

ThinkTel



THINKTEL COMMUNICATIONS

PATTON SMART NODE 4990

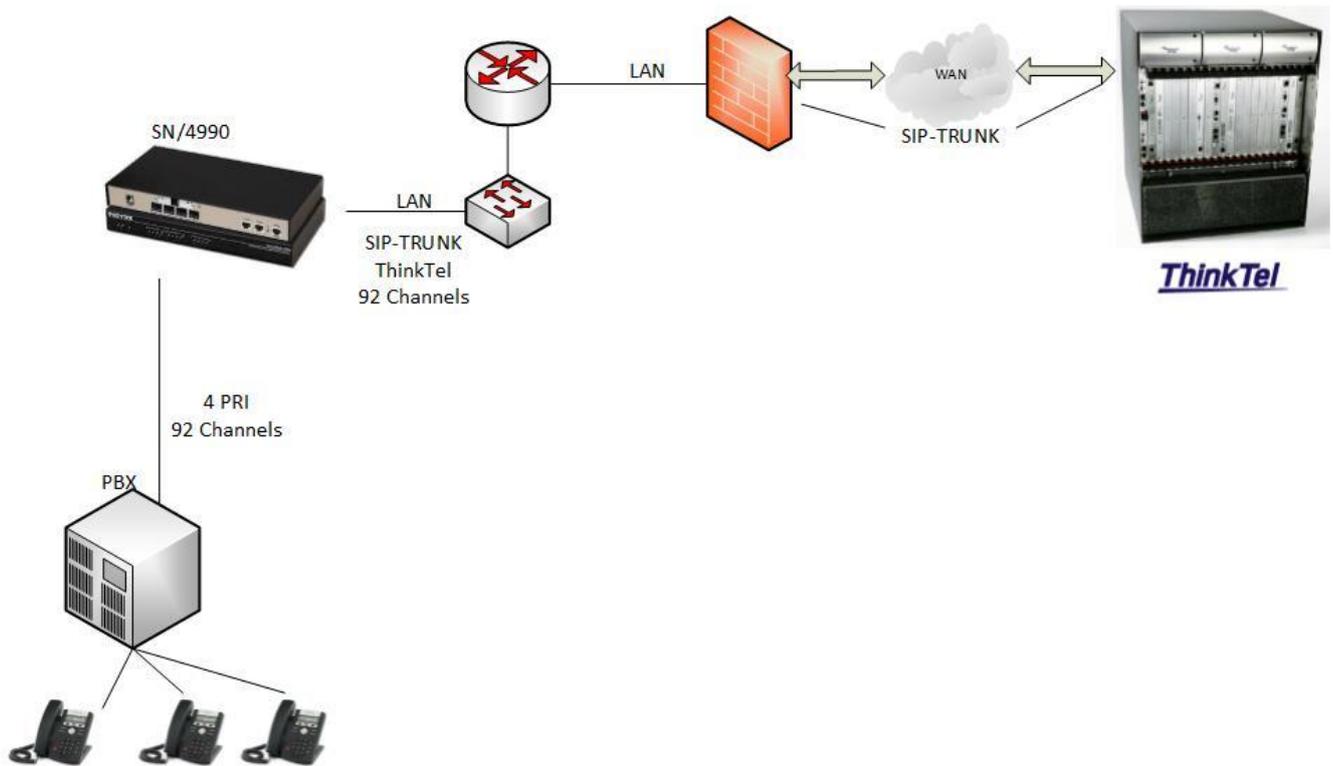
PRI OVER IP - SIP TRUNKING



TABLE OF CONTENTS

1.1	NETWORK DIAGRAM.....	3
1.2	CONNECTING THE SMARTNODE TO YOUR PC	4
1.3	LOGIN TO THE SMARTNODE BY TELNET	4
1.4	LOGIN TO THE SMARTNODE BY GUI	4
1.5	QUICK CONFIGURATION OF THE SMARTNODE.....	5
1.6	CONFIGURATION FILE	6
1.7	EXPORTING CUSTOMIZED CONFIGURATION FILE	10
1.8	ENABLING SIP AUTHENTICATION	11

