796 Kbps, us_rate:1073 Kbps
*ATM PVC(vpi/vci): None
=====
```

Configuring ADSL Module



● ADSL module configuration

- `configure/module/adsl (0/0/0)#`

Configuring ADSL Module

● configure options:

- Under “module” subcommand tree
- DUT1/configure/module/adsl (0/0/0)# ?

<code>enable</code>	<code>enable ADSL link.</code>
<code>exit</code>	<code>Exit from module mode</code>
<code>operating-mode</code>	<code>configure the operating mode of ADSL line</code>
<code>pvc</code>	<code>configure ATM PVC settings</code>
<code>reboot</code>	<code>reboot module</code>
<code>reset-link</code>	<code>reset link</code>
<code>soft-reset</code>	<code>reset the module's software</code>
<code>update</code>	<code>update ADSL firmware</code>

Configuring ADSL Module



● configure options:

- Under “pvc” subcommand tree
- Used to configure ATM PVC
- DUT1/configure/module/adsl (0/0/0)/pvc 0 100# ?

```
enable  
encapsulation  
exit  
oam-loopback  
oam-manage  
tm
```

```
enable / disable (no enable) the PVC.  
configure encapsulation type  
Exit from pvc mode  
test ATM F5 loopback  
enable VC management  
configure ATM traffic management
```


🟡 show adsl subtree

```
DUT1/configure# show adsl ?
```

oam-loopback	display the result of testing ATM F5 loopback
oamstats	display ATM OAM statistics
pvc	display ATM PVC settings on ADSL link
status	display the status of ADSL modules
vcstats	display ATM PVC statistics

ADSL Show Commands

- show module configuration all
- show adsl pvcs 0/0/0
- show adsl status

```
iBG2006/configure# show adsl status

*** ADSL Module: 0/0 (Annex A) ***
=====
*Module Status: [NORMAL]
*Communication Status: [Success]
*Firmware Version: [1.4.0.A]
*Link Status: [UP/adsl2p<auto>], ds_rate:24540 Kbps, us_rate:1073 Kbps
*ATM PVC(vpi/vci): 0/100
=====
```

Point to Point Protocol over ATM



● Configuring a PPPoA virtual-access interface on an ADSL ATM PVC

```
Ubigate#conf t
Ubigate/configure/#module adsl 0/0/0
Ubigate/configure/module/adsl (0/0/0)#pvc 0 100
Ubigate/configure/module/adsl (0/0/0)/pvc 0 100#exit 2
Ubigate/configure#interface virtual-access pppoa1
Ubigate/configure/interface/virtual-access pppoa1#protocol pppoa
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa#add_vc 0/0/0 vc 0
100
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa#ppp_type ppp
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa#ip negotiated
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa#
```

Configure PPP Authentication

● Enables PAP authentication.

● Client side

```
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp pap sent-  
username Admin Networks
```

● Server side

```
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp  
authentication pap  
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp pap peer-  
name Admin Networks  
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp  
authentication-database local
```

Configure PPP Authentication

● Enables CHAP authentication.

● Client side

```
Ubigate#configure term
Ubigate/configure#interface virtual-access pppoa1
Ubigate/configure/interface/virtual-access pppoa/protocol/pppoa# ppp
chap sent-username Admin handy
```

● Server side

```
Ubigate#configure term
Ubigate/configure#interface virtual-access pppoa1
Ubigate/configure/interface/virtual-access pppoa1# protocol pppoa
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp
authentication chap
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp
chap peer-name Admin handy
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp
chap sent-username Admin handy
```

Configure IP address and options



● IP address (dynamic & static)

- Can be assigned dynamically by the peer

```
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ip negotiated
```

- Can be assigned manual assignment by administrator

```
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ip address 10.1.1.1 24
```

- DNS options

