GSM Gateway Solution

AddPac Technology

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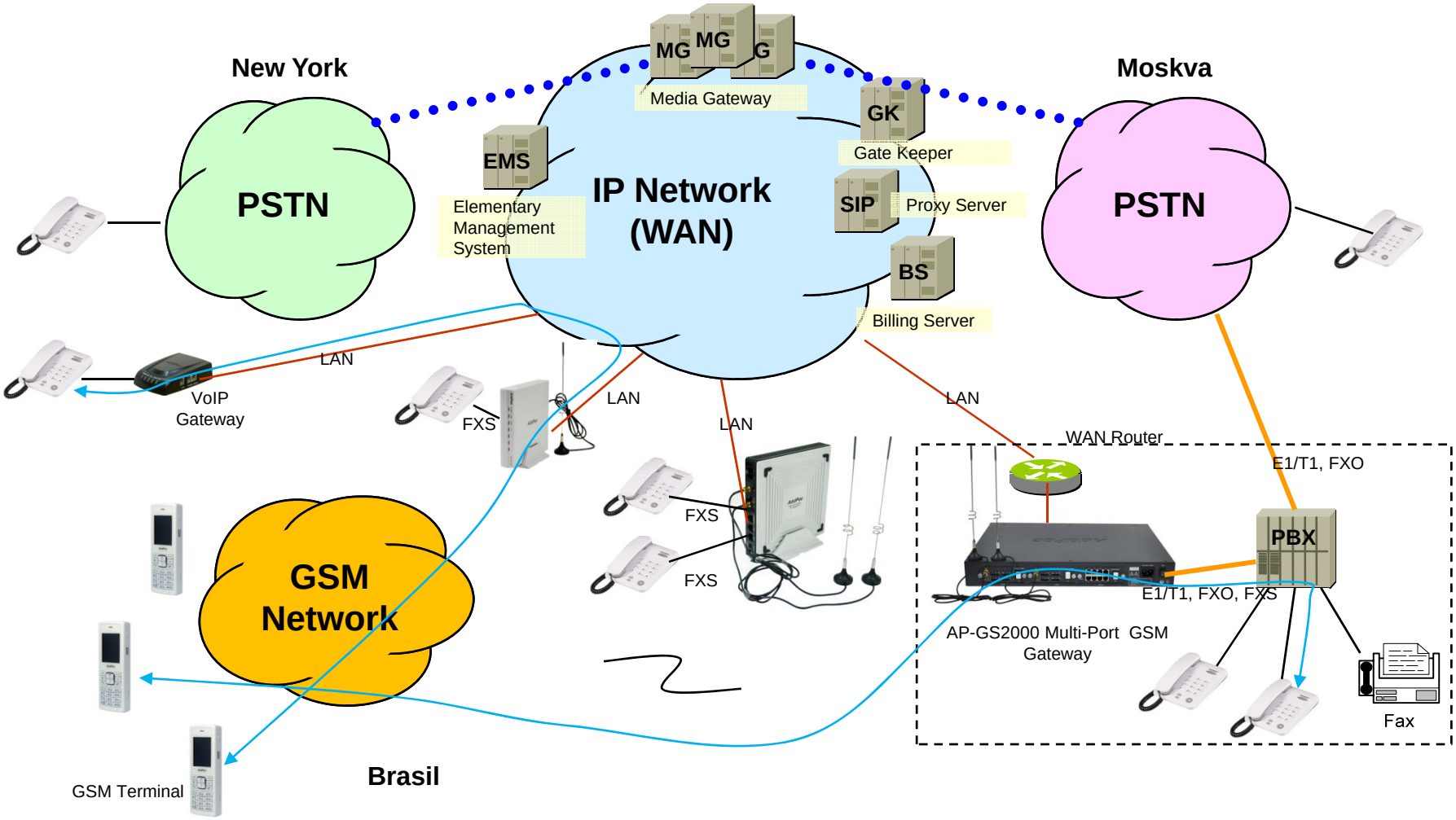
- Smart Web Manager for GSM Gateway
- NMS (Network Management System) for GSM Gateway

GSM Gateway Service Diagram



GSM Gateway Series

GSM Gateway Comparison Table

	AP-GS1001 		AP-GS1002 		AP-GS1004 	
Model	Type	VoIP	Type	VoIP	Type	VoIP
	A	None	A	None	A	None
	B	1FXS	B	2FXS	B	4FXS
	C	1FXO	C	2FXO	C	4FXO
GSM Channel	1		2		4	
GSM Antenna	1		2		1 (4ch Combiner)	
Module Slot	N/A		N/A		N/A	
LAN Port	2		2		1	
Console	N/A		1		1	

GSM Gateway Comparison Table

Model	AP-GS1500	AP-GS2000	AP-GS2500	AP-GS3000	AP-GS5000
					
Available Modules	AP-N1-GSM4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4	AP-N1-GSM4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1	AP-N1-GSM4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1	AP-N1-GSM4 AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1	AP-N1-GSM8 AP-N1-FXS8 AP-N1-FXO8 AP-N1-E1 AP-N1-2E1
GSM Channel	Up to 8 Channel	Up to 12 Channel	Up to 16 Channel	Up to 36 Channel	Up to 80 Channel
GSM Antenna	One(1) / 4 Channel GSM Module (AP-N1-GSM4)	One(1) / 4 Channel GSM Module (AP-N1-GSM4)	One(1) / 4 Channel GSM Module (AP-N1-GSM4)	One(1) / 4 Channel GSM Module (AP-N1-GSM4)	Two(2) / 8 Channel GSM Module(AP-N1-GSM8)
Module Slot	Two(2) Module Slots for GSM	Three(3) Module Slots for GSM	Four(4) Module Slots for GSM	Nine(9) Module Slots for GSM, E1/T1 Module Slot	Ten(10) Module Slots for GSM, E1/T1 Module Slot
LAN Port	2	2	2	2	2
Console	1	1	1	1	1
Power	Single PSU	Single PSU	Single PSU	Single PSU	Dual PSU (module)

AP-GS1001
GSM Gateway

Main Features

AP-GS1001 One(1) Port GSM Gateway

- One(1) Port GSM Gateway Service
- Analog Interface (FXS)/VoIP Interface(LAN) Both Support
- H.323/SIP/MGCP Triple Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Performance LAN-to-LAN Routing Capability
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Light and Compact Design with External Power Supply

Hardware Specification

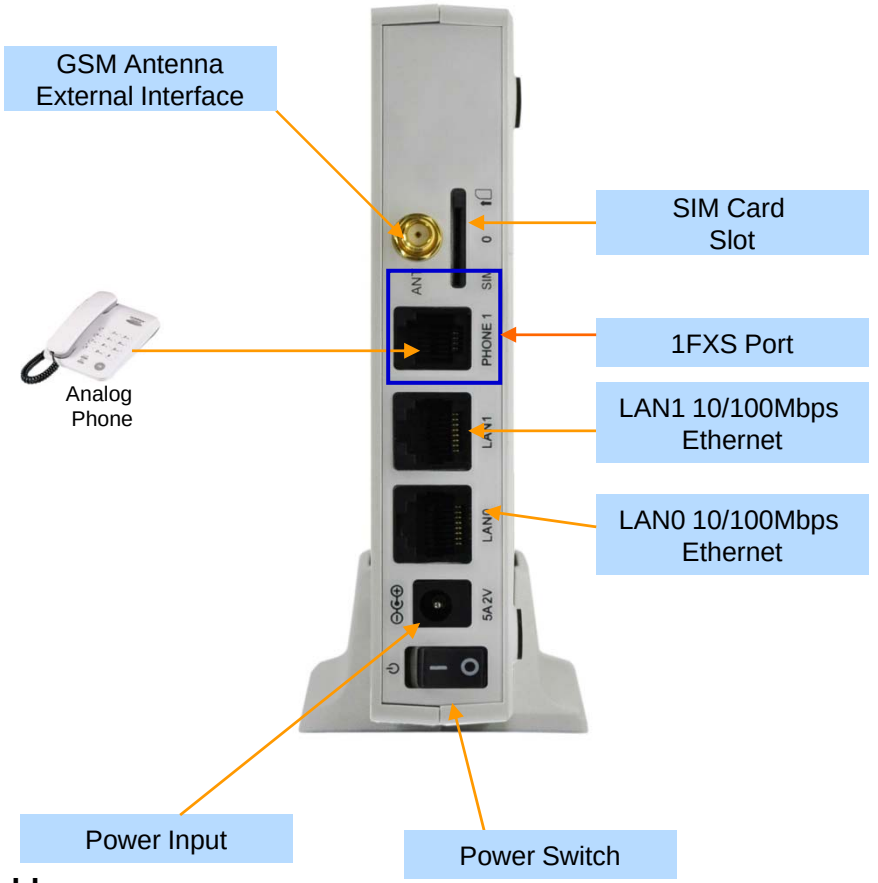
AP-GS1001 One(1) Port GSM Gateway

- RISC Microprocessor + DSP Computing Power
- 1-Port GSM Gateway
- 1-Port SIM Card Slot
- 1-Port GSM Antenna Interface
- VoIP Gateway Interface
  - AP-GS1001 Model A: Basic Configuration
  - AP-GS1001 Model B: One(1) FXS Port
  - AP-GS1001 Model C: One(1) FXO Port
- Network Interface for VoIP Direct Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- Run LED, LAN LED, Port LEDs
- External Power Supply

Hardware Specification

AP-GS1001 One(1) Port GSM Gateway

Network interface Configurations



AP-GS1002
GSM Gateway

Main Features

AP-GS1002 Two(2) Port GSM Gateway

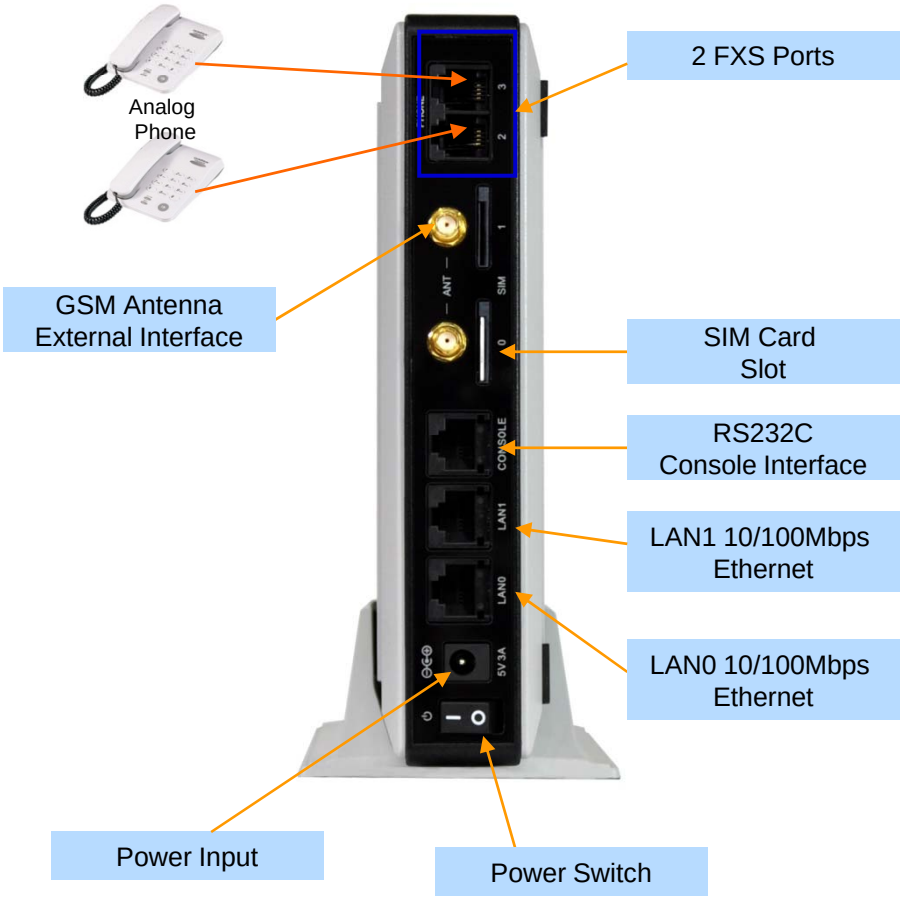
- Two(2) Port GSM Gateway Service
- Analog Interface (FXS)/VoIP Interface(LAN) Both Support
- H.323/SIP/MGCP Triple Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- RS-232C Port for Command Line Interface
- High Performance LAN-to-LAN Routing Capability
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Light and Compact Design with External Power Supply

Hardware Specification

AP-GS1002 Two(2) Port GSM Gateway

- RISC Microprocessor+DSP Computing Power
- 2-Port GSM Gateway
- 2-Port SIM Card Slot
- 2-Port GSM Antenna Interface
- VoIP Gateway Interface
  - AP-GS1002 Model A: Basic Configuration
  - AP-GS1002 Model B: Two(2) FXS Port
  - AP-GS1002 Model C: Two(2) FXO Port
- Network Interface for VoIP Direct Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Port for CLI (RJ45)
- Run LED, LAN LED, Port LEDs
- External Power Supply

Hardware Specification



AP-GS1004
GSM Gateway

Main Features

AP-GS1004 Four(4) Port GSM Gateway

- Four(4) Port GSM Gateway Service
- Analog Interface (FXS)/VoIP Interface(LAN) Both Support
- H.323/SIP/MGCP Triple Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- One(1) 10/100Mbps Fast Ethernet (IP Share ,etc)
- RS-232C Port for Command Line Interface
- High Performance LAN-to-LAN Routing Capability
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug & Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Managment
- Light and Compact Design with External Power Supply

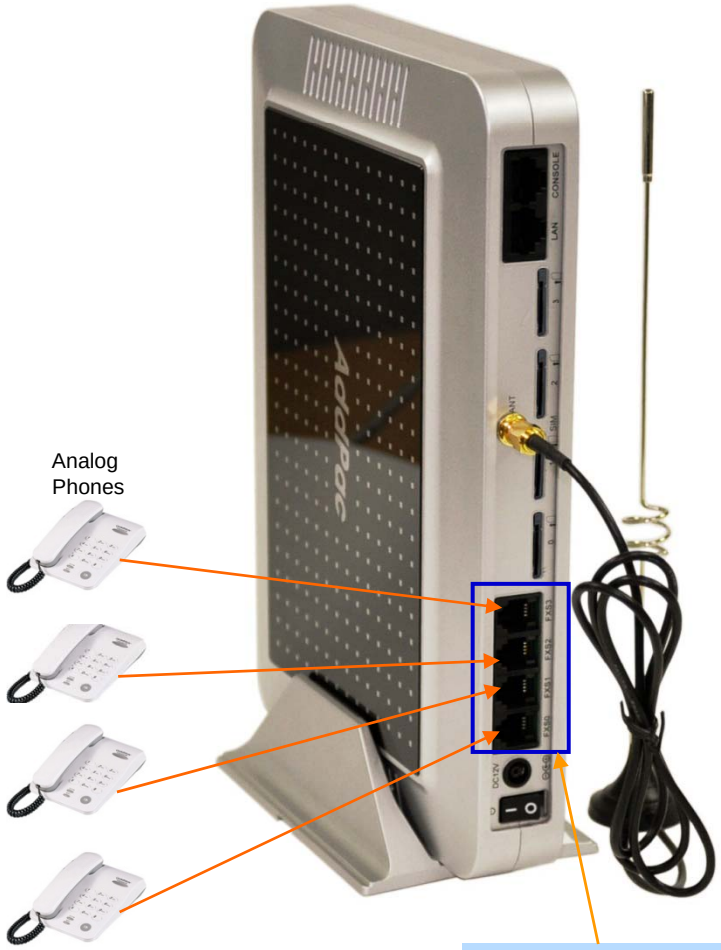
Hardware Specification

AP-GS1004 Four(4) Port GSM Gateway

- RISC Microprocessor+DSP Computing Power
- 4-Port GSM Gateway
- 4-Port SIM Card Slot
- 1-Port GSM Antenna Interface(Internal 4-Port Antenna Combiner)
- VoIP Gateway Interface
  - AP-GS1004 Model A: Basic Configuration
  - AP-GS1004 Model B: Four(4) FXS Port
  - AP-GS1004 Model C: Four(4) FXO Port
- Network Interface for VoIP Direct Interface
  - One(1) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Port for CLI (RJ45)
- Run LED, LAN LED, Port LEDs
- External Power Supply

Hardware Specification

AP-GS1004 Four(4) Port GSM Gateway

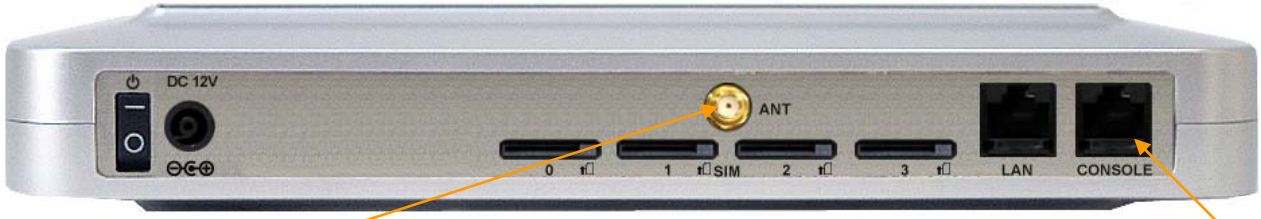


Hardware Specification

AP-GS1004 Four(4) Port GSM Gateway

Back Side View

AP-GS1004 Model A



GSM Antenna Interface

RS232C Console Port

AP-GS1004 Model B

Power Switch

Power Input

4 FXS Port

SIM Card Slot

LAN0 10/100Mbps Ethernet

AP-GS1500
GSM Gateway

GSM Gateway

AP-GS1500 Multi-Port GSM Gateway

- Two(2) Module Slots for 4-Port GSM Module, 8FXS/8FXO Analog Interface (Up to 8-Port GSM, 4-Port GSM +8FXS/8FXO Module)
- H.323/SIP/MGCP Triple 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
- VPMS (VoIP Plug&Play Management System) & NMS for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Internal Power Supply

GSM Gateway

AP-GS1500 Multi-Port GSM Gateway

- RISC Microprocessor Computing Power
- Two(2) Module Slot for GSM, Analog/Digital Interface
- 4-Port GSM Module(AP-N1-GSM4), Hot-Swap
  - 4-Port SIM Card Slot
  - One(1) GSM Antenna Interface (Internal 4 Channel Combiner)
- VoIP Interface Module, Hot-Swap
  - 8-Port FXS Module (AP-N1-FXS8)
  - 8-Port FXO Module (AP-N1-FXO8)
  - 4-Port FXS & 4-Port FXO Module (AP-N1-FXS4O4)
- Network Interface

  -Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Internal Power Supply

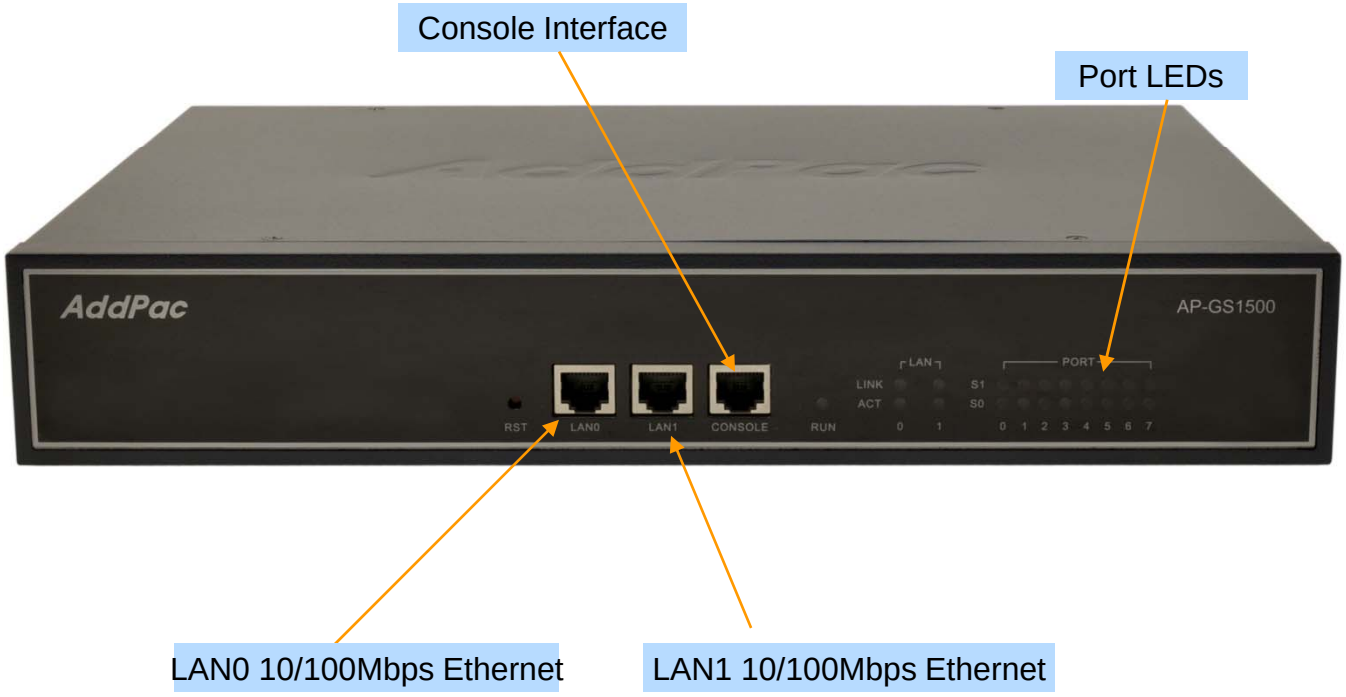
Hardware Specification

AP-GS1500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Front Side View



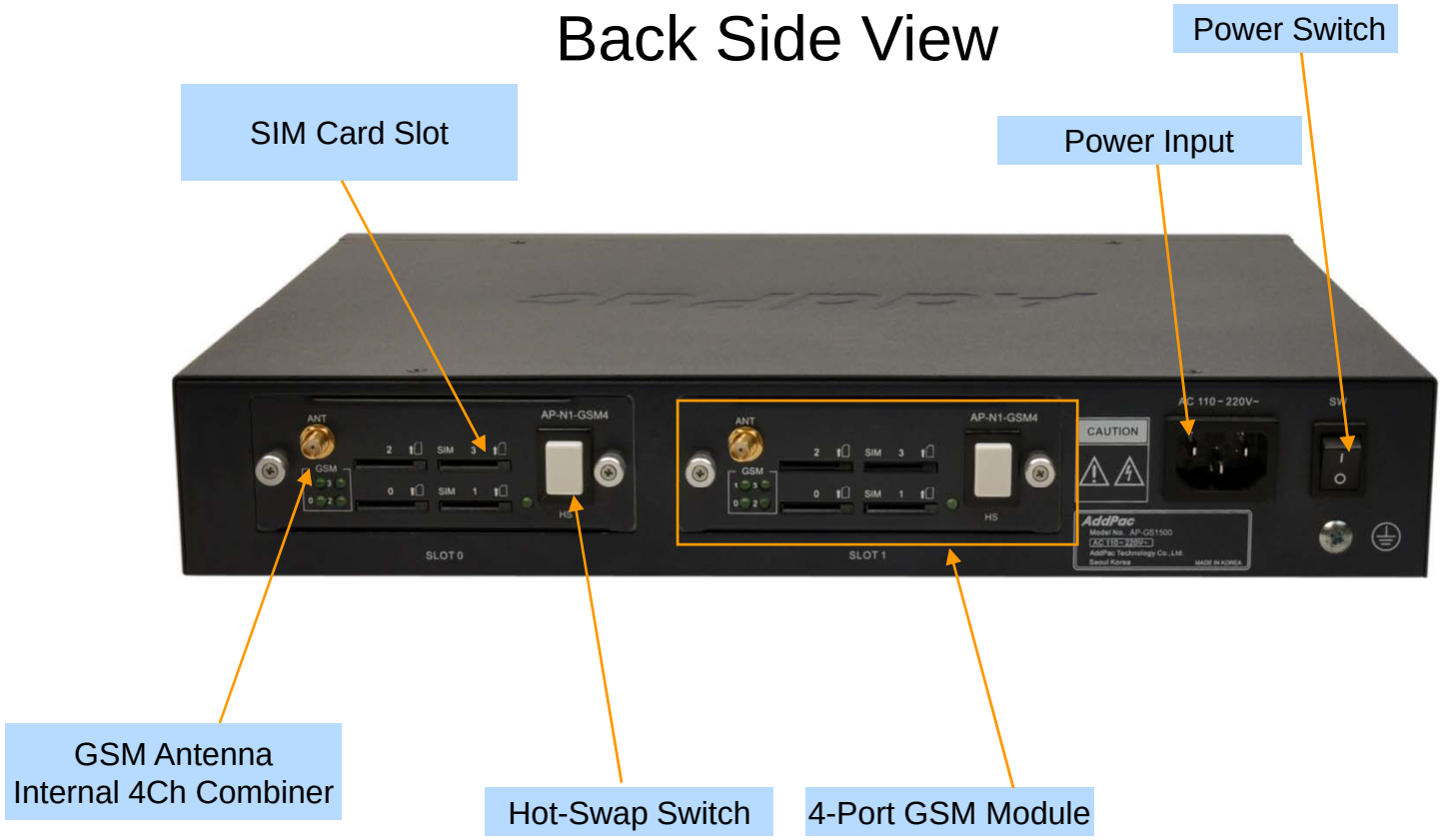
Hardware Specification

AP-GS1500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Back Side View



Hardware Specification

AP-GS1500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Hardware Specification

