GSM VoIP Gateway Solution





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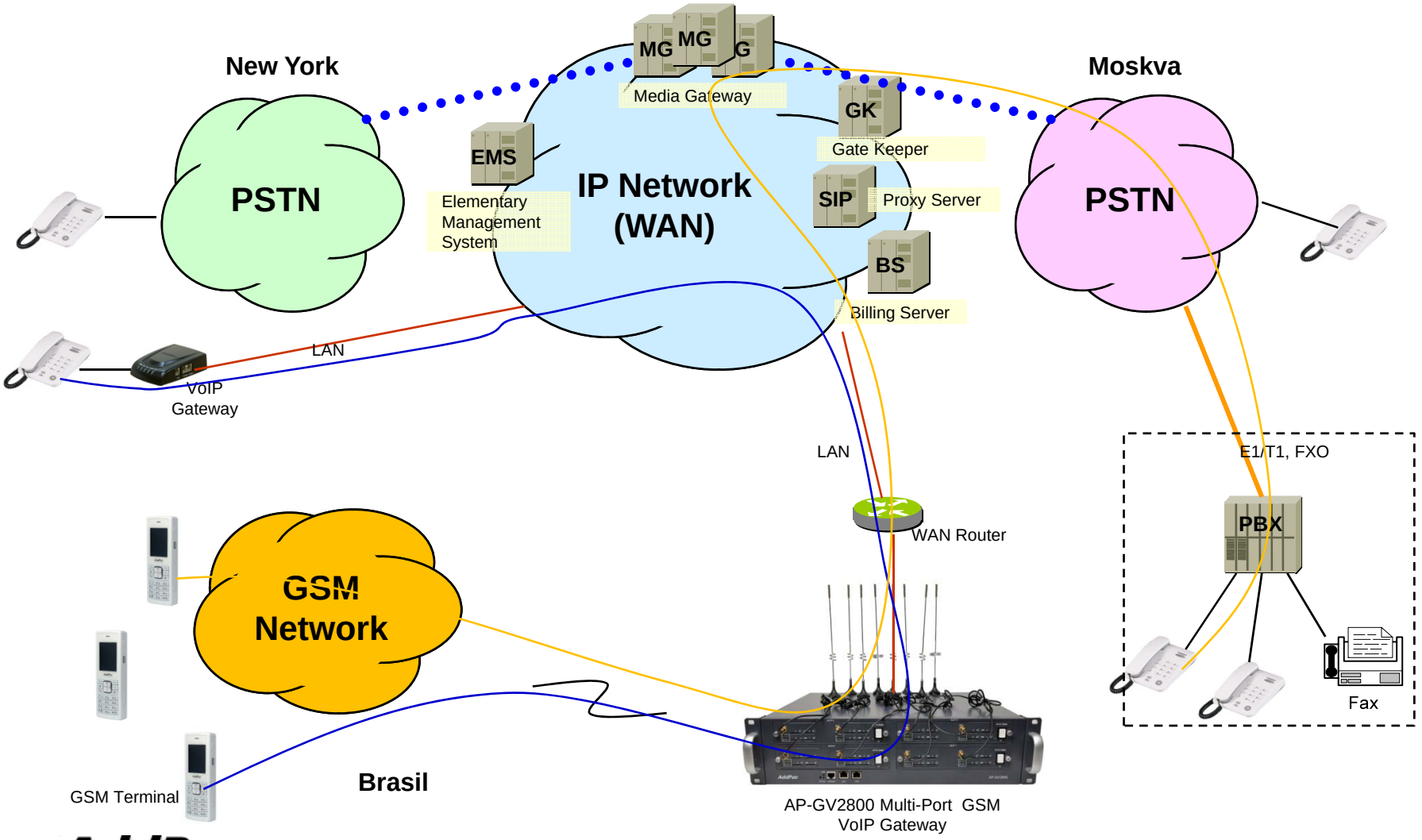
Sales and Marketing

www.addpac.com

Contents

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- GSM VoIP Gateway Series
  - AP-GV3300(48ch)
  - AP-GV3200(40ch)
  - AP-GV3100(32ch)
  - AP-GV2000(24ch)
  - AP-GV3000(32ch)
  - AP-GV2800(32ch)
- GSM VoIP Gateway Function List
- Smart Web Manager for GSM VoIP Gateway

GSM VoIP Gateway Service Diagram



GSM VoIP Gateway Series

GSM VoIP Gateway Comparison Table

Model	AP-GV3300	AP-GV3200	AP-GV3100	AP-GV2000
				
Available Modules	AP-N5-GSM8UI AP-N5-GSM8I AP-N5-GSM8SI AP-N5-1E1/T1 AP-N5-2E1/T1	AP-N5-GSM8UI AP-N5-GSM8I AP-N5-GSM8SI AP-N5-1E1/T1 AP-N5-2E1/T1	AP-N5-GSM8UI AP-N5-GSM8I AP-N5-GSM8SI	AP-N5-GSM8UI AP-N5-GSM8I AP-N5-GSM8SI AP-N5-1E1/T1
GSM Channel	Up to 48 Channel	Up to 40 Channel	Up to 32 Channel	Up to 24 Channel
Module Slot	Six(6) Module Slots for GSM,E1/T1 Module, etc	Five(5) Module Slots for GSM,E1/T1 Module, etc	Four(4) Module Slots for GSM Module, etc	Three(3) Module Slots for GSM, E1/T1 Module, etc
LAN Port	2	2	2	2
Console	1	1	1	1
Power	Single PSU	Single PSU	Single PSU	Single PSU

GSM VoIP Gateway Comparison Table

Model	AP-GV2800	AP-GV3000
		
Available Modules	AP-N2-GSM8	AP-N2-GSM8
GSM Channel	Up to 32 Channel	Up to 32 Channel
GSM Antenna	Two(2) / 8 Channel GSM Module(AP-N2-GSM8)	Two(2) / 8 Channel GSM Module(AP-N2-GSM8)
Module Slot	Four(4) Module Slots for GSM	Four(4) Module Slots for GSM
LAN Port	2	2
Console	1	1
Power	Single PSU	Dual PSU (module)

AP-GV3300
GSM VoIP Gateway

Main Features

AP-GV3300 Multi-Port GSM VoIP Gateway

- Six(6) Module Slots for 8-Port GSM Module, Digital Interface (Up to 48-Port GSM, 1-2 Port Digital E1/T1 Module)
- Hot-Swap Function Support
- H.323/SIP Dual Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Two(2)10/100Mbps Fast Ethernet
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- Smart Web Manager Support
- Smart NMS(Network Management System) Support
- Advanced Voice QoS Mechanism
- Rack Mountable Chassis with Internal Power Supply

Hardware Specification

AP-GV3300 Multi-Port GSM VoIP Gateway

RISC CPU

High-end DSP

- RISC Microprocessor Computing Power
- Six(6) Module Slot for GSM, Digital VoIP Interface
- 8-Port GSM Module(AP-N5-GSM8xI)
- VoIP Interface Module (Hot-Swap)
  - 1-Port Digital E1/T1 VoIP Module (AP-N1-1E1)
  - 2-Port Digital E1/T1 VoIP Module(AP-N1-2E1)
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Internal Power Supply



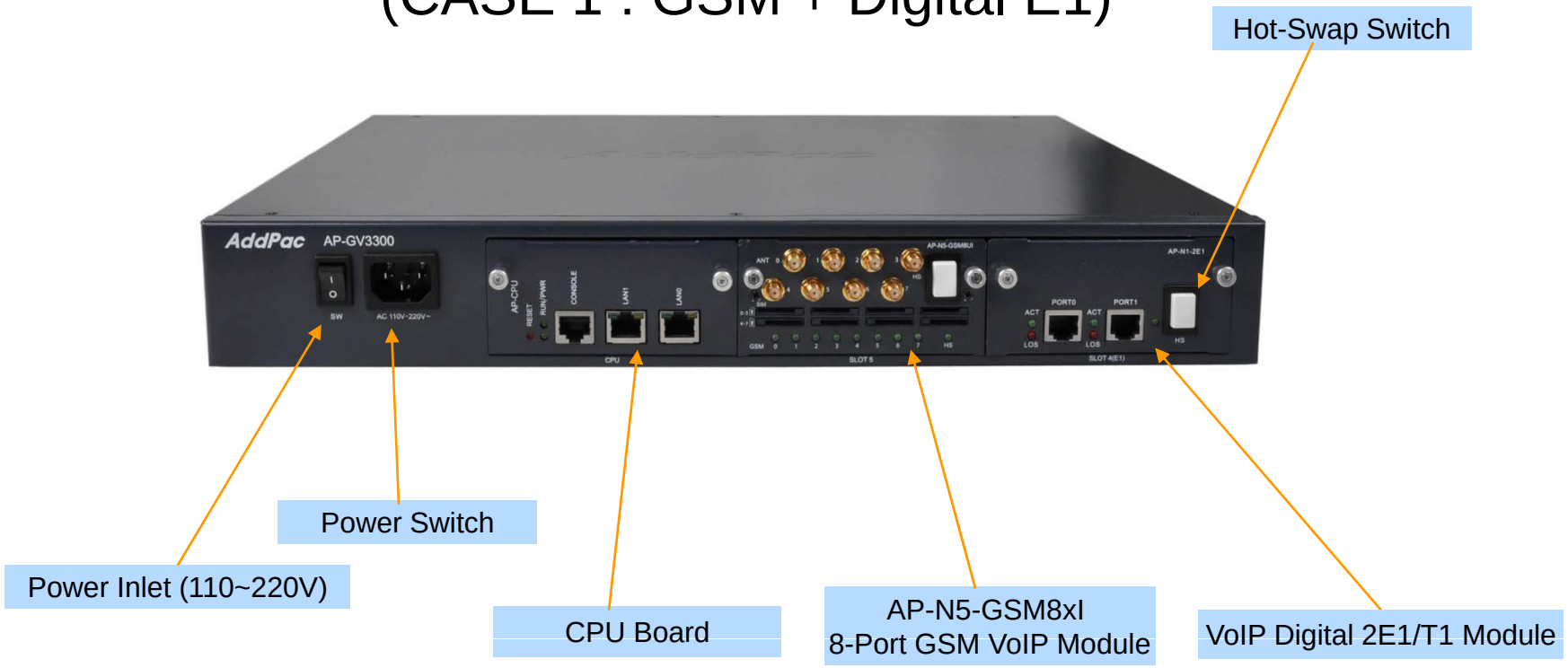
Hardware Specification

AP-GV3300 Multi-Port GSM VoIP Gateway

RISC CPU

High-end DSP

Front Side View
(CASE 1 : GSM + Digital E1)



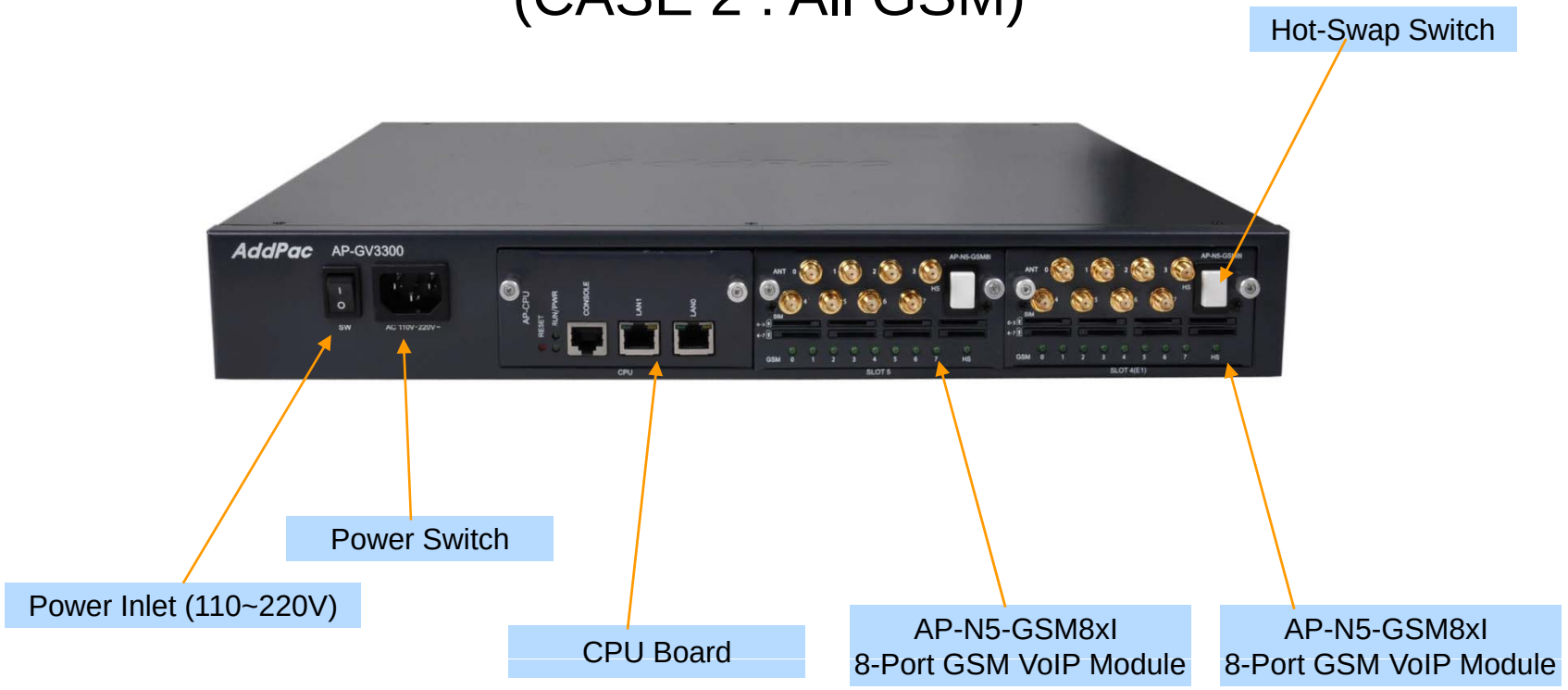
Hardware Specification

AP-GV3300 Multi-Port GSM VoIP Gateway

RISC CPU

High-end DSP

Front Side View
(CASE 2 : All GSM)



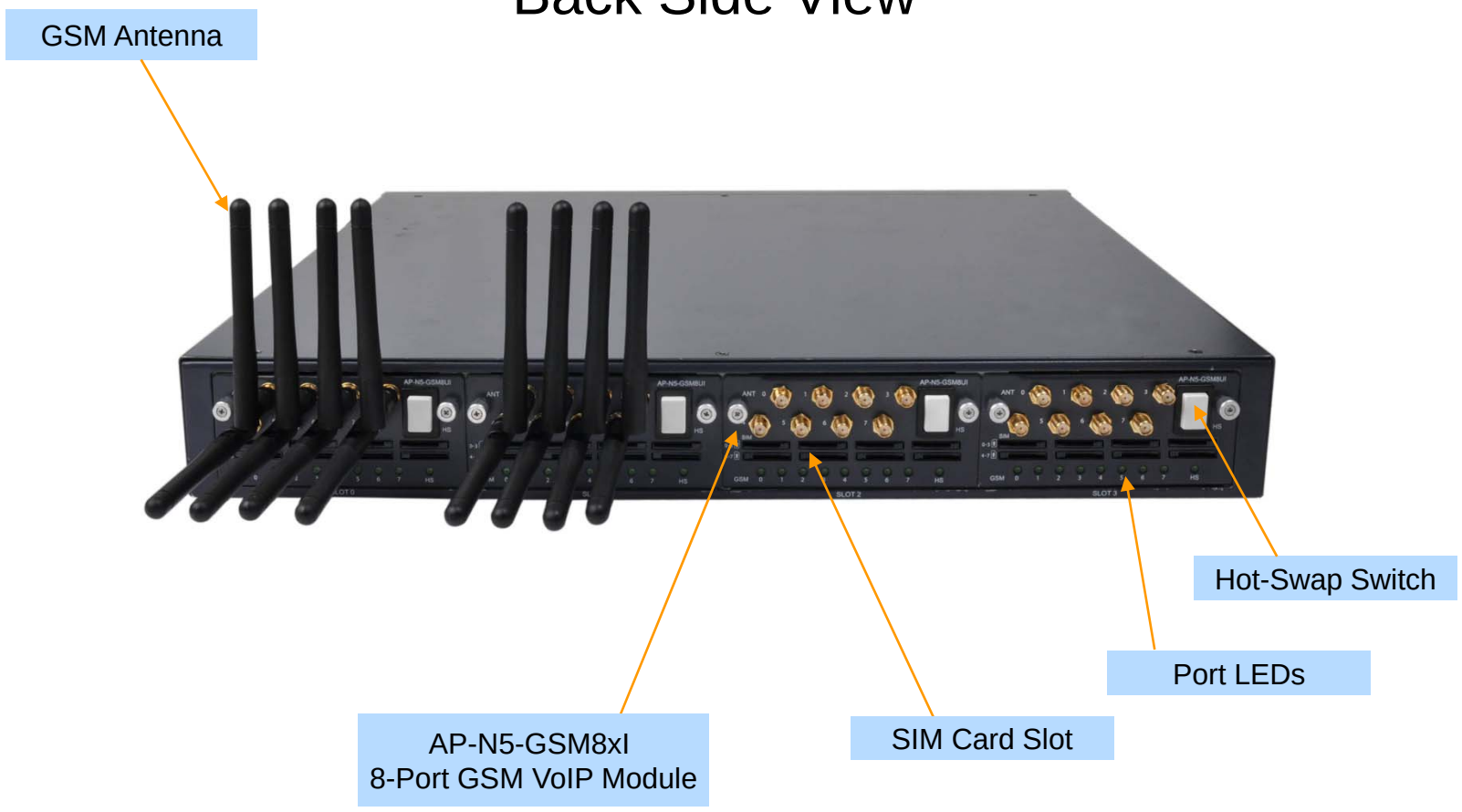
Hardware Specification

AP-GV3300 Multi-Port GSM VoIP Gateway

RISC CPU

High-end DSP

Back Side View



GSM & Digital VoIP Modules

AP-GV3300 Multi-Port GSM VoIP Gateway

AP-N5-GSM8xI	8-Port GSM VoIP Module Individual Antenna	
AP-N1-2E1	1~2 Port Digital E1/T1 Module	

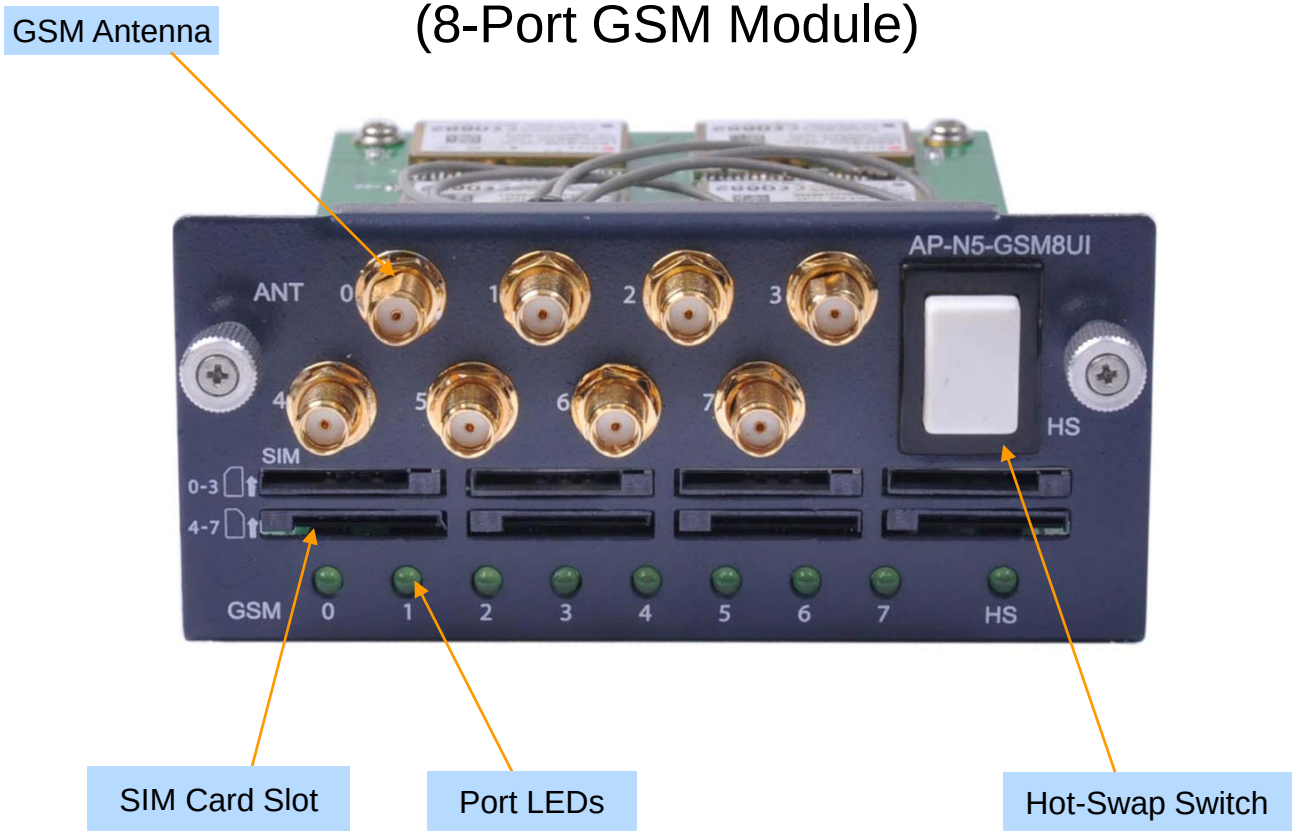
Hardware Specification

AP-GV3300 Multi-Port GSM VoIP Gateway

RISC CPU

High-end DSP

AP-N5-GSM8xI
(8-Port GSM Module)



AP-GV2800
GSM VoIP Gateway

Main Features

AP-GV2800 Multi-Port GSM VoIP Gateway

- Four(4) Module Slots for 8-Port GSM Module Interface (Up to 32-Port GSM)
- H.323/SIP Dual Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Two(2)10/100Mbps Fast Ethernet
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- Network Management System for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Rack Mountable Chassis

Hardware Specification

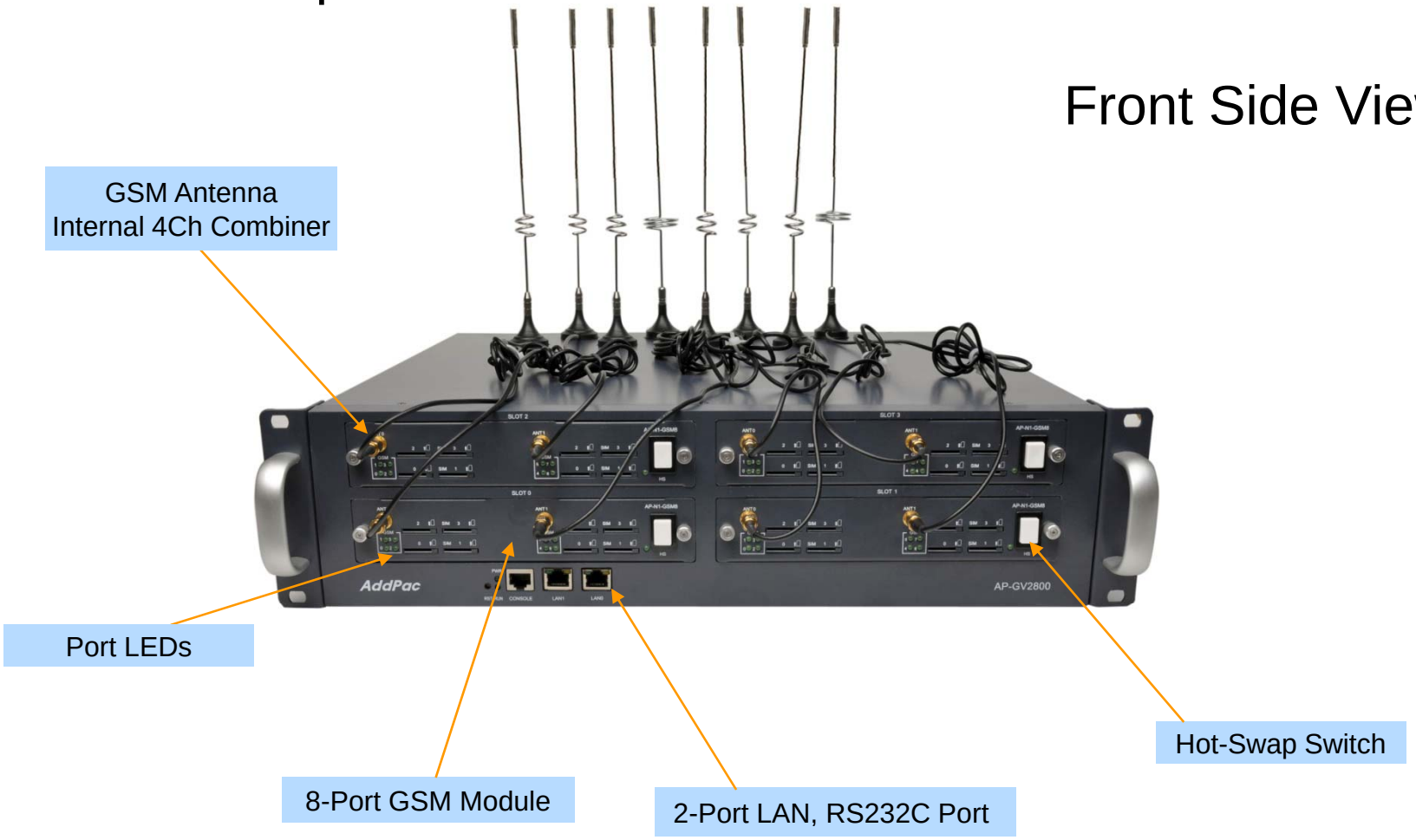
AP-GV2800 Multi-Port GSM VoIP Gateway

- RISC Microprocessor Computing Power
- Four(4) Module Slots for GSM
- 8-Port GSM Module(AP-N2-GSM8)
  - 8-Port SIM Card Slot
  - Two(2) GSM Antenna Interface (Internal 4 Channel Combiner x 2)
  - Hot-Swap
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Built-in Free Voltage Power Supply