```
2006/configure/interface/virtual-access pppoa1/protocol/pppoa# ip primary_dns_request
2006/configure/interface/virtual-access pppoa1/protocol/pppoa# ip secondary_dns_request
```




● Display a pppoa virtual-access interface information

- show interface virtual-access

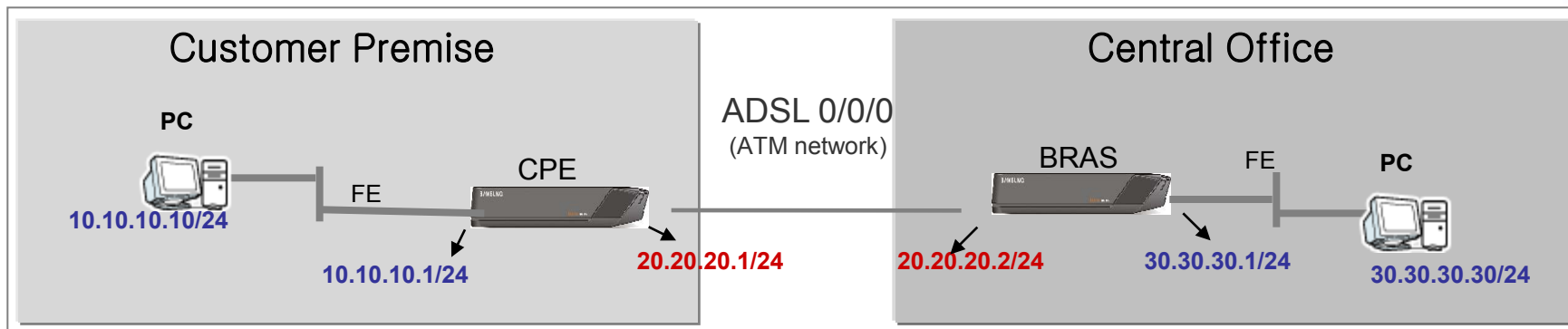
```
Ubigate/configure#show interface virtual-access pppoa1
virtual-access pppoa1
-----
protocol type : pppoa
status                               down, ipcp not in open state
number of VC                          1
total bandwidth
upstream bandwidth                    0 kbps
downstream bandwidth                  0 kbps
```

Bound VC Info : 1 VC(s)

PORT	VC (VPI/VCI)	STATUS	UPBANDWIDTH(kbps)	DOWNBANDWIDTH(kbps)
0/1/0	0/100	DOWN	1073	24796

```
encapsulation                        ppp
  mtu                               64-1500-9216
  mru                               64-1500-9216
  magic_check                       enable
```

Exercise : Configure a PPPoA interface



● Configure PPPoA on 1xADSL ATM PVC

- On CPE side, create an interface for PPPoA service

● CPE Side Configuration

```
Ubigate/configure# interface virtual-access pppoa1
Ubigate/configure/interface/virtual-access pppoa1# protocol pppoa
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# add_vc 0/0/0 vc 0 100
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ppp_type ppp
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ip address 20.20.20.1 24
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ip primary_dns_request
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa# ip secondary_dns_request
```

```
Ubigate# show ip interfaces brief
```

Interface	Type	IP-Address/Mask	Status
ethernet0/1	ETHERNET (802.3)	unassigned	Up
pppoa1	VIRTUAL-ACCESS (PPPoA IPCP)	unassigned	Down

Exercise : Configure a PPPoA interface



- **show ip interfaces brief**
- **show interface virtual-access [intf_name]**
- **show interface virtual-accesses**
- **show ip route**
- **add routes**
 - **ip route command**
- **ping**

IP over ATM

● Configuring an IPoA virtual-access interface on an ADSL ATM PVC