AP-GS1500 Multi-Port GSM Gateway

AP-GS1500 Voice Modules

AP-N1-GSM4 4-Port GSM Module	
AP-N1-FXS8 8-Port FXS Module	
AP-N1-FXO8 8-Port FXO Module	
AP-N1-FXS4O4 4-Port FXS&4-Port FXO Module	

AP-GS2000
GSM Gateway

Main Features

AP-GS2000 Multi-Port GSM Gateway

- Three Module Slots for 4-Port GSM Module, 8FXS/8FXO Analog Interface (Up to 8-Port GSM +8FXS/8FXO Module, 12-Port GSM)
- H.323/SIP/MGCP Triple 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
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Internal Power Supply

Hardware Specification

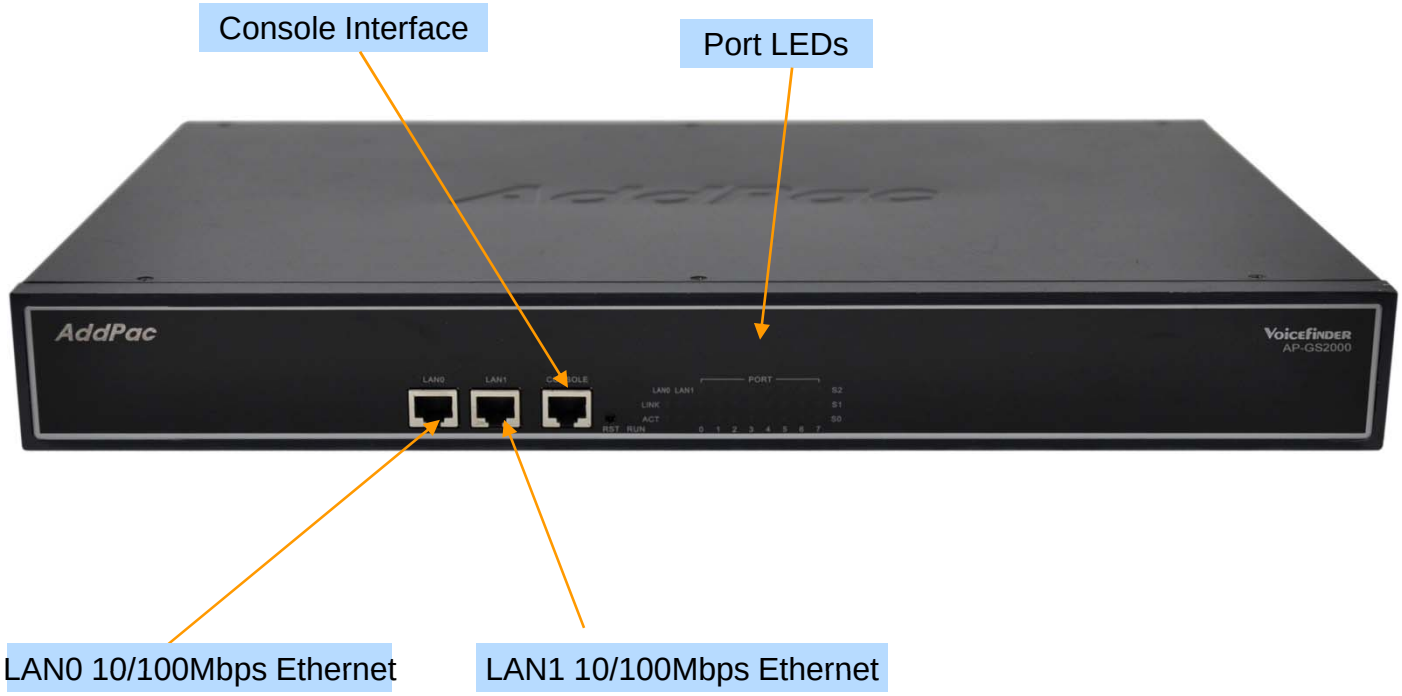
AP-GS2000 Multi-Port GSM Gateway

- RISC Microprocessor Computing Power
- Three Module Slot for GSM, Analog/Digital Interface
- 4-Port GSM Module(AP-N1-GSM4), Hot-Swap
  - 4-Port SIM Card Slot
  - One(1) GSM Antenna Interface (Internal 4 Channel Combiner)
- VoIP Interface Module, Hot-Swap
  - 8-Port FXS Module (AP-N1-FXS8)
  - 8-Port FXO Module (AP-N1-FXO8)
  - Digital E1/T1 Module (AP-N1-E1)
- 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

Front Side View

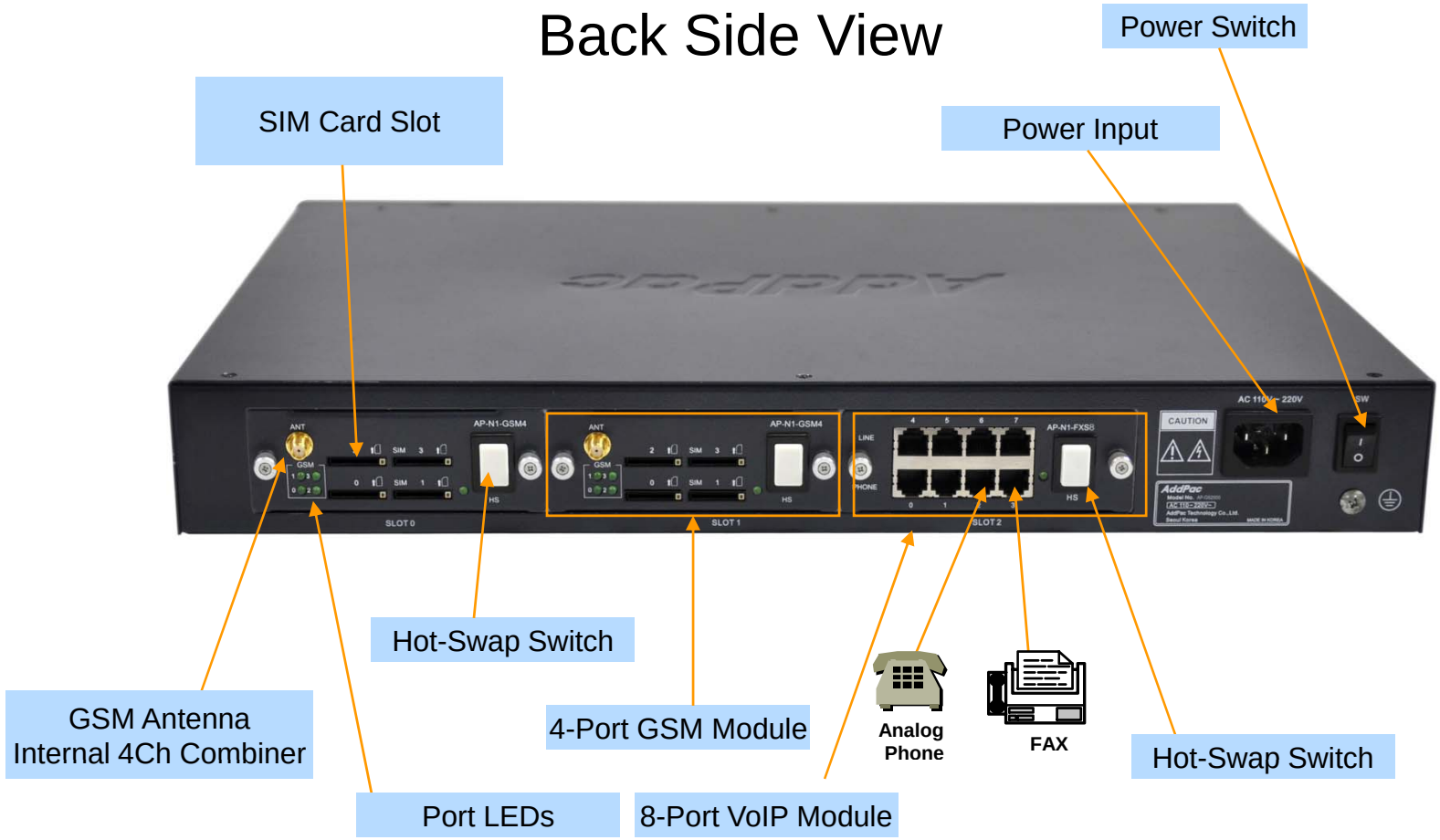


Hardware Specifiation

AP-GS2000 Multi-Port GSM Gateway

Hardware Specification

Back Side View



Hardware Specification

AP-GS2000 Multi-Port GSM Gateway

Hardware Specification

AP-GS2000 Multi-Port GSM Gateway

AP-GS2000 Voice Modules

AP-N1-GSM4 4-Port GSM Module	
AP-N1-FXS8 8-Port FXS Module	
AP-N1-FXO8 8-Port FXO Module	
AP-N1-FXS4O4 4-Port FXS&4-Port FXO Module	
AP-N1-E1 1-Port Digital E1/T1 Module	

AP-GS2500
GSM Gateway

Main Features

AP-GS2500 Multi-Port GSM Gateway

- Four(4) Module Slots for 4-Port GSM Module, 8FXS/8FXO Analog Interface (Up to 12-Port GSM +8FXS/8FXO Module, 16-Port GSM)
- H.323/SIP/MGCP Triple 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
- VPMS (VoIP Plug&Play Management System) & NMS for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Internal Power Supply

Hardware Specification

AP-GS2500 Multi-Port GSM Gateway

- RISC Microprocessor Computing Power
- Four(4) Module Slot for GSM, Analog/Digital Interface
- 4-Port GSM Module(AP-N1-GSM4), Hot-Swap
  - 4-Port SIM Card Slot
  - One(1) GSM Antenna Interface (Internal 4 Channel Combiner)
- VoIP Interface Module, Hot-Swap
  - 8-Port FXS Module (AP-N1-FXS8)
  - 8-Port FXO Module (AP-N1-FXO8)
  - Digital E1/T1 Module (AP-N1-E1)
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Internal Power Supply

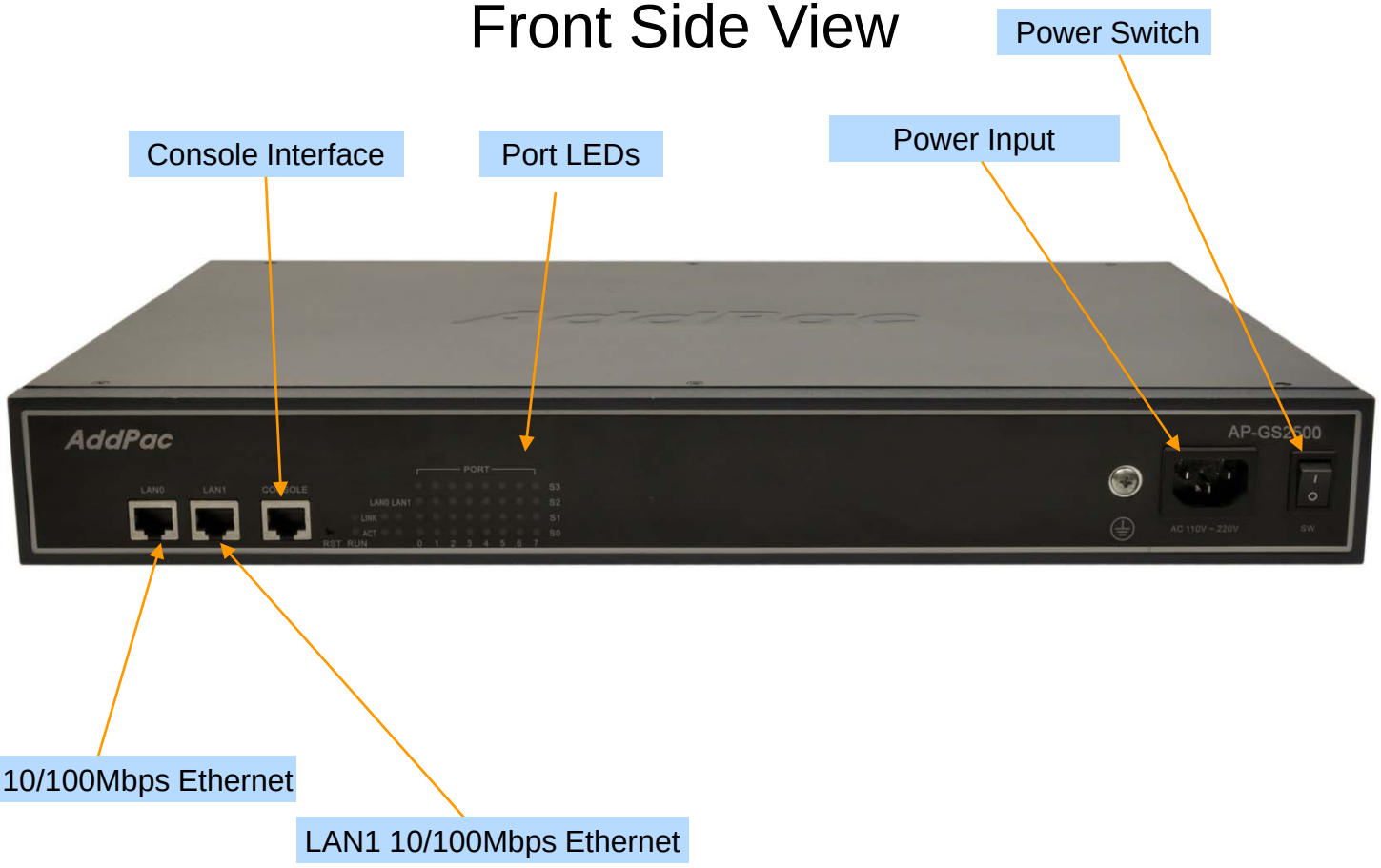
Hardware Specification

AP-GS2500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Front Side View



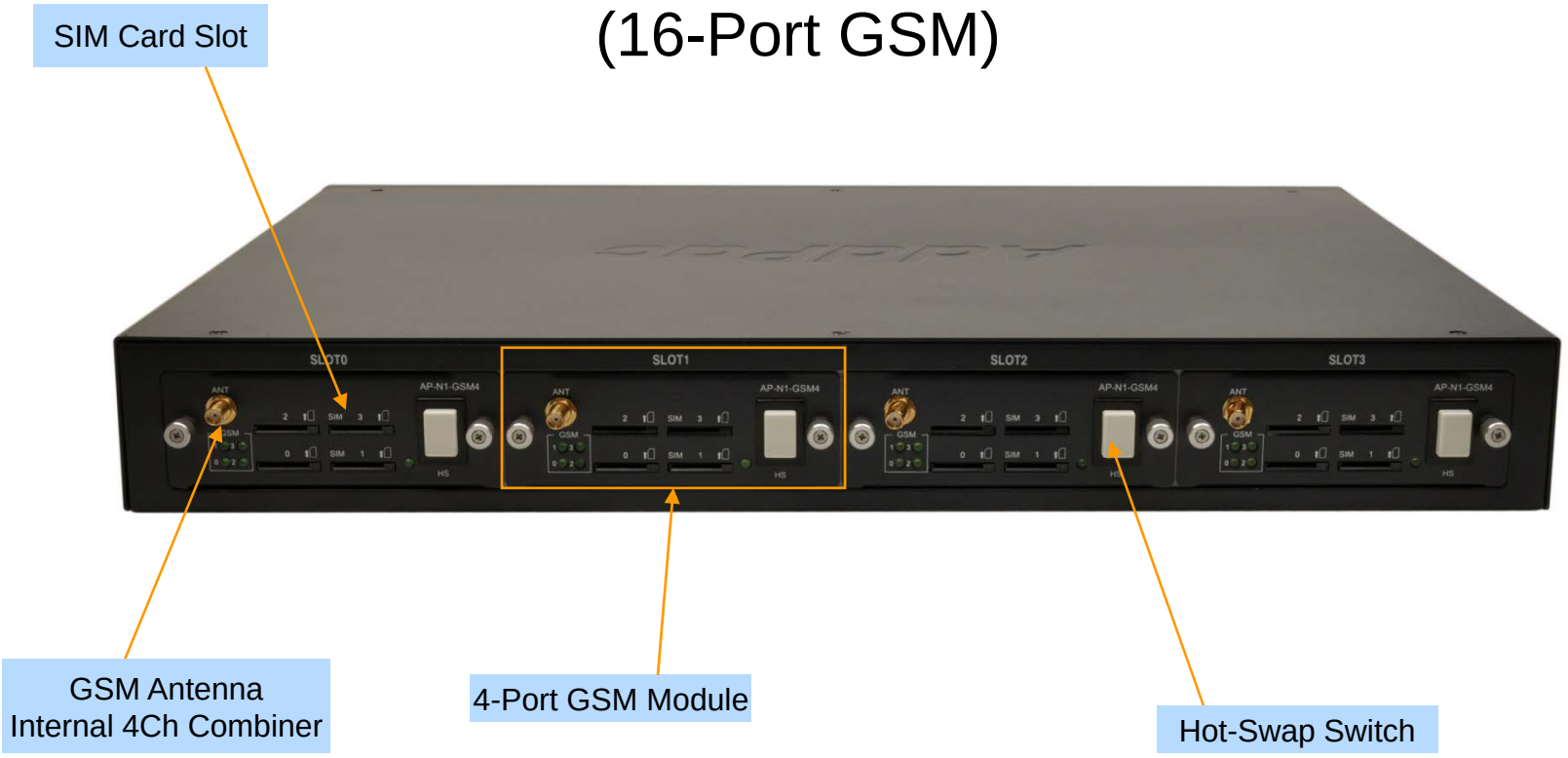
Hardware Specification

AP-GS2500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Back Side View (16-Port GSM)



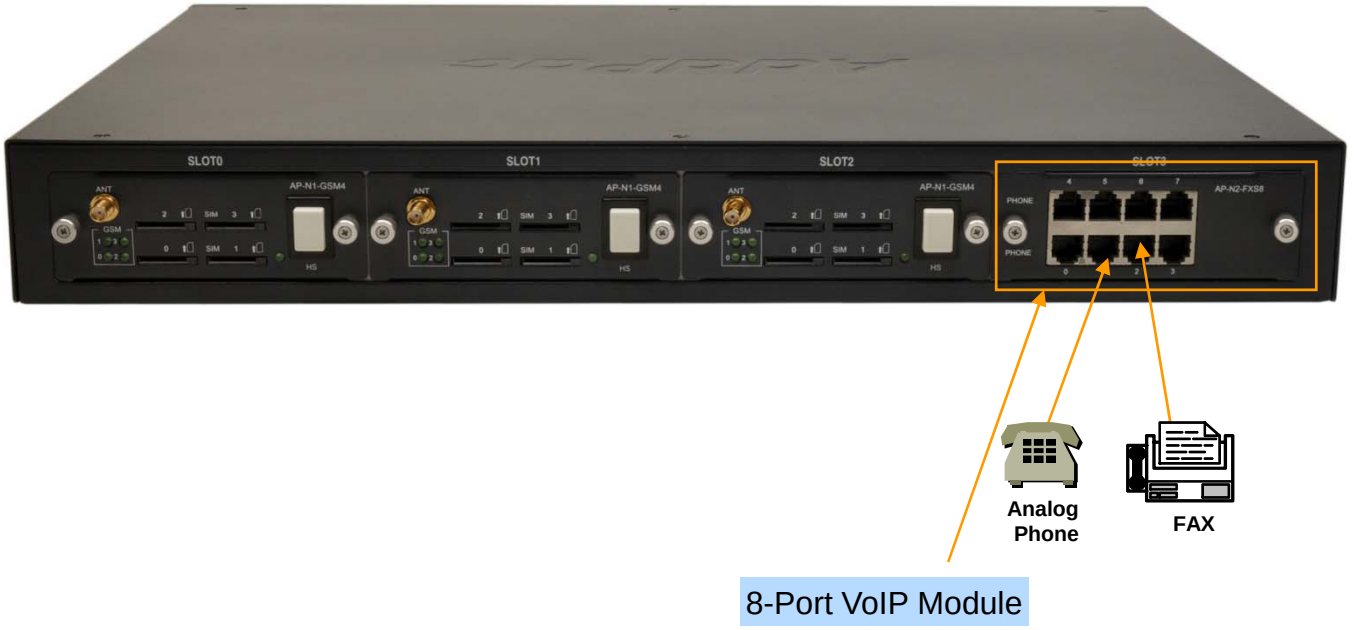
Hardware Specification

AP-GS2500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Back Side View
(12-Port GSM+ 8-Port FXS)



Hardware Specification

AP-GS2500 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Hardware Specification

AP-GS2500 Multi-Port GSM Gateway

AP-GS2500 Voice Modules

AP-N1-GSM4 4-Port GSM Module	
AP-N1-FXS8 8-Port FXS Module	
AP-N1-FXO8 8-Port FXO Module	
AP-N1-FXS4O4 4-Port FXS&4-Port FXO Module	
AP-N1-E1 1-Port Digital E1/T1 Module	

AP-GS3000
GSM Gateway

Main Features

AP-GS3000 Multi-Port GSM Gateway

- Ten(10) Module Slots for 4-Port GSM Module, 8FXS/8FXO Analog Interface (Up to 32-Port GSM, Digital E1/T1 Module, CPU Module)
- H.323/SIP/MGCP Triple 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
- VPMS (VoIP Plug&Play Management System) & NMS for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Internal Power Supply

Hardware Specification

AP-GS3000 Multi-Port GSM Gateway

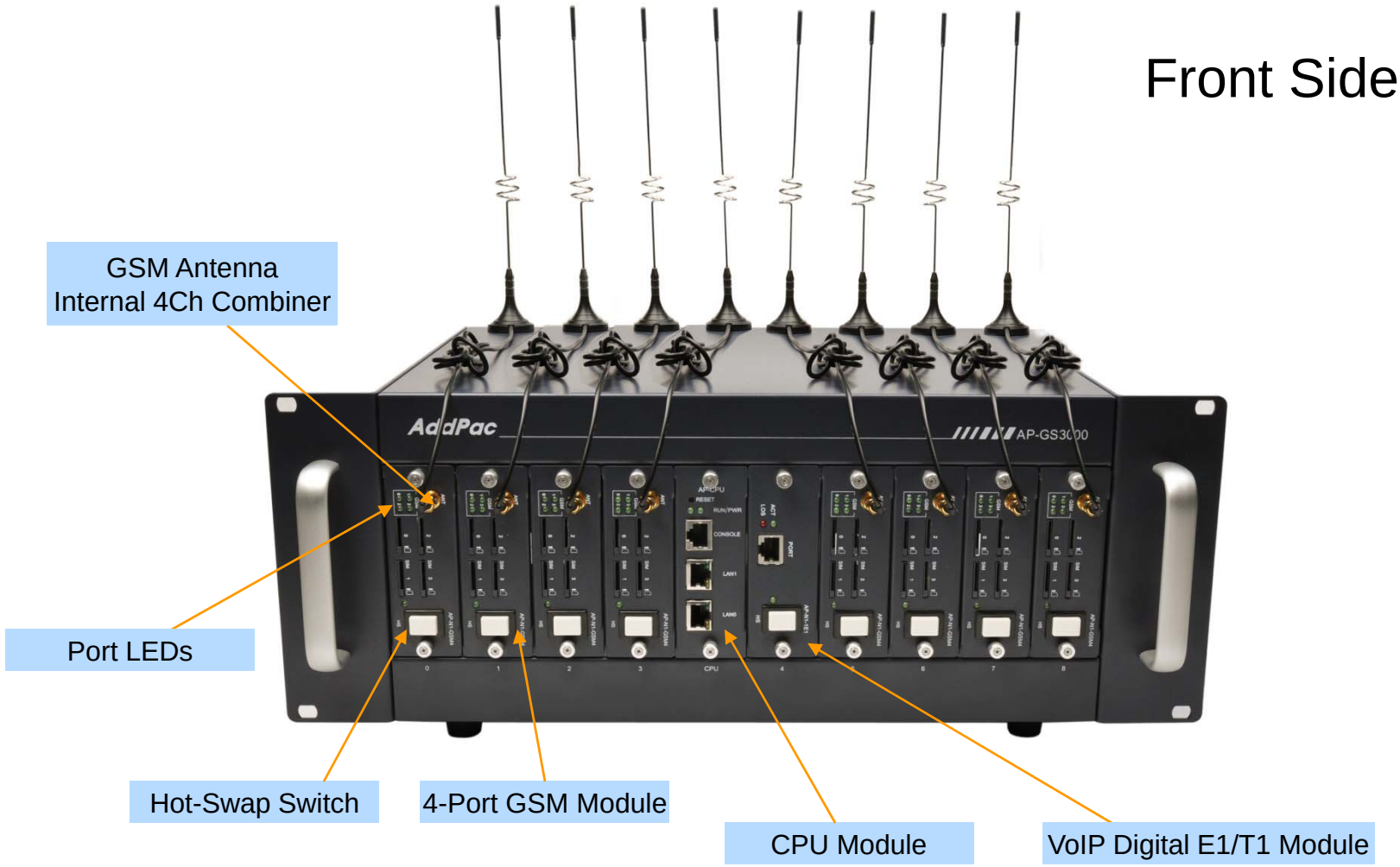
- RISC Microprocessor Computing Power
- Ten(10) Module Slot for GSM, Analog/Digital Interface
- 4-Port GSM Module(AP-N1-GSM4), Hot-Swap
  - 4-Port SIM Card Slot
  - One(1) GSM Antenna Interface (Internal 4 Channel Combiner)
- VoIP Interface Module, Hot-Swap
  - 8-Port FXS Module (AP-N1-FXS8)
  - 8-Port FXO Module (AP-N1-FXO8)
  - Digital E1/T1 Module (AP-N1-E1)
- 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-GS3000 Multi-Port GSM Gateway

Front Side View



Hardware Specification

AP-GS3000 Multi-Port GSM Gateway

Back Side View

Cooling FAN

Power Switch

Power Inlet (110~220V)