Hardware Specification

Front Side View



Hardware Specification

Back Side View



Cooling FAN

Power Inlet (110~220V)

Power Switch

Hardware Specification

AP-GV2800 Multi-Port GSM VoIP Gateway

AP-GV2800 GSM Modules

AP-N2-GSM8 8-Port GSM Module	

Hardware Specification

AP-GV2800 Multi-Port GSM VoIP Gateway

AP-N2-GSM8
(8-Port GSM Module)



SIM Card Slot

GSM Antenna
Internal 4Ch Combiner

Port LEDs

Hot-Swap Switch

AP-GV3000
GSM VoIP Gateway

Main Features

AP-GV3000 Multi-Port GSM VoIP Gateway

- Four(4) Module Slots for 8-Port GSM Module Interface (Up to 32-Port GSM)
- H.323/SIP Dual Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Two(2)10/100Mbps Fast Ethernet
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- Network Management System for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Rack Mountable Chassis
- Module Type Dual Power Supply

Hardware Specification

AP-GV3000 Multi-Port GSM VoIP Gateway

RISC CPU

High-end DSP

- RISC Microprocessor Computing Power
- Four(4) Module Slots for GSM
- 8-Port GSM Module(AP-N1-GSM8)
  - 8-Port SIM Card Slot
  - Two(2) GSM Antenna Interface (Internal 4 Channel Combiner x 2)
  - Hot-Swap
- Network Interface
  - -Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Module Type Dual Power Supply



RISC CPU

High-end DSP

Hardware Specification

Front Side View



GSM Antenna
Internal 4Ch Combiner

Port LEDs

8-Port GSM Module

2-Port LAN, RS232C Port

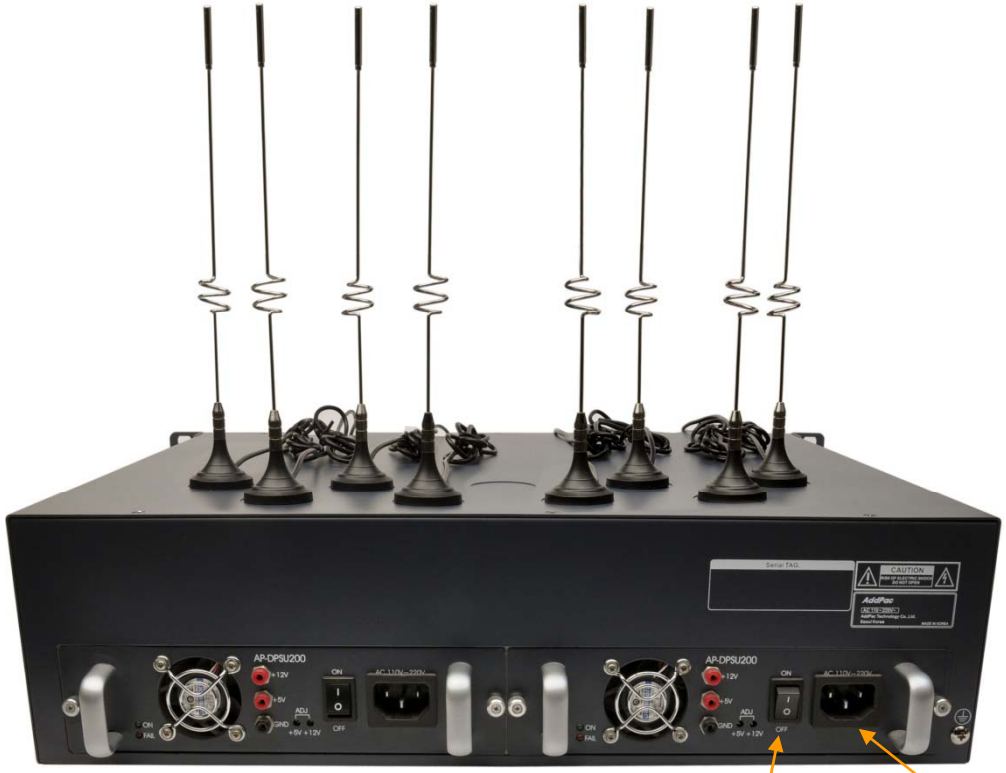
Hot-Swap Switch

RISC CPU

High-end DSP

Hardware Specification

Back Side View



Cooling FAN

Power Switch

Power Inlet (110~220V)

Hardware Specification

AP-GV3000 Multi-Port GSM VoIP Gateway

AP-GV3000 GSM Modules

AP-N2-GSM8 8-Port GSM Module	

Hardware Specification

AP-GV3000 Multi-Port GSM VoIP Gateway

AP-N2-GSM8
(8-Port GSM Module)



SIM Card Slot

GSM Antenna
Internal 4Ch Combiner

Port LEDs

Hot-Swap Switch

GSM VoIP Gateway Function List

Contents

- VoIP to GSM Outbound Call
- VoIP to GSM Inbound Call
- VoIP to GSM Black / White list
- WEB Callback Service
- Callback Service
- LCR(Least Cost Routing)
- BTS(Base Terminal Station) Control
- GSM BCCH Cell Monitoring
- GSM Messaging Service
- Radius Server Interoperability

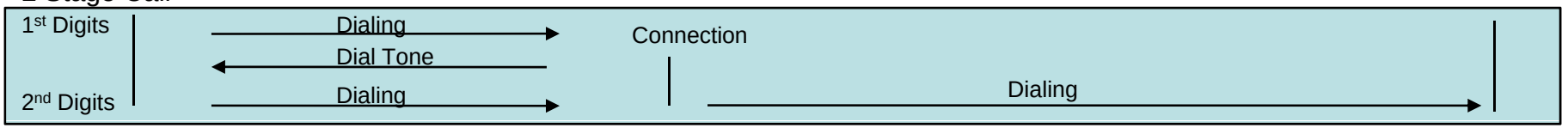
VoIP to GSM Outbound Call



1 Stage Call



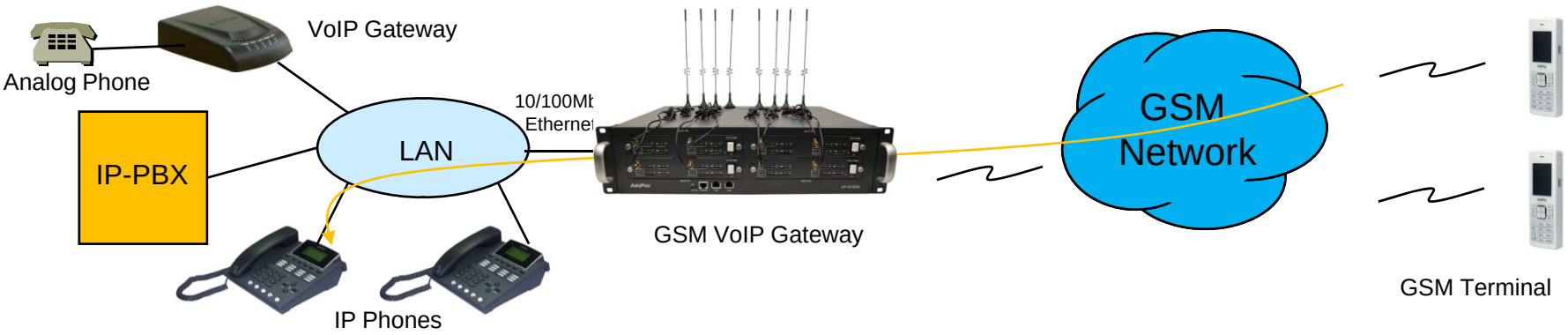
2 Stage Call



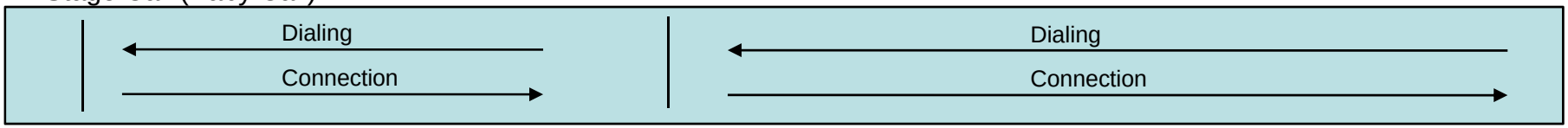
Outbound Call (1 Stage)
: Making call to mobile phone from analog phone connected to VoIP gateway or IP Phone directly

Outbound Call (2 Stage)
: Making call to mobile phone from analog phone connected to VoIP gateway after hearing of 2nd dial tone from GSM Gateway

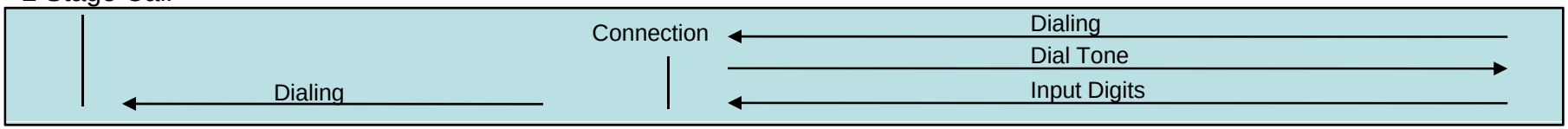
VoIP to GSM Inbound Call



1 Stage Call (Baby Call)



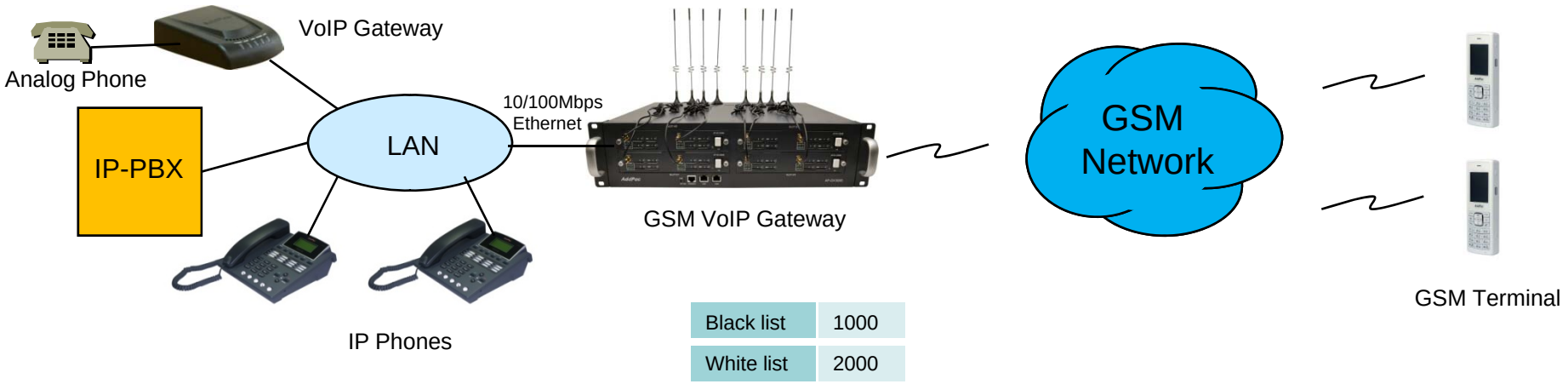
2 Stage Call



Inbound Call (1 Stage) – Baby Call
: Making call to IP phone in VoIP network directly.

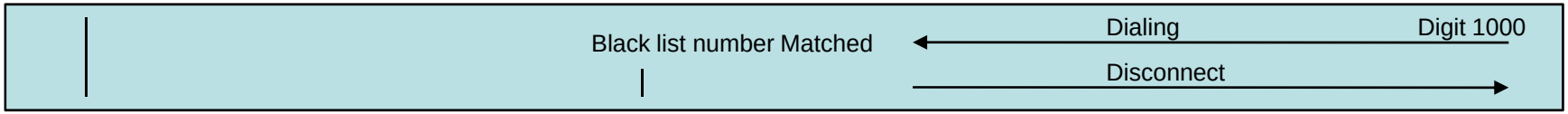
Inbound Call (2 Stage)
: Making call to IP phone in VoIP network after hearing of 2nd dial tone from GSM Gateway

VoIP to GSM Black / White list

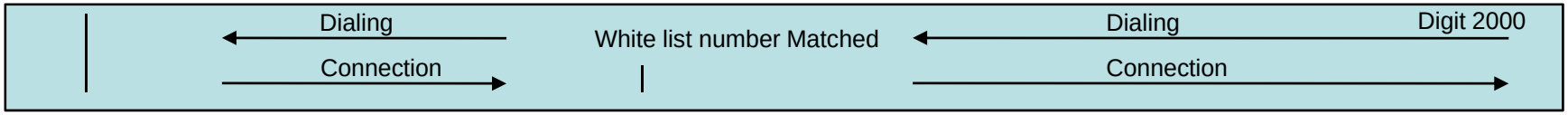


Black list	1000
White list	2000

Black list



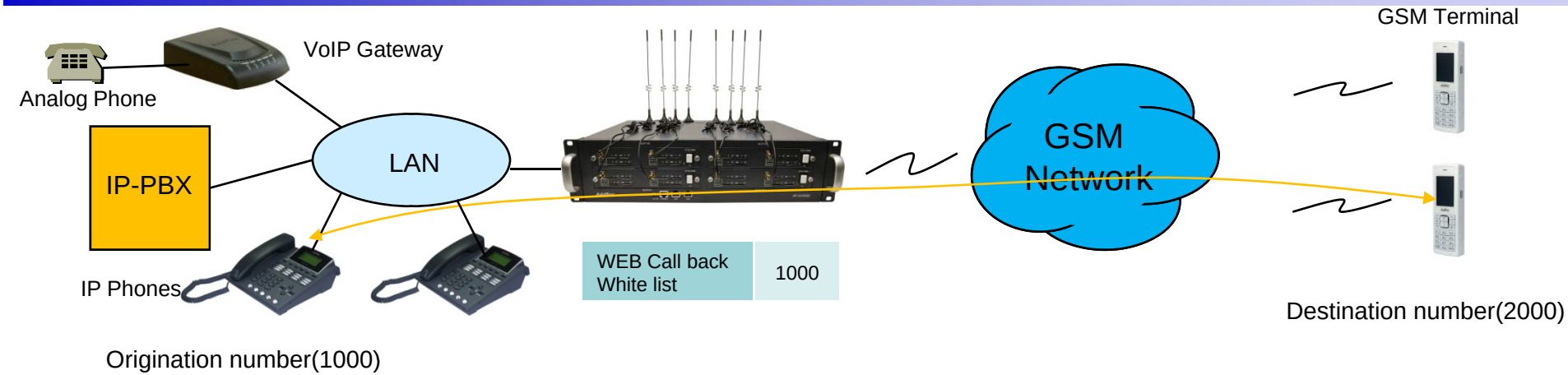
White list



Black list
: The number on black list is restricted to receive call.

White list
: The only number on white list is allowed to receive call

WEB Callback Service

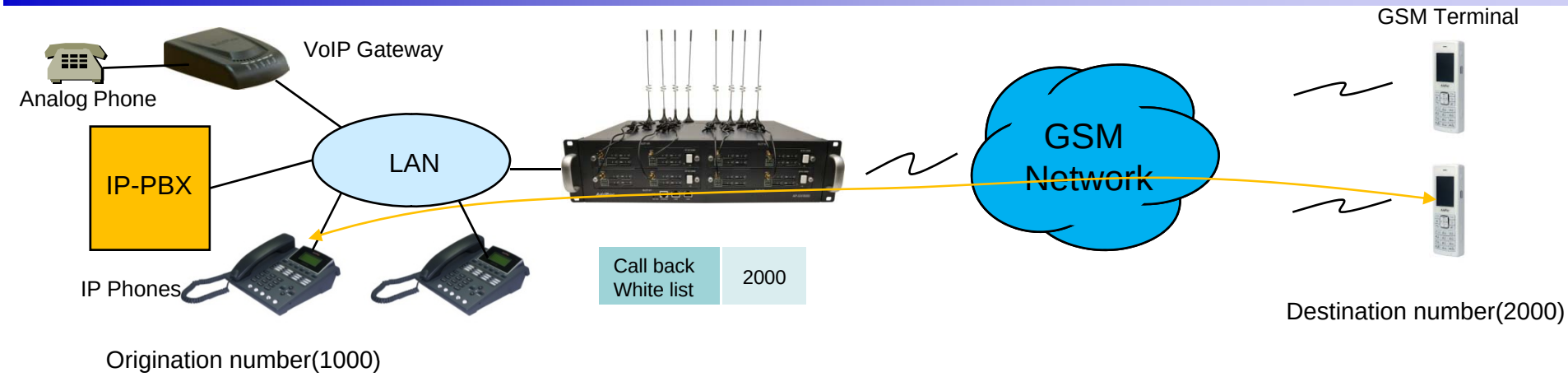


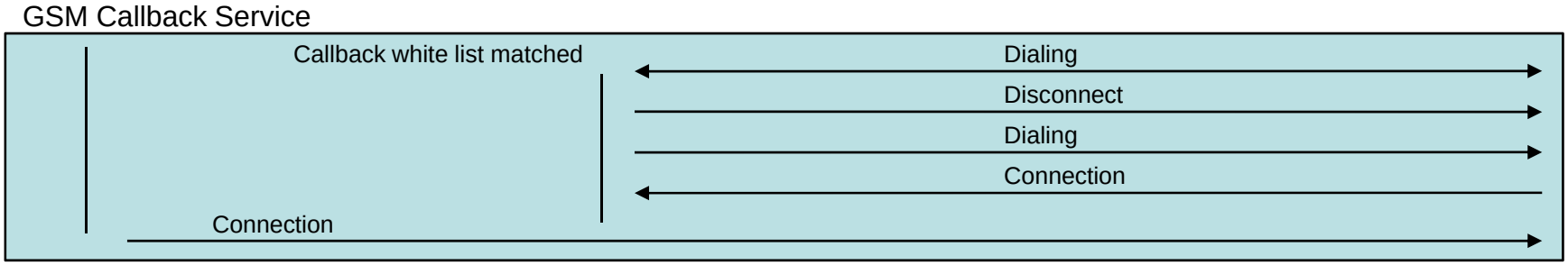
WEB Callback Service



WEB Callback Service
: The remote call is made by user's control by WEB Interface.
The WEB callback number on white list must be the same of source number.

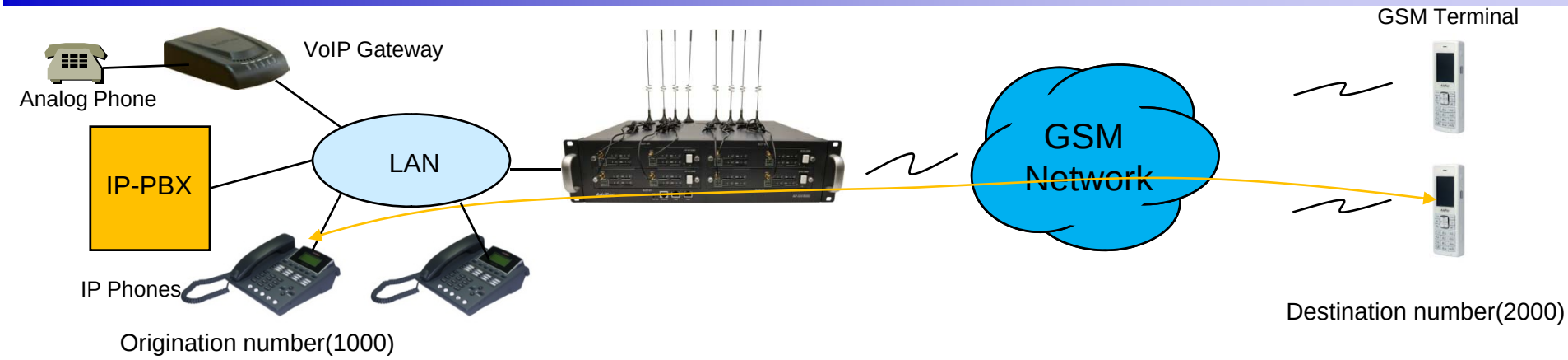
GSM Callback Service

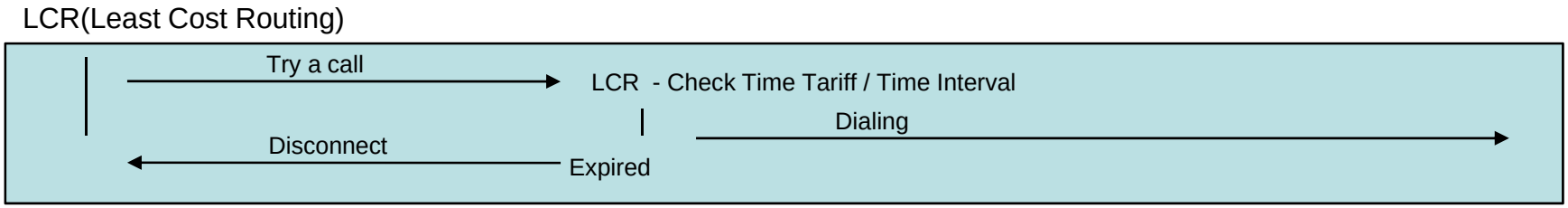




GSM Callback Service
: When the user on the callback white list makes call, GSM Gateway disconnects it and makes call back to the user

LCR(Least Cost Routing)



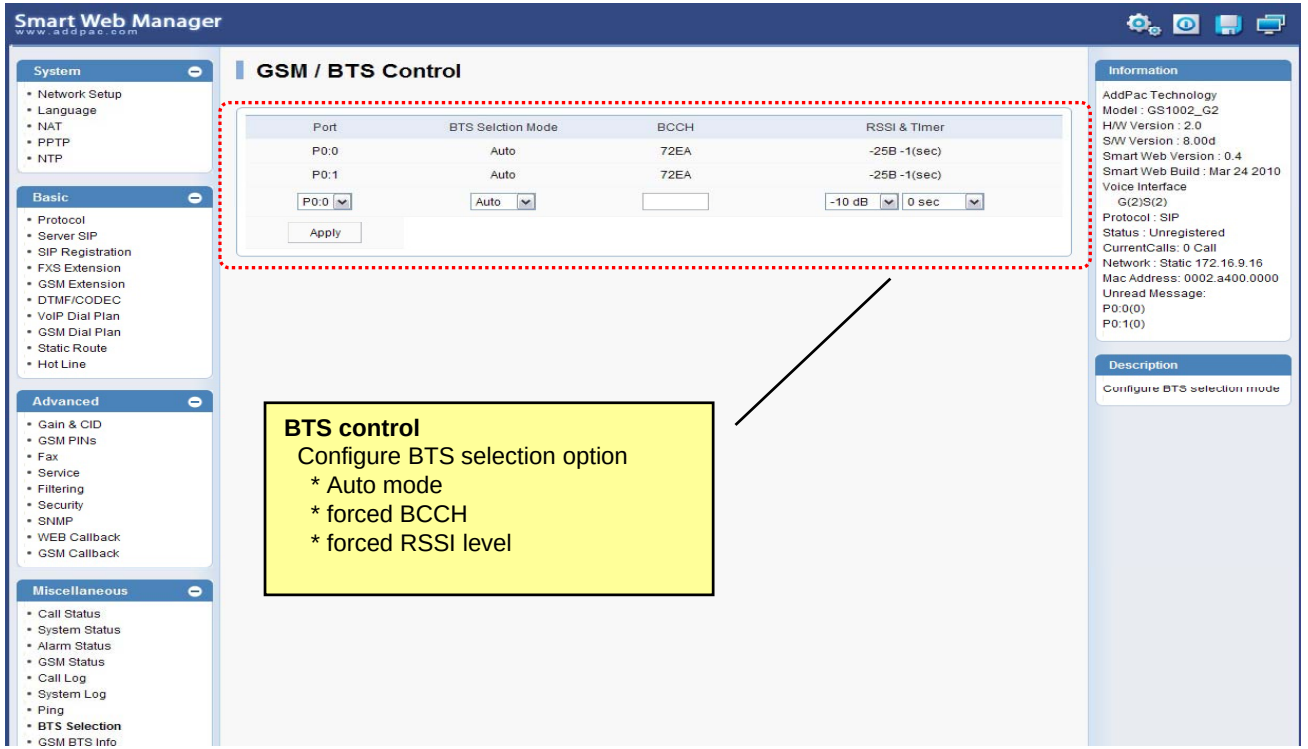


GSM LCR Time Interval
: The only registered user is allowed to use GSM call in the rule of date, week, and time

GSM LCR Time Tariff
: User is able to check remained time, used time listed on LCR, etc