1.1 NETWORK DIAGRAM



-For this case we are going to use only one PRI interface, 23 concurrent calls



1.2 CONNECTING THE SMARTNODE TO YOUR PC

- First the SmartNode must be connected to the mains the power supply with the power cable. You have to wait until the power LED stops blinking and stays lit constantly
- The SmartNode comes with a built-in DHCP server , Connect your PC to the port ETH0/1 , check that your PC has been assigned an IP address
- Both Ethernet interfaces are activated upon power-up. LAN interface ETH 0/1 provides a DHCP server, the WAN interface uses DHCP client to automatically assign the IP address and network mask

1.3 LOGIN TO THE SMARTNODE BY TELNET

- To access the SmartNode, start the Telnet application by using the IP address 192.168.1.1
- Type the factory Login “ administrator “ and leave the password empty , press enter after the password prompt.

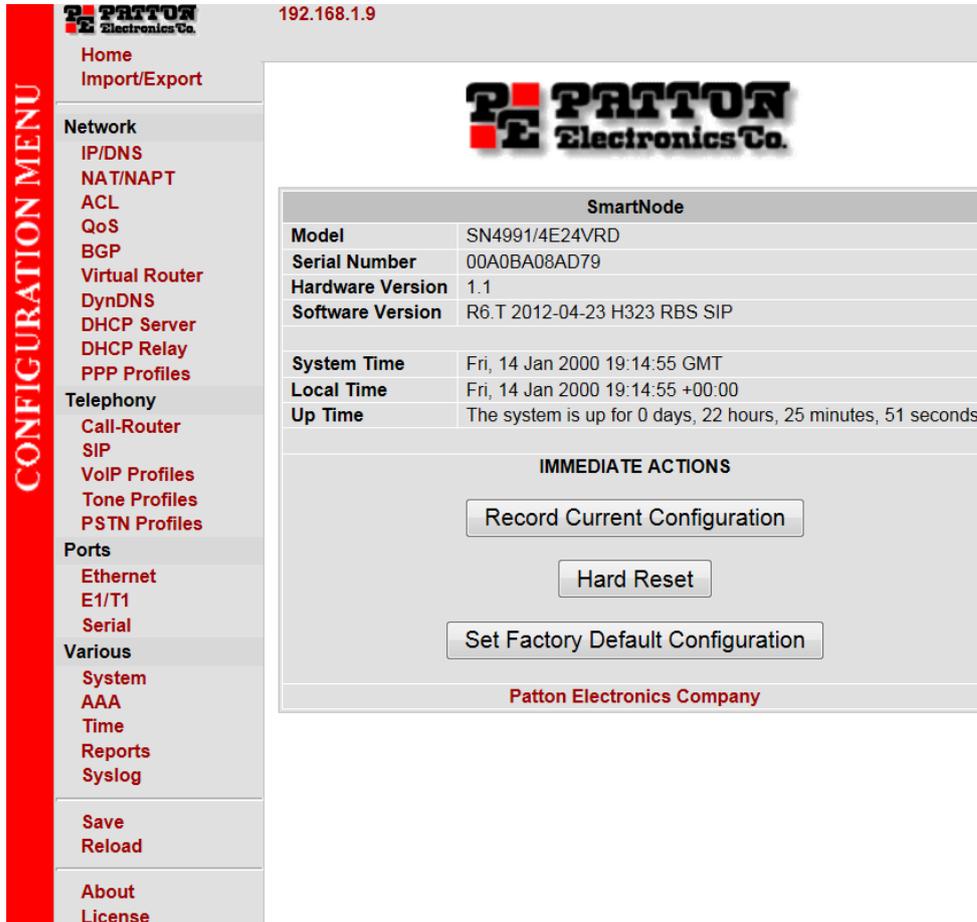
```
Login: administrator
Password : <Enter>
Welcome!
192.168.1.1>
```