Hardware Specification

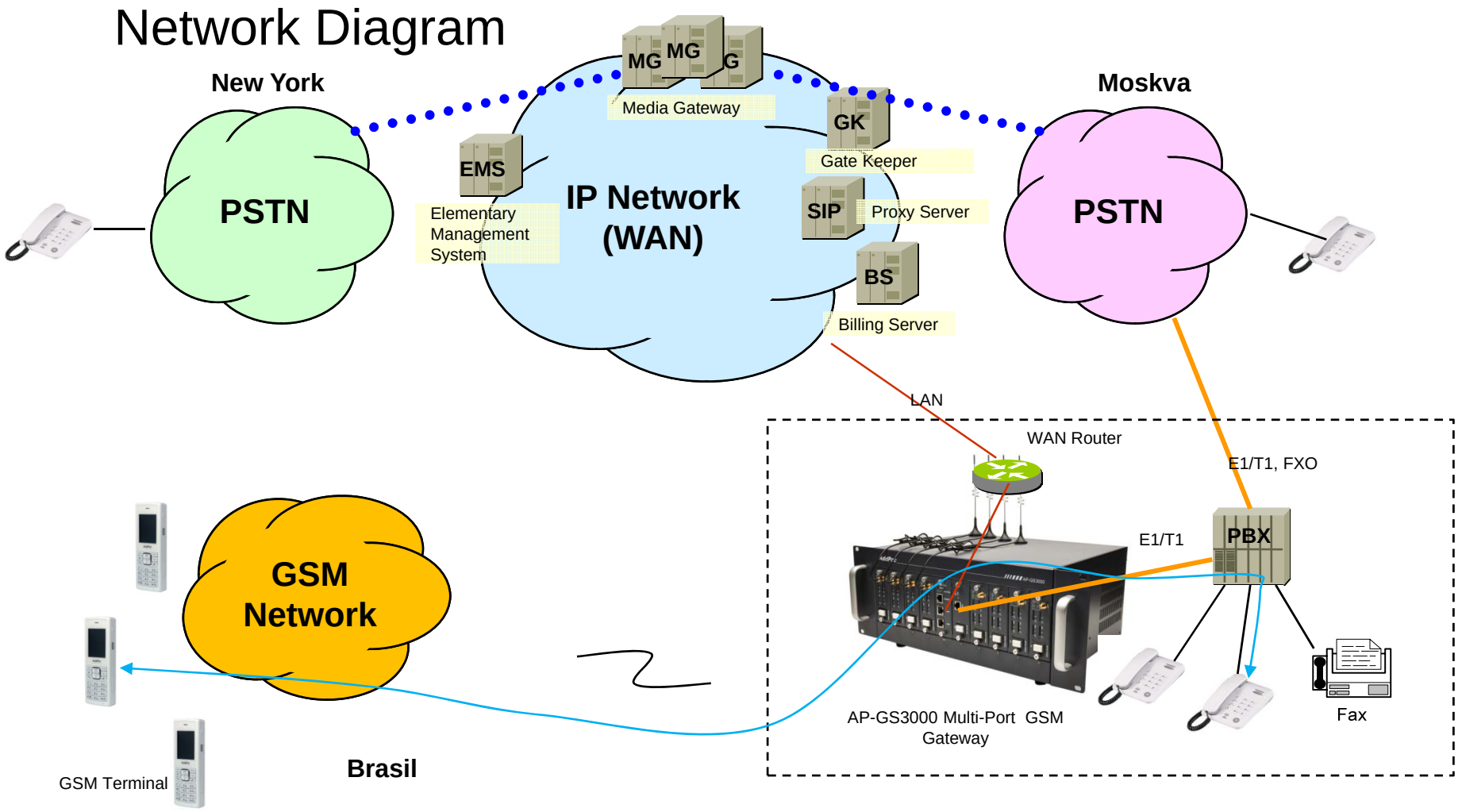
AP-GS3000 Multi-Port GSM Gateway

AP-GS3000 Voice Modules

AP-N1-GSM4 4-Port GSM Module	
AP-N1-FXS8 8-Port FXS Module	
AP-N1-FXO8 8-Port FXO Module	
AP-N1-FXS4O4 4-Port FXS&4-Port FXO Module	
AP-N1-E1 1-Port Digital E1/T1 Module	

Network Service Diagram

AP-GS3000 Multi-Port GSM Gateway



AP-GS5000
GSM Gateway

Main Features

AP-GS5000 Multi-Port GSM Gateway

- Ten(10) Module Slots for 8-Port GSM Module, Digital 2E1 Interface (Up to 80-Port GSM, CPU Module)
- 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)
- 10/100/1000Mbps Gigabit Ethernet Interface
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- NMS(Network Management System) Support
- Advanced Voice QoS Mechanism
- Powerful Web based Management
- Rack Mountable Chassis with Internal Power Supply
- Dual Redundancy Power Supply Architecture

Hardware Specification

AP-GS5000 Multi-Port GSM Gateway

RISC CPU

High-end DSP

- RISC Microprocessor Computing Power
- Ten(10) Module Slot for GSM, Analog /Digital VoIP Interface
- 8-Port GSM Module(AP-N1-GSM8)
  - 8-Port SIM Card Slot
  - Two(2) GSM Antenna Interface (Internal 4 Channel Antenna Combiner x 2)
  - Hot-Swap
- VoIP Interface Module (Hot-Swap)
  - 8-Port FXS Module (AP-N1-FXS8)
  - 8-Port FXO Module (AP-N1-FXO8)
  - Digital 2E1/T1 Module (AP-N1-2E1)

- Network Interface

  -Two(2) 10/100/1000Mbps Gigibit Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- Module Type Power Supply, Dual Power Supply

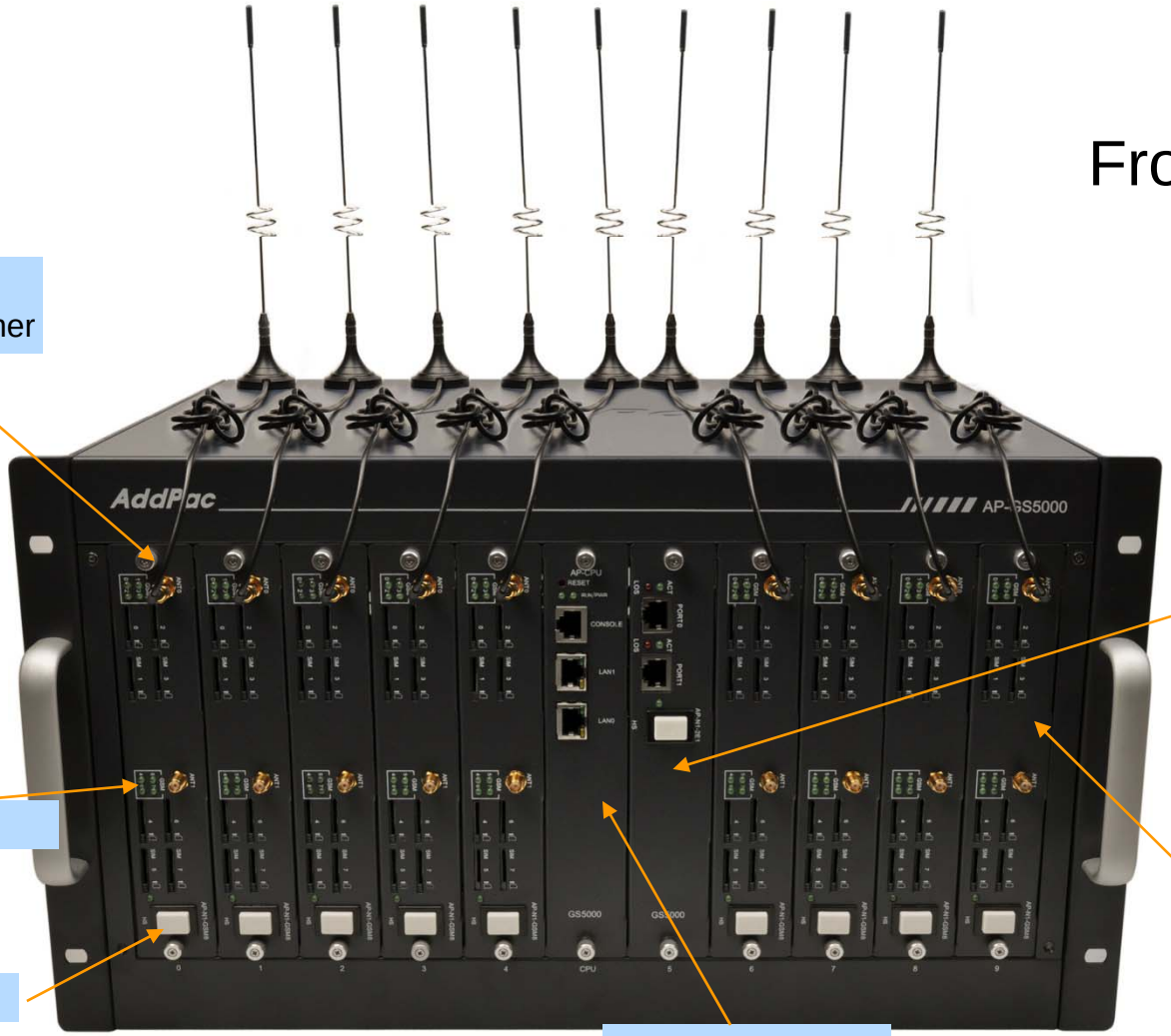
Hardware Specification

AP-GS5000 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Front Side View



GSM Antenna
Internal 4Ch Combiner

VoIP Digital 2-channel
E1/T1 Module

Port LEDs

Hot-Swap Switch

CPU Module

8-Port GSM Module

Hardware Specification

AP-GS5000 Multi-Port GSM Gateway

RISC CPU

High-end DSP

Back Side View

Hardware Specification

AP-GS5000 Multi-Port GSM Gateway

RISC CPU

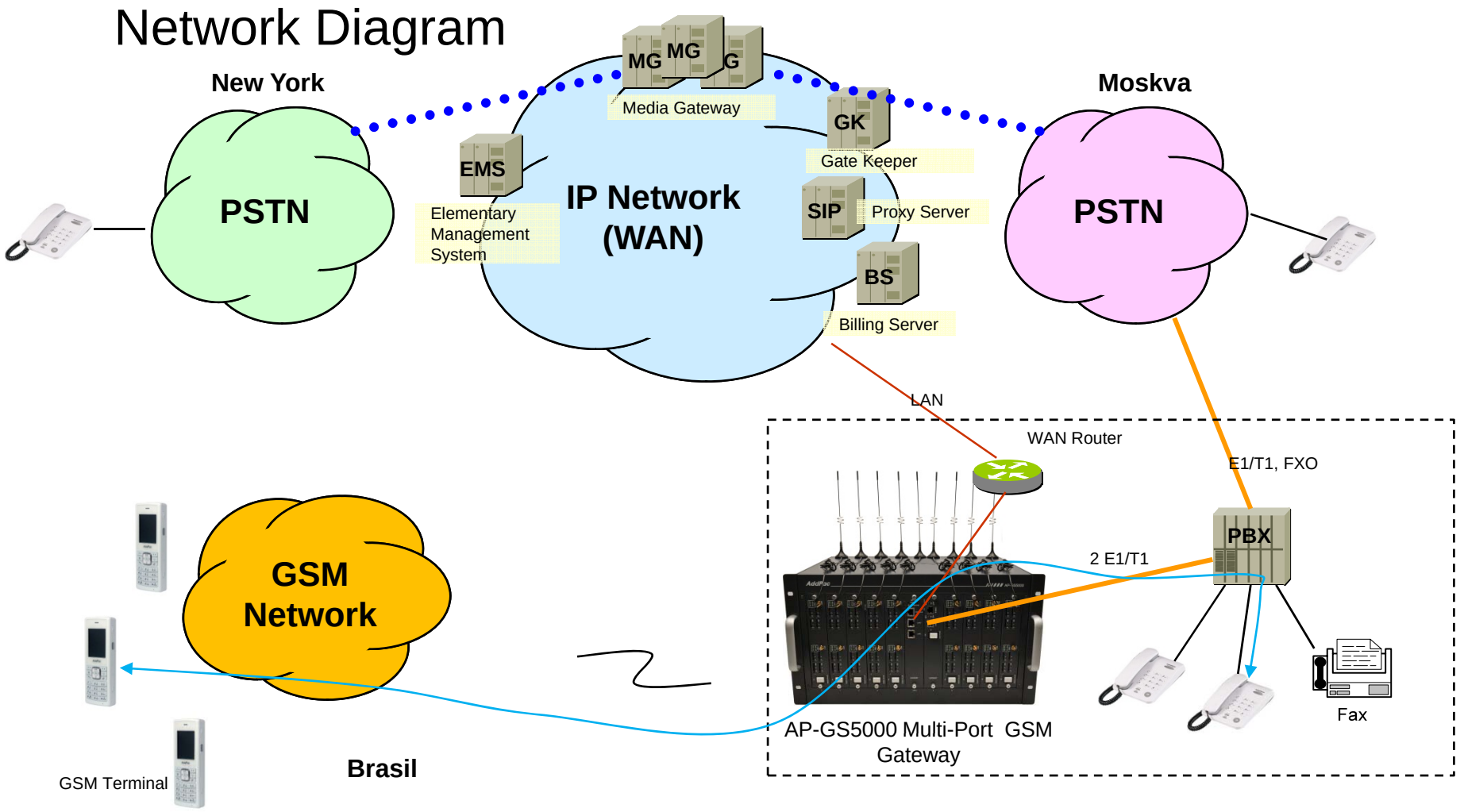
High-end DSP

AP-GS5000 Voice Modules

AP-N1-GSM8 8-Port GSM Module	
AP-N1-FXS8 8-Port FXS Module	
AP-N1-FXO8 8-Port FXO Module	
AP-N1-2E1 2-Port Digital E1/T1 Module	

Network Service Diagram

AP-GS5000 Multi-Port GSM Gateway

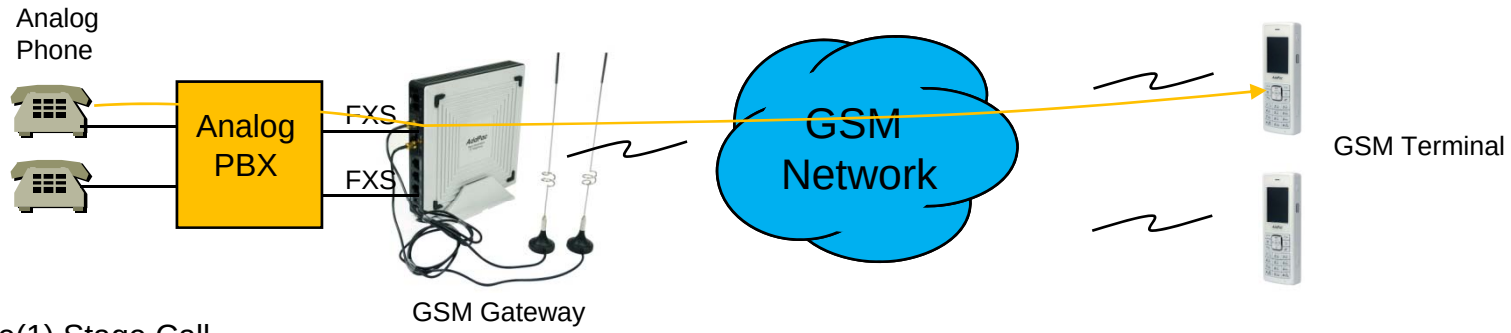


GSM Gateway Function List

Contents

- GSM Outbound Call
- GSM Inbound Call
- VoIP to GSM Outbound Call
- VoIP to GSM Inbound Call
- GSM Inbound Black / White list
- 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

GSM Outbound Call



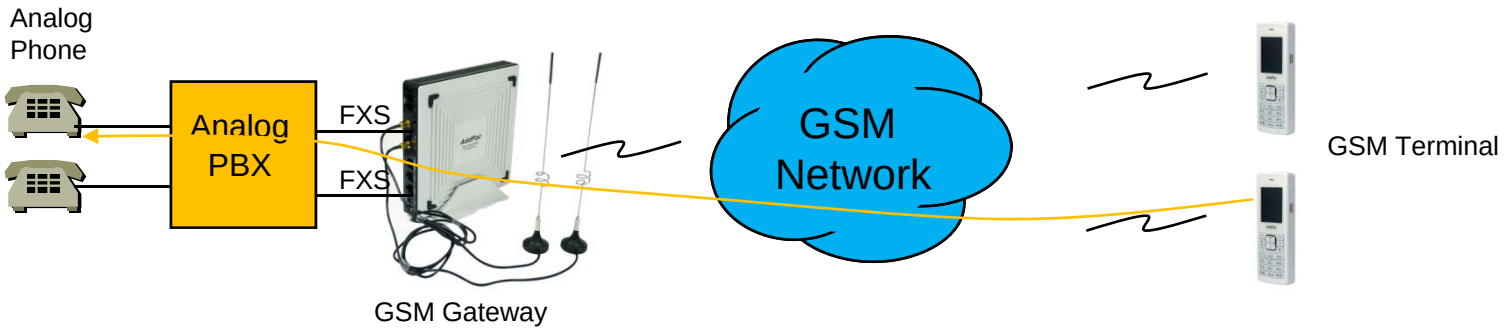
One(1) Stage Call

Two(2) Stage Call

Outbound Call (1 Stage)
: Making call to mobile phone from analog phone connected to FXS directly.

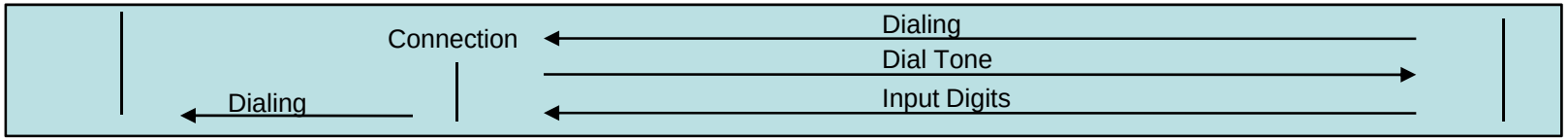
Outbound Call (2 Stage)
: Making call to mobile phone from analog phone connected to FXS after hearing of 2nd dial tone from AddPac GSM Gateway

GSM Inbound Call



1 Stage Call (Baby Call)

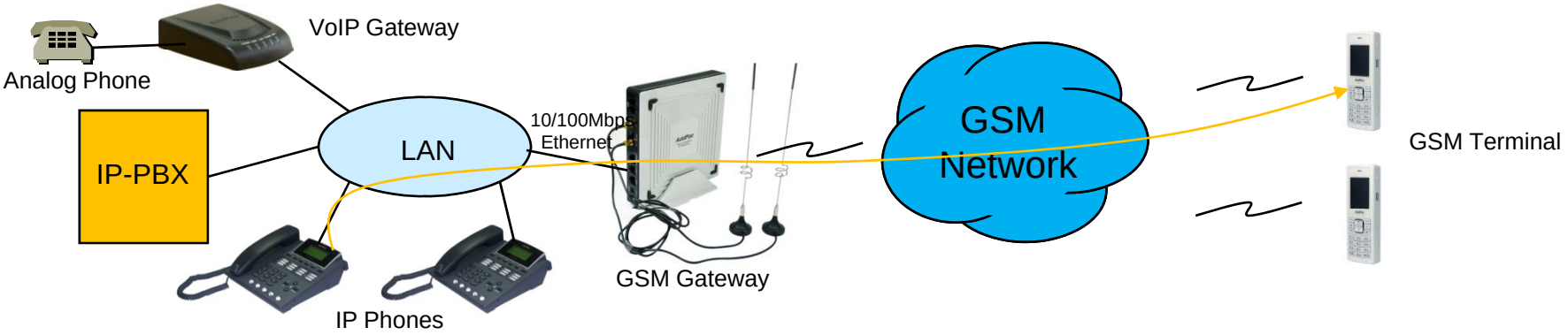
2 Stage Call



Inbound Call (1 Stage) – Baby Call
: Making call to analog phone connected to FXS directly

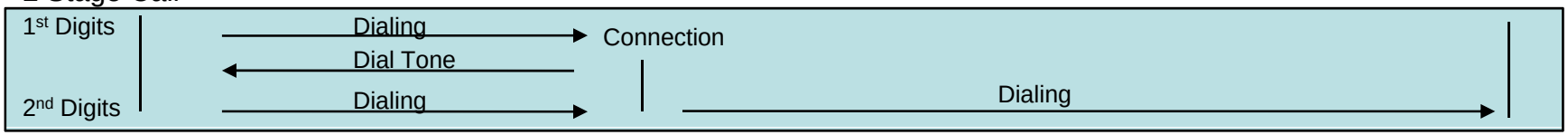
Inbound Call (2 Stage)
: Making call to analog phone connected to FXS after hearing of 2nd dial tone from AP-GS1002

VoIP to GSM Outbound Call



1 Stage Call

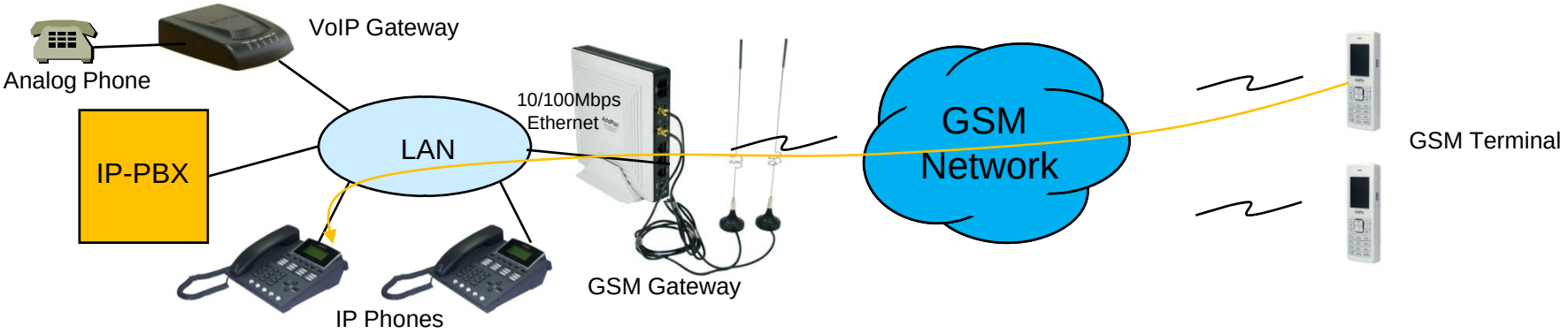
2 Stage Call



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



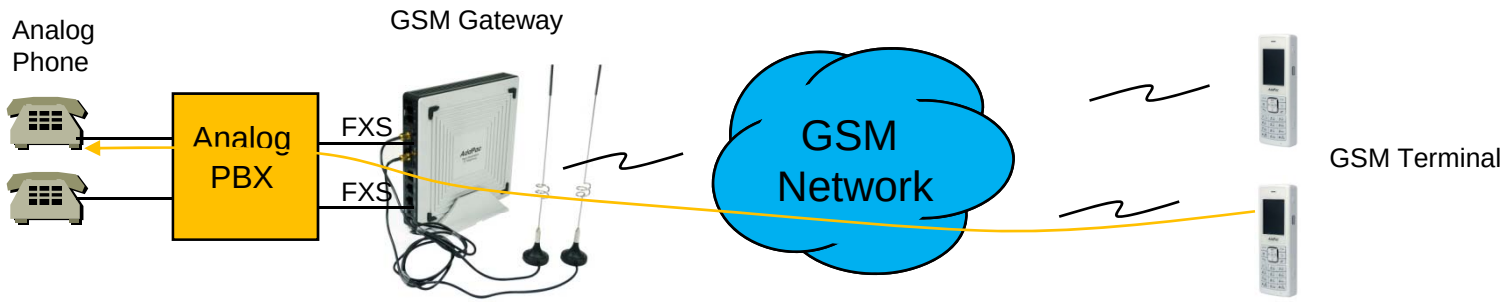
1 Stage Call (Baby Call)

2 Stage Call

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

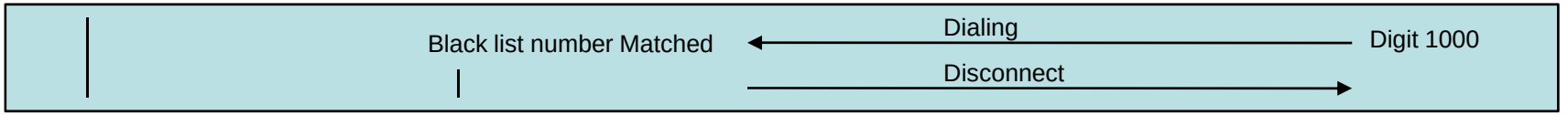
Inbound Call (2 Stage)
: Making call to IP phone in VoIP network after hearing of 2nd dial tone from GSM Gateway

GSM Inbound Call Black / White list

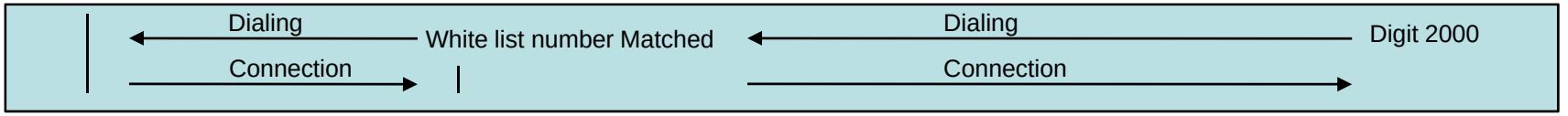


Black list	1000
White list	2000

Black list



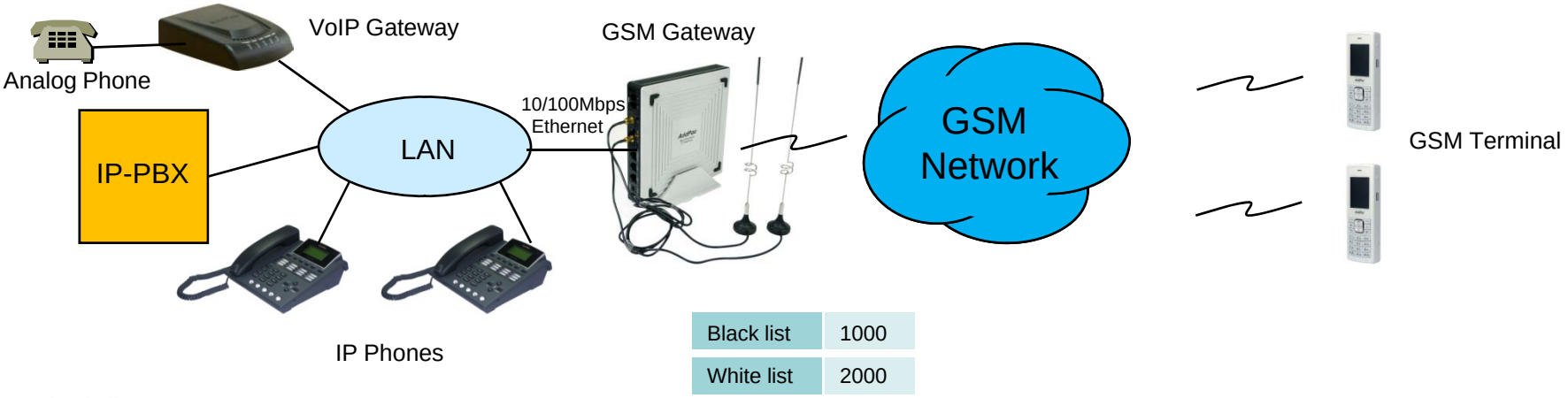
White list



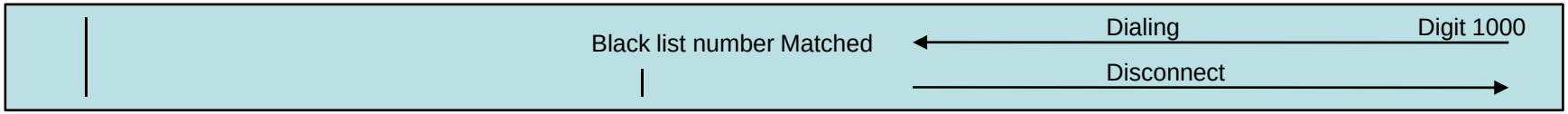
Black list
: The number on black list is restricted to receive call.