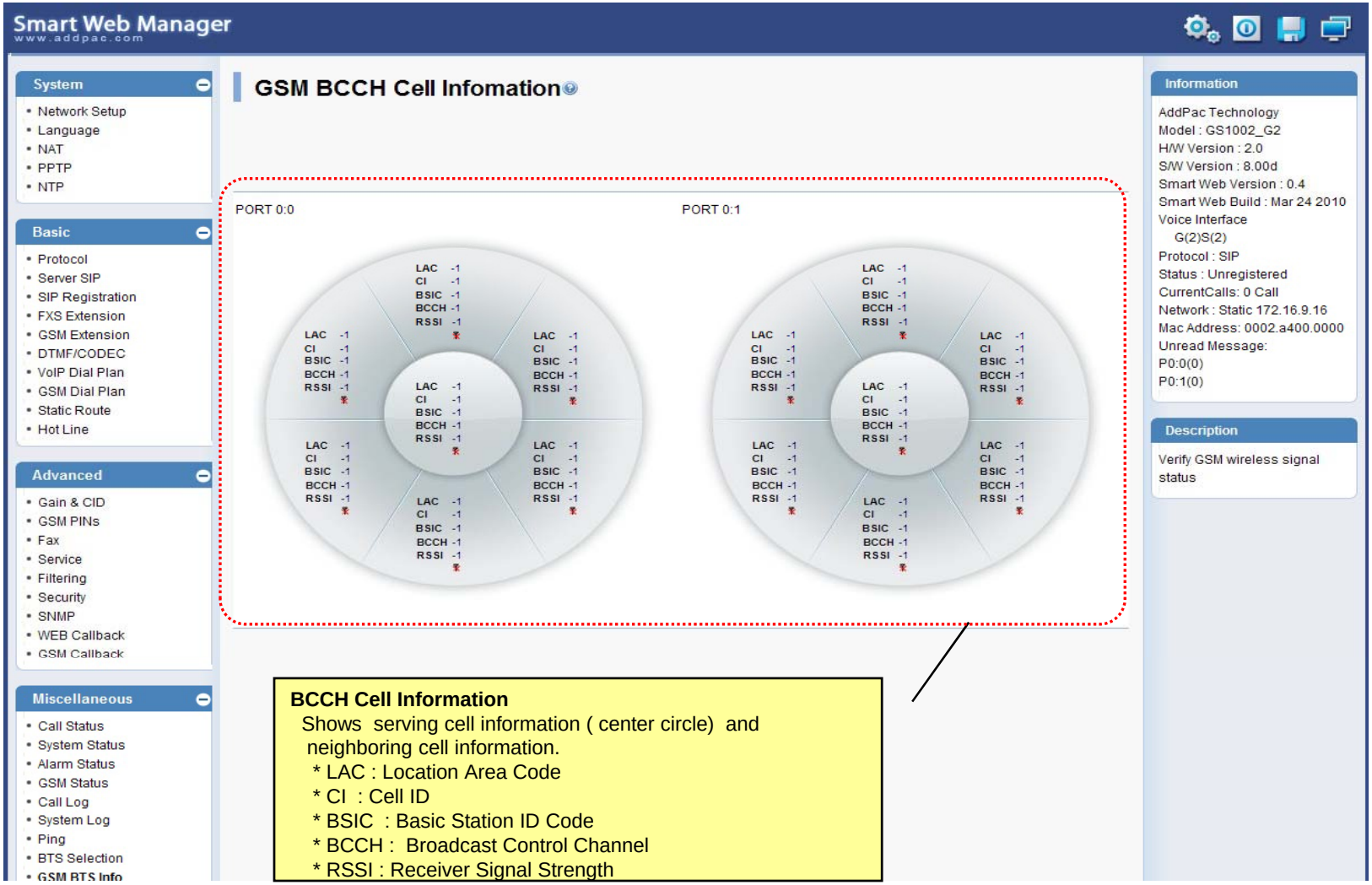
GSM LCR Simulator
: GSM VoIP Gateway supports virtual call simulation used on WEB

BTS(Base Terminal Station) Control

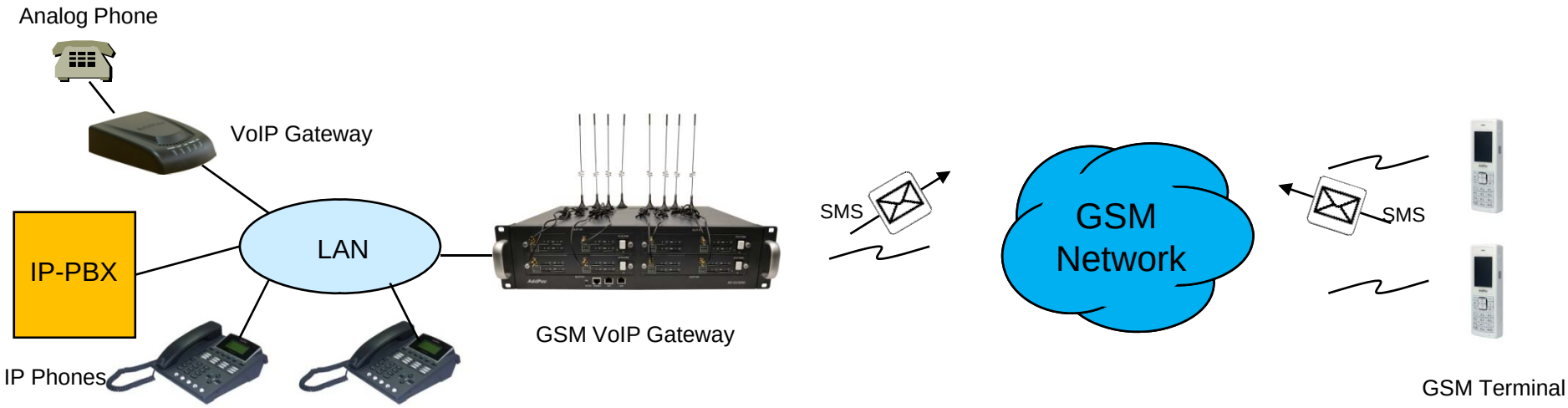


BTS(Base Terminal Station)
: User is able to choose Cell ID or RSSI of cell by GSM Gateway.
(1) The most powerful signal of cell is chosen.
(2) User selects BTS through Cell ID in cell.
(3) The cell listed is found periodically by user

GSM BCCH Information



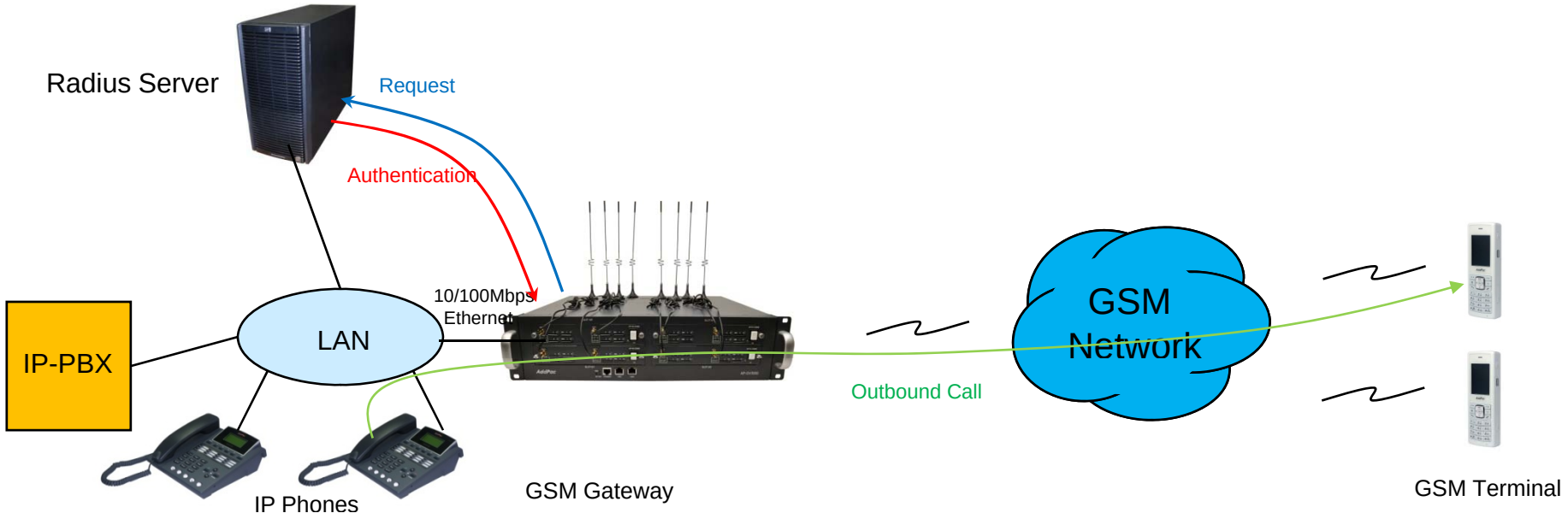
GSM Messaging Service



GSM Messaging Service
: SMS is able to send and receive by GSM Gateway's WEB Interface
: English, Korean, Spanish, Russian, Portuguese

USSD
: In case of using Pre-paid SIM card, checking and recharging is allowed by GSM Gateway

Radius Server Interoperability



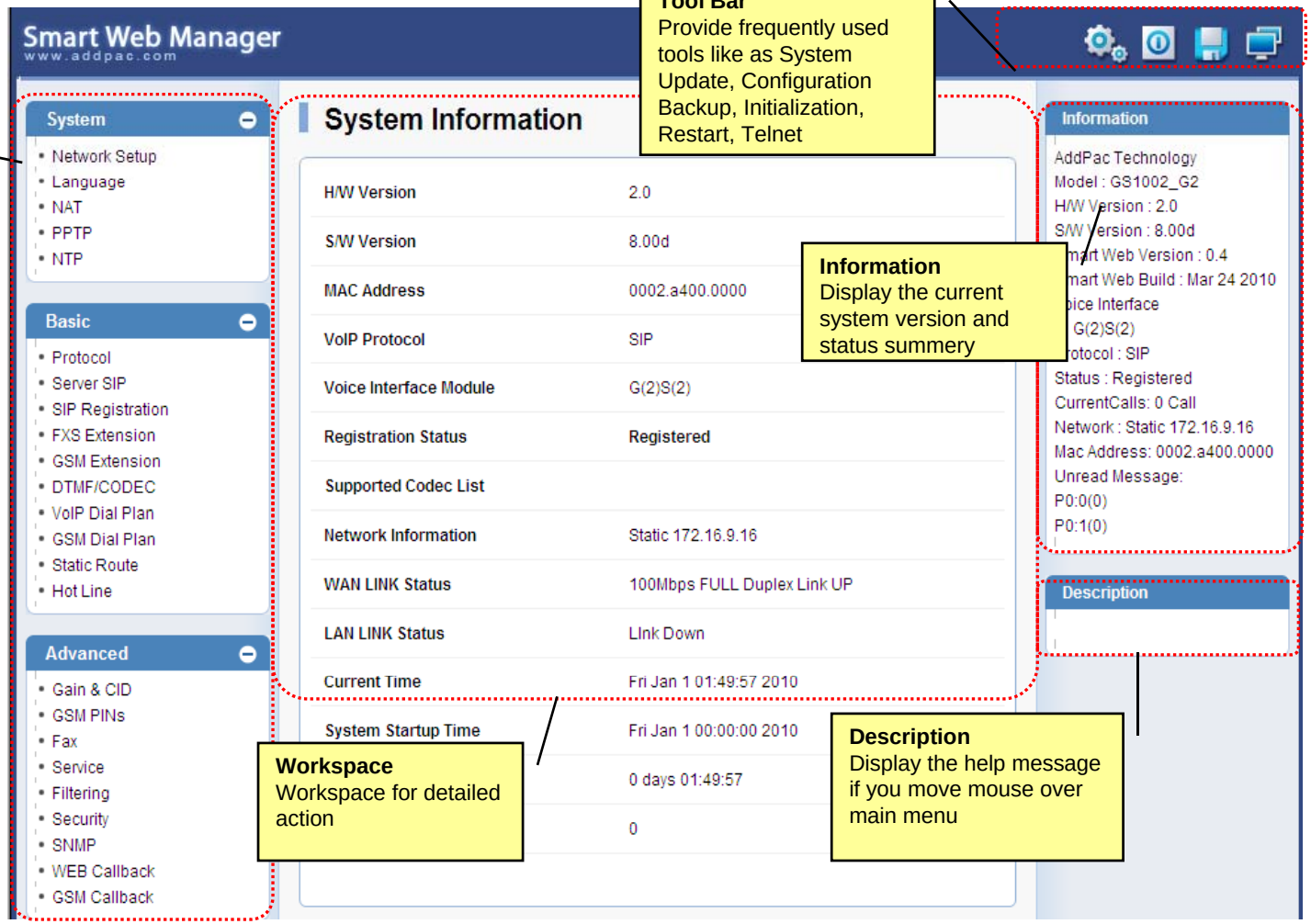
Radius Server Interoperability
: When billing system is required, GSM gateway supports radius server interoperability

Smart Web Manager for GSM VoIP Gateway

Contents

- Main Page Layout
- System Configuration
  - Network Setup, Language, NAT, PPTP, NTP
- Basic Configuration
  - Protocol, SIP Server , FXS Extension, GSM Extension
  - DTMF/CODEC, VoIP Dial Plan, GSM Dial Plan, Static Routing, Hot Line
- Advanced Configuration
  - Gain/CID, GSM PINs, FAX, Service, Filtering, Security
  - GSM Web Callback, GSM Callback
- Miscellaneous Configuration
  - Call Status, System Status, Alarm Status, GSM Status
  - Call Log, System Log, Ping, BTS Selection, GSM BTS Info
- LCR(Least Cost Routing)
  - Black & White List, Time Interval, Tariff Group, LCR Test
- SMS
  - Inbox, SMS New Message

Main Page Layout



System – Network Setup

Host Name
Create a representative name for the site to be installed

Static IP
This is static IP mode. Specify the addressed IP from the service provider

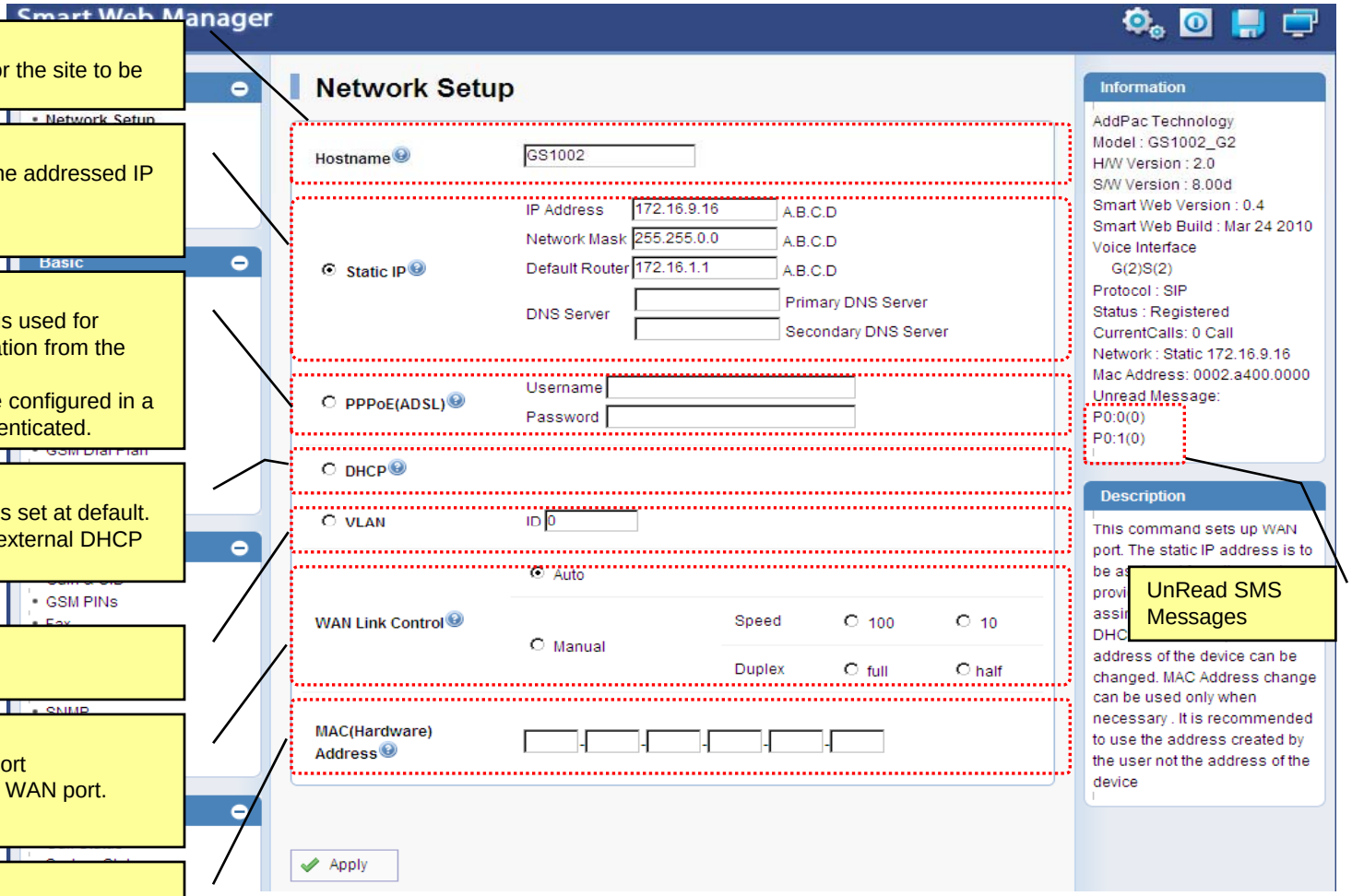
PPPoE
This is ADSL mode. This mode is used for addressing IP though authentication from the modem.
At this time, the modem must be configured in a way that the device can be authenticated.

DHCP
This is dynamic IP mode which is set at default. The IP can addressed from the external DHCP server.

VLAN
Configure VLAN mode and ID.

WAN Link
Controls and recognizes WAN port
Specify the connection speed of WAN port. connection automatically.

MAC
Change MAC address of WAN interface. Without address entry, use the basic MAC Address.

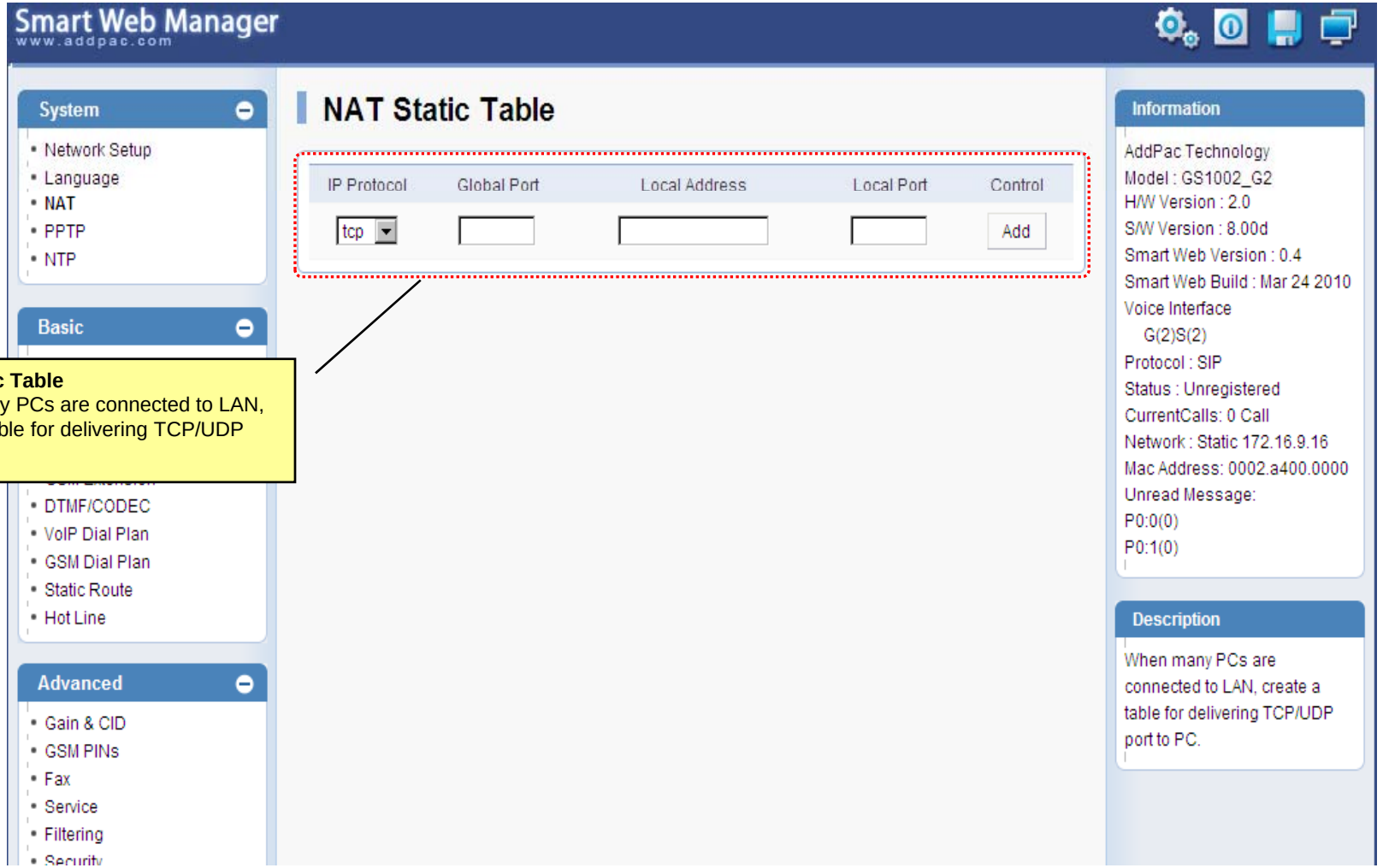


System - Language

Configure Language
English, Korea

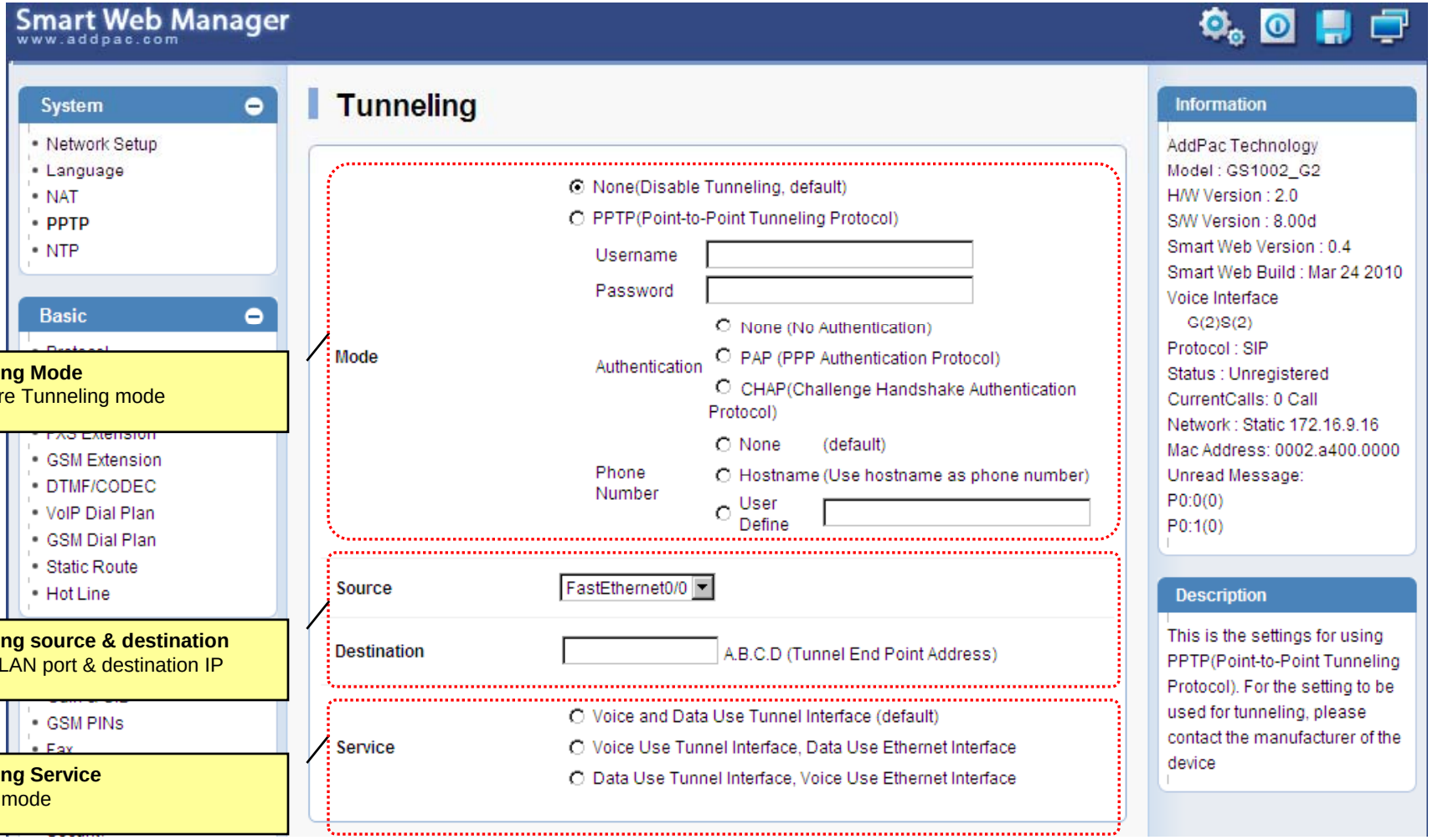


System - NAT



NAT Static Table
When many PCs are connected to LAN, create a table for delivering TCP/UDP port to PC