```
Ubigate#conf t
Ubigate/configure/#module adsl 0/0/0
Ubigate/configure/module/adsl (0/0/0)#pvc 0 100
Ubigate/configure/module/adsl (0/0/0)/pvc 0 100#exit 2
Ubigate/configure#interface virtual-access ipoa
Ubigate/configure/interface/virtual-access ipoa#protocol ipoa
Ubigate/configure/interface/virtual-access ipoa/protocol/ipoa#add_vc 0/0/0 vc 0 100
Ubigate/configure/interface/virtual-access ipoa/protocol/ipoa#ip address 5.5.5.1 24
```



● Display an IPoA virtual-access interface information

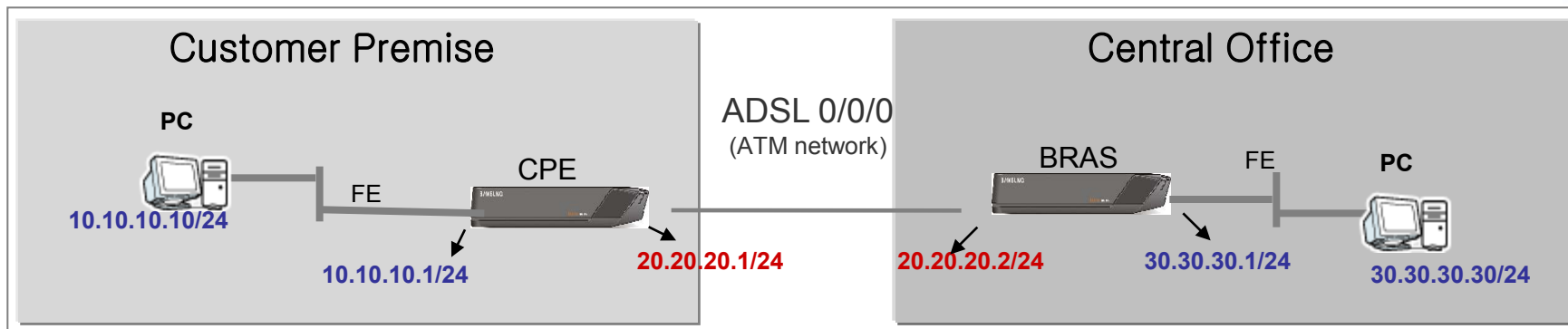
- show interface virtual-access

```
Ubigate/configure#show interface virtual-access ipoa
Virtual Access: ipoa                Status: up
IP Address: 5.5.5.1                 Subnet Mask: 255.255.255.0
MTU: 1500 bytes                     Protocol: IPoA
Crypto type:                        ADSL PVC : Adsl 0/1/0 vpi=0 vci=100

IPoA Statistics:
counters since last boot/clear
  Bytes Rx          0      Bytes Tx          0
  Packets Rx        0      Packets Tx          0
  Err Packets Rx    0
  Up/Down States    0

counters for the last 5 minute(s) (updated per 15 sec)
  Bytes Rx          0      Bytes Tx          0
  Packets Rx        0      Packets Tx          0
  Err Packets Rx    0
  Up/Down States
```

Exercise : Configure an IPoA interface



● Configure IPoA on 1xADSL ATM PVC

- On CPE side, create a virtual-access interface for IPoA service

● CPE side configuration

```
Ubigate/configure# interface virtual-access ipoa1
```

```
Ubigate/configure/interface/virtual-access ipoa1# protocol ipoa
```

```
Ubigate/configure/interface/virtual-access ipoa1/protocol/ipoa# add_vc 0/0/0 vc 0 100
```

```
Ubigate/configure/interface/virtual-access ipoa1/protocol/ipoa# ip address 20.20.20.1 24
```