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

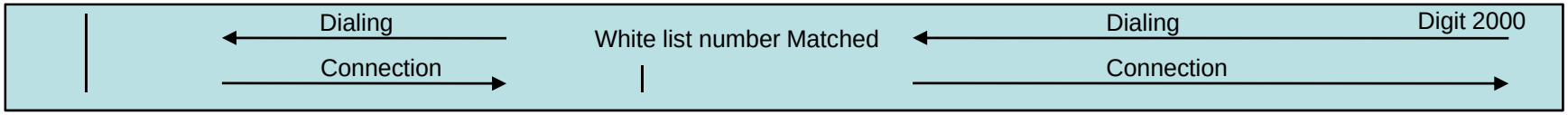
VoIP to GSM Black / White list



Black list



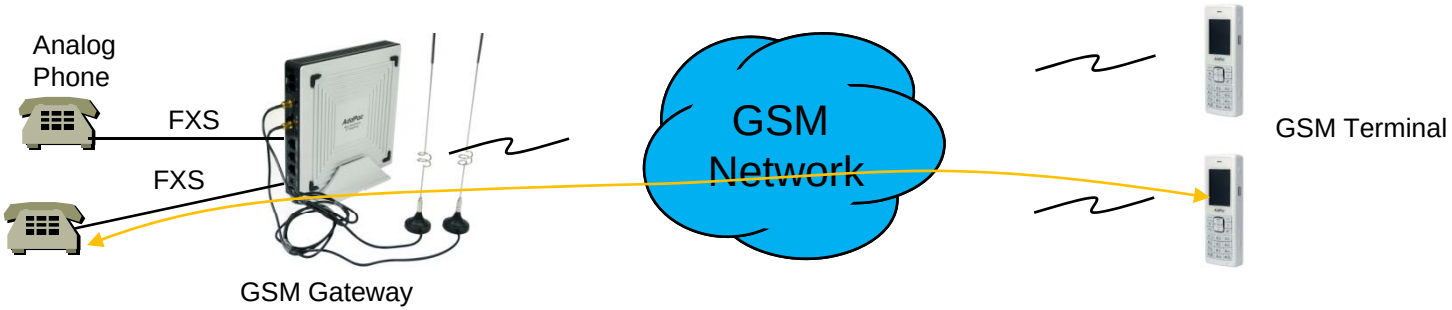
White list



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

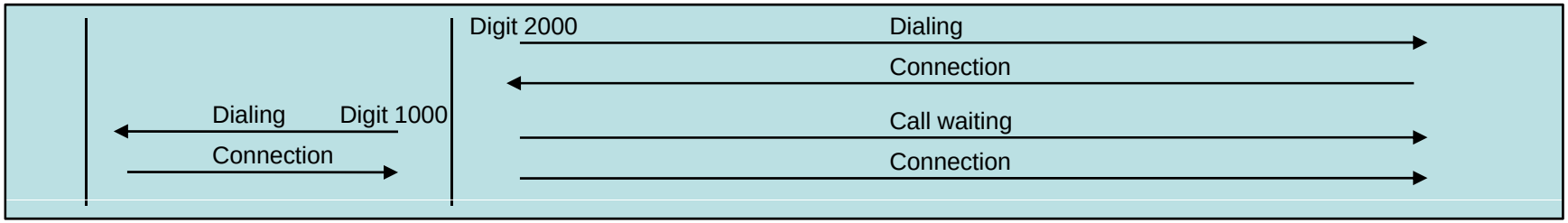


Origination number(1000)

WEB Call back White list	1000

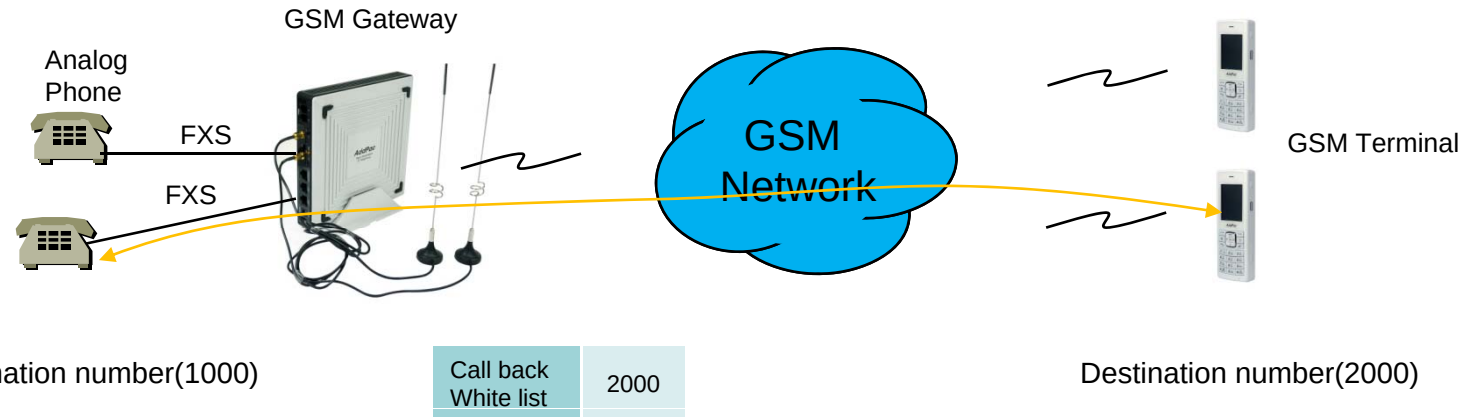
Destination number(2000)

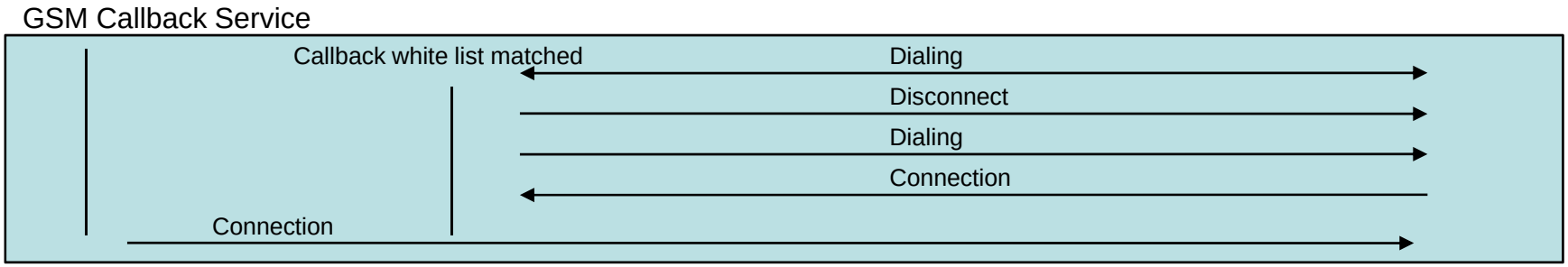
WEB Callback Service



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.

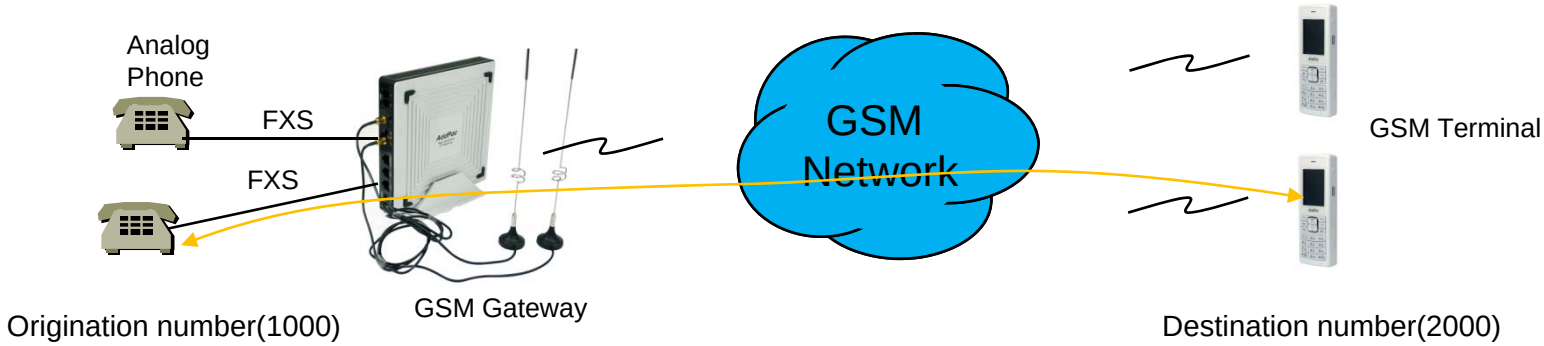
GSM Callback Service



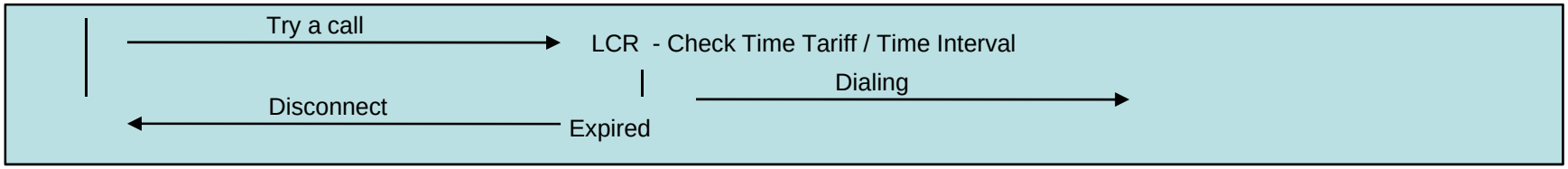


GSM Callback Service
: When the user on the callback white list makes call, GSM Gateway disconnects it and makes call back to the user

LCR(Least Cost Routing)



LCR(Least Cost Routing)

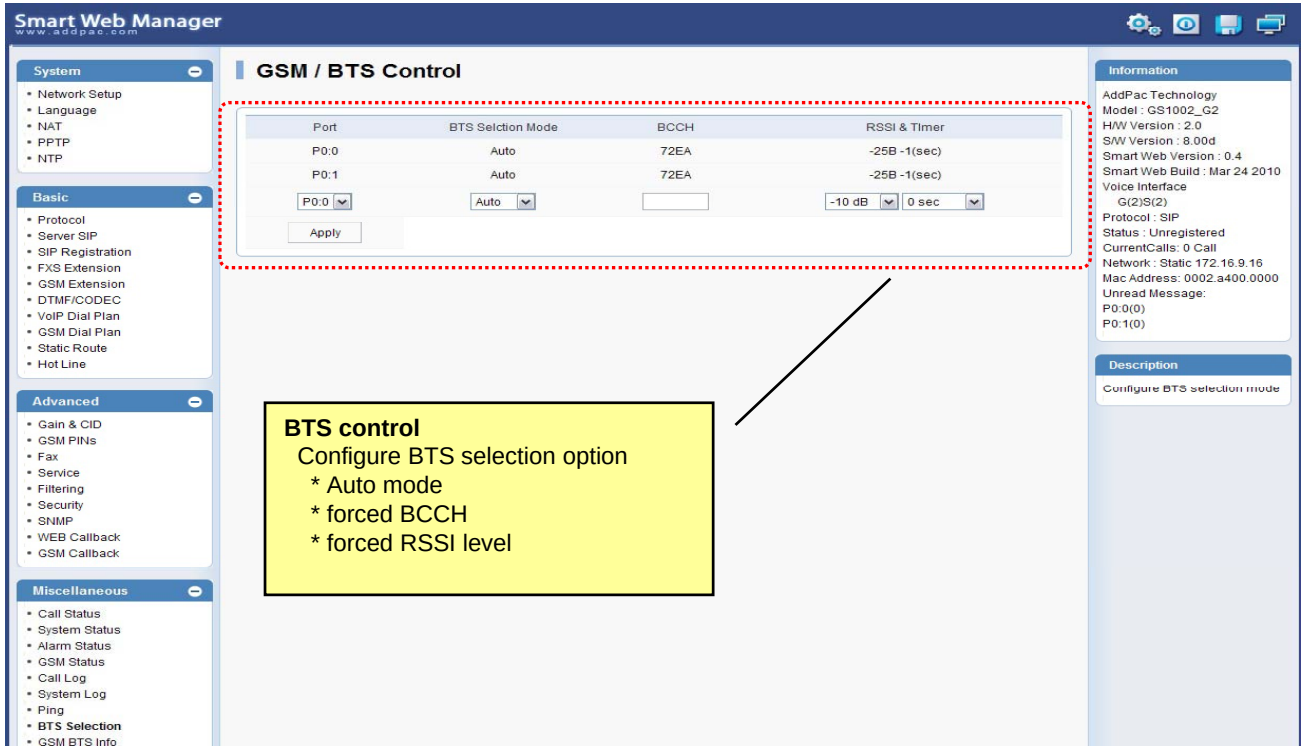


GSM LCR Time Interval
: The only registered user is allowed to use GSM call in the rule of date, week, and time

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

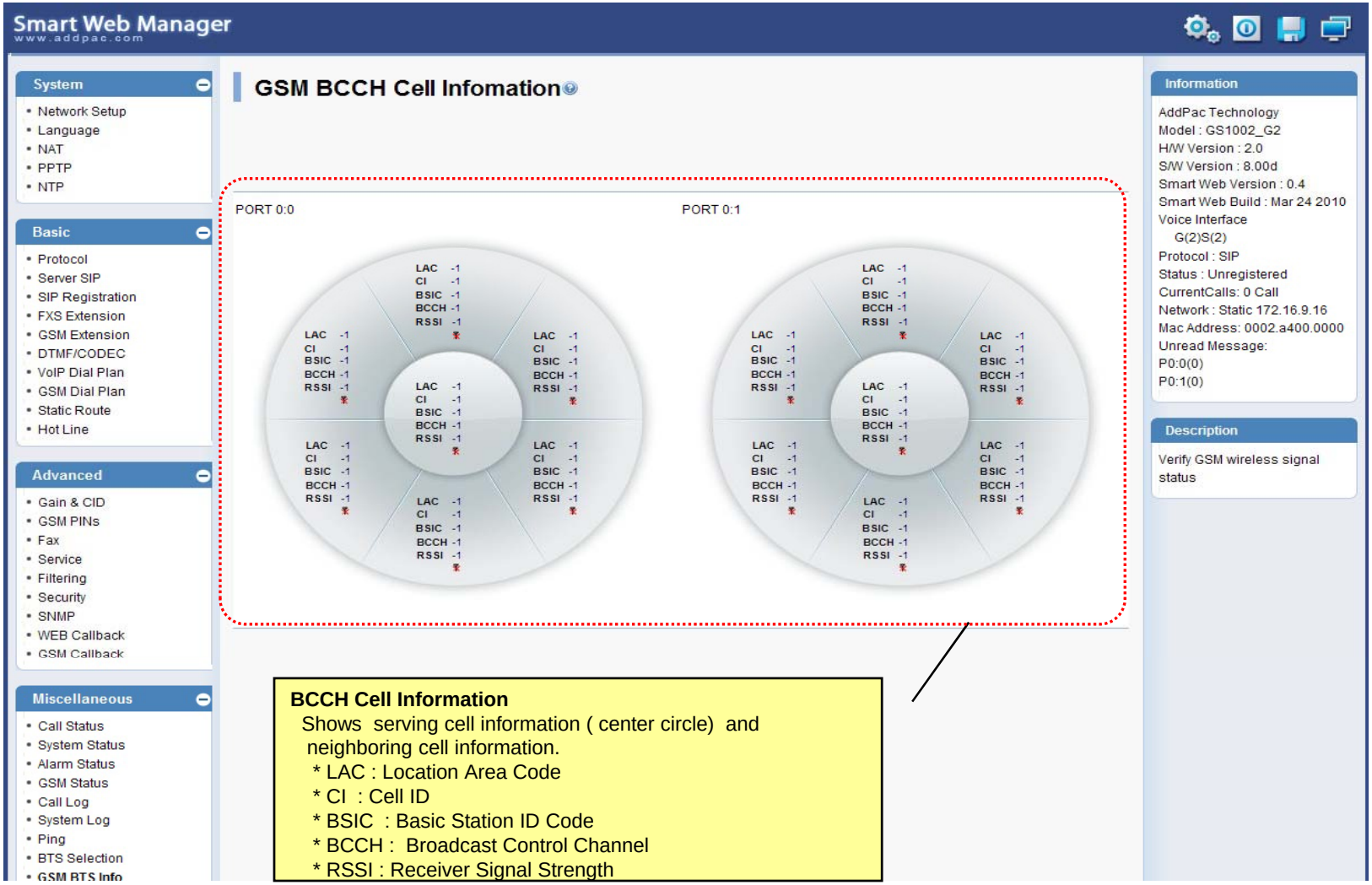
GSM LCR Simulator
: GSM Gateway supports virtual call simulation used on WEB

BTS(Base Terminal Station) Control

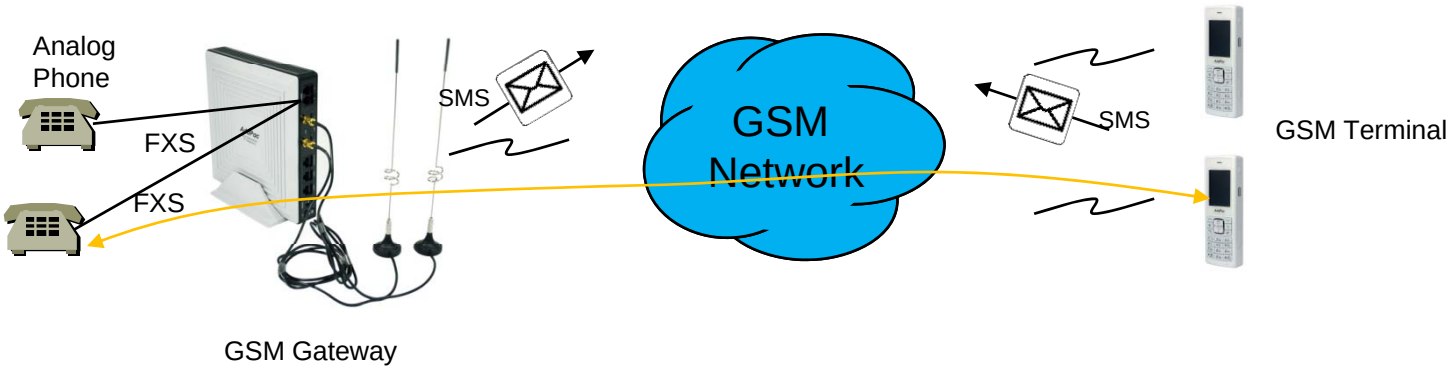


BTS(Base Terminal Station)
: User is able to choose Cell ID or RSSI of cell by GSM Gateway.
(1) The most powerful signal of cell is chosen.
(2) User selects BTS through Cell ID in cell.
(3) The cell listed is found periodically by user

GSM BCCH Information



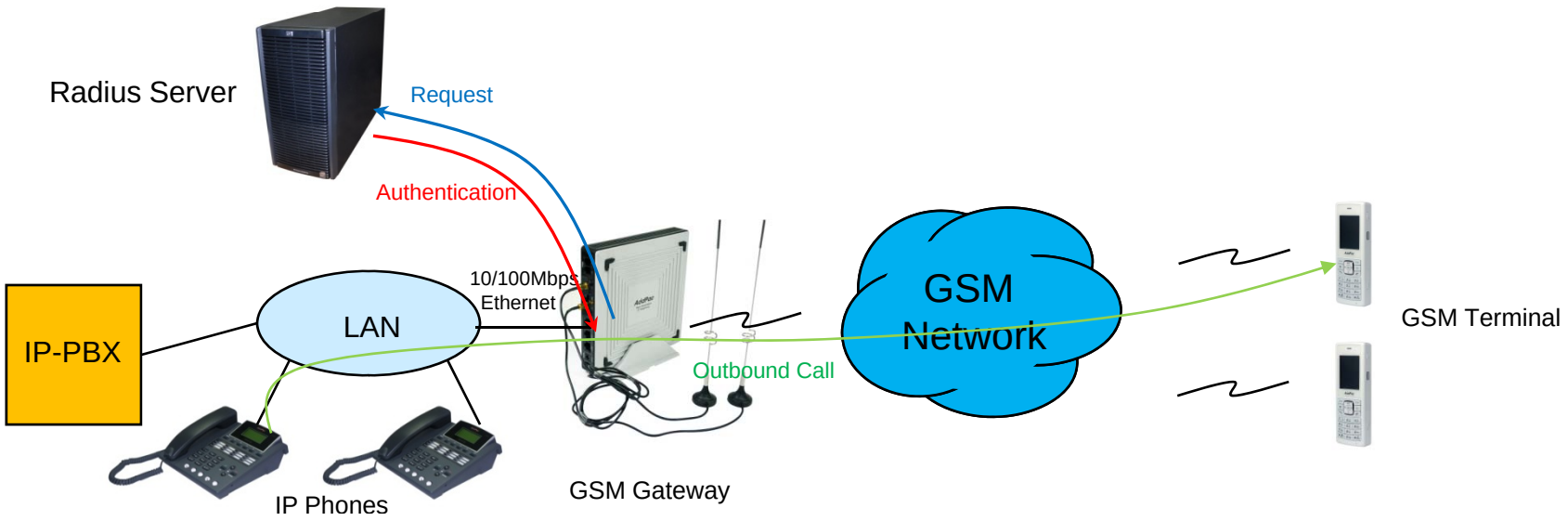
GSM Messaging Service



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



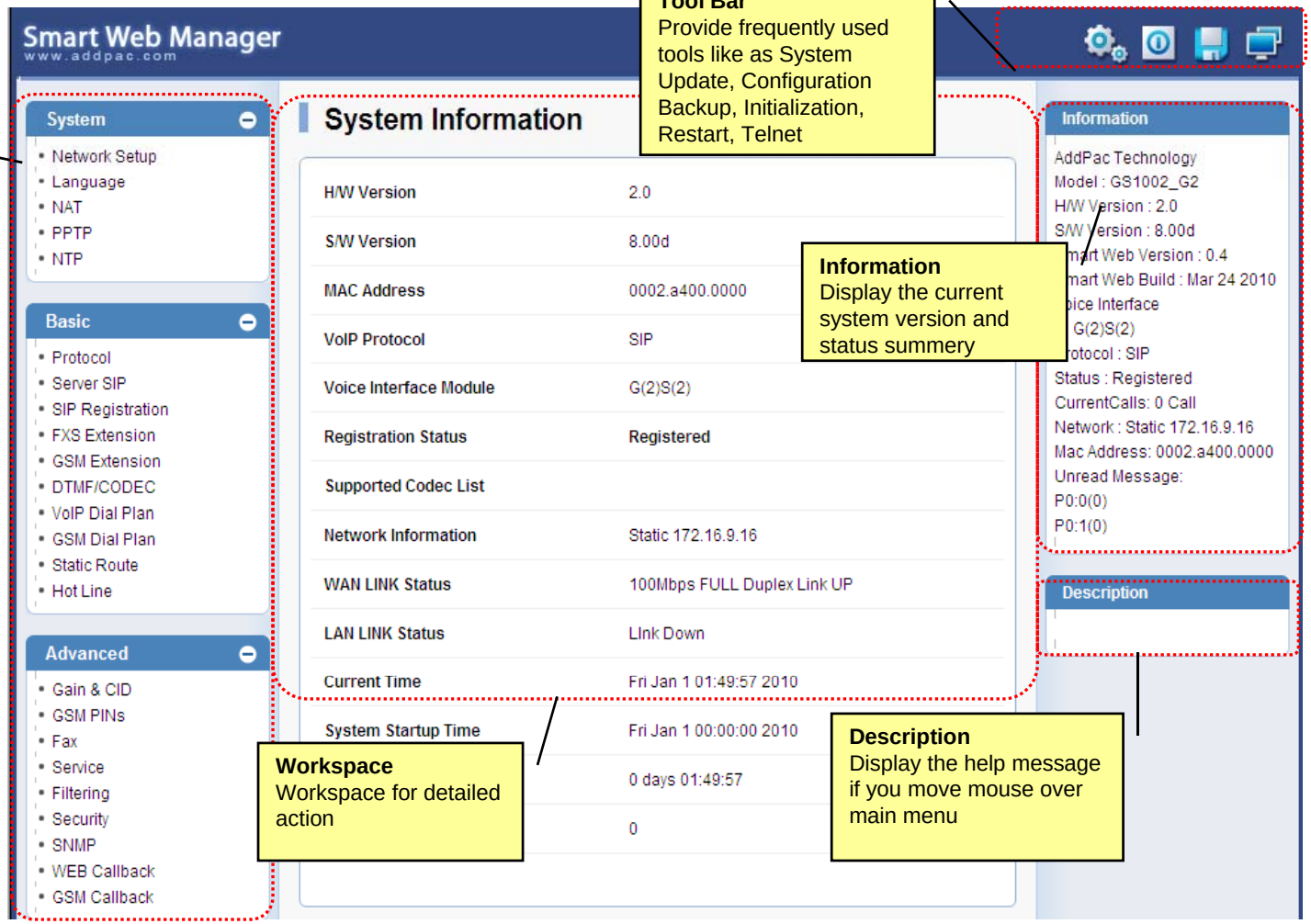
Radius Server Interoperability
: When billing system is required, GSM gateway supports radius server interoperability