System - PPTP

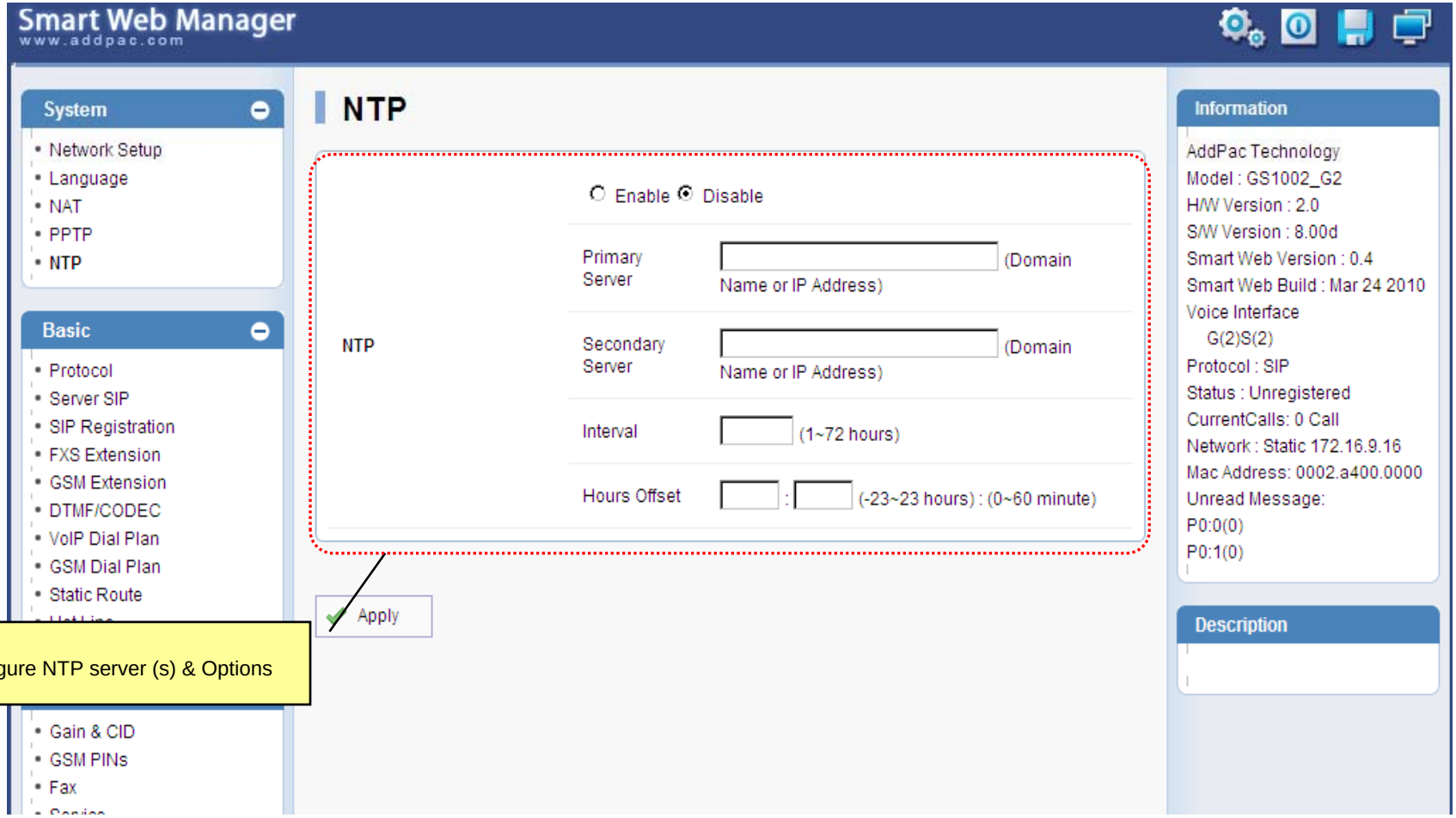


Tunneling Mode
Configure Tunneling mode

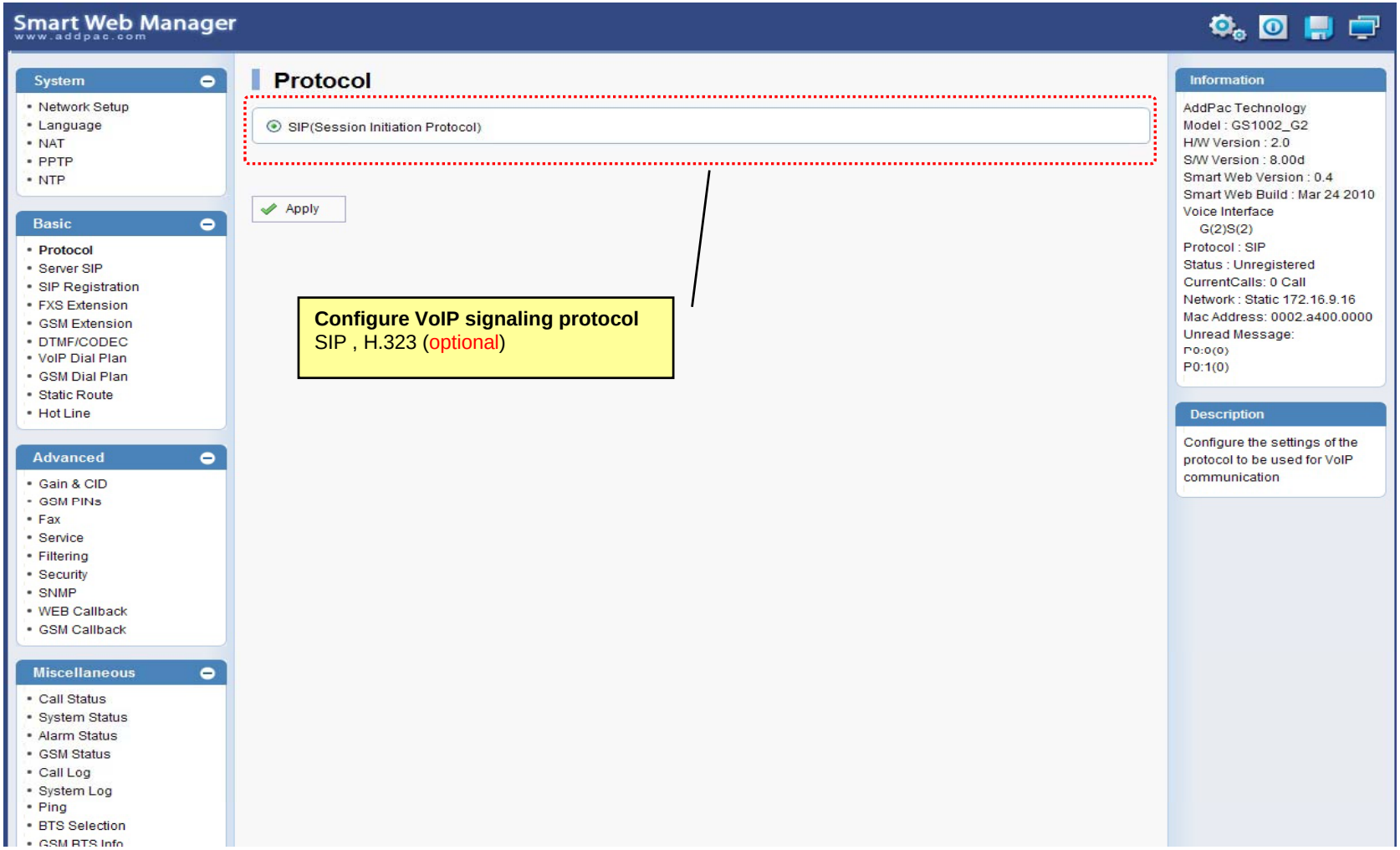
Tunneling source & destination
Source LAN port & destination IP

Tunneling Service
Service mode

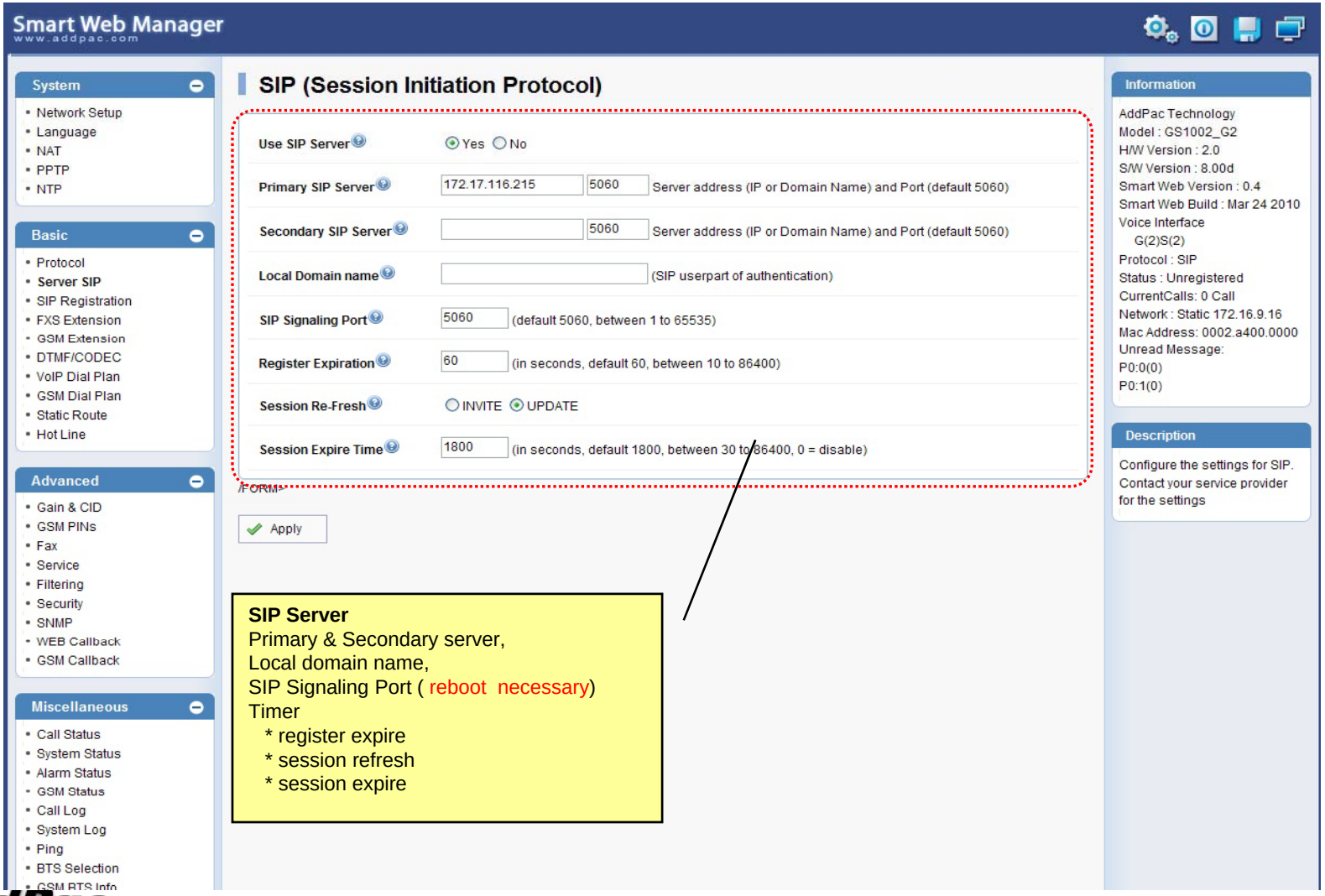
System - NTP


Smart Web Manager
www.addpac.com
System
Network Setup
Language
NAT
PPTP
NTP
Basic
Protocol
Server SIP
SIP Registration
FXS Extension
GSM Extension
DTMF/CODEC
VoIP Dial Plan
GSM Dial Plan
Static Route
Gain & CID
GSM PINs
Fax
NTP
NTP
Enable
Disable
Primary Server
(Domain Name or IP Address)
Secondary Server
(Domain Name or IP Address)
Interval
(1~72 hours)
Hours Offset
(-23~23 hours) : (0~60 minute)
Apply
Information
AddPac Technology
Model : GS1002_G2
H/W Version : 2.0
S/W Version : 8.00d
Smart Web Version : 0.4
Smart Web Build : Mar 24 2010
Voice Interface
G(2)S(2)
Protocol : SIP
Status : Unregistered
CurrentCalls: 0 Call
Network : Static 172.16.9.16
Mac Address: 0002.a400.0000
Unread Message:
P0:0(0)
P0:1(0)
Description
NTP
Configure NTP server (s) & Options

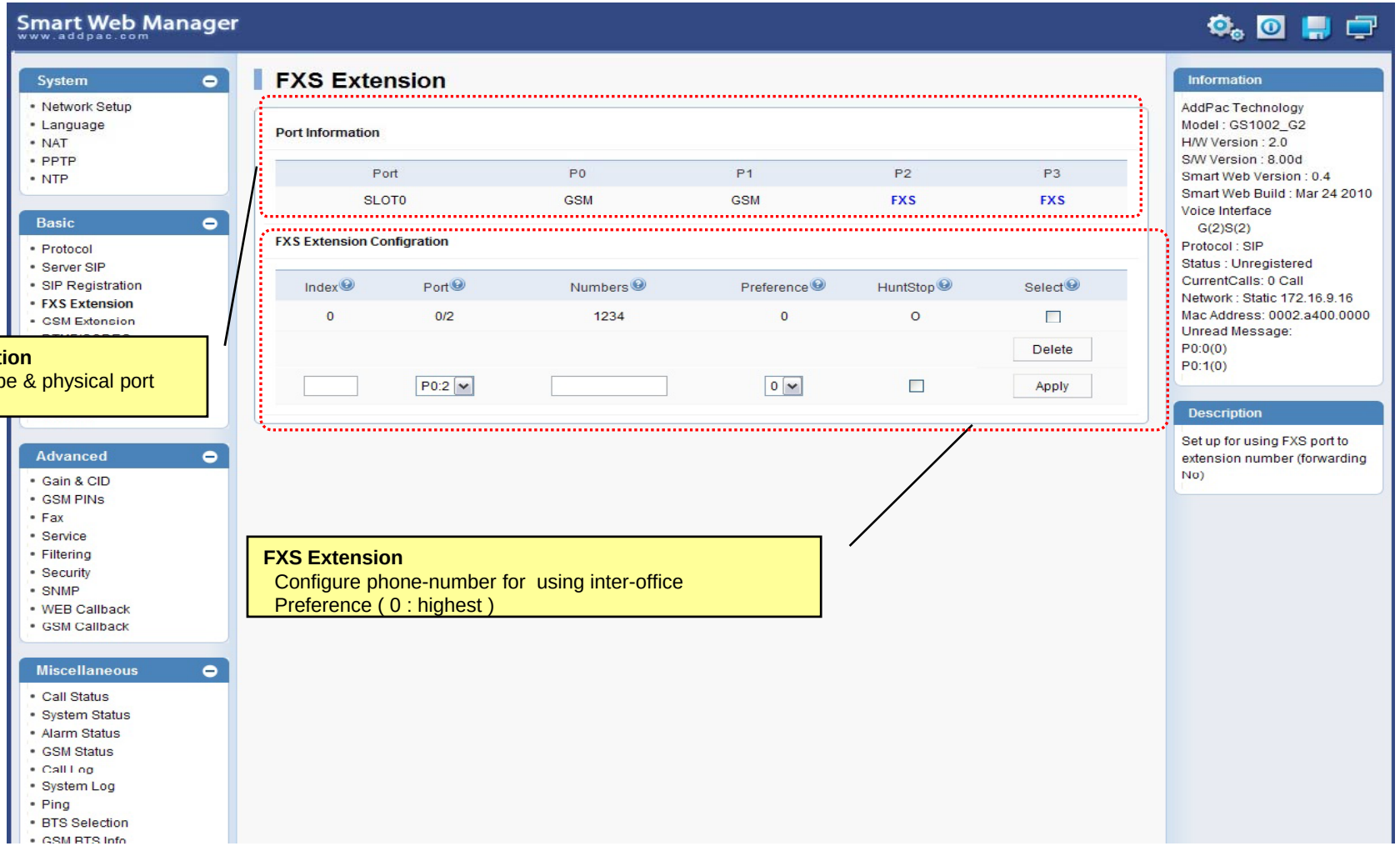
Basic - Protocol



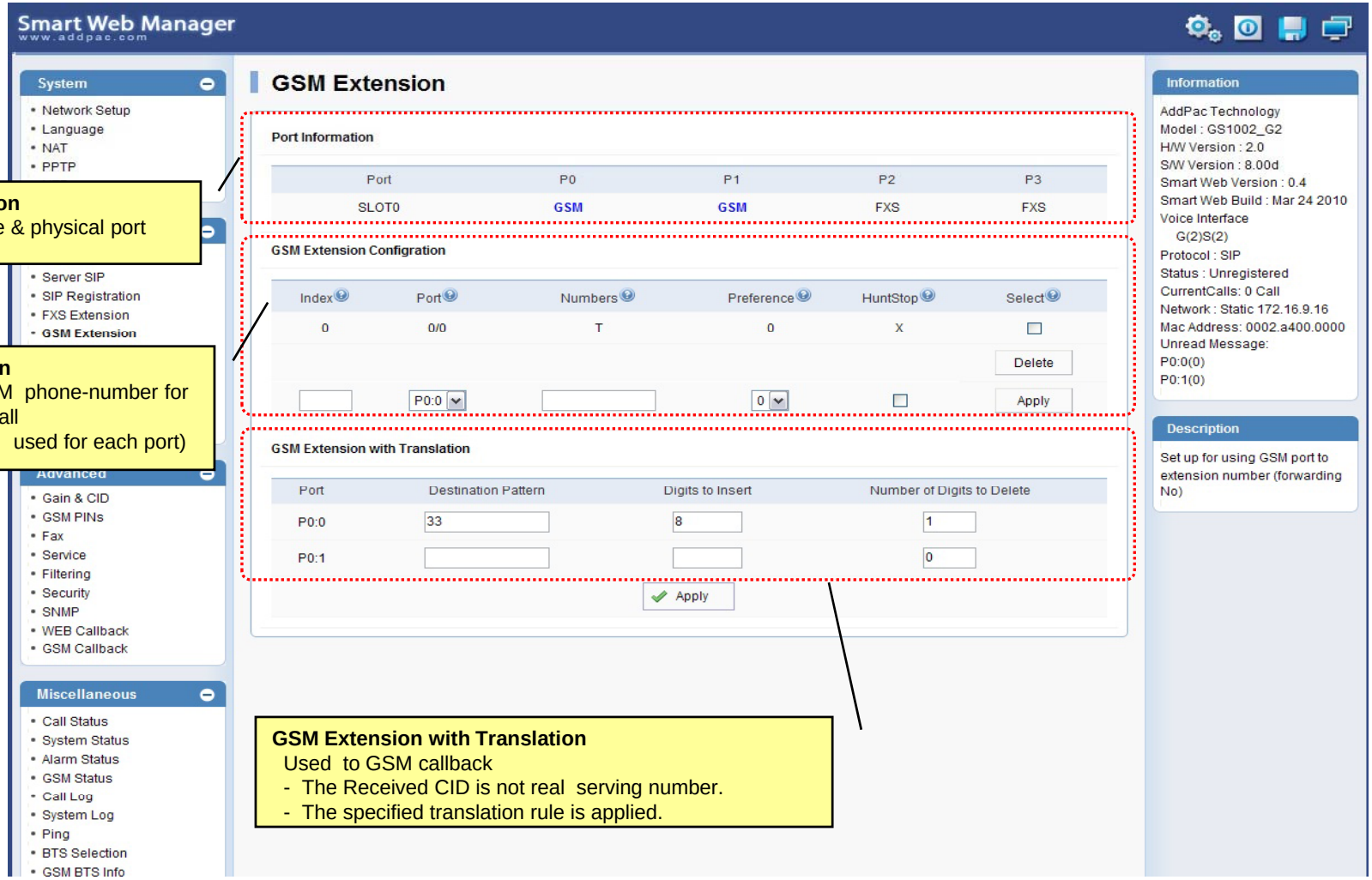
Basic – SIP Server



Basic – FXS Extension



Basic – GSM Extension

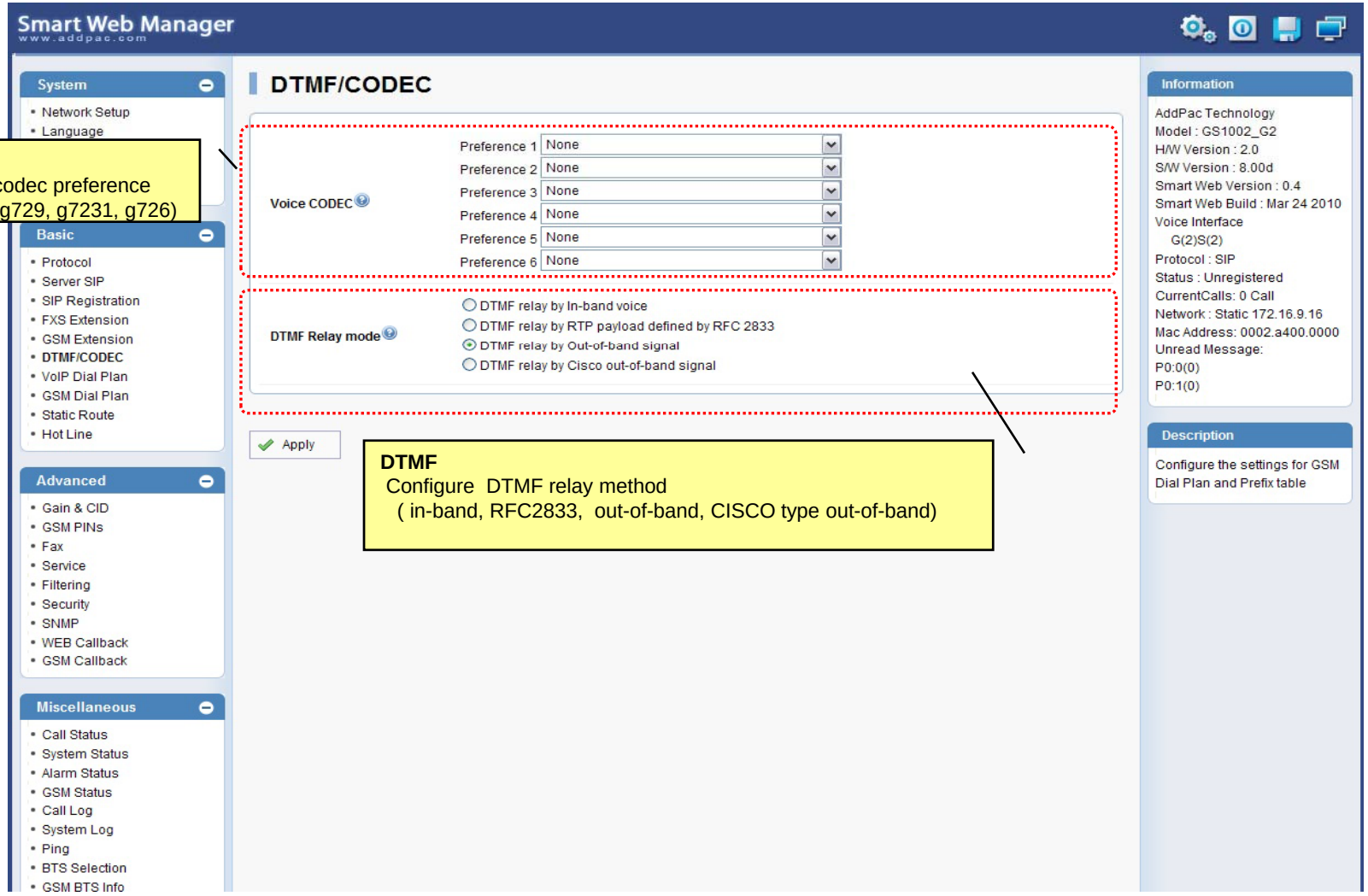


Port Information
voice port type & physical port

GSM Extension
Configure GSM phone-number for receiving a call
(usually 'T' is used for each port)

GSM Extension with Translation
Used to GSM callback
- The Received CID is not real serving number.
- The specified translation rule is applied.