- After you have successfully logged in you are in the operator execution mode, indicated by > as command line prompt. With the commands enable and configure you enter the configuration mode.

```
192.168.1.1>enable
192.168.1.1#configure
192.168.1.1(cfg)#
192.168.1.9(cfg)#context ip router
192.168.1.9(ctx-ip)[router]#
```

1.4 LOGIN TO THE SMARTNODE BY GUI

- To access the SmartNode by GUI, on your browser enter the following link <http://192.168.1.1>
- On the prompt enter the username : administrator and leave the password empty



CONFIGURATION MENU

- Home
- Import/Export
- Network
 - IP/DNS
 - NAT/NAPT
 - ACL
 - QoS
 - BGP
 - Virtual Router
 - DynDNS
 - DHCP Server
 - DHCP Relay
 - PPP Profiles
- Telephony
 - Call-Router
 - SIP
 - VoIP Profiles
 - Tone Profiles
 - PSTN Profiles
- Ports
 - Ethernet
 - E1/T1
 - Serial
- Various
 - System
 - AAA
 - Time
 - Reports
 - Syslog
- Save
- Reload
- About
- License

192.168.1.9

SmartNode

Model	SN4991/4E24VRD
Serial Number	00A0BA08AD79
Hardware Version	1.1
Software Version	R6.T 2012-04-23 H323 RBS SIP
System Time	Fri, 14 Jan 2000 19:14:55 GMT
Local Time	Fri, 14 Jan 2000 19:14:55 +00:00
Up Time	The system is up for 0 days, 22 hours, 25 minutes, 51 seconds

IMMEDIATE ACTIONS

Record Current Configuration

Hard Reset

Set Factory Default Configuration

Patton Electronics Company

1.5 QUICK CONFIGURATION OF THE SMARTNODE

- Copy the all data of the configuration file below and paste it into a txt file
- Customize the red data in the txt file as below :
 - 1- “dns-client server” (you modify it and enter your dns IP address)
 - 2- “interface IF_IP_LAN
 ipaddress” (you modify it by any IP of your LAN IP addresses range”
 - 3- “context ip router
 route 0.0.0.0 0.0.0.0 “ (put your default gateway IP)
 - 4-“interface sip IF_SIP_0
 remote “ (put the IP address of ThinkTel Proxy server)
 - 5- Modify all “4388999223” by your 10 digits SIP-TRUNK pilot number provided by ThinkTel
 - 6- Modify all “206.80.250.100” IP addresses by the IP address of the Proxy server provided by ThinkTel