Smart Web Manager for GSM 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

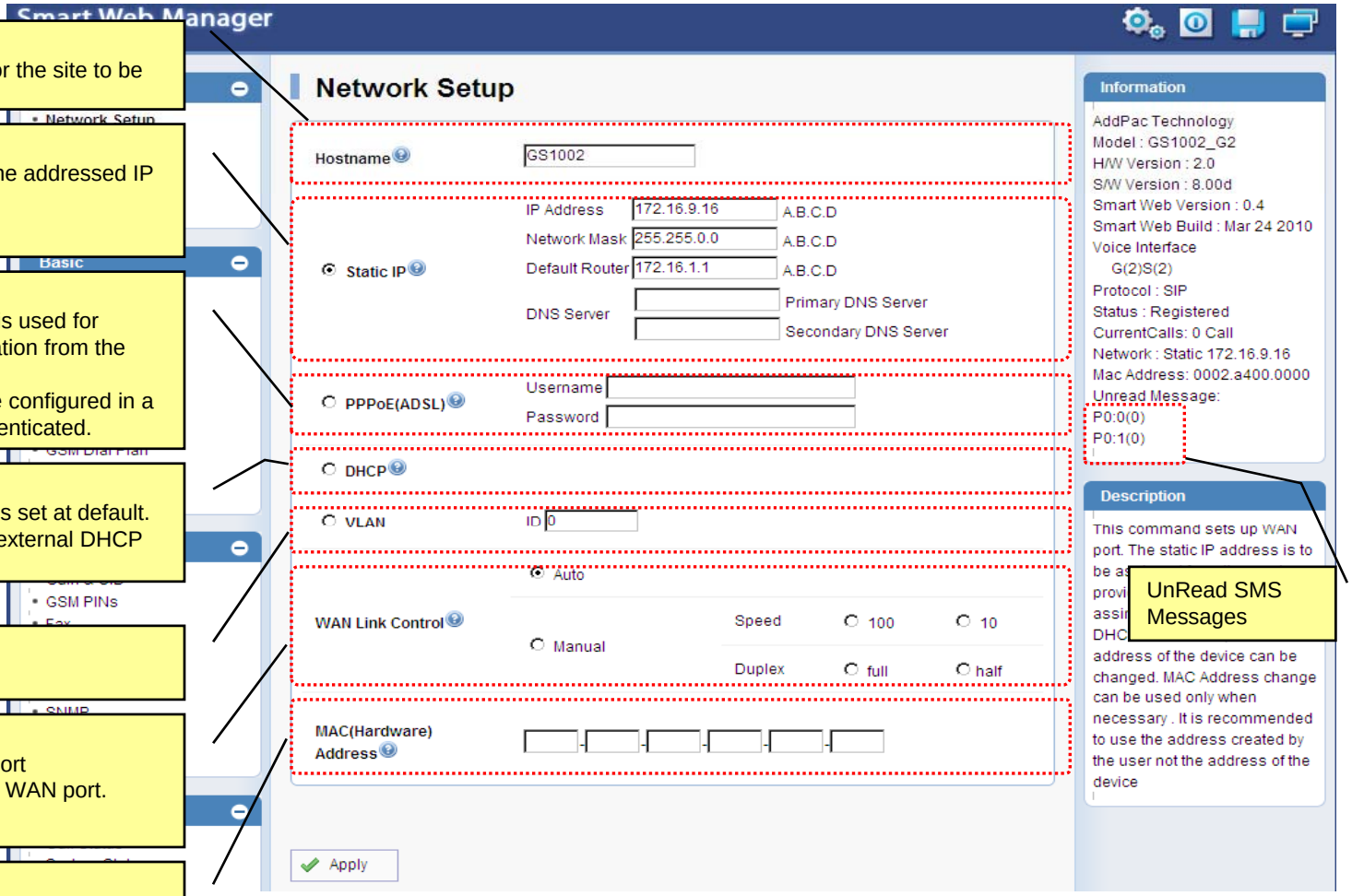
PPPoE
This is ADSL mode. This mode is used for addressing IP though authentication from the modem.
At this time, the modem must be configured in a way that the device can be authenticated.

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.

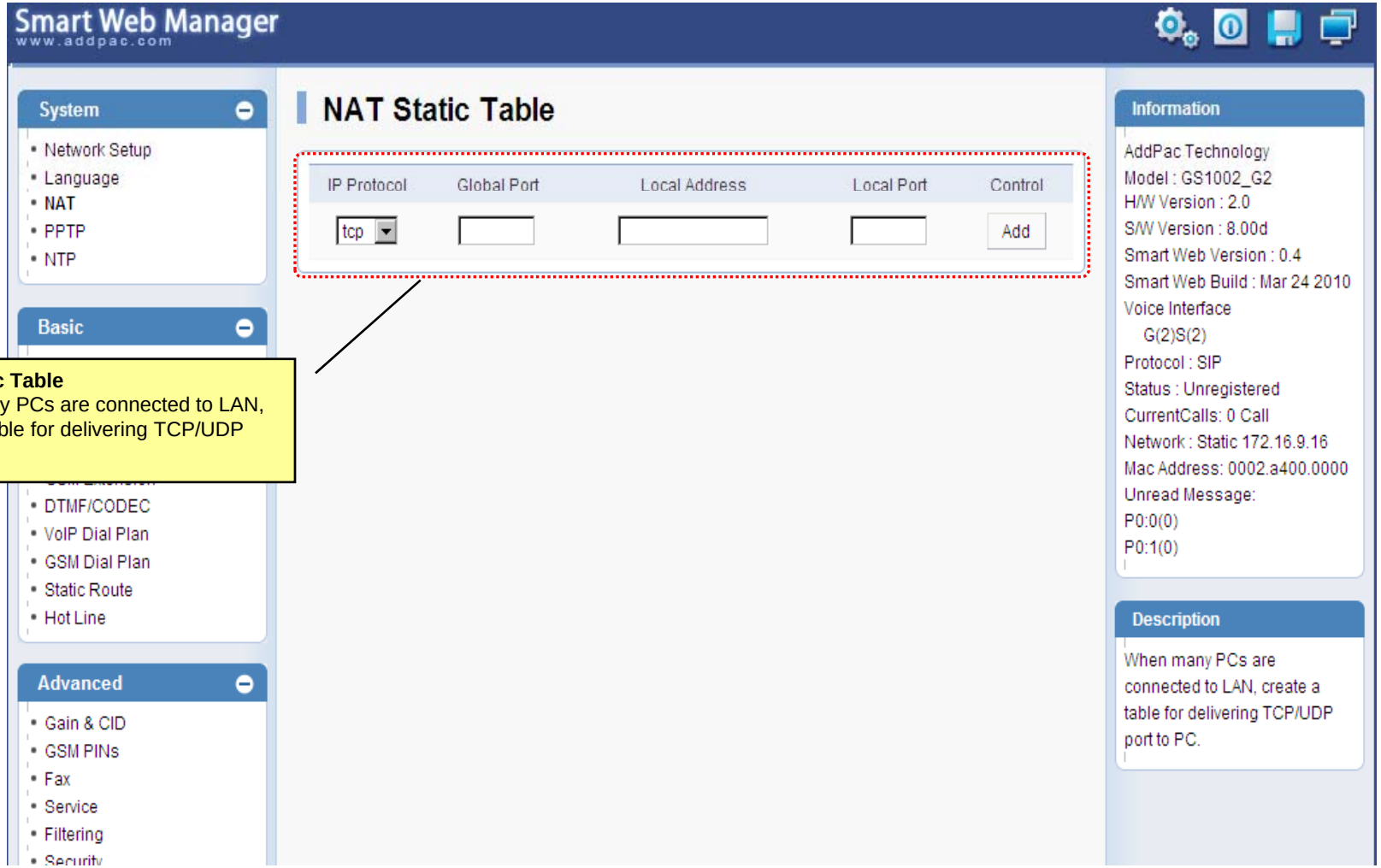
MAC
Change MAC address of WAN interface. Without address entry, use the basic MAC Address.



System - Language

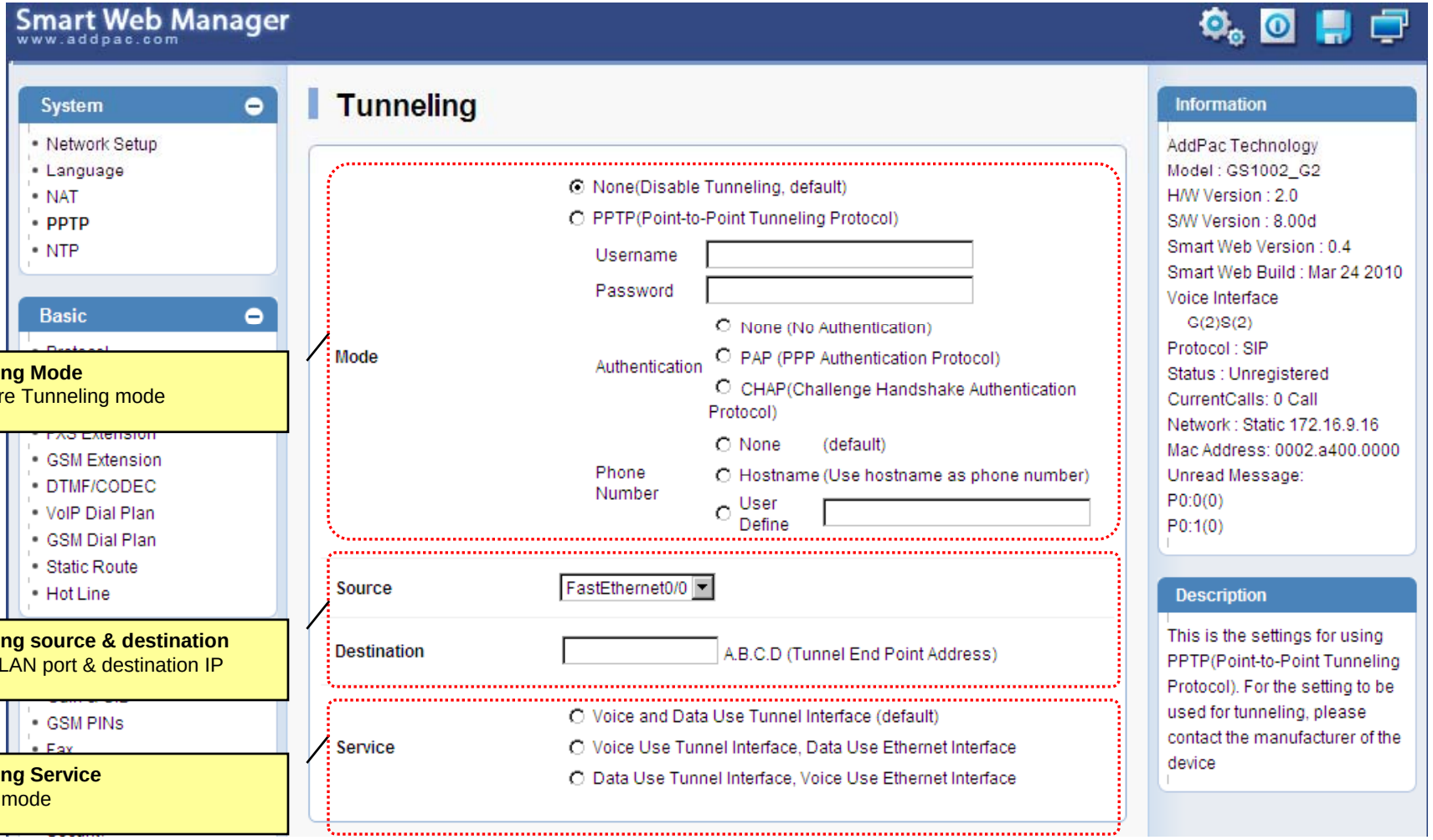
Configure Language
English, Korea

System - NAT



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

System - PPTP

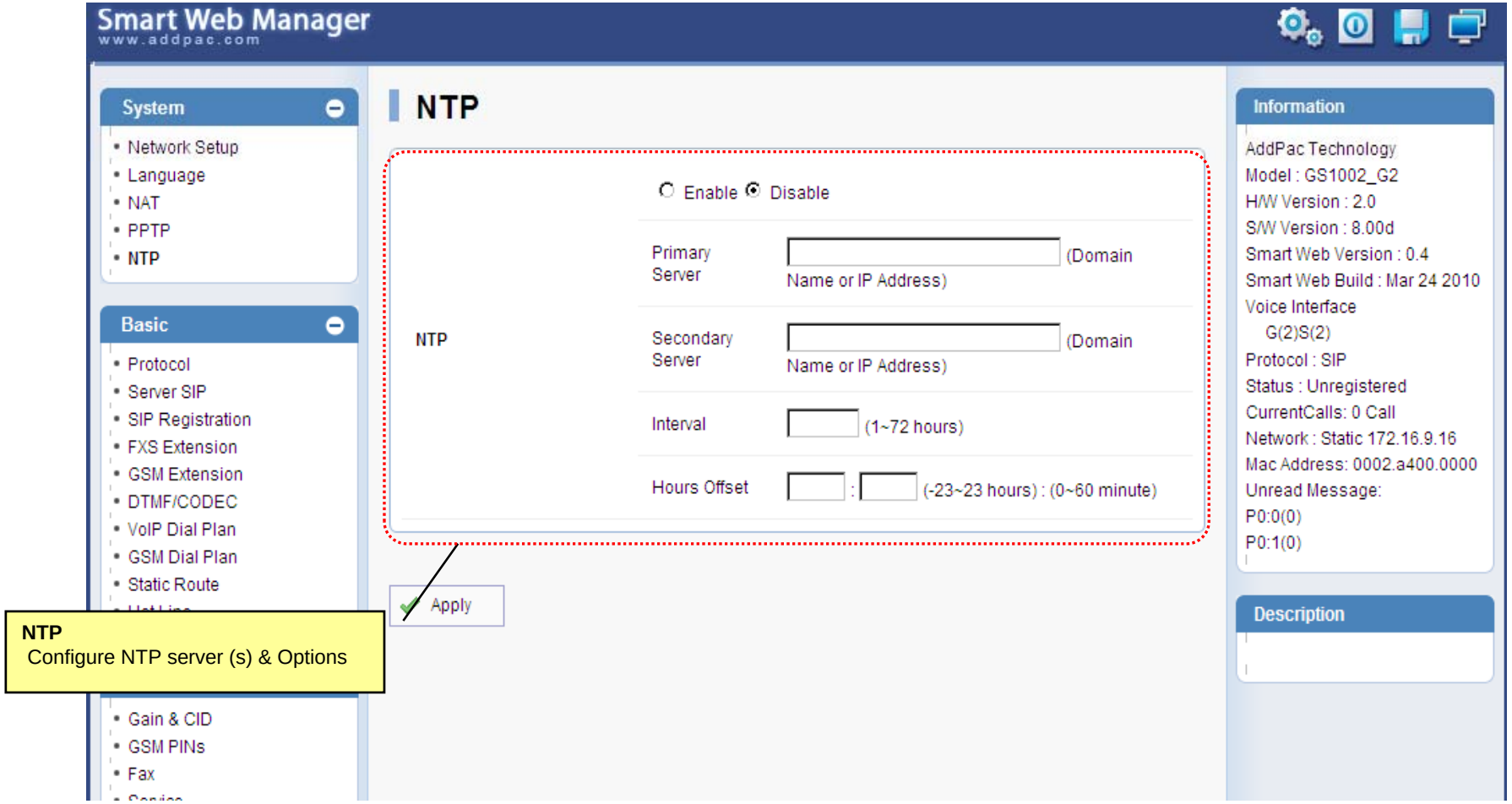


Tunneling Mode
Configure Tunneling mode

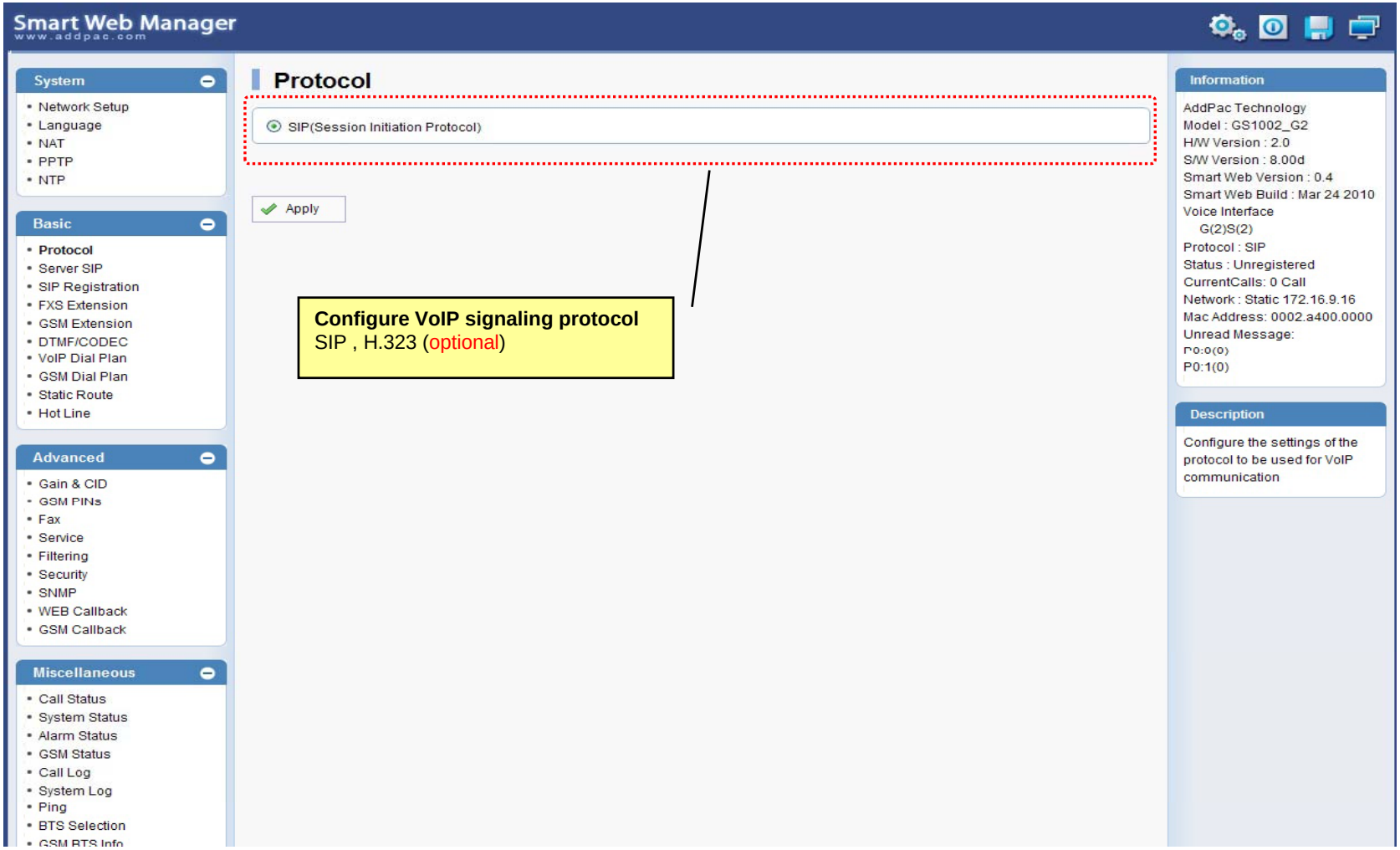
Tunneling source & destination
Source LAN port & destination IP

Tunneling Service
Service mode

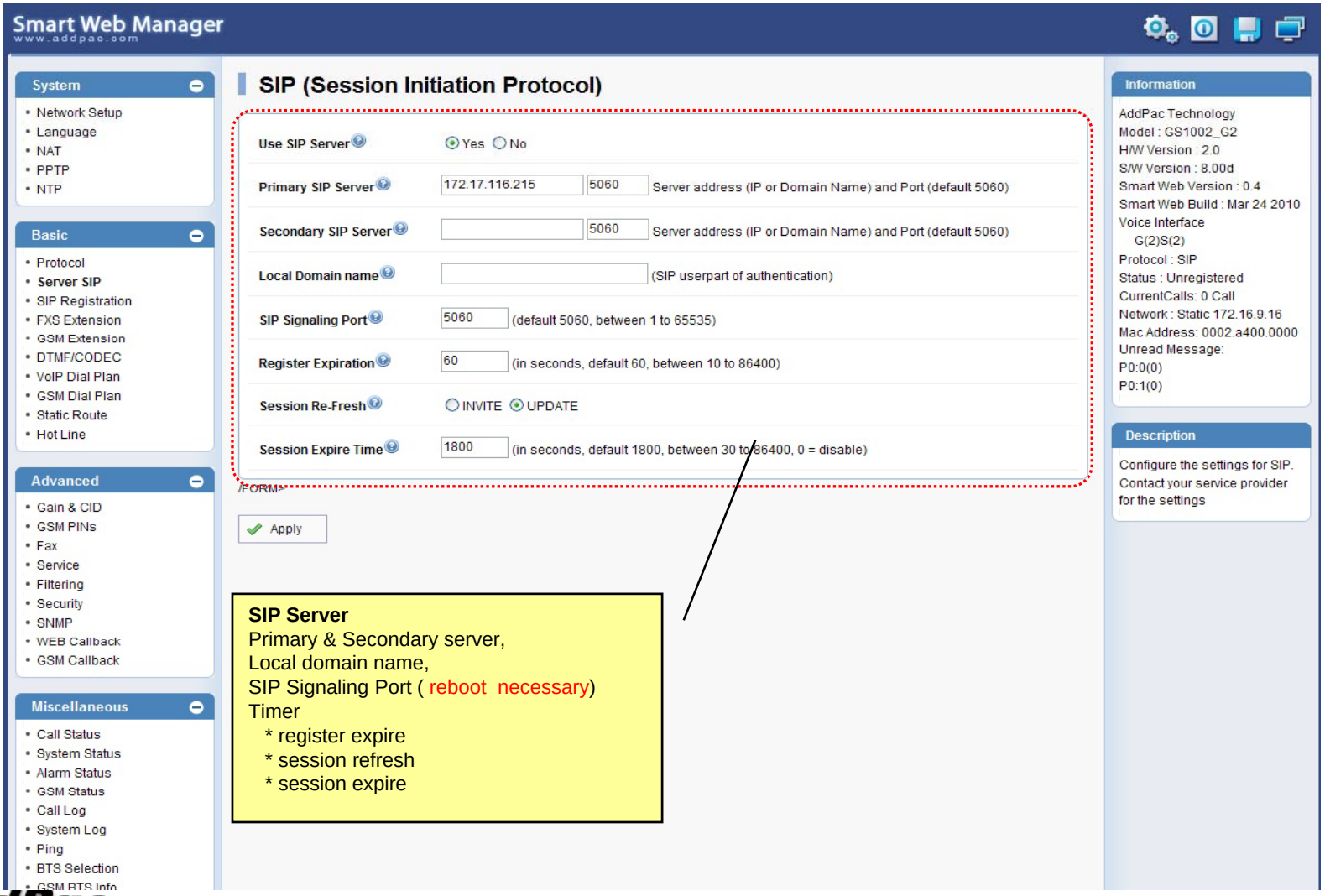
System - NTP


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
Enable
Disable
NTP
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