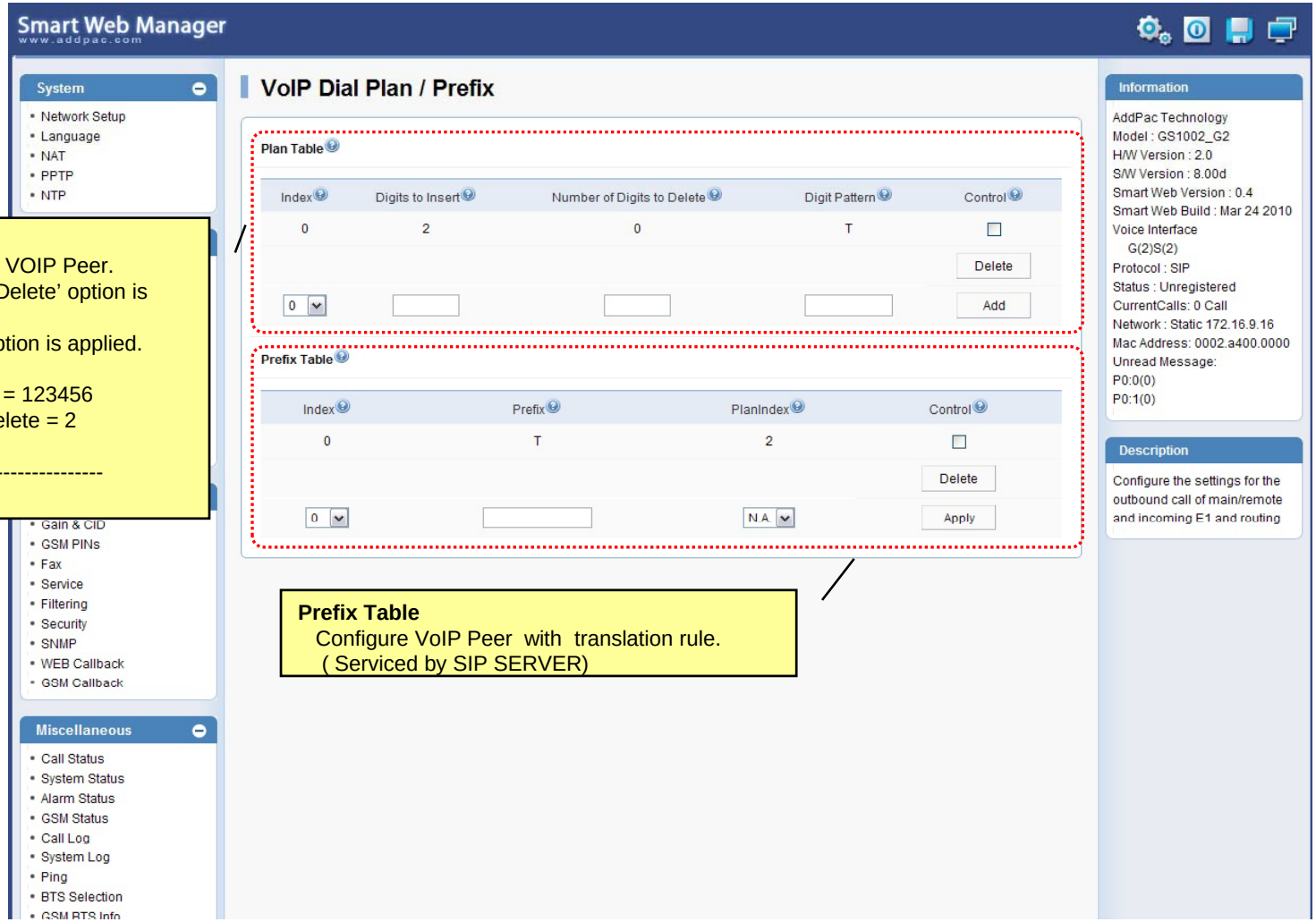
Basic – DTMF/CODEC



CODEC
Configure voice codec preference
(g711a, g711u, g729, g7231, g726)

DTMF
Configure DTMF relay method
(in-band, RFC2833, out-of-band, CISCO type out-of-band)

Basic – VoIP Dial Plan

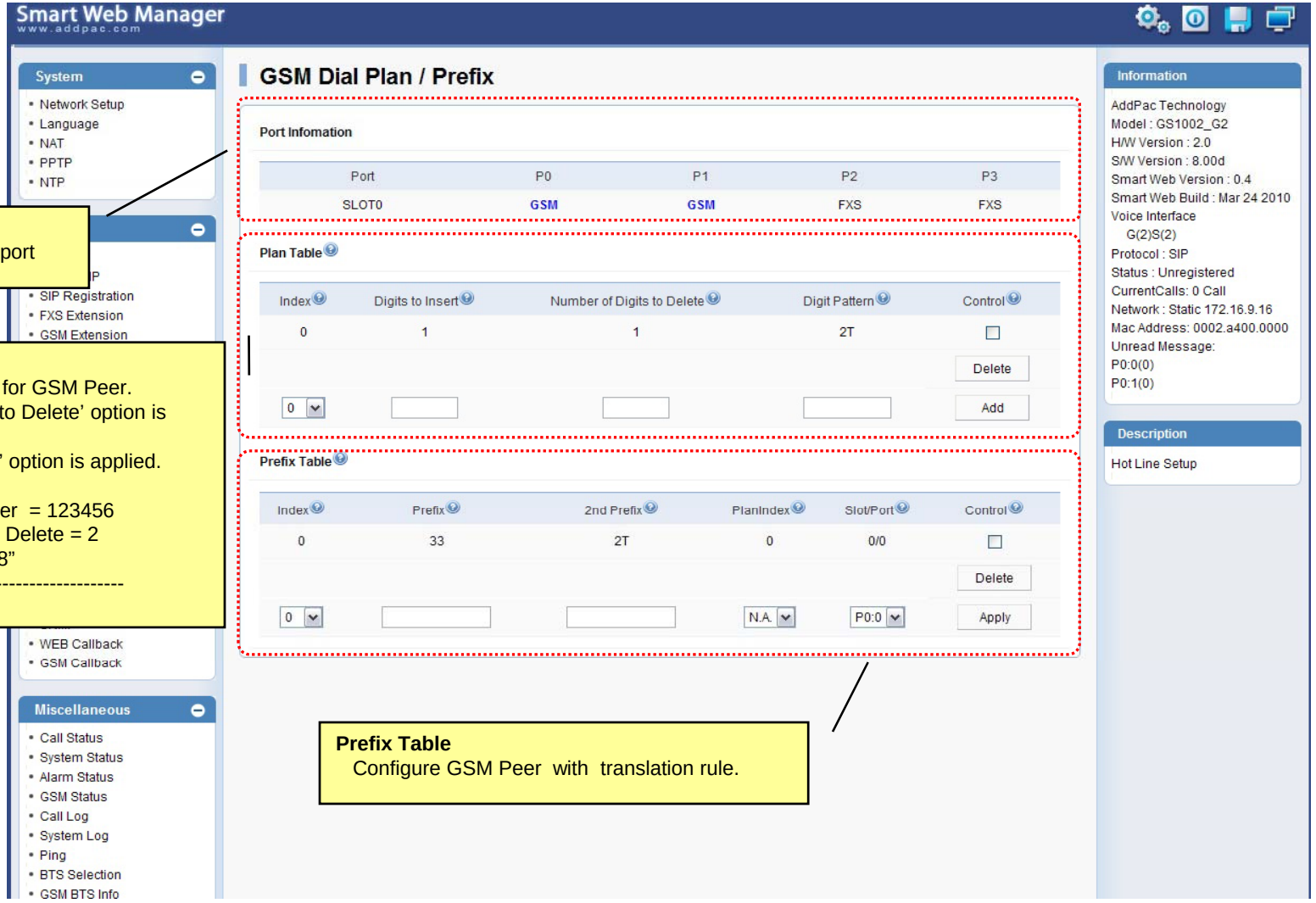


VoIP PLAN
Configure translation rule for VOIP Peer.
- first, 'Number of Digits to Delete' option is applied.
- second, 'Digits to Insert' option is applied.

(ex) Origin called Number = 123456
Number of Digits to Delete = 2
Digits to Insert = "88"
---
result = 883456

Prefix Table
Configure VoIP Peer with translation rule.
(Serviced by SIP SERVER)

Basic – GSM Dial Plan



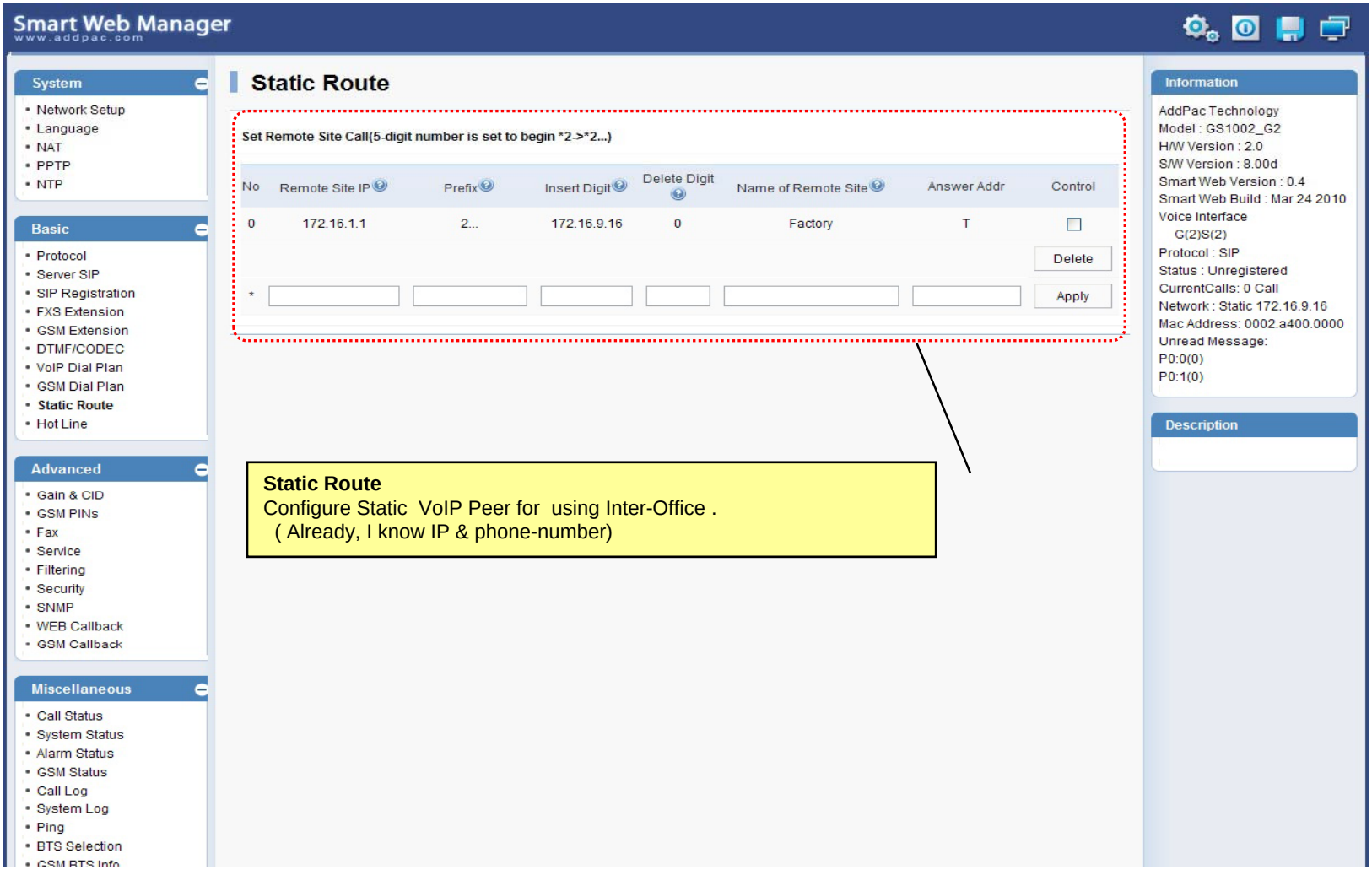
Port Information
voice port type & physical port

VoIP PLAN
Configure translation rule for GSM Peer.
- first, 'Number of Digits to Delete' option is applied.
- second, 'Digits to Insert' option is applied.

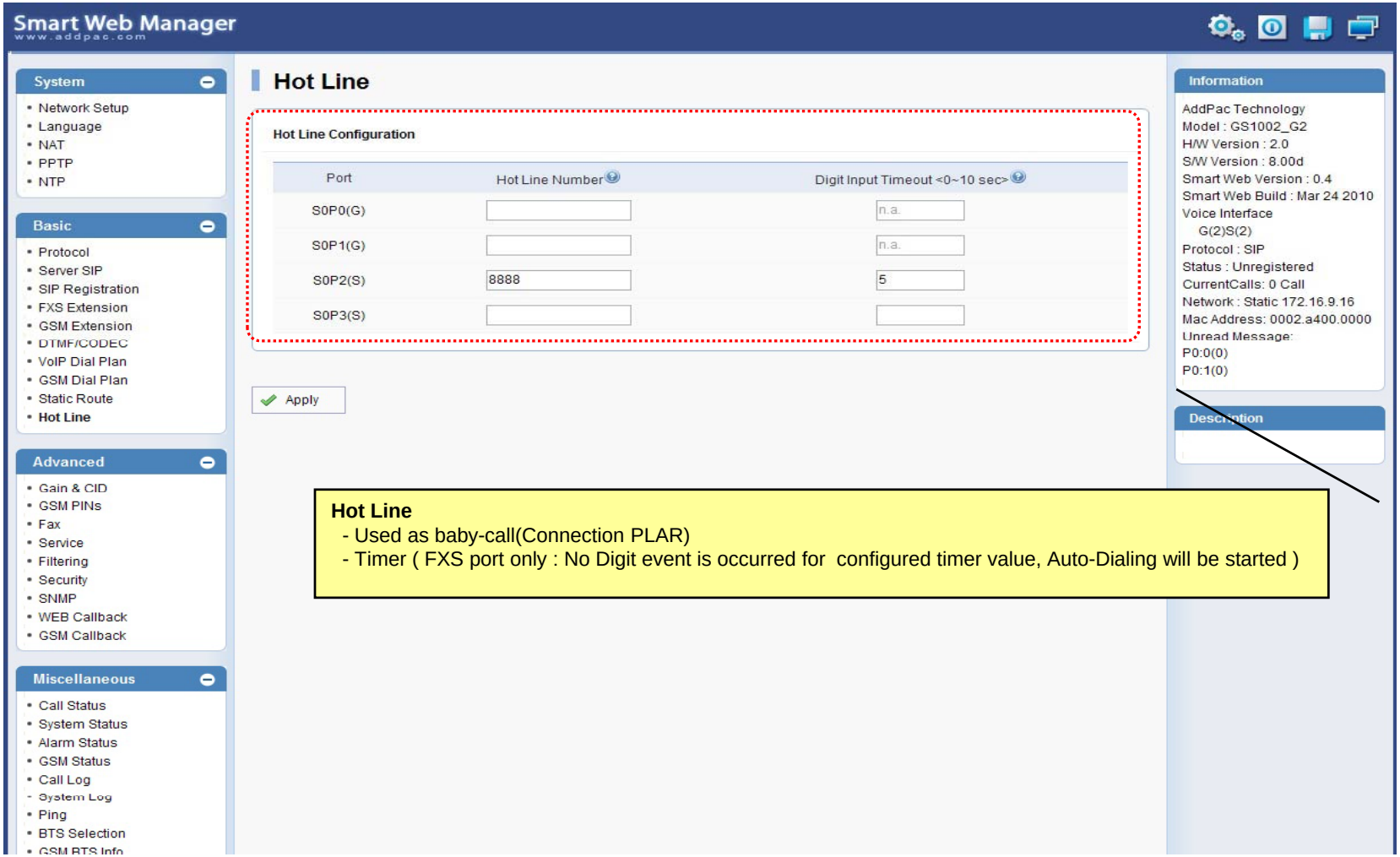
(ex) Origin called Number = 123456
Number of Digits to Delete = 2
Digits to Insert = "88"
---
result = 883456

Prefix Table
Configure GSM Peer with translation rule.

Basic – Static Route

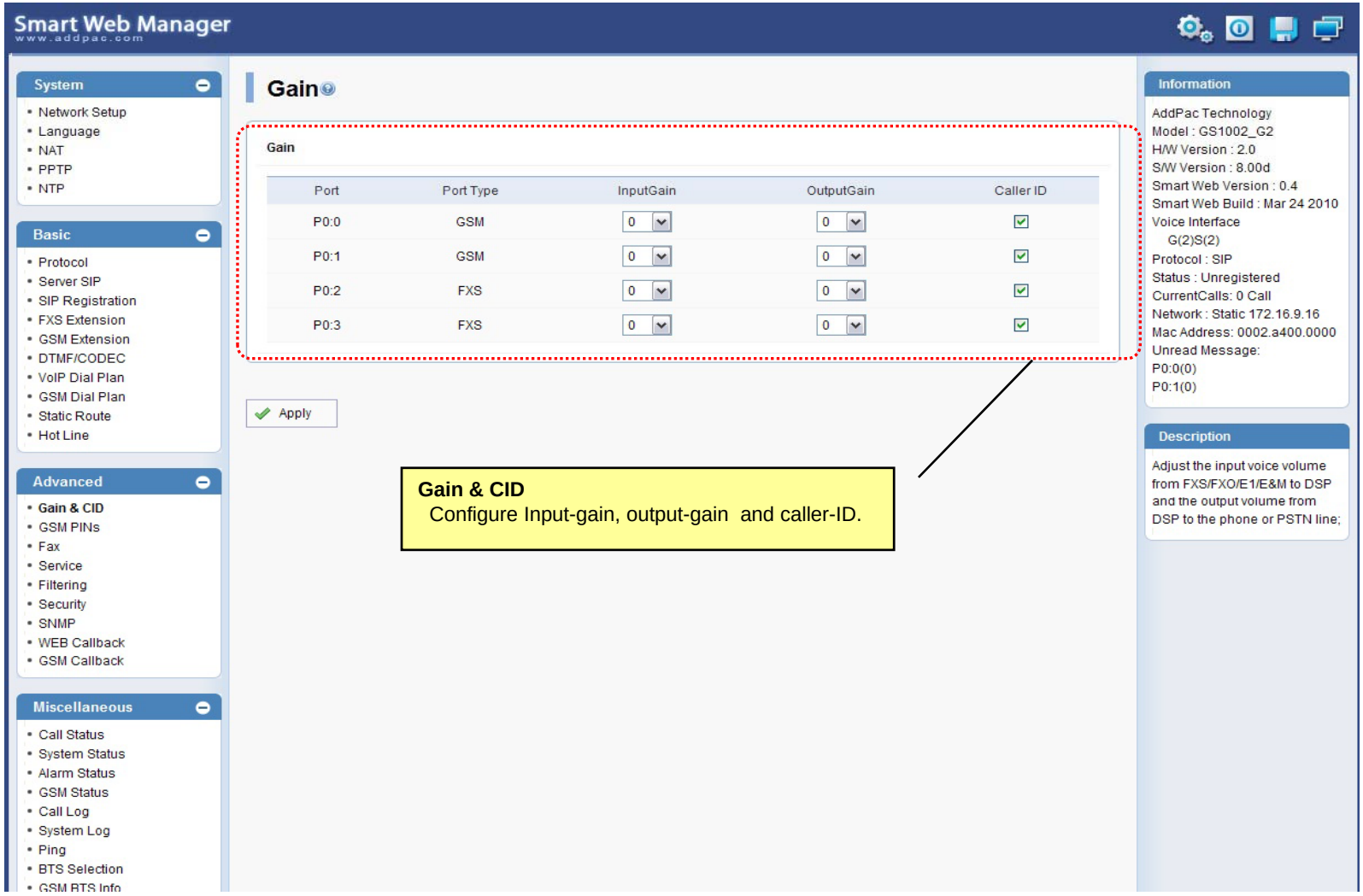


Basic – Hot Line

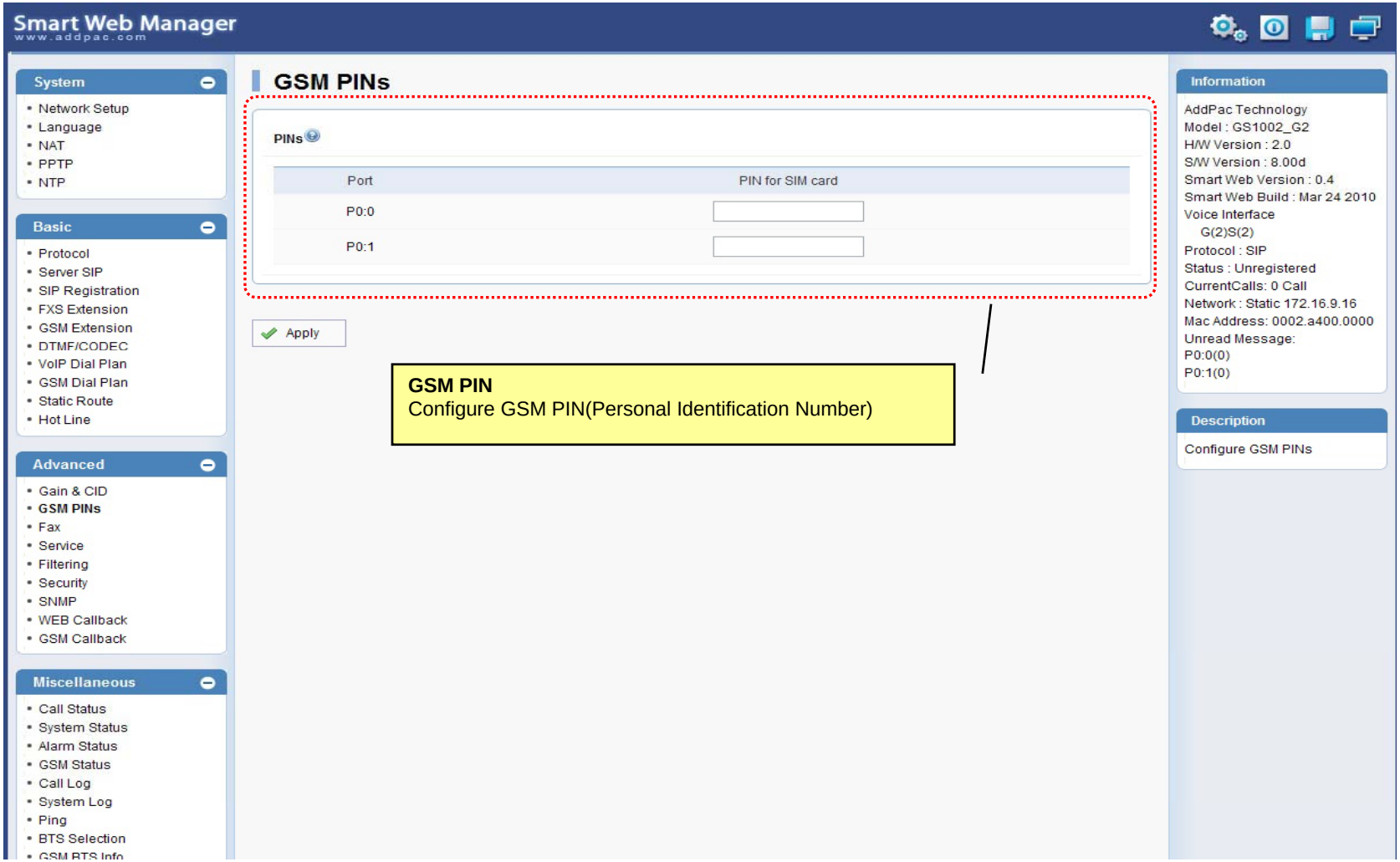


Hot Line
- Used as baby-call(Connection PLAR)
- Timer (FXS port only : No Digit event is occurred for configured timer value, Auto-Dialing will be started)