```
Ubigate/configure/interface/virtual-access pppoa1/protocol/pppoa#
```

```
Ubigate# show ip interfaces brief
```

Interface	Type	IP-Address/Mask	Status
ethernet0/1	ETHERNET (802.3)	unassigned	Up
ipoa1	VIRTUAL-ACCESS (IPoA)	20.20.20.1/24	Up

Exercise : Configure an IPoA interface



- **show ip interfaces brief**
- **show interface virtual-access [intf_name]**
- **show interface virtual-accesses**
- **show ip route**
- **add routes**
 - **ip route command**
- **ping**

PPPoE over ATM

● Configuring a PPPoE virtual-access interface on an ADSL ATM PVC

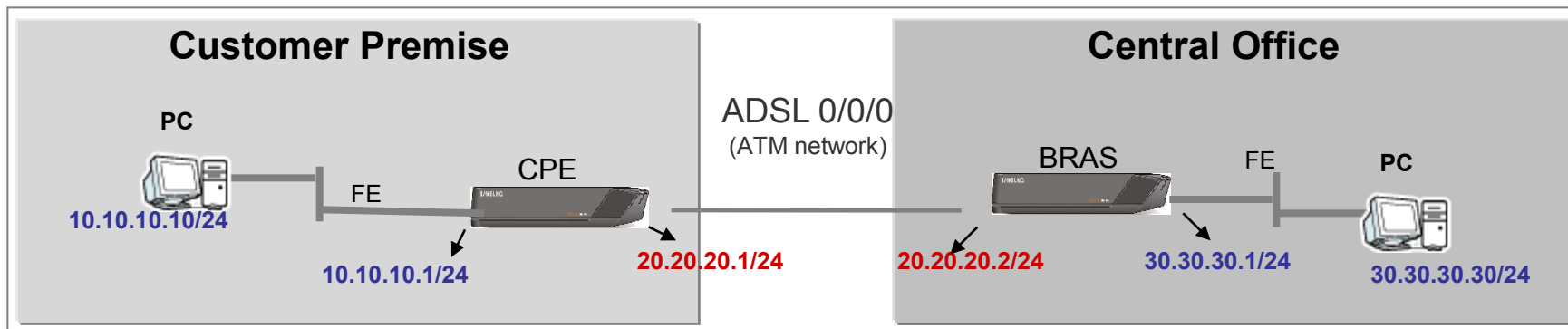
```
Ubigate#conf t
Ubigate/configure/#module adsl 0/0/0
Ubigate/configure/module/adsl (0/0/0)#pvc 0 100
Ubigate/configure/module/adsl (0/0/0)/pvc 0 100#exit 2
Ubigate/configure#interface virtual-access pppoe
Ubigate/configure/interface/virtual-access pppoe#protocol pppoe
Ubigate/configure/interface/virtual-access pppoe/protocol/pppoe#add_vc 0/0/0 vc 0 100
Ubigate/configure/interface/virtual-access pppoe/protocol/pppoe#ppp authentication none
Ubigate/configure/interface/virtual-access pppoe/protocol/pppoe#ip negotiated
```

- Display a PPPoE virtual-access interface information
 - show interface virtual-access

```
Ubigate/configure#show interface virtual-access pppoe
Virtual Access: pppoe                Status: down
Internet Address: Negotiated         Subnet Mask:
MTU: 1492 bytes                     Ethernet: ethernet0/1/0
Protocol: PPPoE                     Mode: client
Authentication: NONE                Crypto type:
Keep alive time: 10 sec              Access Concentrator:

PPPoE Statistics:
Link Up Time      0 Days 0:00:00
  Bytes Rx        0      Bytes Tx        0
  Packets Rx      0      Packets Tx        0
  Err Packets Rx  0
```

Exercise : Configure a PPPoE interface



● Configure PPPoE on 1xADSL ATM PVC

- On CPE side, create an interface for PPPoE service

● CPE Side Configuration

```
Ubigate/configure# interface virtual-access pppoe1
```

```
Ubigate/configure/interface/virtual-access pppoe1 # protocol pppoe
```

```
Ubigate/configure/interface/virtual-access pppoe1 /protocol/ pppoe# add_vc 0/0/0 vc 0 100
```

```
Ubigate/configure/interface/virtual-access pppoe1 /protocol/ pppoe# ppp authentication none
```

```
Ubigate/configure/interface/virtual-access pppoe1 /protocol/ pppoe#ip negotiated
```

```
Ubigate# show ip interfaces brief
```

Interface	Type	IP-Address/Mask	Status
ethernet0/1	ETHERNET (802.3)	unassigned	Up
pppoe1	VIRTUAL-ACCESS (PPPoE)	unassigned	Down

Exercise : Configure a PPPoE interface



- **show ip interfaces brief**
- **show interface virtual-access [intf_name]**
- **show interface virtual-accesses**
- **show ip route**
- **add routes**
 - **ip route command**
- **ping**



Thank You