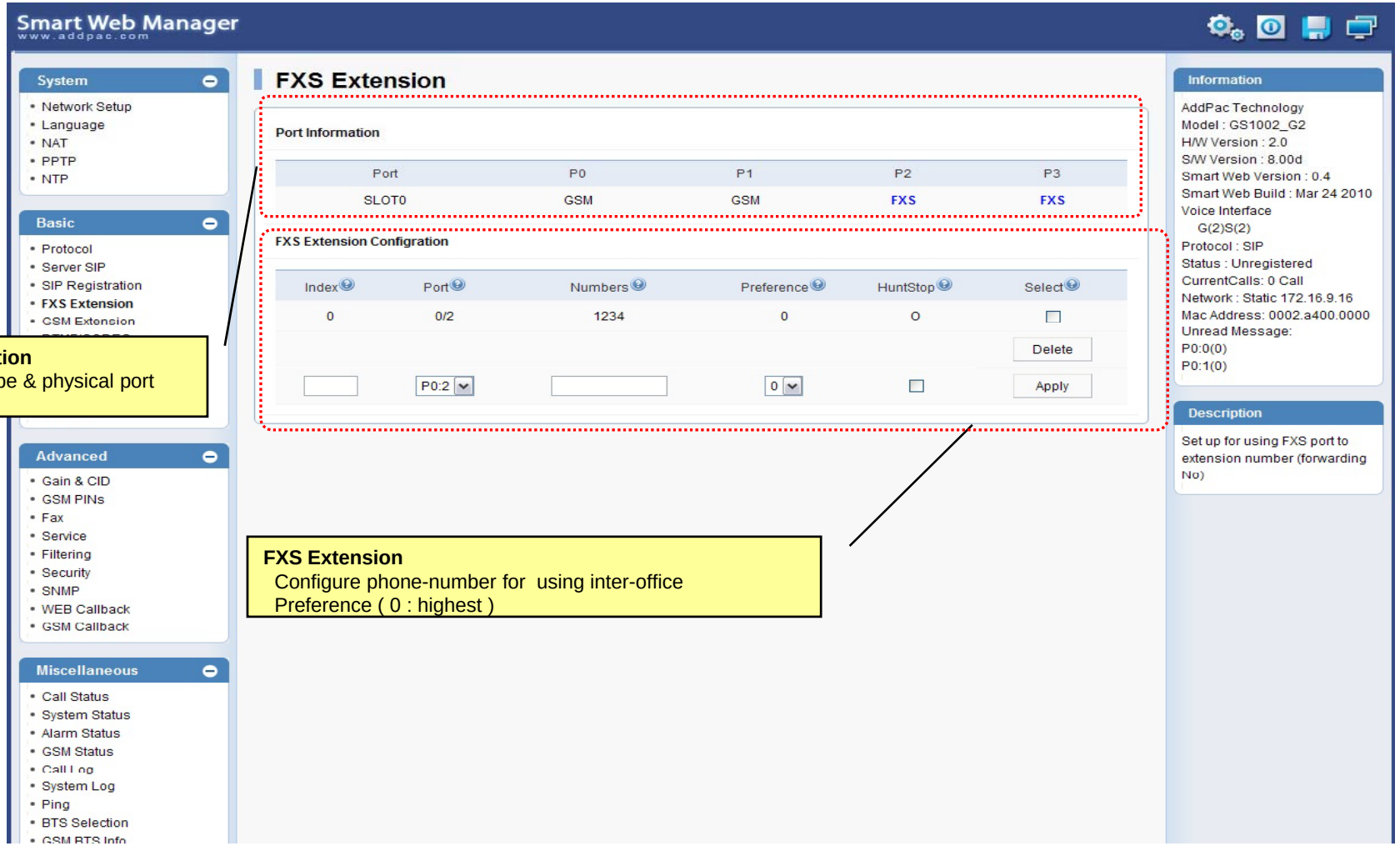
Basic - Protocol



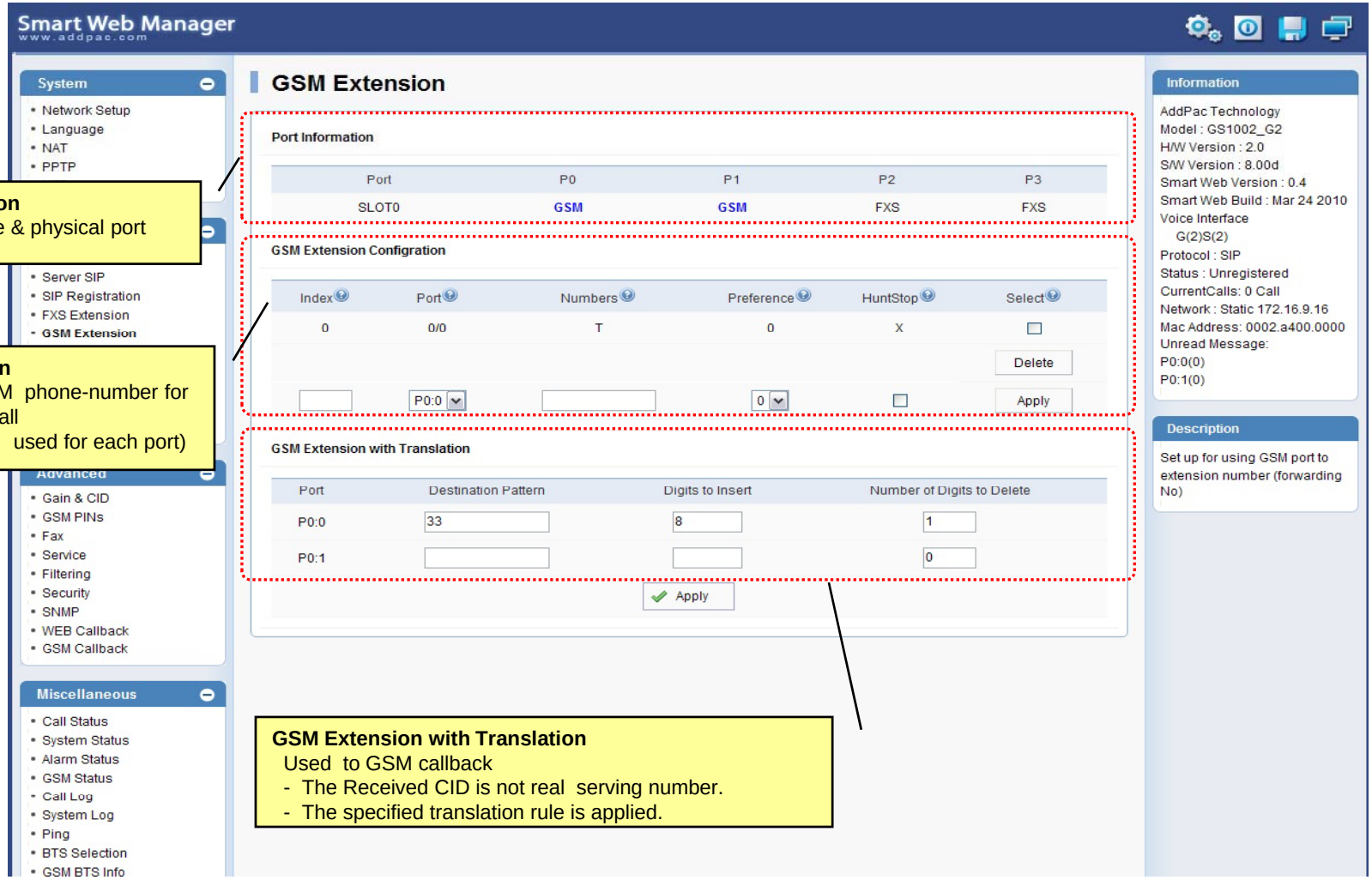
Basic – SIP Server



Basic – FXS Extension



Basic – GSM Extension

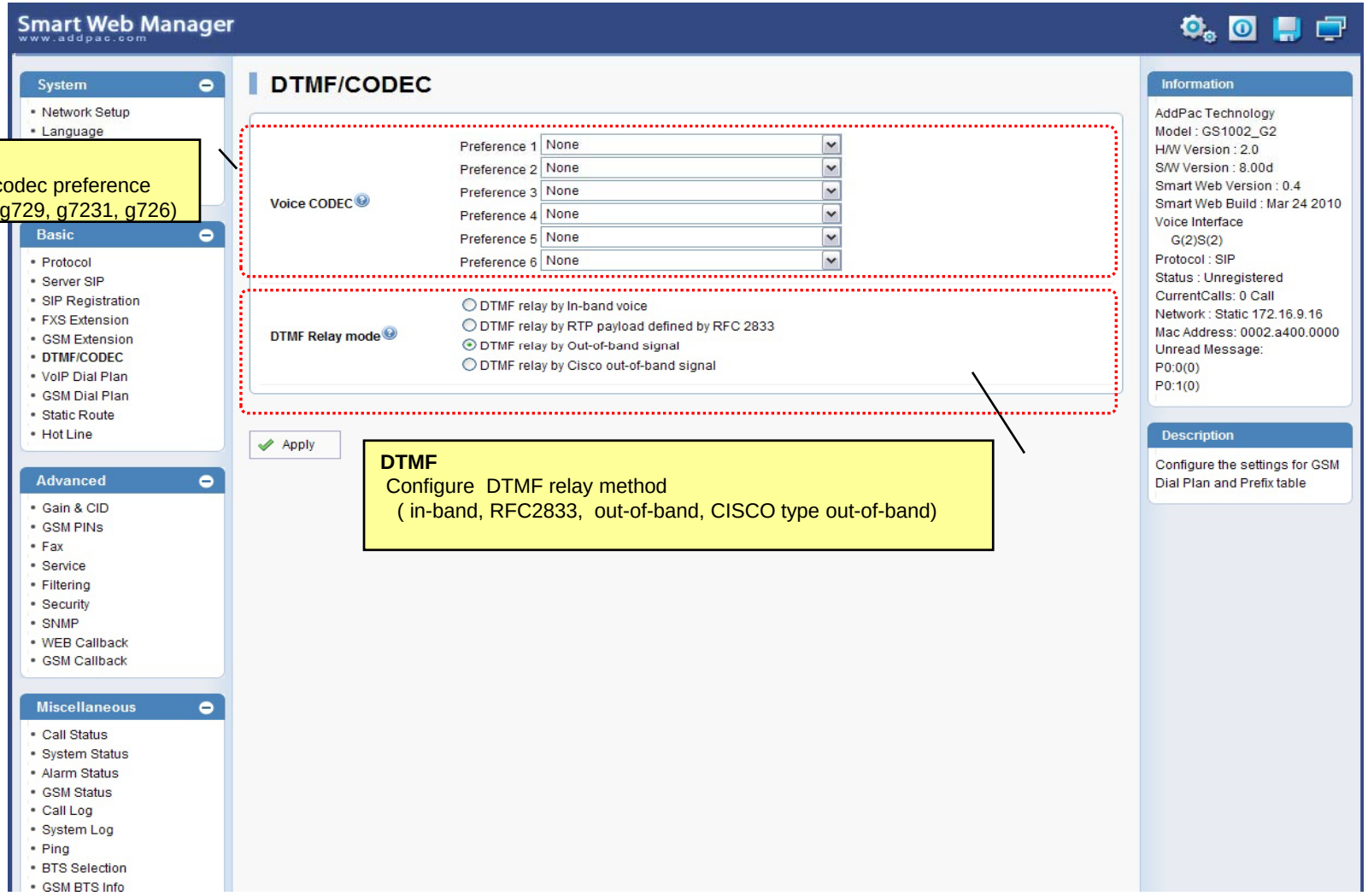


Port Information
voice port type & physical port

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.

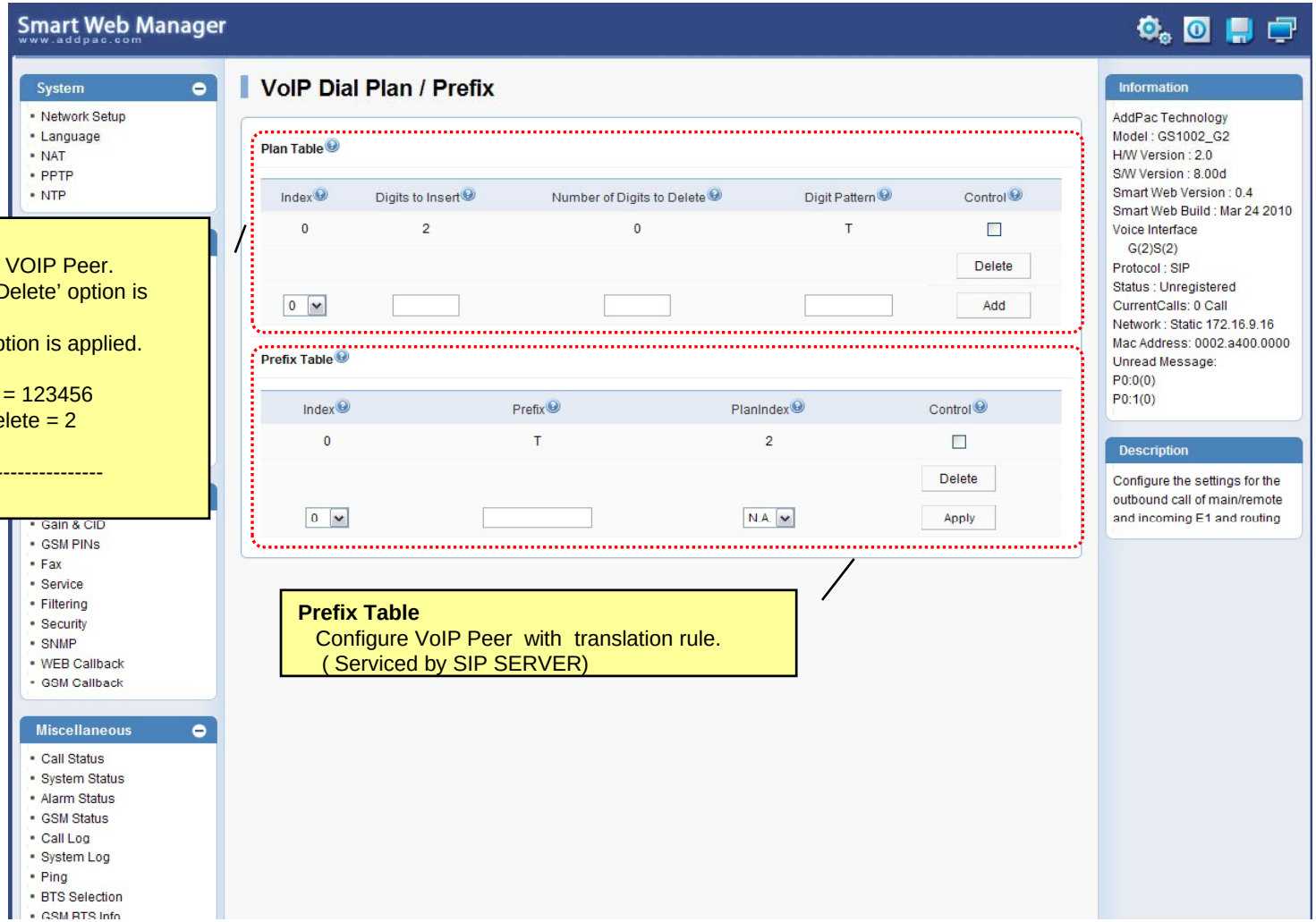
Basic – DTMF/CODEC



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

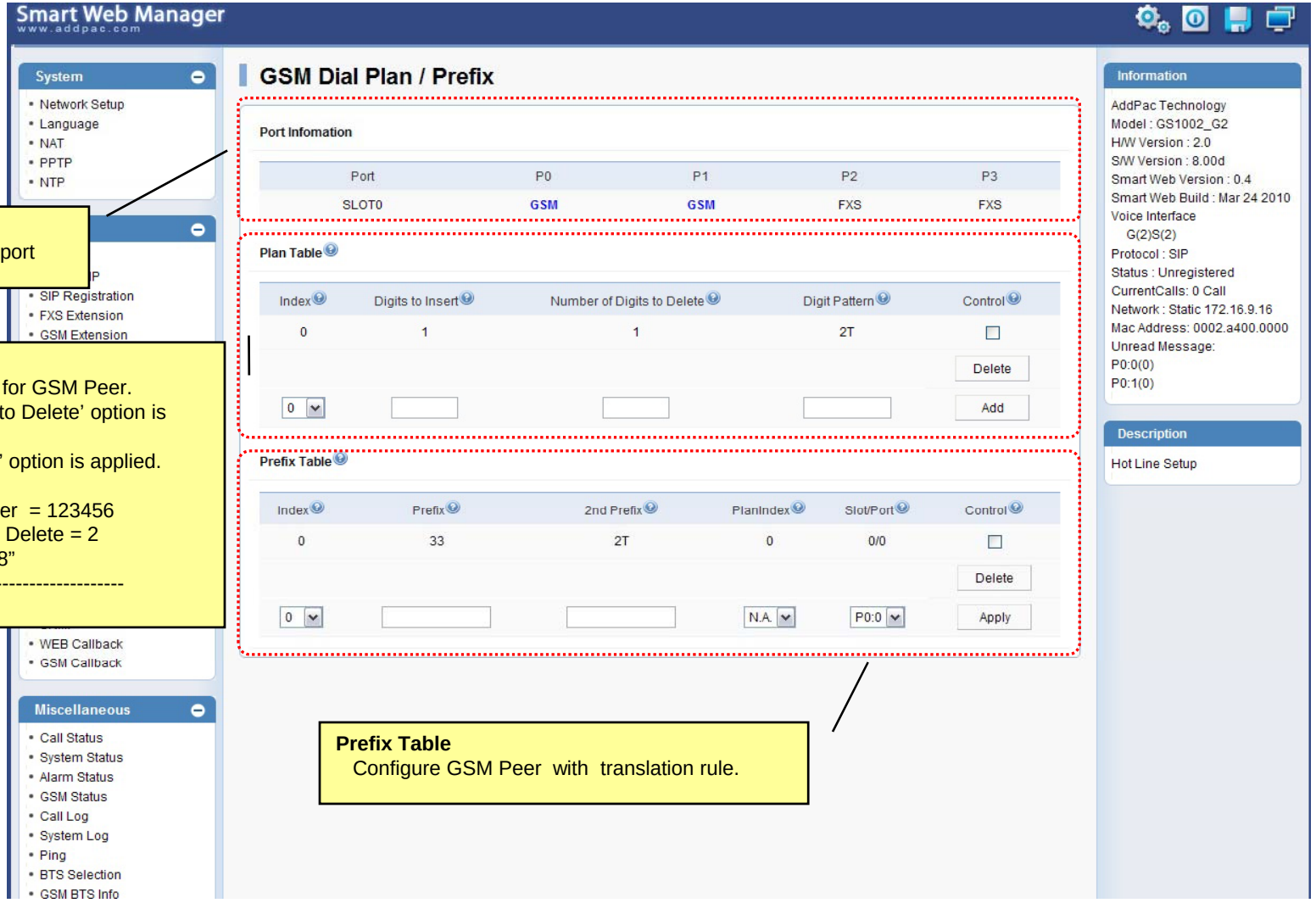


VoIP PLAN
Configure translation rule for VOIP Peer.
- first, 'Number of Digits to Delete' option is applied.
- second, 'Digits to Insert' option is applied.

(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.
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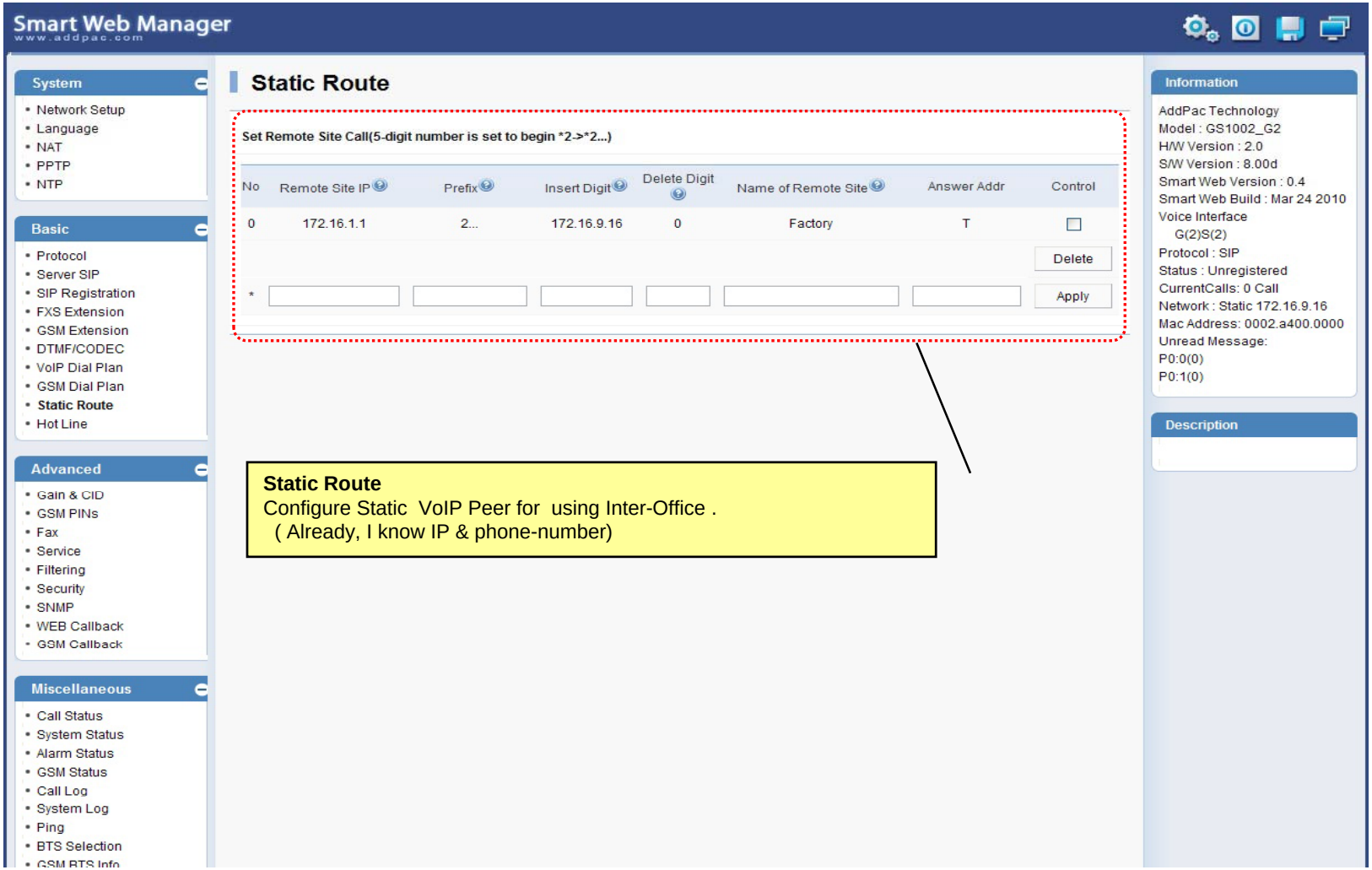
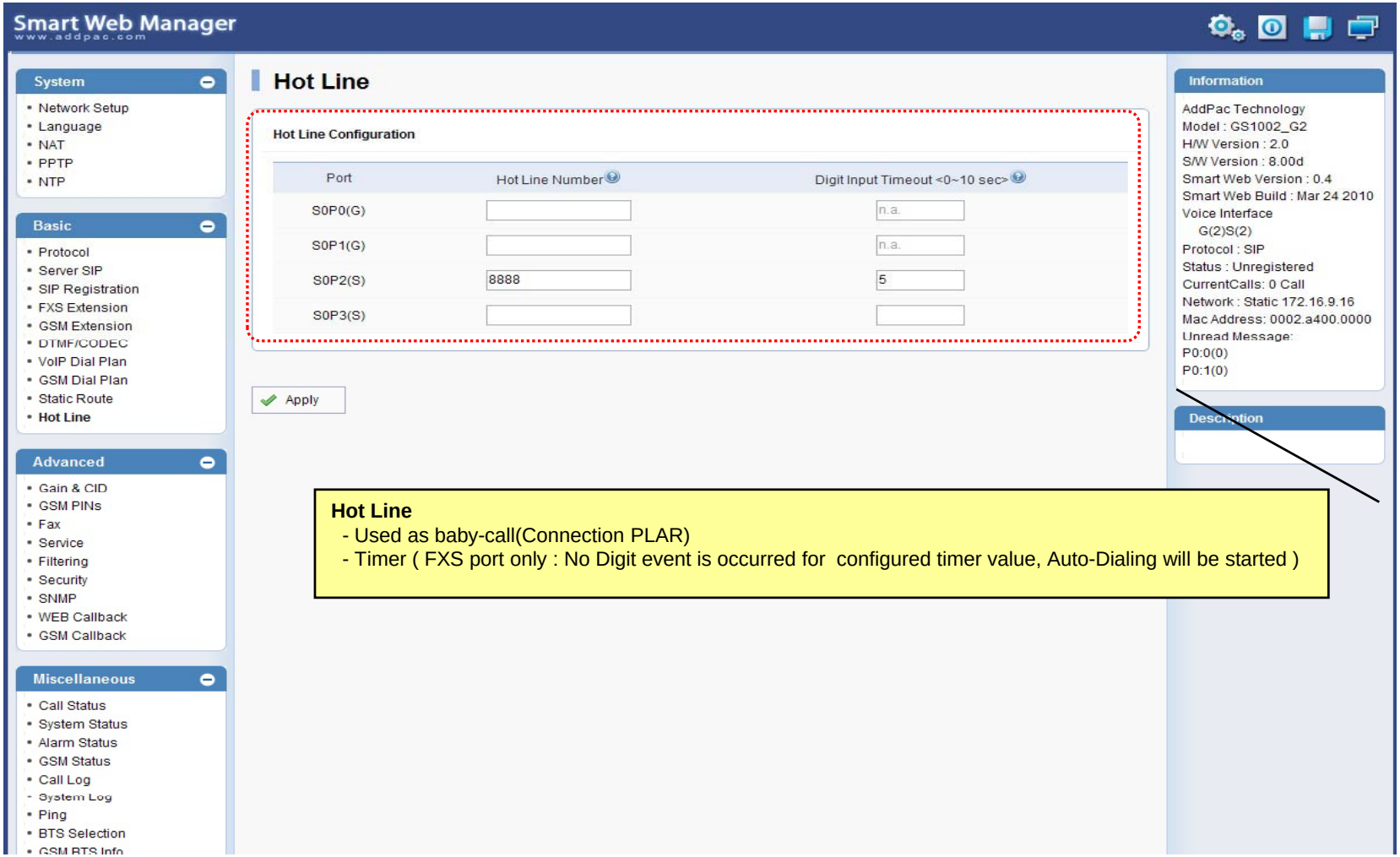
Number of Digits to Delete = 2
Digits to Insert = "88"
---
result = 883456

Prefix Table
Configure GSM Peer with translation rule.