1.6 CONFIGURATION FILE

```
#-----#
#
# SN4991/4E24VRD
# R6.T 2012-04-23 H323 RBS SIP
# 2000-01-13T20:48:47
# SN/00A0BA08AD79
# Generated configuration file
#
#-----#

cli version 3.20
clock local default-offset +00:00
dns-client server 8.8.8.8
webserver port 80 language en

system

    ic voice 0
        pcm law-select uLaw

system
    clock-source 1 elt1 0 0

profile r2 default

profile ppp default

profile call-progress-tone defaultDialtone
    play 1 1000 350 -13 440 -13

profile call-progress-tone defaultAlertingtone
    play 1 1000 440 -19 480 -19
    pause 2 3000

profile call-progress-tone defaultBusytone
    play 1 500 480 -24 620 -24
    pause 2 500

profile call-progress-tone defaultReleasetone
    play 1 250 480 -24 620 -24
    pause 2 250

profile call-progress-tone defaultCongestiontone
    play 1 250 480 -24 620 -24
    pause 2 250

profile tone-set default

profile voip default
    codec 1 g711ulaw64k rx-length 20 tx-length 20
    codec 2 g711alaw64k rx-length 20 tx-length 20
    codec 3 g729 rx-length 20 tx-length 20
    fax transmission 1 relay t38-udp
```



```
profile pstn default

profile sip default
  no autonomous-transitioning

profile aaa default
  method 1 local
  method 2 none

context ip router

  interface IF_IP_LAN
    ipaddress 192.168.1.9 255.255.255.0
    tcp adjust-mss rx mtu
    tcp adjust-mss tx mtu

context ip router
  route 0.0.0.0 0.0.0.0 192.168.1.1 0

context cs switch

  routing-table called-e164 RT_ISDN_TO_SIP_0
    route default dest-interface IF_SIP_0
    route "" dest-interface IF_SIP_0 MAPPING_INCOMING_CALLS

  mapping-table calling-pi to calling-e164 MAP_REMOVE_BLANK_CALLERID
    map restricted to ""

  mapping-table calling-e164 to calling-e164 MAP_LEADING_ZERO
    map (.)-(.)-(.)-(.)-(.) to \1\2\3\4\5
    map (.)-(.)-(.)-(.) to \1\2\3\4
    map (.)-(.)-(.) to \1\2\3
    map (.)-(.) to \1\2

  mapping-table calling-e164 to calling-name MAP_CID_TO_CNAME
    map (.) to \1

  complex-function MAPPING_INCOMING_CALLS
    execute 1 MAP_REMOVE_BLANK_CALLERID
    execute 2 MAP_LEADING_ZERO
    execute 3 MAP_CID_TO_CNAME

  interface isdn IF_ISDN_0
    route call dest-table RT_ISDN_TO_SIP_0
    caller-name
    user-side-ringback-tone

  interface sip IF_SIP_0
    bind context sip-gateway GW_SIP_0
    route call dest-interface IF_ISDN_0
    remote 206.80.250.100 5060
    early-connect
    early-disconnect

context cs switch
  no shutdown
```



```
authentication-service AS_ALL_LINES
  username 4388999223 password qGTMpyb4Xs7I+HE/4la0pg== encrypted

location-service LS_4388999223
  domain 1 206.80.250.100

identity-group default

  authentication outbound
    authenticate 1 authentication-service AS_ALL_LINES username 4388999223

identity 4388999223

  authentication outbound
    authenticate 1 authentication-service AS_ALL_LINES

  registration outbound
    registrar 206.80.250.100 5060
    lifetime 300
    register auto

context sip-gateway GW_SIP_0

  interface LAN
    bind interface IF_IP_LAN context router port 5060

context sip-gateway GW_SIP_0
  bind location-service LS_4388999223
  no shutdown

port ethernet 0 0
  medium auto
  encapsulation ip
  bind interface IF_IP_LAN router
  no shutdown

port ethernet 0 1
  medium auto
  shutdown

port serial 0 0
  transmit-data-on-edge positive
  shutdown

port elt1 0 0
  port-type t1
  clock master
  linecode b8zs
  framing esf
  encapsulation q921

q921
  uni-side net
  encapsulation q931

q931
```



```
protocol ni2
uni-side net
bchan-number-order ascending
encapsulation cc-isdn
bind interface IF_ISDN_0 switch

port elt1 0 0
no shutdown

port elt1 0 1
port-type e1
clock master
framing crc4
shutdown

port elt1 0 2
port-type e1
clock master
framing crc4
shutdown

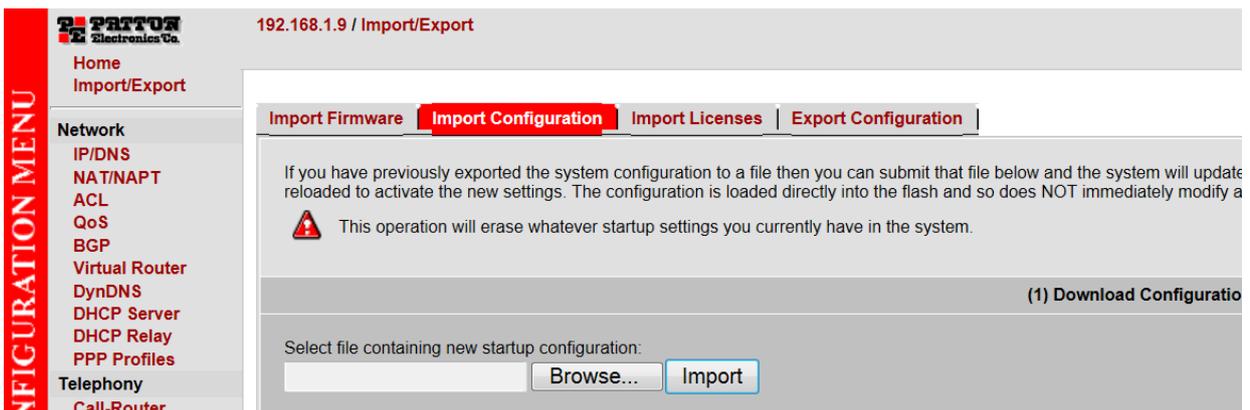
port elt1 0 3
port-type e1
clock master
framing crc4
shutdown
```