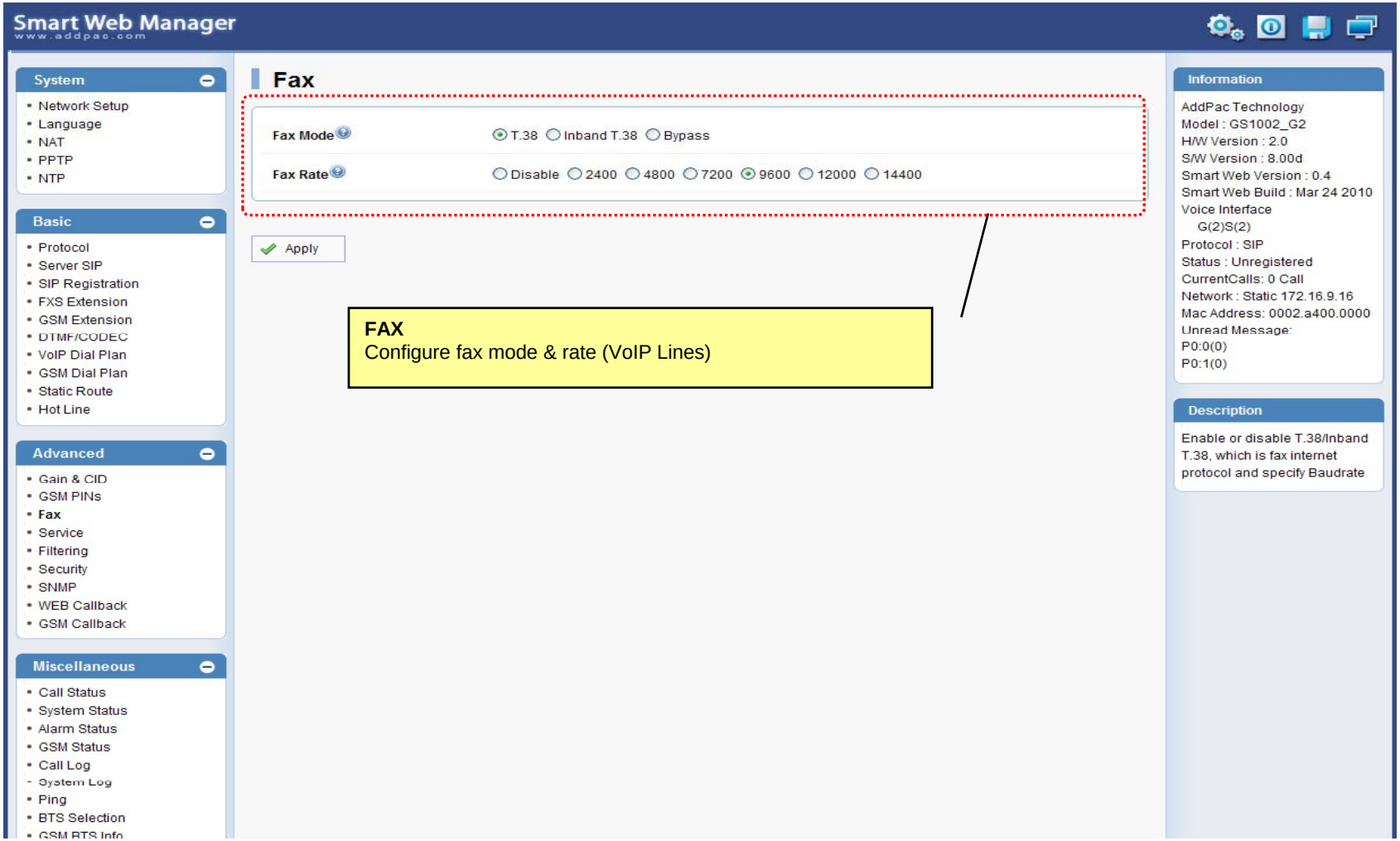
Advanced – Gain & CID



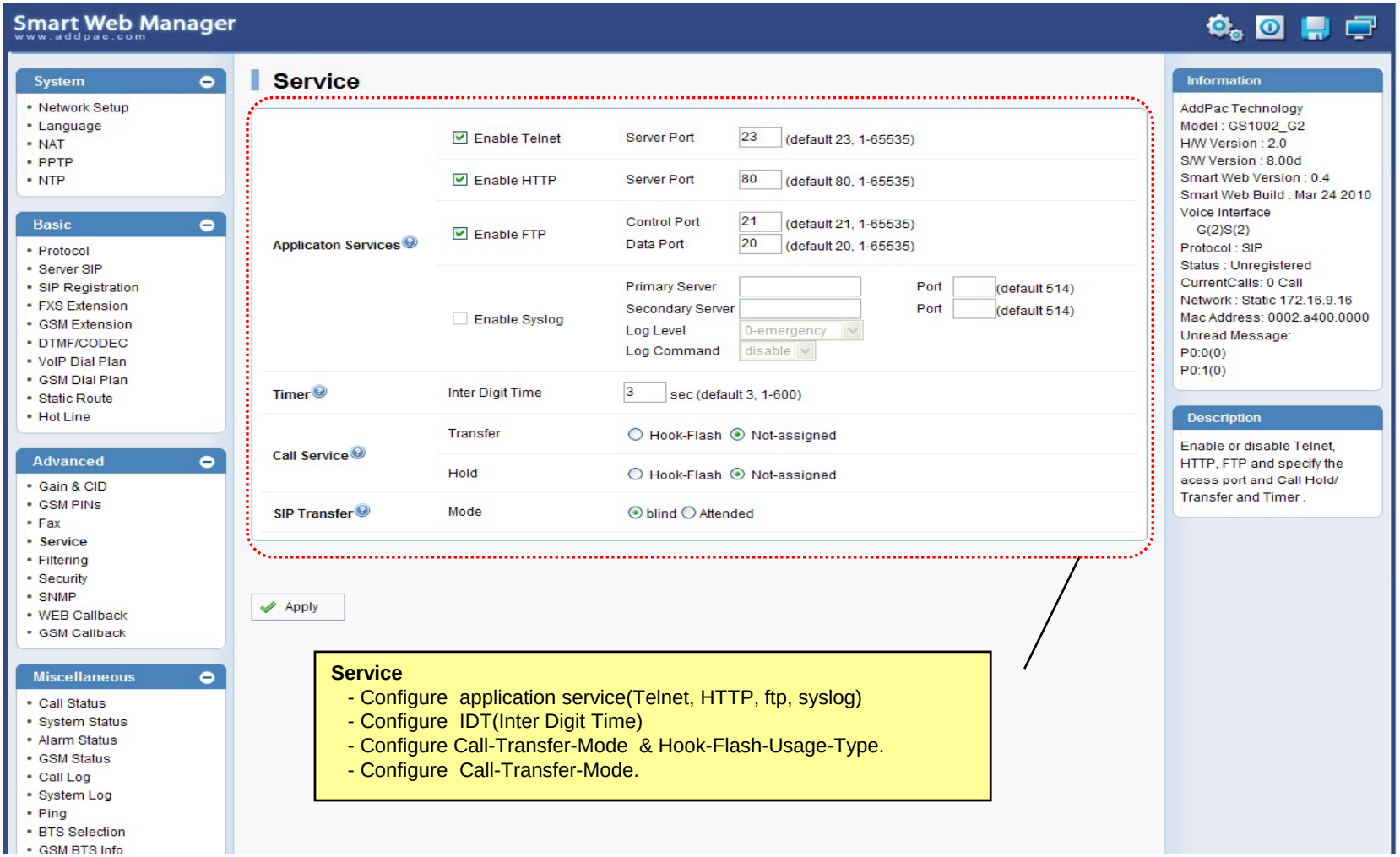
Advanced – GSM PINs



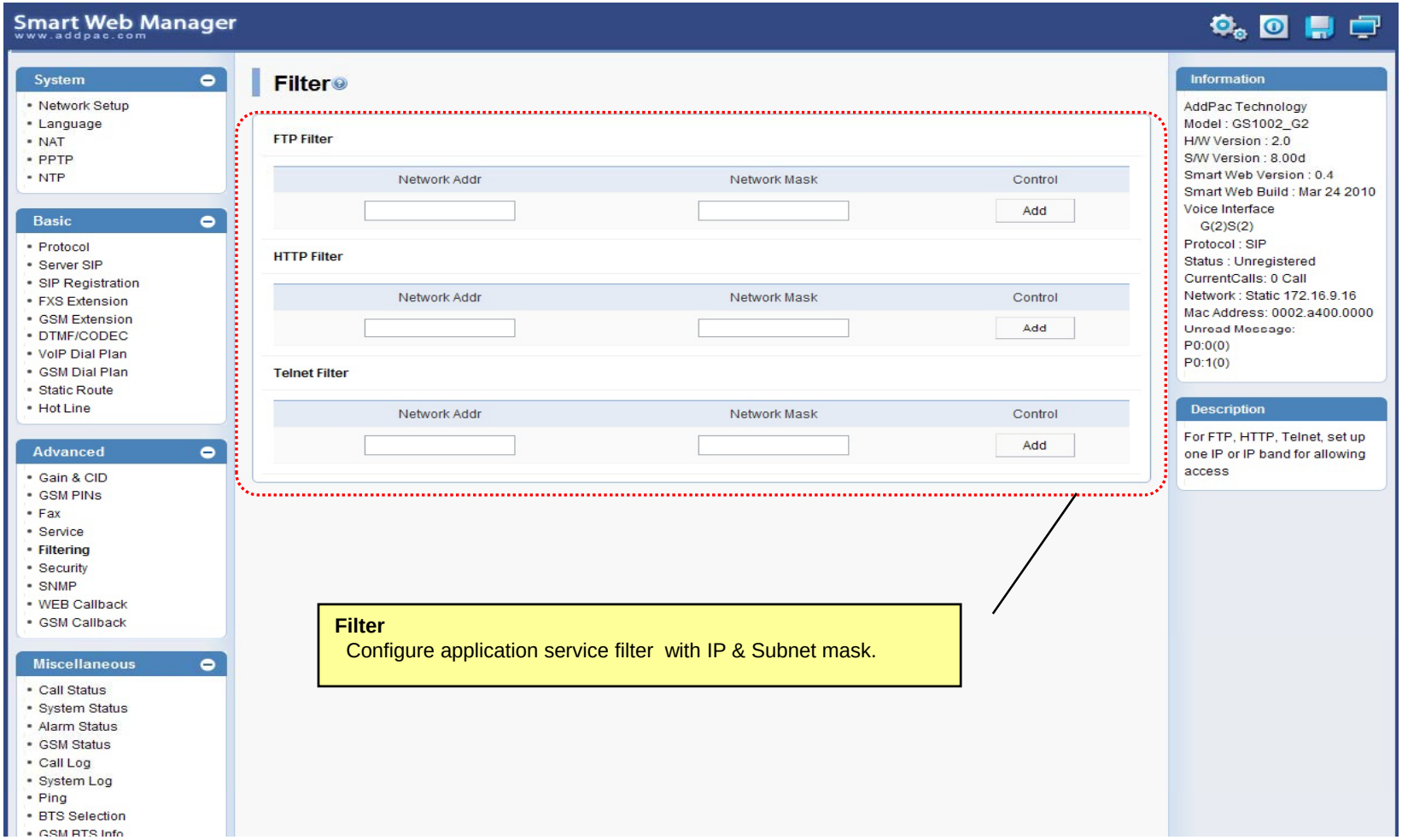
Advanced - Fax



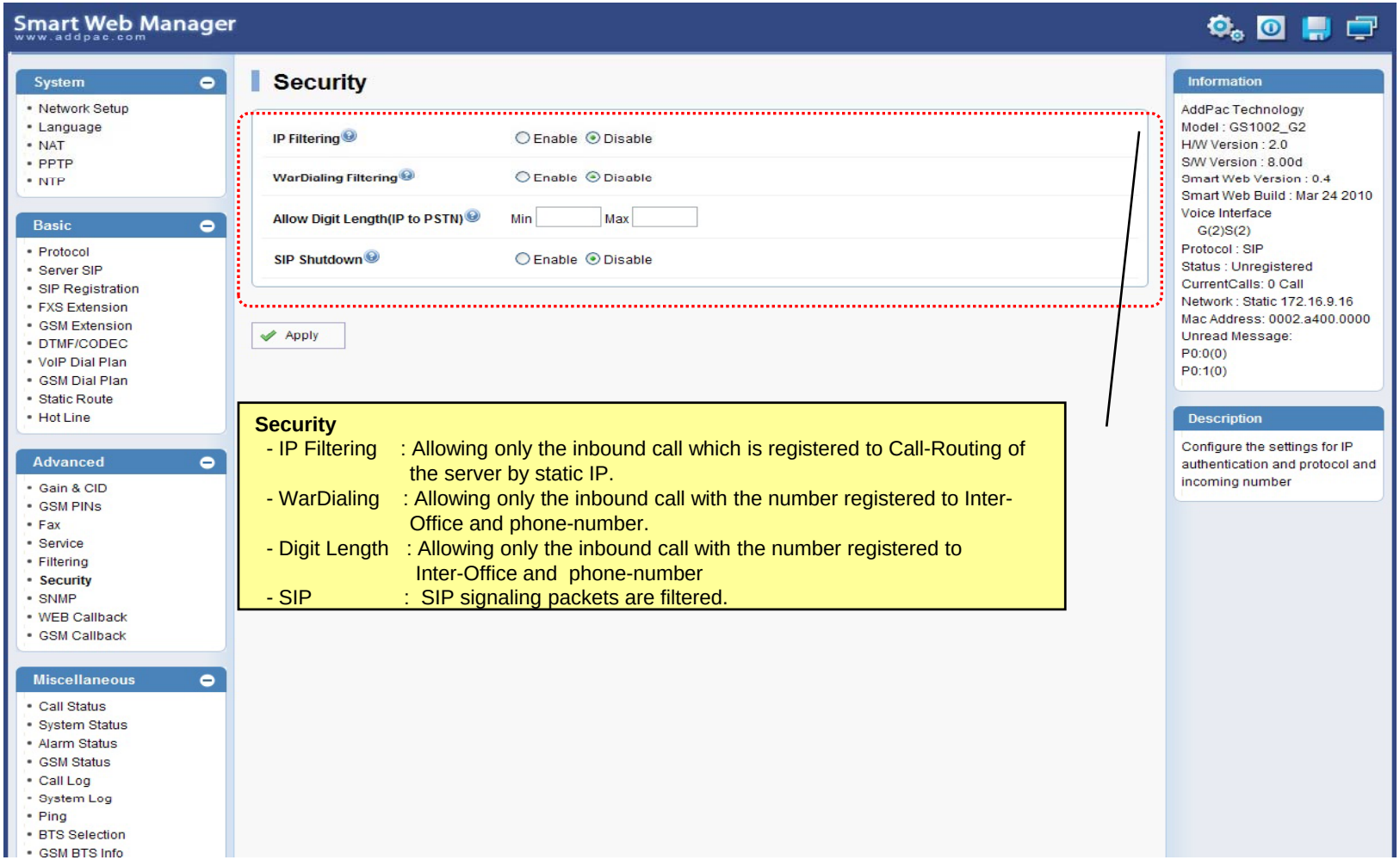
Advanced - Service



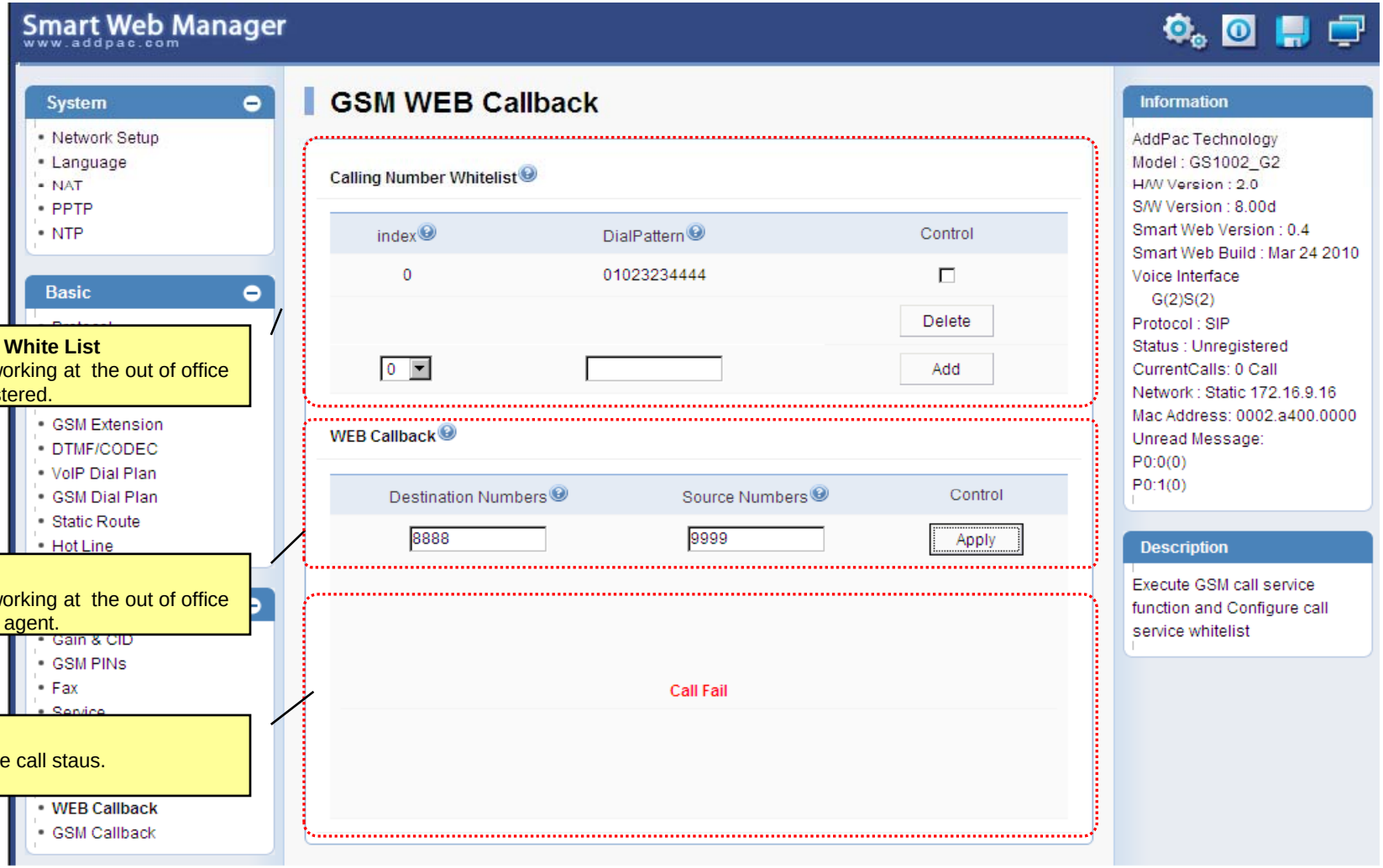
Advanced - Filtering



Advanced - Security



Advanced – GSM Web Callback

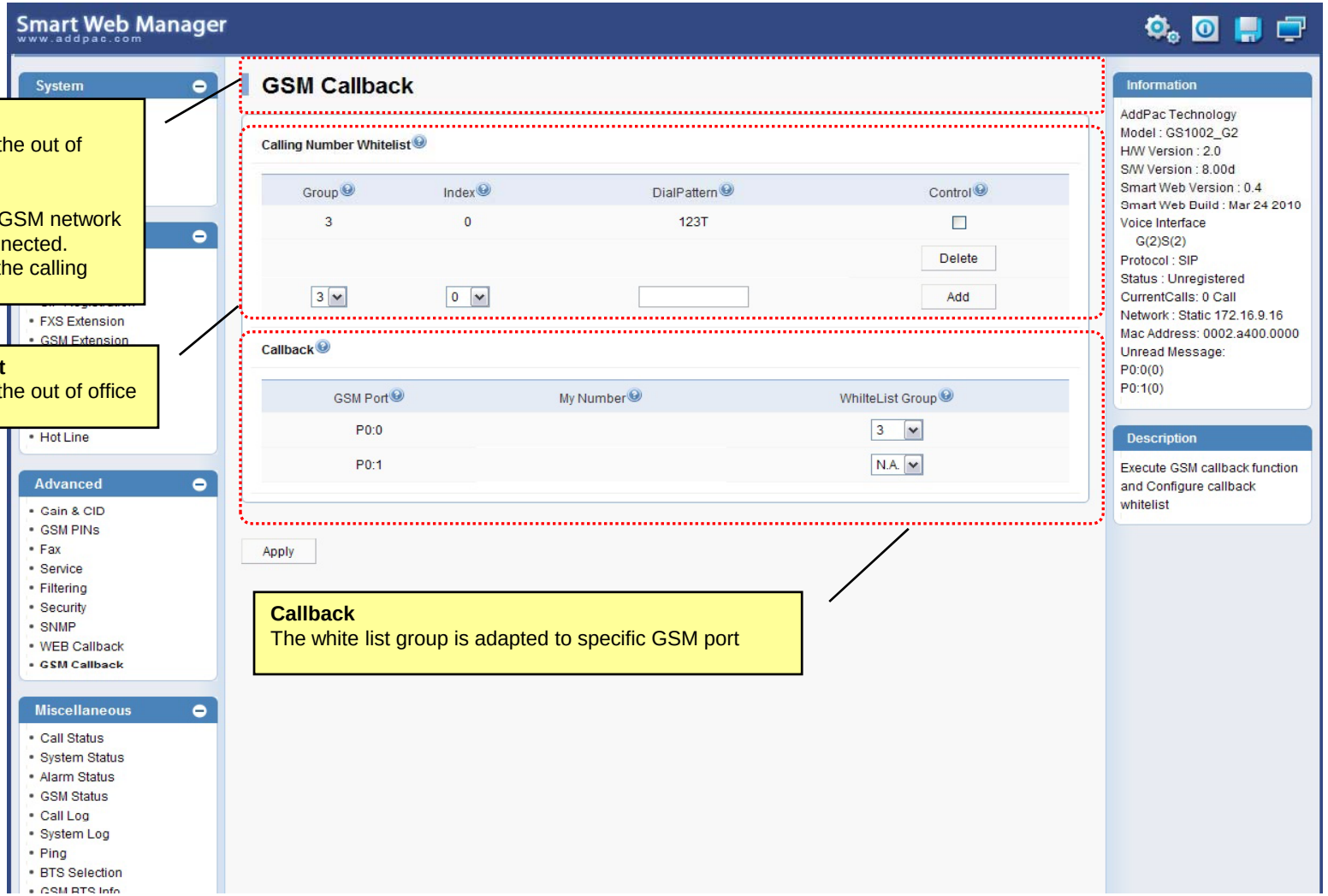


Calling Number White List
The employee working at the out of office are usually registered.

WEB Callback
The employee working at the out of office can use web call agent.

Status Viewer
Display real-time call staus.

Advanced – GSM Callback



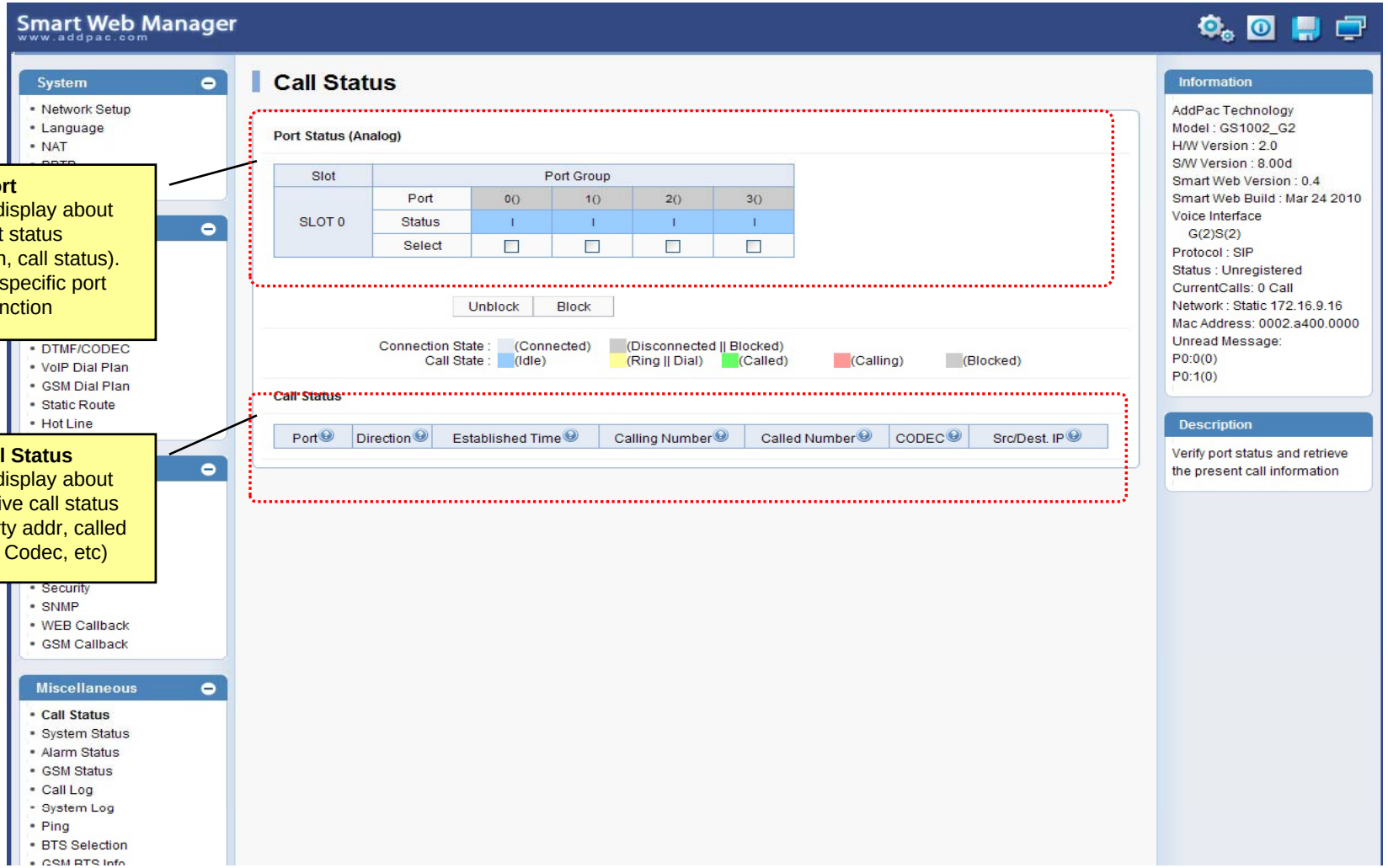
GSM Callback
The employee working at the out of office can use this function.

- The Call received from GSM network is automatically disconnected.
- GSM gateway calls to the calling number.

Calling Number White List
The employee working at the out of office are usually registered.