Basic – Static Route

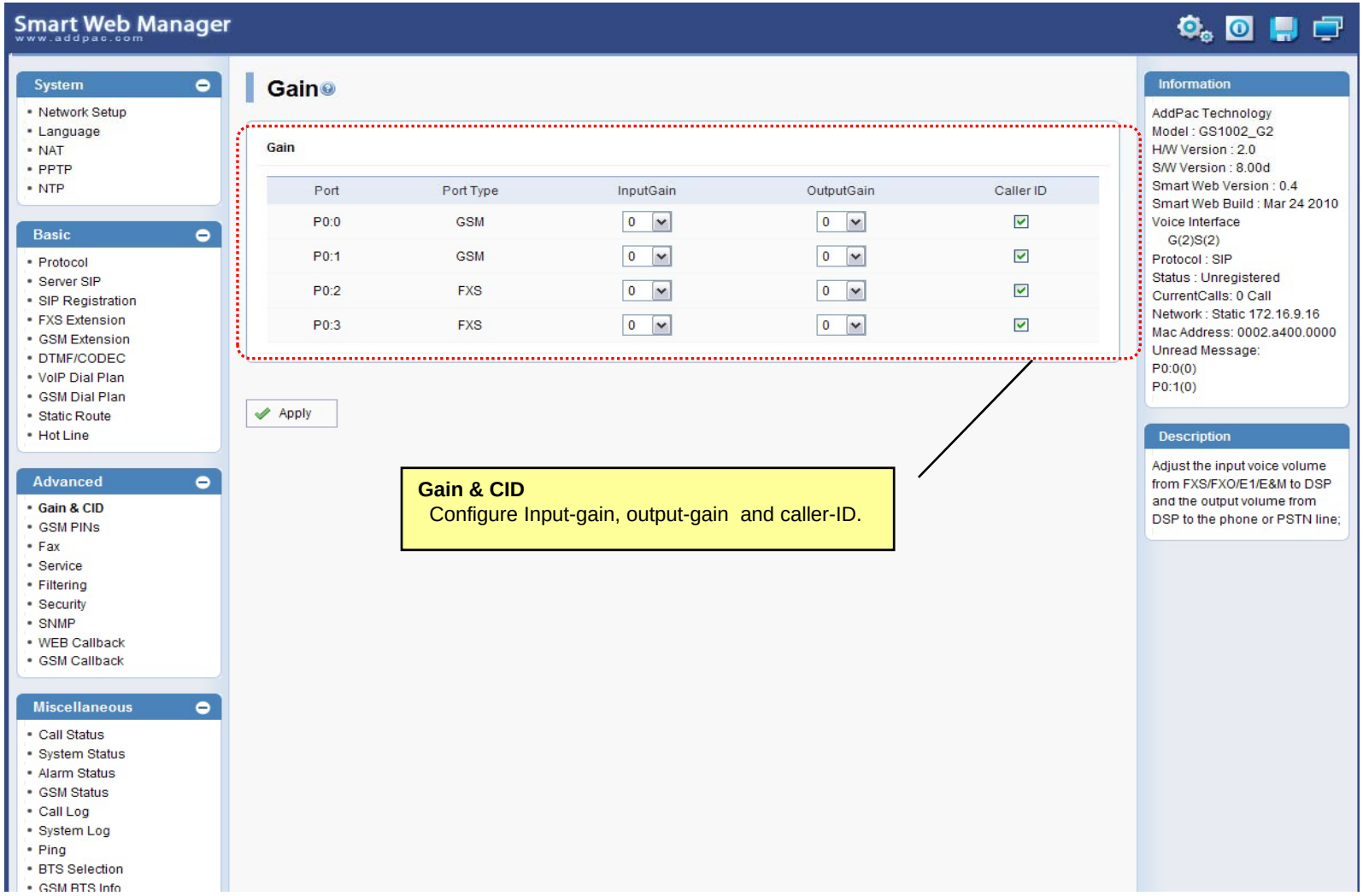


Basic – Hot Line

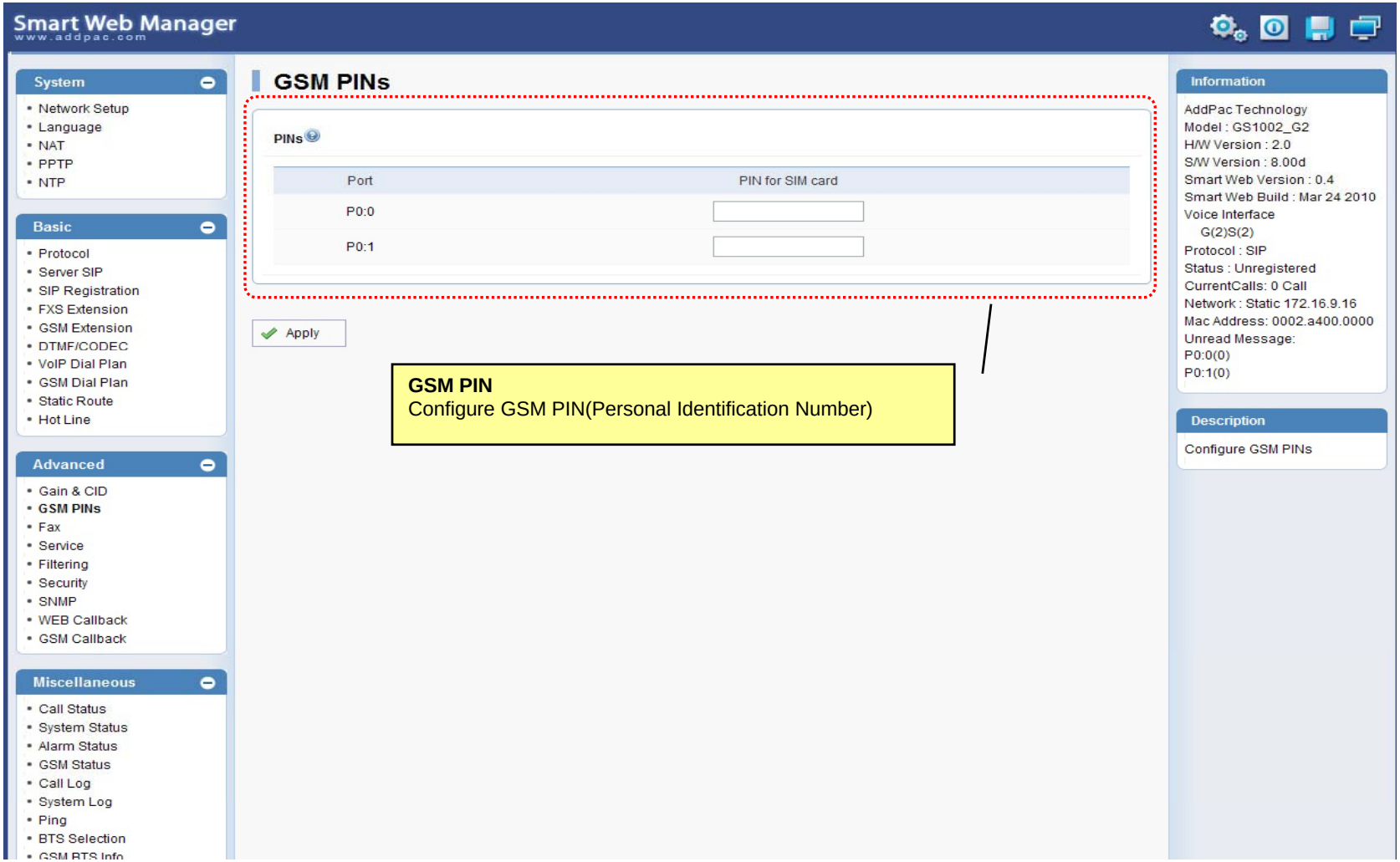


Hot Line
- Used as baby-call(Connection PLAR)
- Timer (FXS port only : No Digit event is occurred for configured timer value, Auto-Dialing will be started)

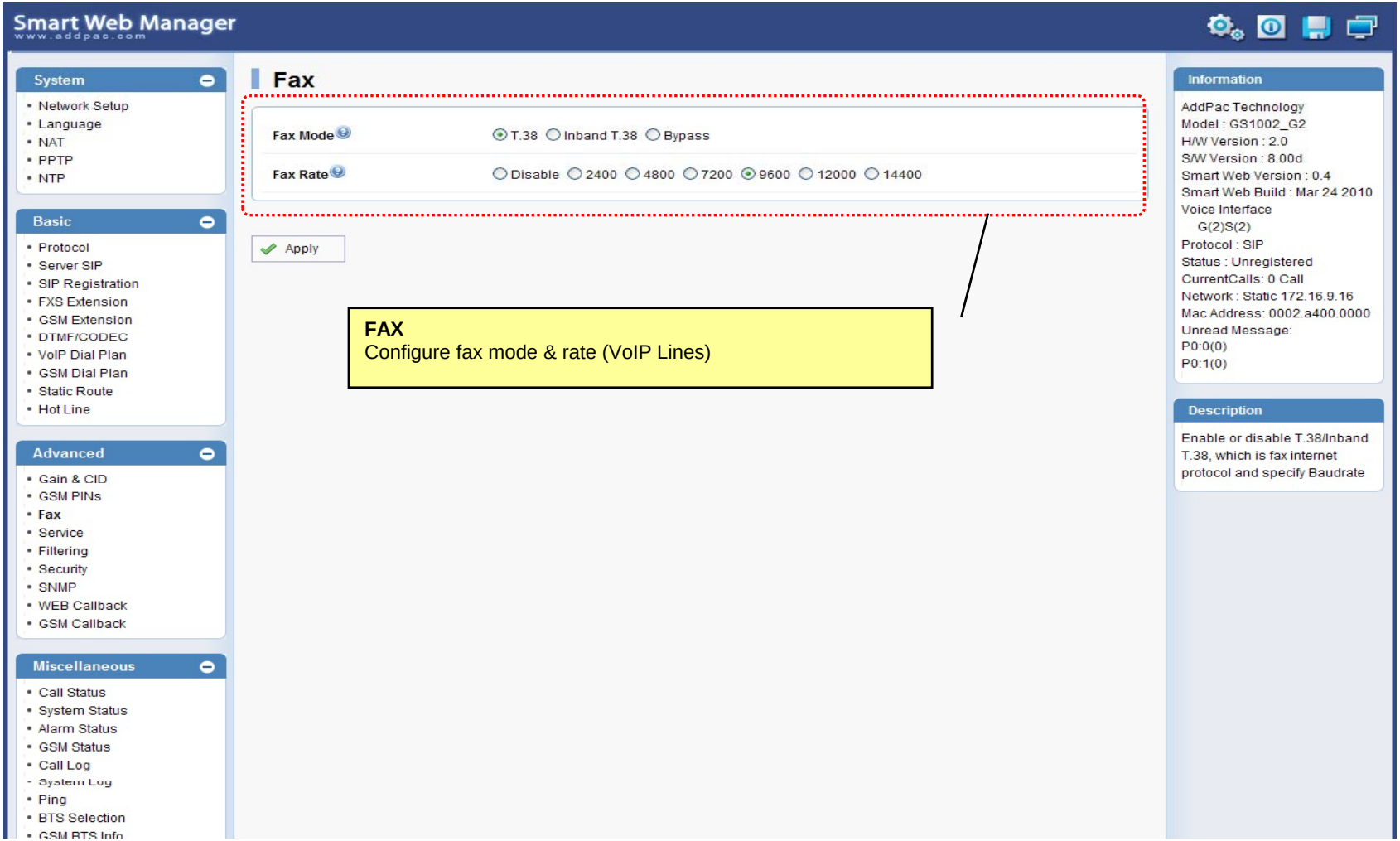
Advanced – Gain & CID



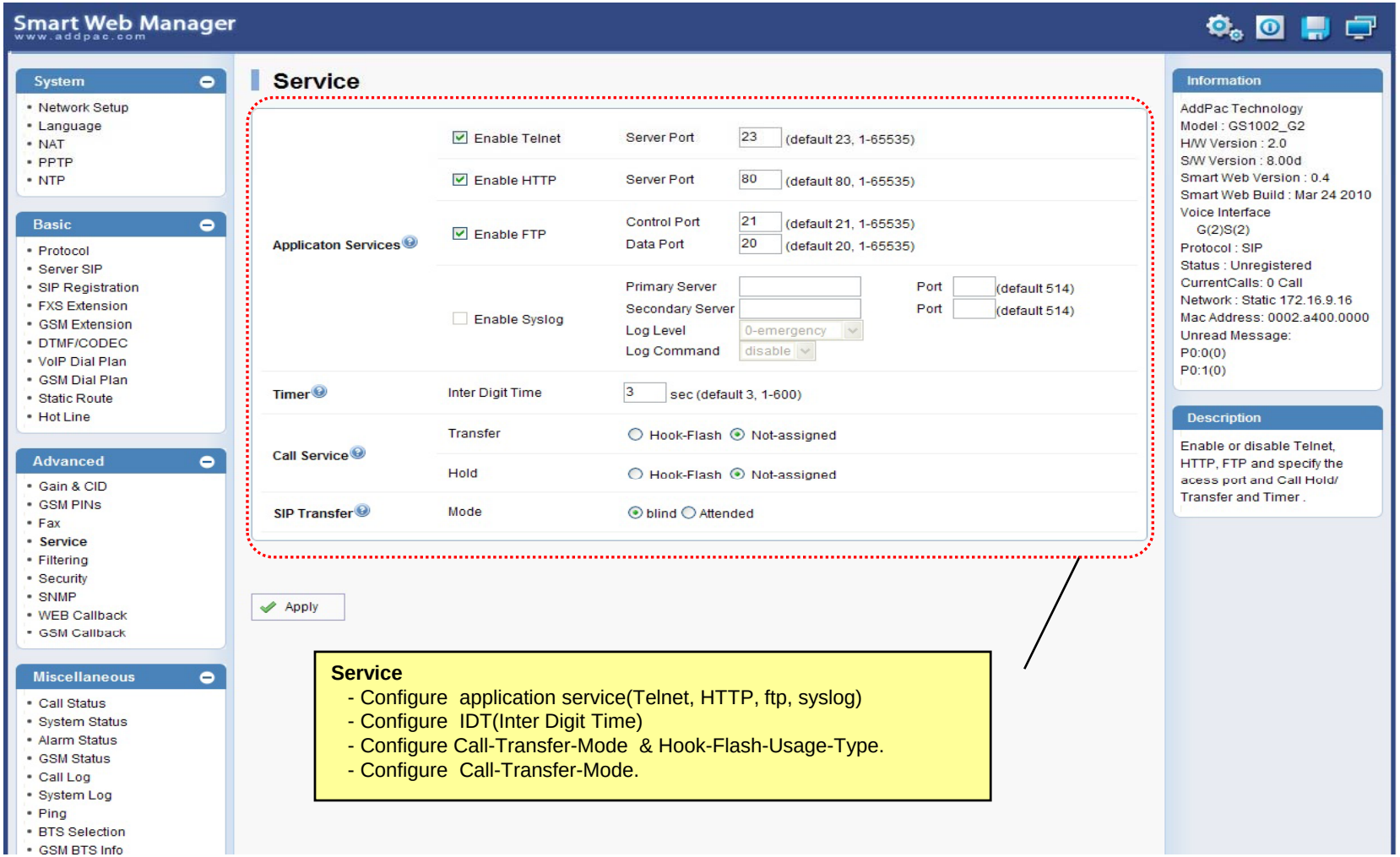
Advanced – GSM PINs



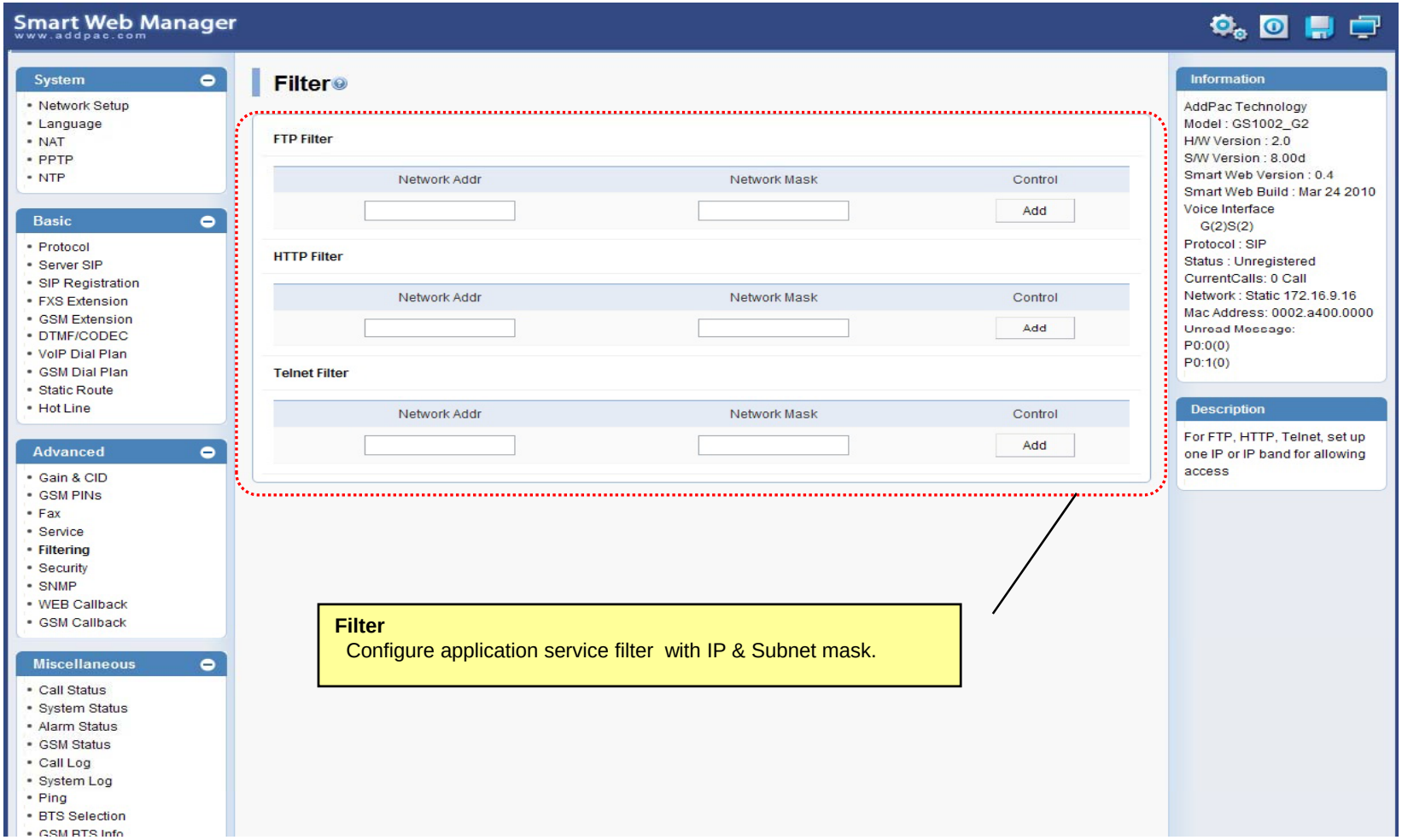
Advanced - Fax



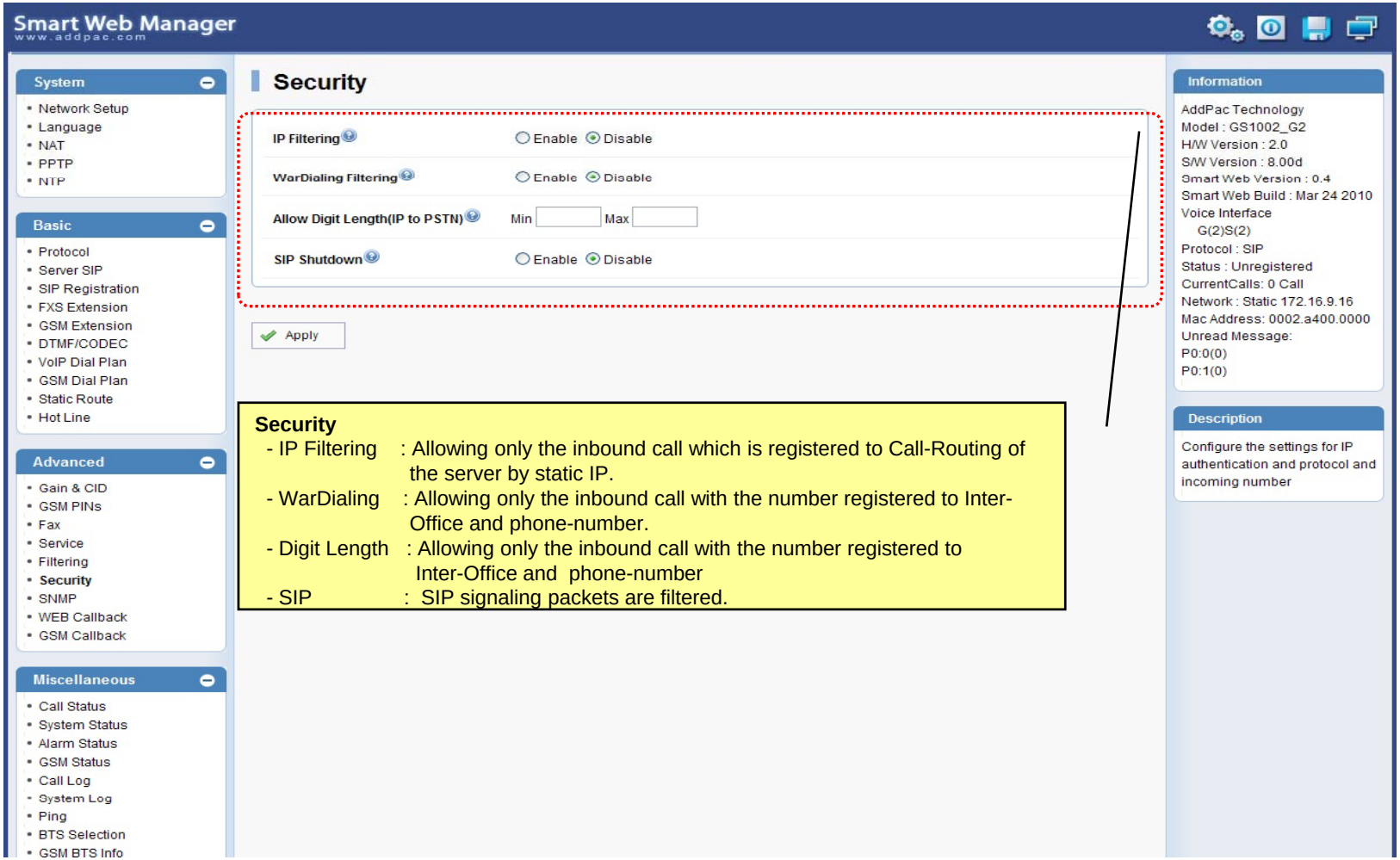
Advanced - Service



Advanced - Filtering



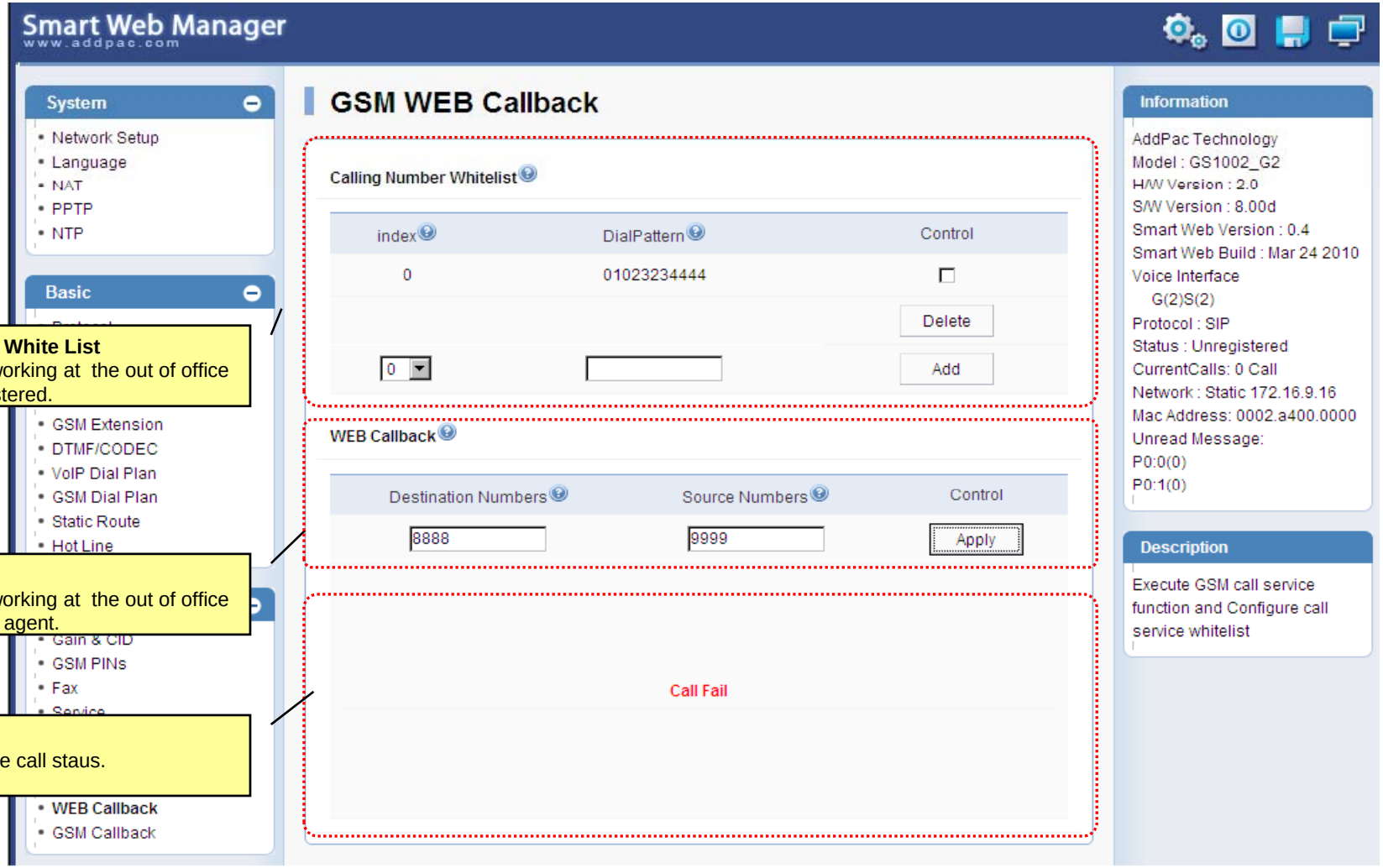
Advanced - Security



Security

- IP Filtering : Allowing only the inbound call which is registered to Call-Routing of the server by static IP.
- WarDialing : Allowing only the inbound call with the number registered to Inter-Office and phone-number.
- Digit Length : Allowing only the inbound call with the number registered to Inter-Office and phone-number
- SIP : SIP signaling packets are filtered.