1.7 EXPORTING CUSTOMIZED CONFIGURATION FILE

- Access to the SmartNode by GUI, on your browser enter the following link <http://192.168.1.1>
- On the prompt enter the username : administrator and leave the password empty



- Press on “ Import/Export”



- Press on “ Import Configuration “
- Press on “ Browse” , search for the TXT customized configuration file and the press on “ Import”



- The startup configuration has been imported
- Press on “ Reload “

Reload Device

You are going to reload the device.
 Note that modified configuration is lost unless you **saved** the configuration.
 Are you sure you want to reload the device?

- Press on “ Reload “

Reload Device

 This may take up to a minute. Please wait for the browser to automatically re-connect to the device or do this manually when the device is up.

- Connect your PC to your LAN and the port ETH 0/0 of the SmartNode to the LAN
- Now you can access to the SmartNode by using the Local IP Address already assigned in the configuration file
- Connect the PRI cable to the port T1/E1 0/0

1.8 ENABLING SIP AUTHENTICATION

- Access to the SmartNode by GUI, on your browser enter the following link <http://SmartNode IP address>
- On the prompt enter the username : administrator and leave the password empty

CONFIGURATION

- ACL
- QoS
- BGP
- Virtual Router
- DynDNS
- DHCP Server
- DHCP Relay
- PPP Profiles
- Telephony**
- Call-Router
- SIP
- VoIP Profiles
- Tone Profiles
- PSTN Profiles

SmartNode	
Model	SN4991/4E24VRD
Serial Number	00A0BA08AD79
Hardware Version	1.1
Software Version	R6.T 2012-04-23 H323 RBS SIP
System Time	Fri, 14 Jan 2000 21:24:34 GMT
Local Time	Fri, 14 Jan 2000 21:24:34 +00:00 Capture R
Up Time	The system is up for 0 days, 0 hours, 24 minutes, 12 seconds
IMMEDIATE ACTIONS	
<input type="button" value="Record Current Configuration"/>	

- Under “Telephony” press on “ SIP “



192.168.1.9 / Telephony / SIP

ION MENU

Home
Import/Export

Network

- IP/DNS
- NAT/NAPT
- ACL
- QoS
- RGP

Gateways | Interfaces | Location Services | Authentication Services | Profiles | General