Callback
The white list group is adapted to specific GSM port

Miscellaneous – Call Status

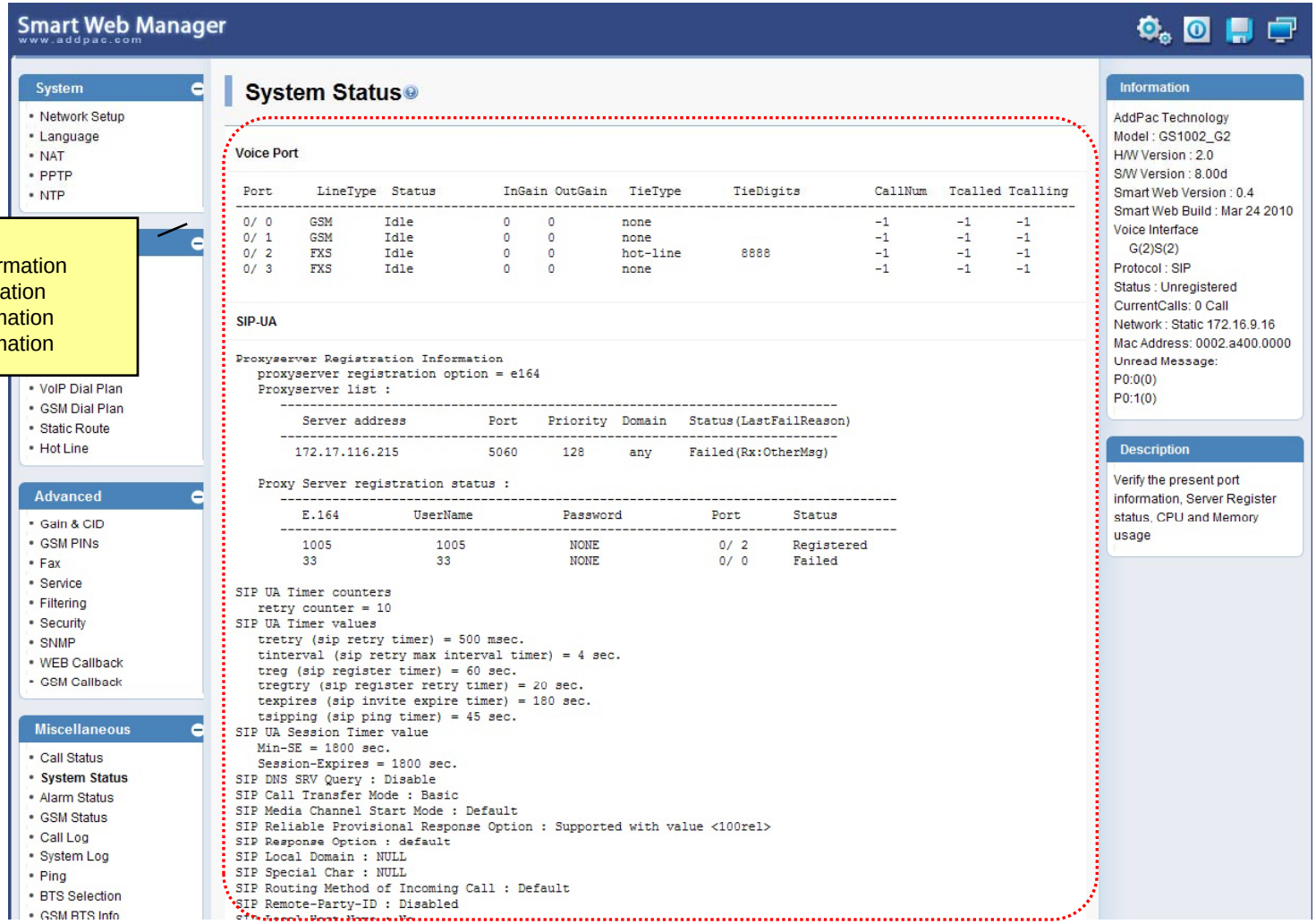


Analog Port
Real-time display about analog port status (occupation, call status). Provide a specific port blocking function

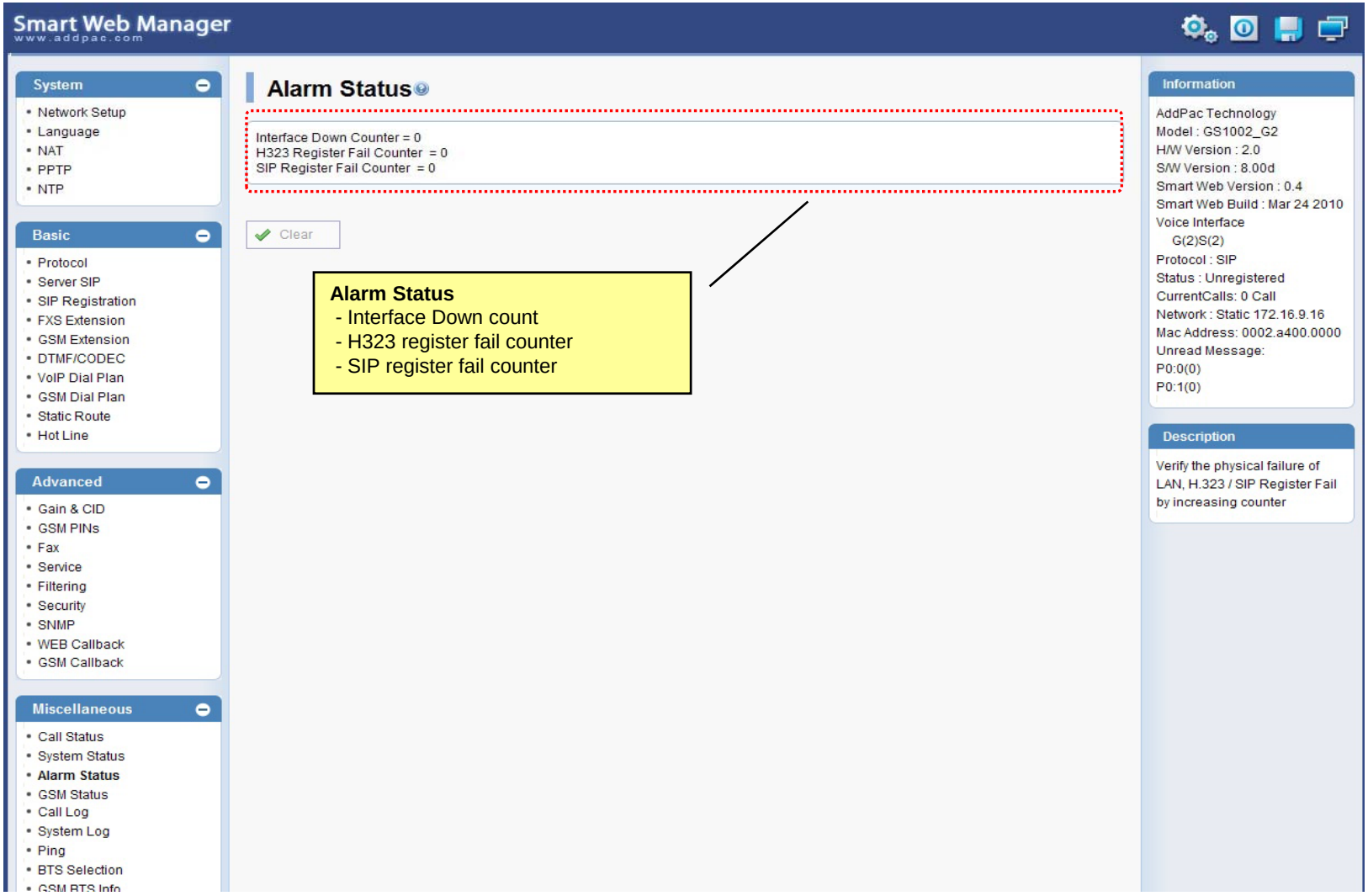
Active Call Status
Real-time display about current active call status (calling party addr, called party addr. Codec, etc)

Miscellaneous – System Status

System Status
- voice port status & information
- SIP-UA status & information
- gateway status & information
- system utilization information