Name	State	
GW_SIP_0	Enabled	X
		+

- Press on “ Authentication Services “



192.168.1.9 / Telephony / SIP

ION MENU

Home
Import/Export

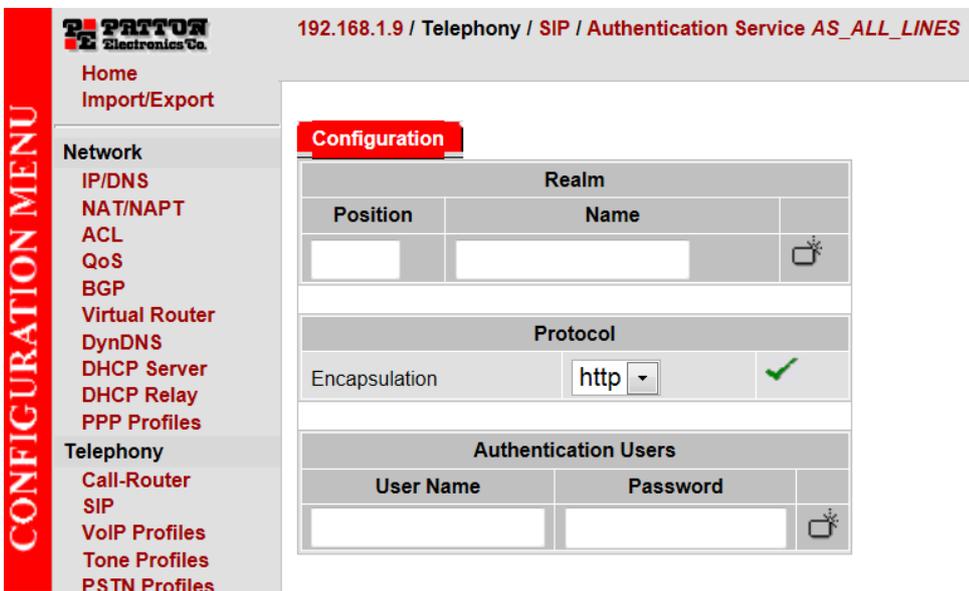
Network

- IP/DNS
- NAT/NAPT
- ACL
- QoS
- BGP

Gateways | Interfaces | Location Services | Authentication Services | Profiles | General

Name	
AS_ALL_LINES	X
	+

- Press on “ AS_ALL_LINES “



192.168.1.9 / Telephony / SIP / Authentication Service AS_ALL_LINES

CONFIGURATION MENU

Home
Import/Export

Network

- IP/DNS
- NAT/NAPT
- ACL
- QoS
- BGP
- Virtual Router
- DynDNS
- DHCP Server
- DHCP Relay
- PPP Profiles

Telephony

- Call-Router
- SIP
- VoIP Profiles
- Tone Profiles
- PSTN Profiles

Configuration

Realm

Position	Name	
		+

Protocol

Encapsulation ✓

Authentication Users

User Name	Password	
		+

- Delete all User Name
- Enter your 10 digits ThinkTel Pilot number as a username
- Enter the password provided by ThinkTel
- Press on “ Add user “
- Press on “ Save “ , “ Save “ , “ Reload “ , “ Reload “



1.9 OUTGOING AND INCOMING CALLS

- Now make outgoing and incoming calls from to your Legacy PBX
- Navigate to “Telephony” >> “Call-Router” >> “Active Calls”
- Notice the incoming from the SIP-TRUNK (IF_SIP_0) to the PRI (IF_ISDN_0)
- Notice the outgoing call from the PRI (IF_ISDN_0) to the SIP-TRUNK (IF_SIP_0)

192.168.1.9 / Telephony / Call-Router

Home
Import/Export

CONFIGURATION MENU

Network
IP/DNS
NAT/NAPT
ACL
QoS
BGP
Virtual Router
DynDNS
DHCP Server
DHCP Relay
PPP Profiles

Telephony
Call-Router
SIP

Interfaces | Routing Tables | Functions | Services | Configuration | **Active Calls** | Status

Active Calls
=====

Call	Call-Leg	State	Address	Display	Charge
00e53460					
	IF_SIP_0-017edc50/ac	CONNECTED	5143177838	n/a	n/a
	IF_ISDN_0-00e57068/a	CONNECTED	4388999223	n/a	n/a
00b81b08					
	IF_ISDN_0-017ecf58/a	CONNECTED	432	n/a	n/a
	IF_SIP_0-00b8de60/ac	CONNECTED	5145750014	n/a	n/a

Drop all