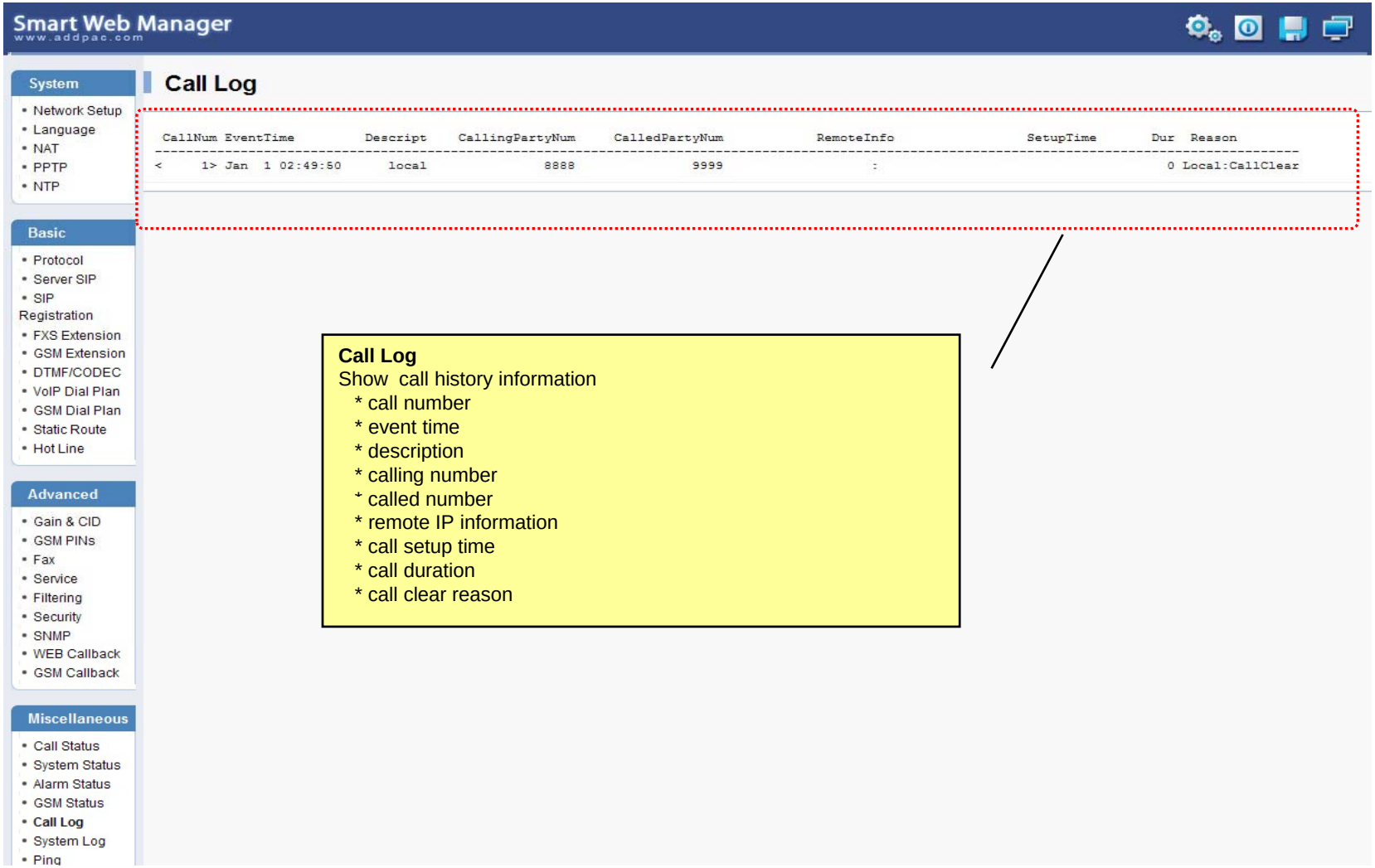
Miscellaneous – Alarm Status



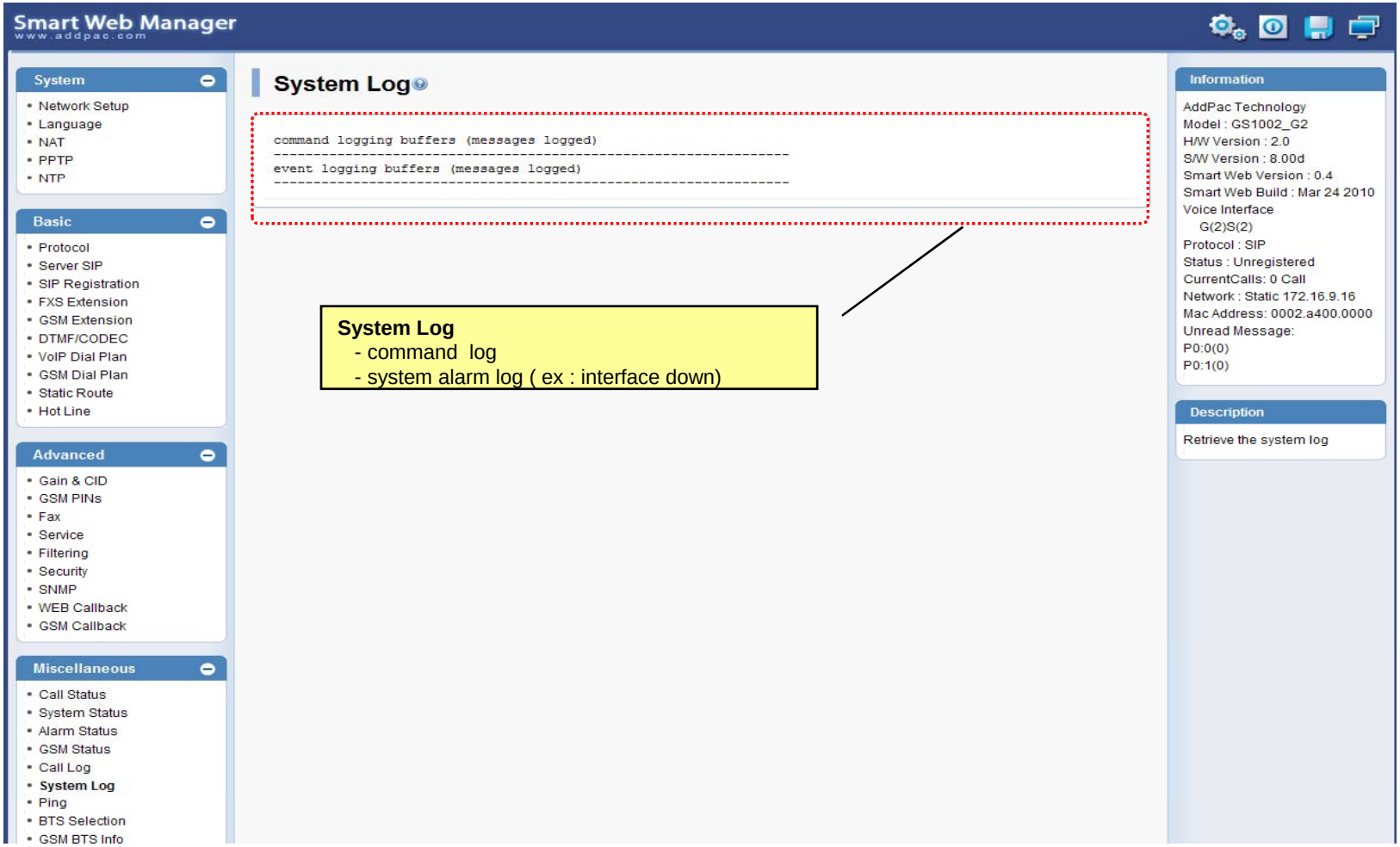
Miscellaneous – GSM Status



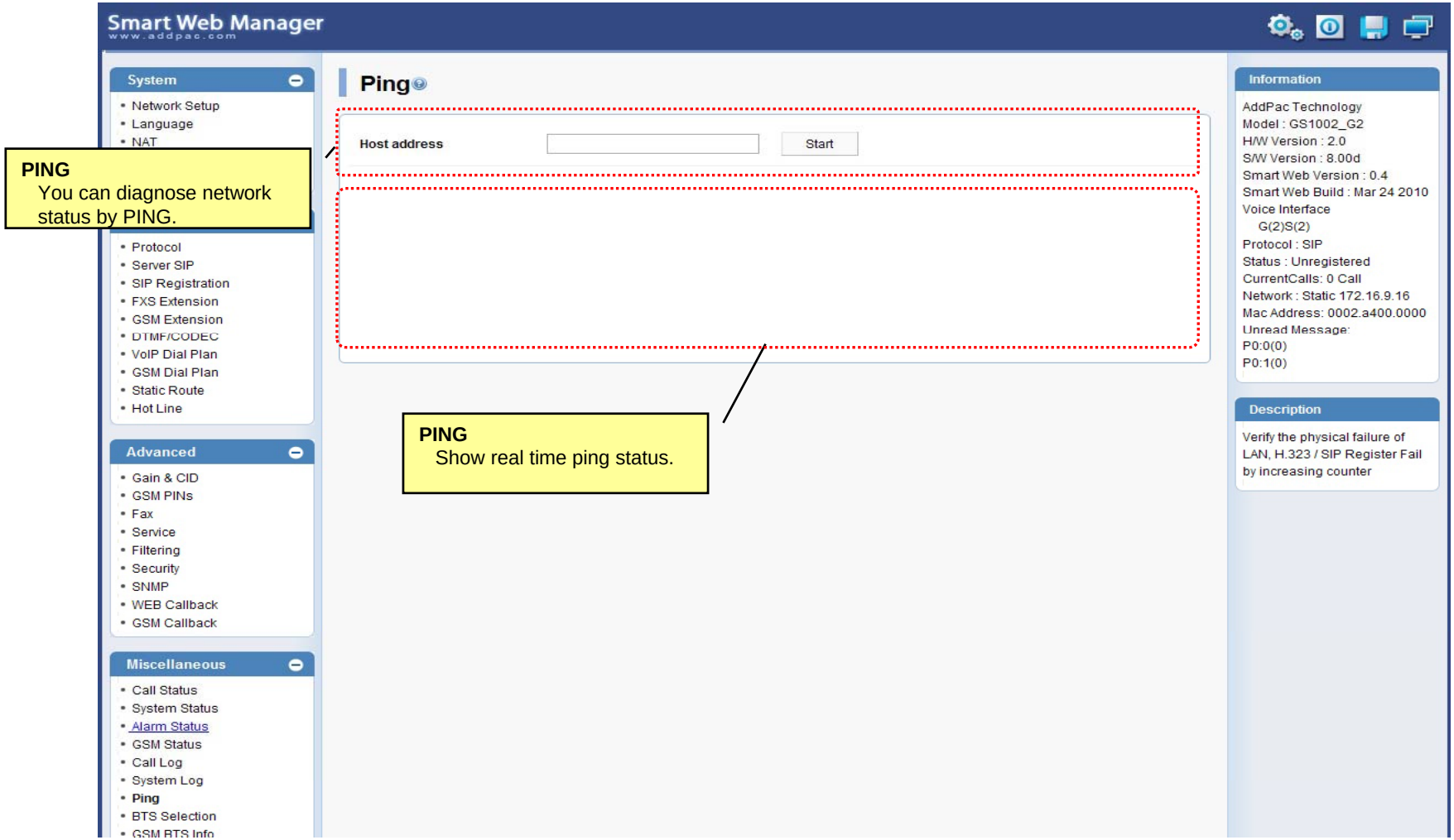
Miscellaneous – Call Log



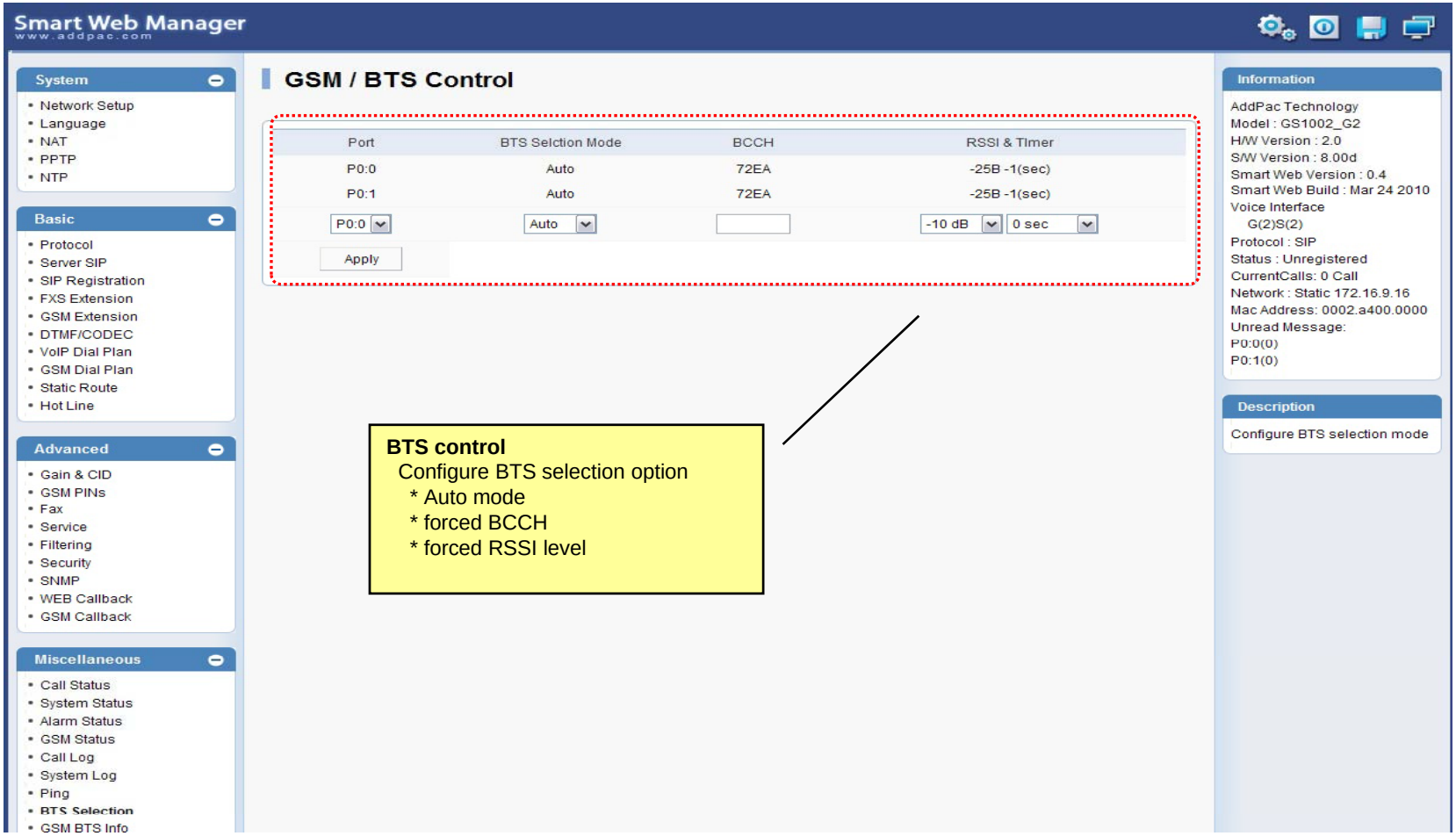
Miscellaneous – System Log



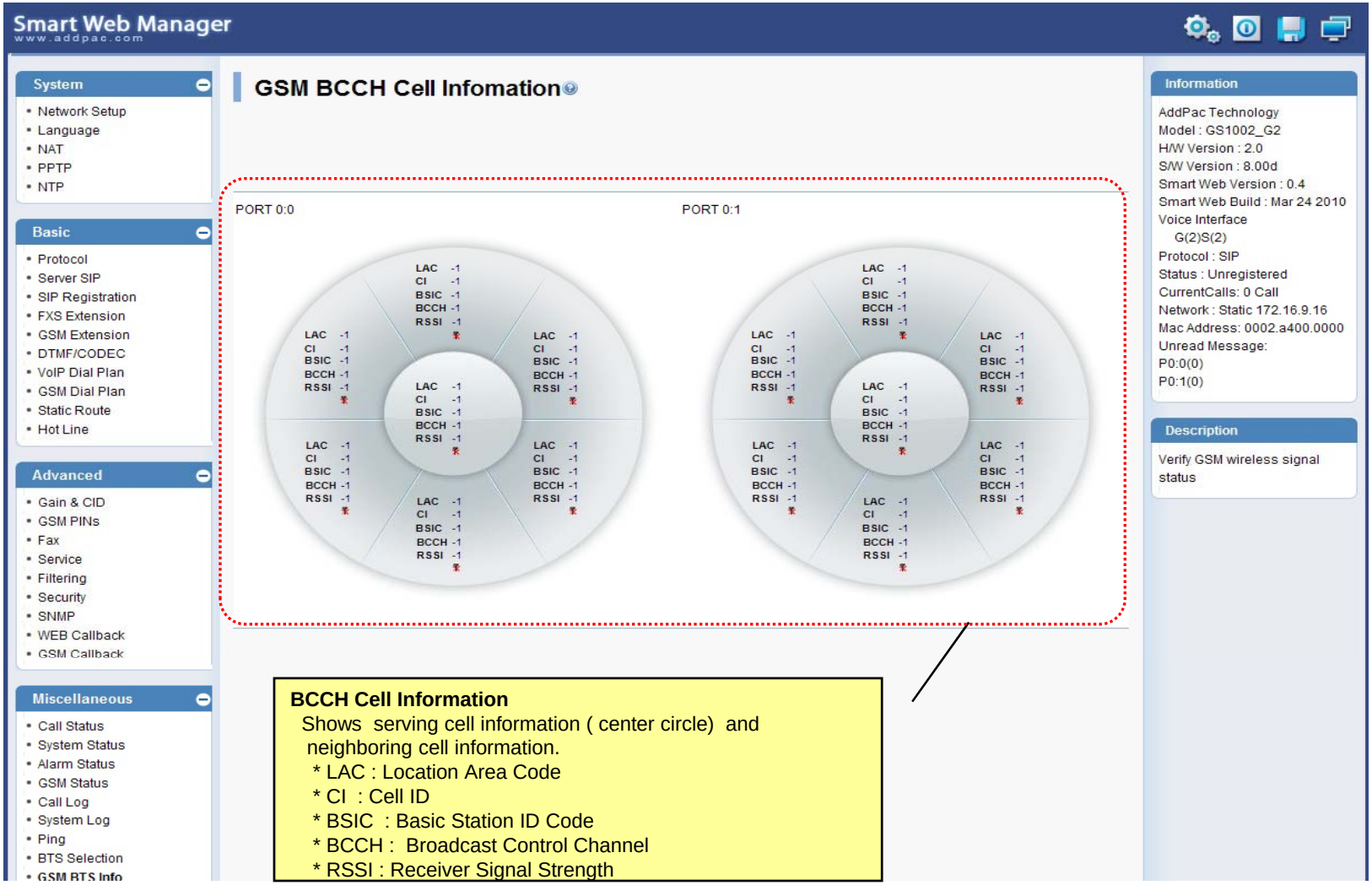
Miscellaneous - Ping



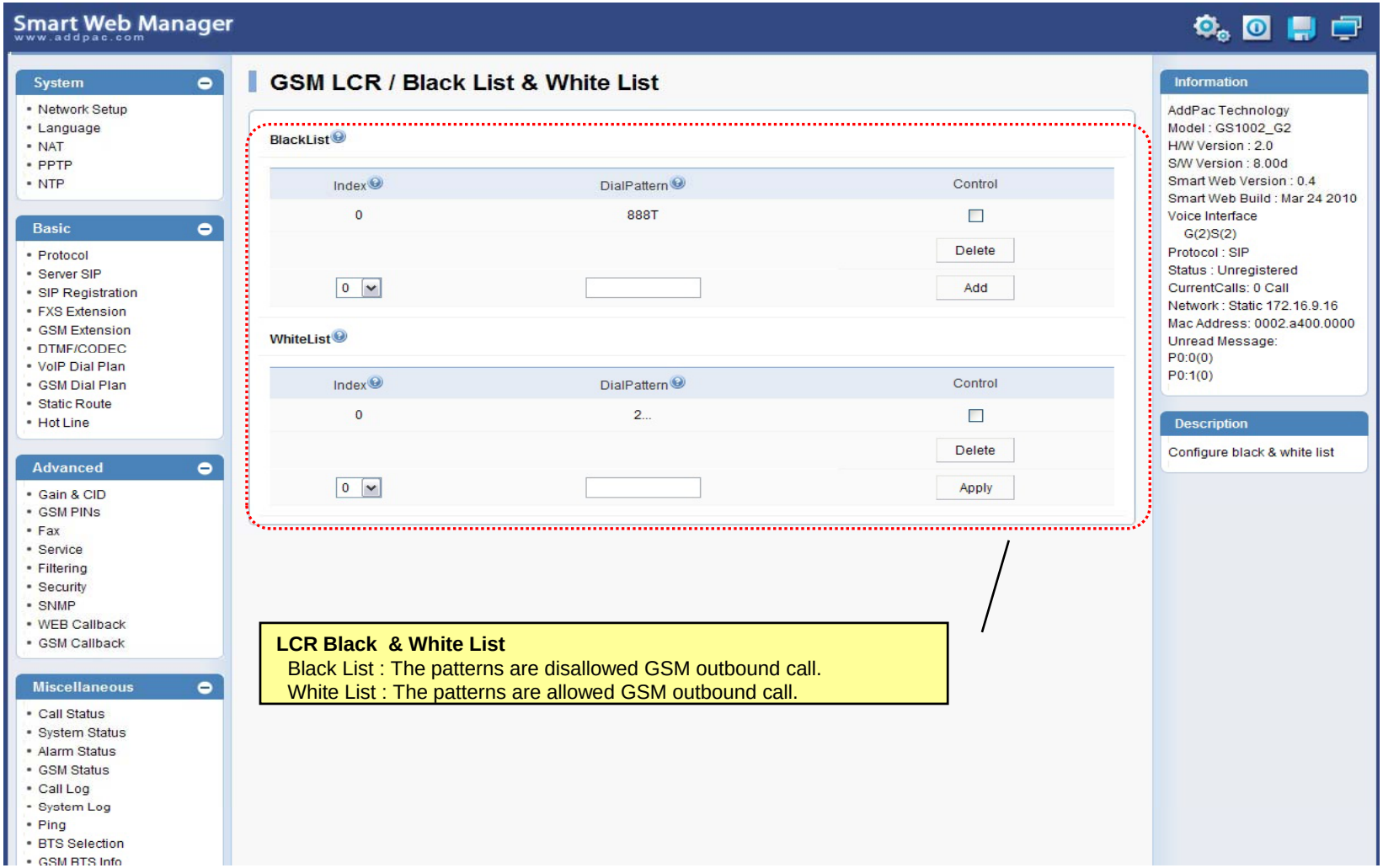
Miscellaneous – BTS Selection



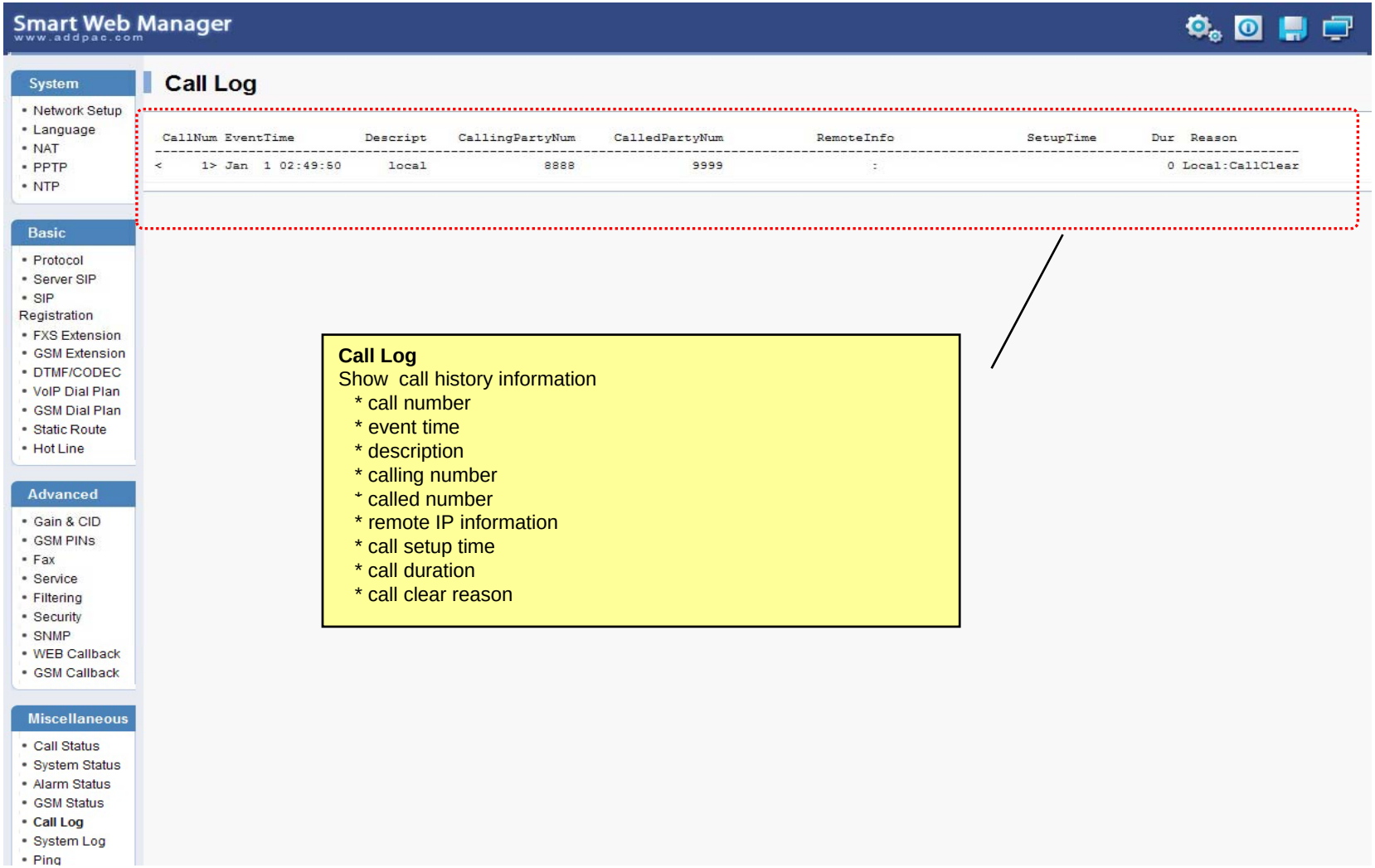
Miscellaneous – GSM BTS Info



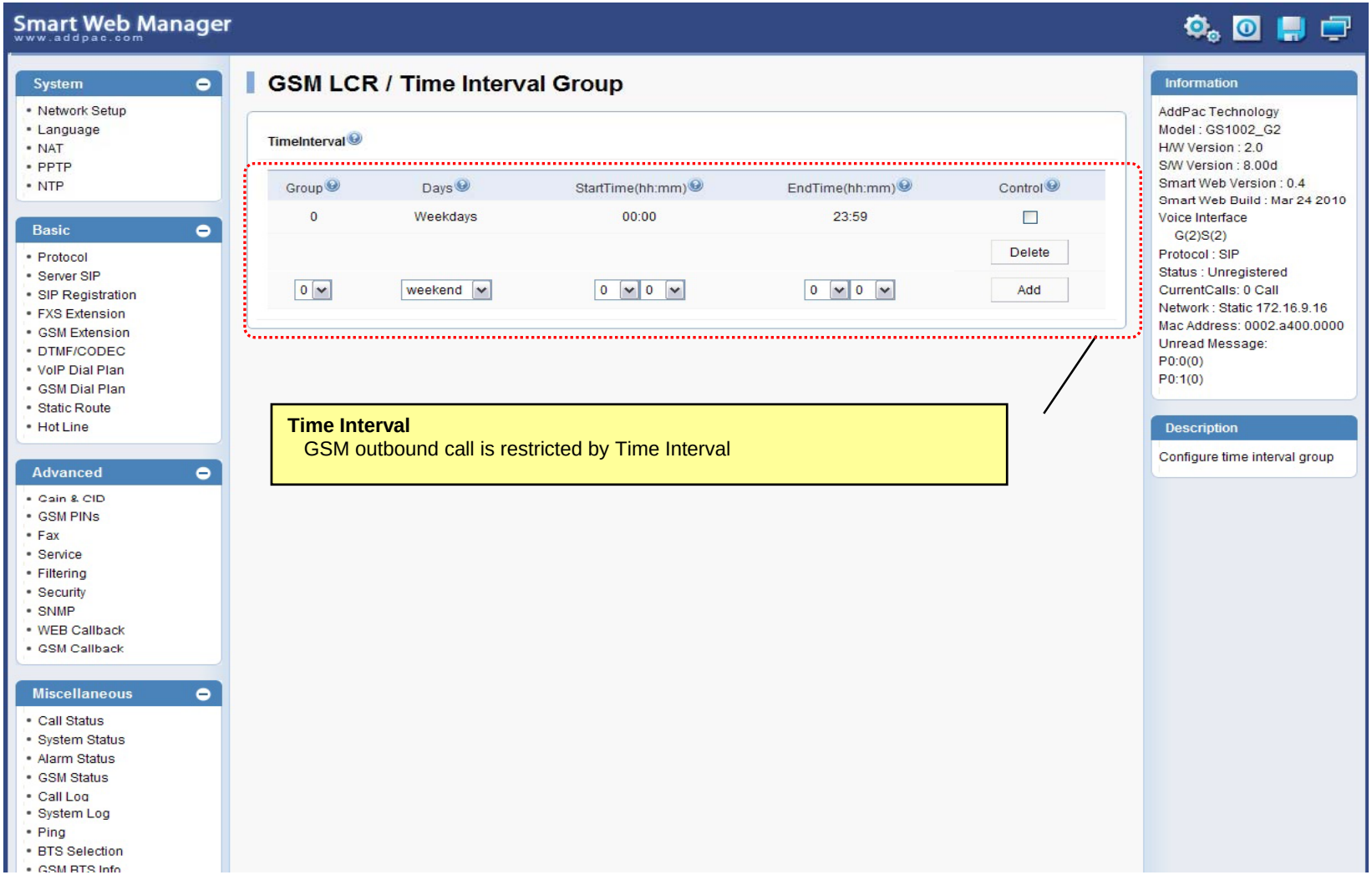
LCR – Black & White List



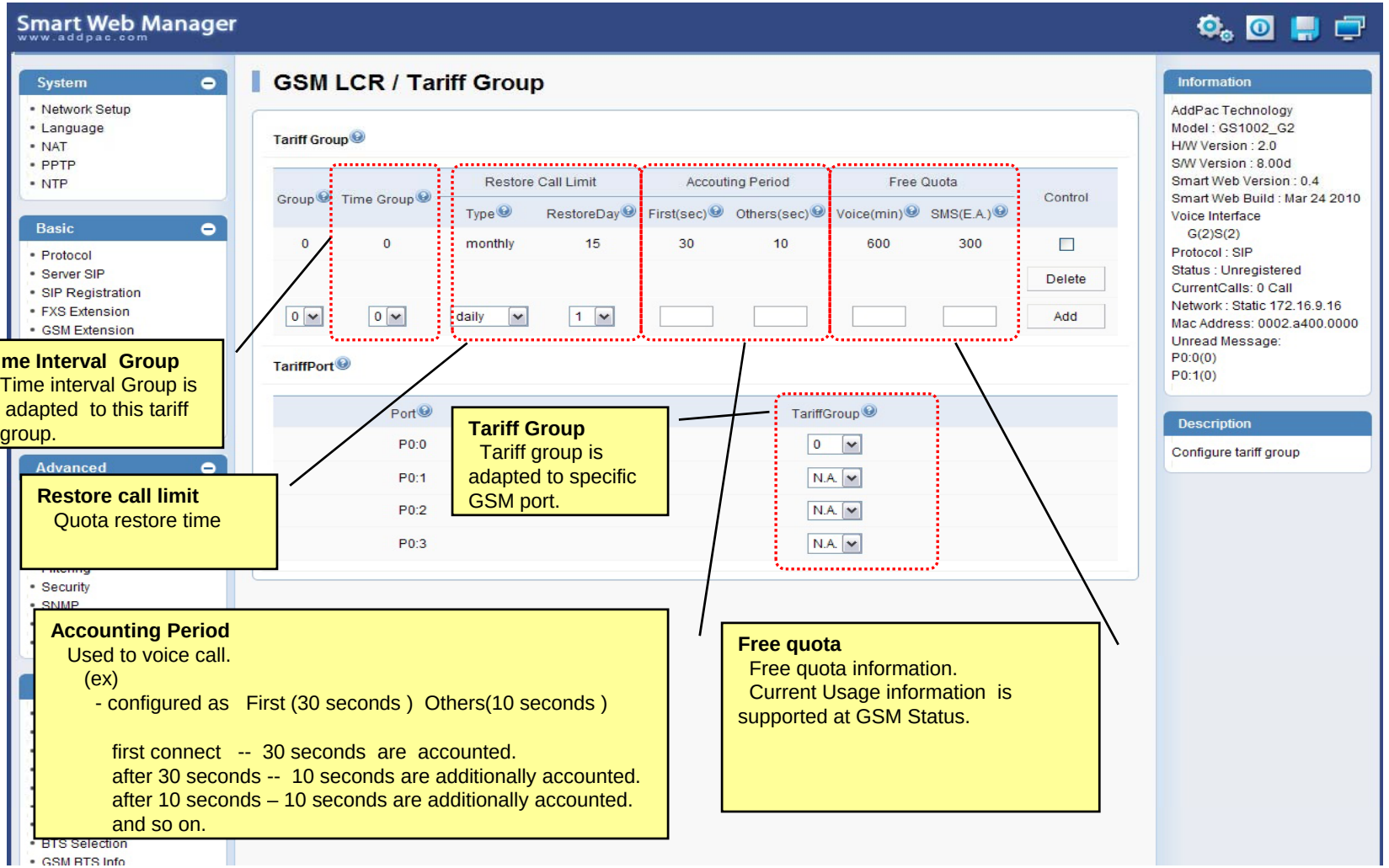
Miscellaneous – Call Log



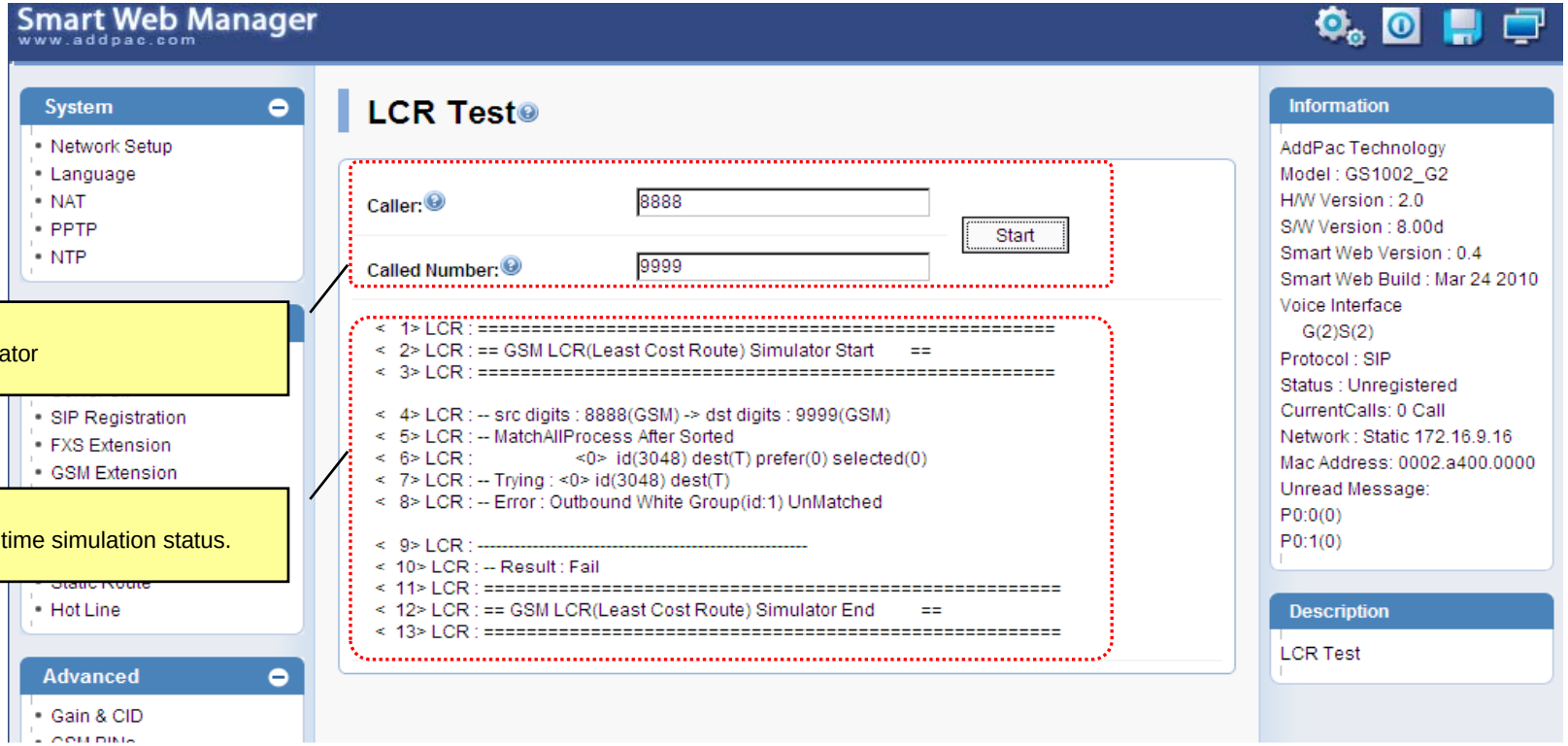
LCR – Time Interval



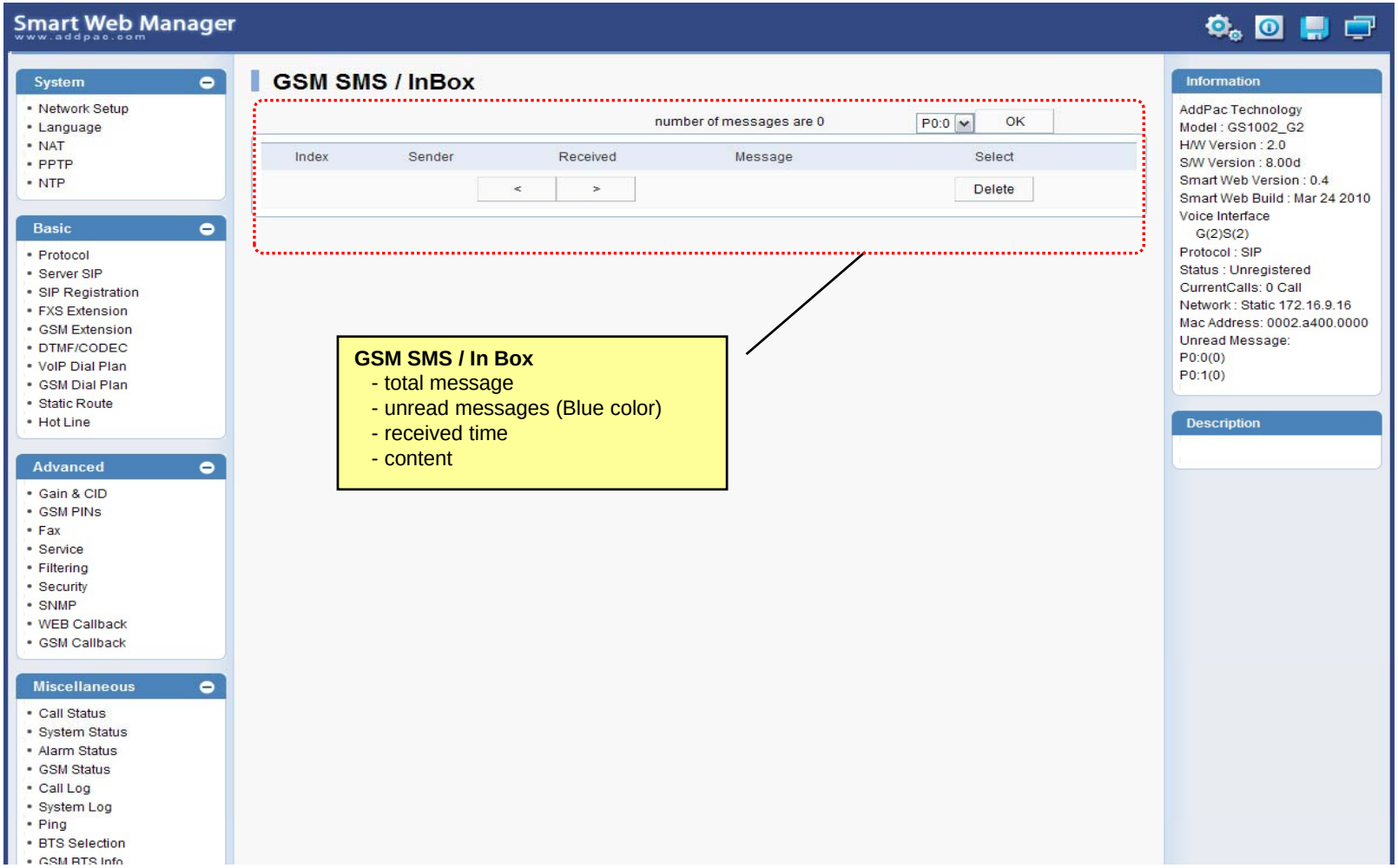
LCR – Tariff Group



LCR – LCR Test


Smart Web Manager
www.addpac.com
System
Network Setup
Language
NAT
PPTP
NTP
SIP Registration
FXS Extension
GSM Extension
Hot Line
Advanced
Gain & CID
LCR Test
Caller: 8888
Start
Called Number: 9999
< 1> LCR : ==========
< 2> LCR : == GSM LCR(Least Cost Route) Simulator Start ==
< 3> LCR : ==========
< 4> LCR : -- src digits : 8888(GSM) -> dst digits : 9999(GSM)
< 5> LCR : -- MatchAllProcess After Sorted
< 6> LCR : <0> id(3048) dest(T) prefer(0) selected(0)
< 7> LCR : -- Trying : <0> id(3048) dest(T)
< 8> LCR : -- Error : Outbound White Group(id:1) UnMatched
< 9> LCR : ----------
< 10> LCR : -- Result : Fail
< 11> LCR : ==========
< 12> LCR : == GSM LCR(Least Cost Route) Simulator End ==
< 13> LCR : ==========
Information
AddPac Technology
Model : GS1002_G2
H/W Version : 2.0
S/W Version : 8.00d
Smart Web Version : 0.4
Smart Web Build : Mar 24 2010
Voice Interface
G(2)S(2)
Protocol : SIP
Status : Unregistered
CurrentCalls: 0 Call
Network : Static 172.16.9.16
Mac Address: 0002.a400.0000
Unread Message:
P0:0(0)
P0:1(0)
Description
LCR Test
LCR Test
LCR simulator
LCR Test
Show real time simulation status.

SMS – Inbox


Smart Web Manager
www.addpac.com
System
Network Setup
Language
NAT
PPTP
NTP
Basic
Protocol
Server SIP
SIP Registration
FXS Extension
GSM Extension
DTMF/CODEC
VoIP Dial Plan
GSM Dial Plan
Static Route
Hot Line
Advanced
Gain & CID
GSM PINs
Fax
Service
Filtering
Security
SNMP
WEB Callback
GSM Callback
Miscellaneous
Call Status
System Status
Alarm Status
GSM Status
Call Log
System Log
Ping
BTS Selection
GSM BTS Info
GSM SMS / InBox
number of messages are 0
P0:0
OK
Index
Sender
Received
Message
Select
<
>
Delete
GSM SMS / In Box
- total message
- unread messages (Blue color)
- received time
- content
Information
AddPac Technology
Model : GS1002_G2
H/W Version : 2.0
S/W Version : 8.00d
Smart Web Version : 0.4
Smart Web Build : Mar 24 2010
Voice Interface
G(2)S(2)
Protocol : SIP
Status : Unregistered
CurrentCalls: 0 Call
Network : Static 172.16.9.16
Mac Address: 0002.a400.0000
Unread Message:
P0:0(0)
P0:1(0)
Description

SMS – SMS New Message



Thank you!

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Sales and Marketing

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