Advanced – GSM Web Callback

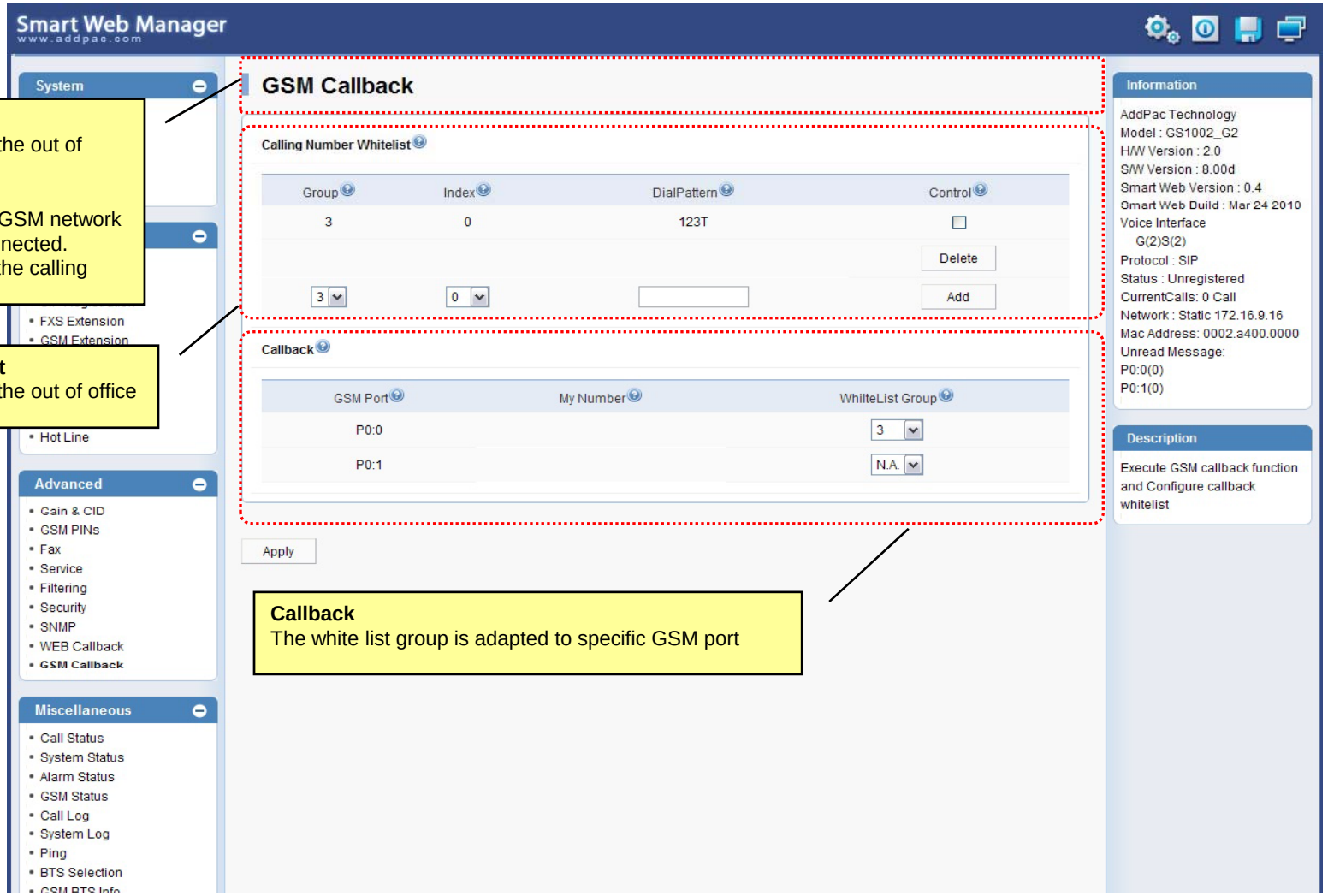


Calling Number White List
The employee working at the out of office are usually registered.

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



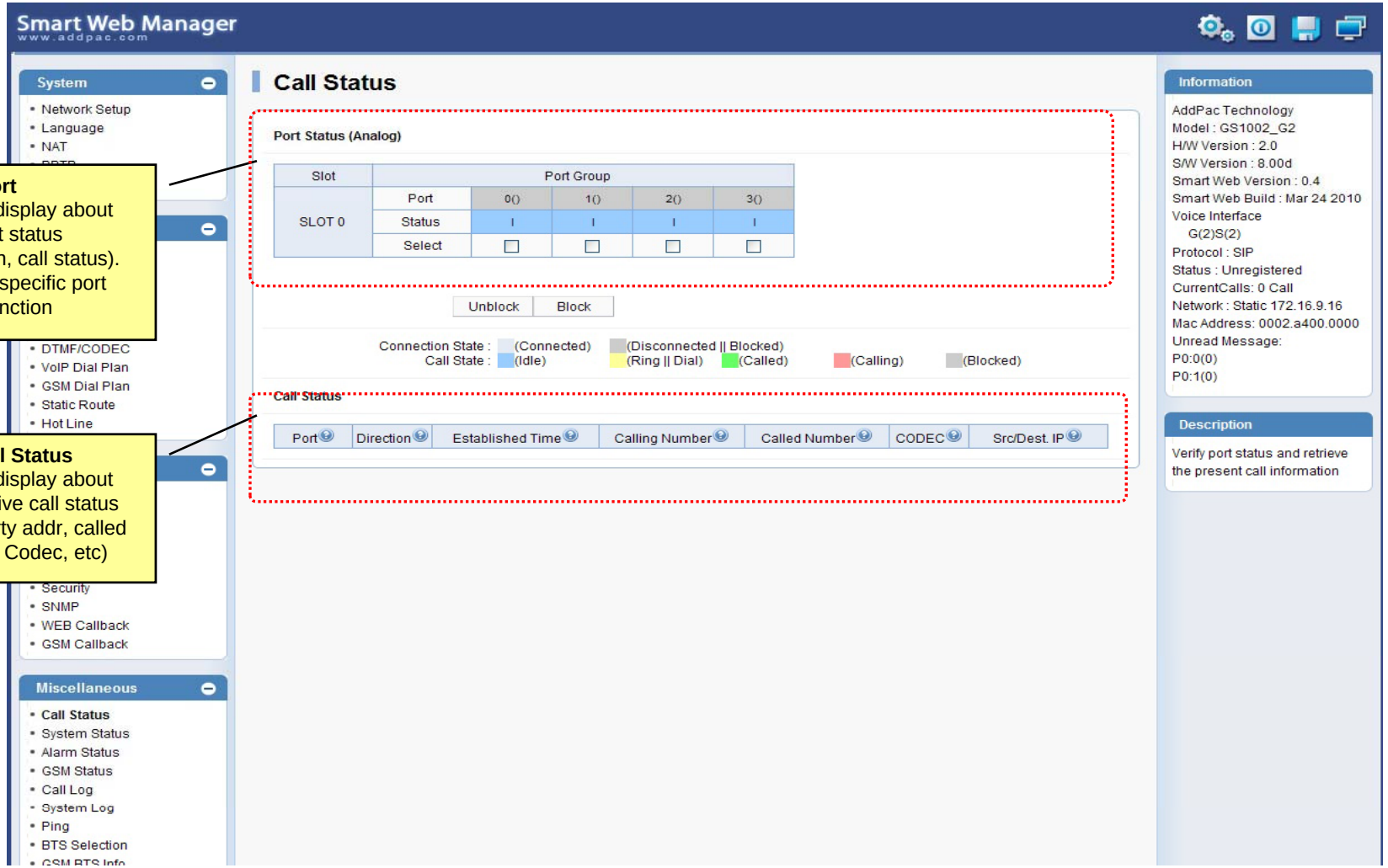
GSM Callback
The employee working at the out of office can use this function.

- 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

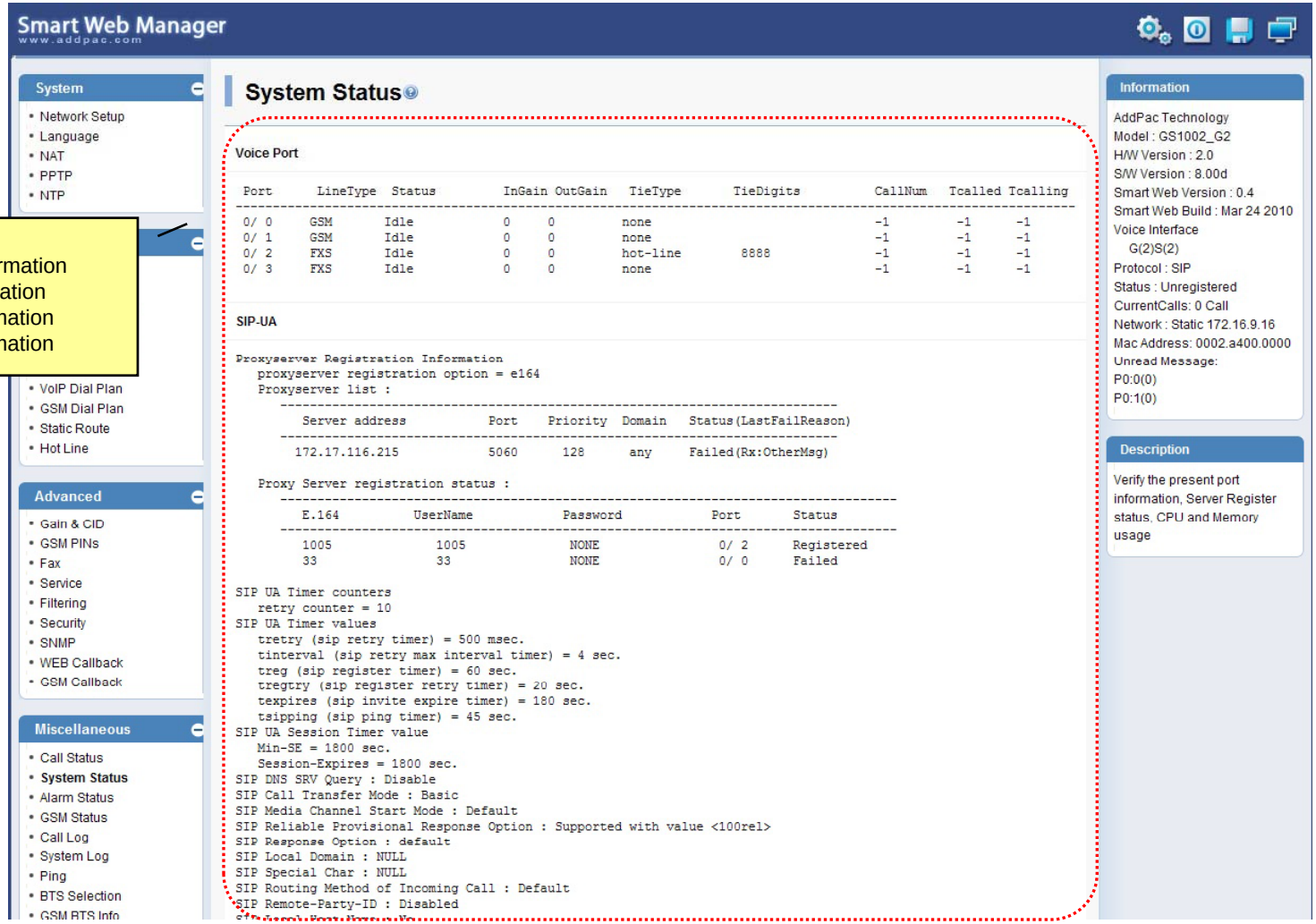


Analog Port
Real-time display about analog port status (occupation, call status). Provide a specific port blocking function

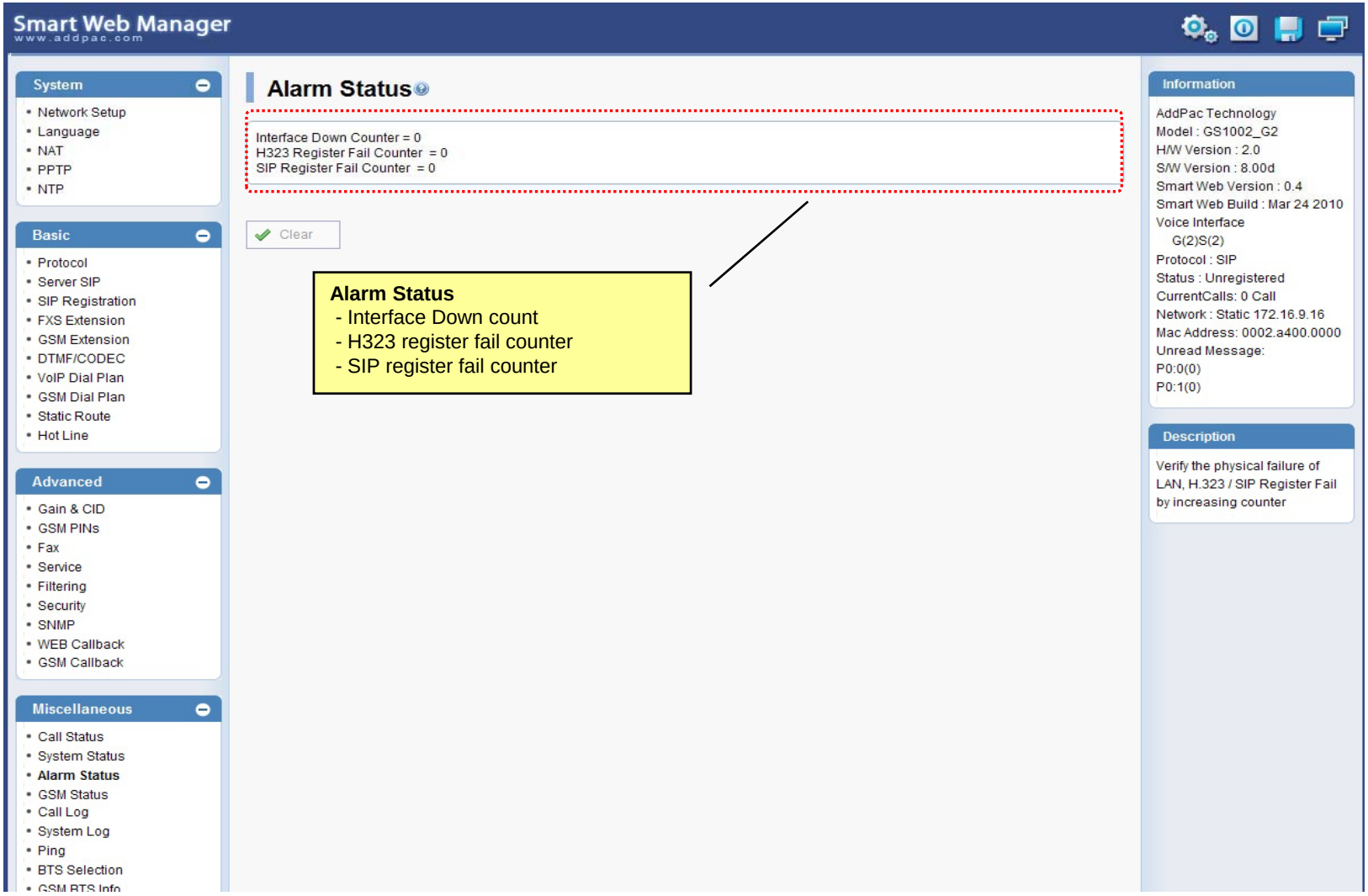
Active Call Status
Real-time display about current active call status (calling party addr, called party addr. Codec, etc)

Miscellaneous – System Status

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

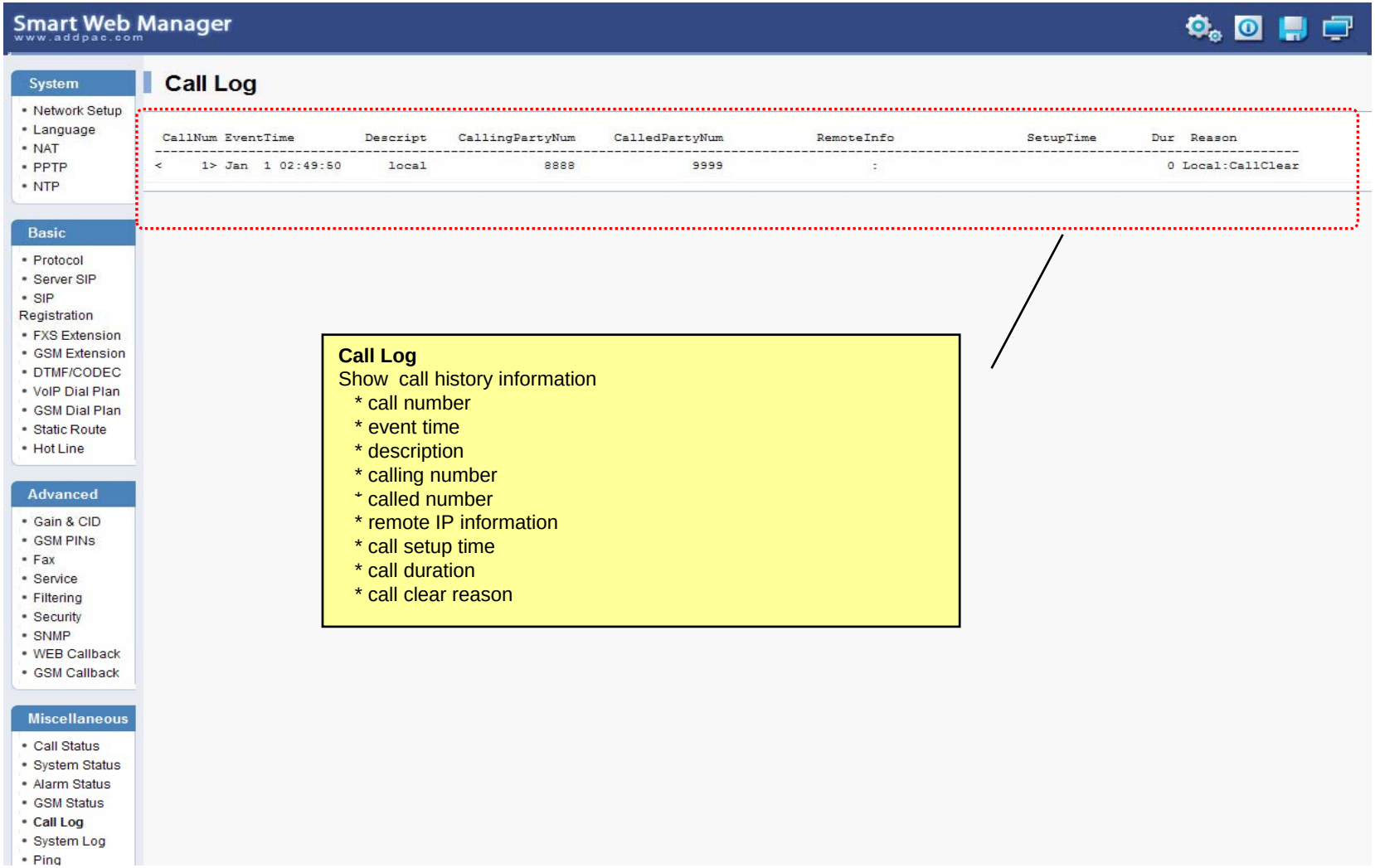


Miscellaneous – Alarm Status

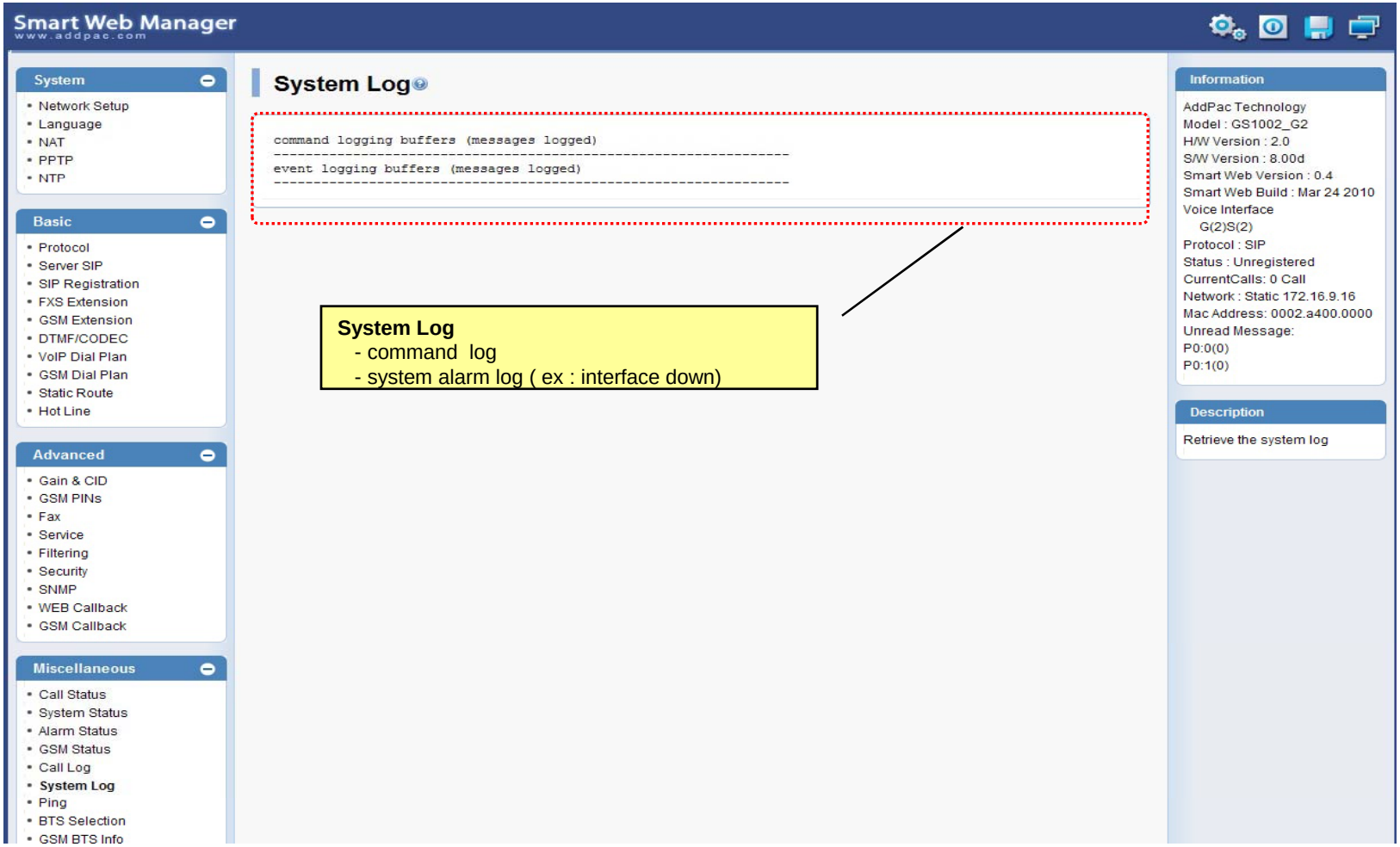


Miscellaneous – GSM Status

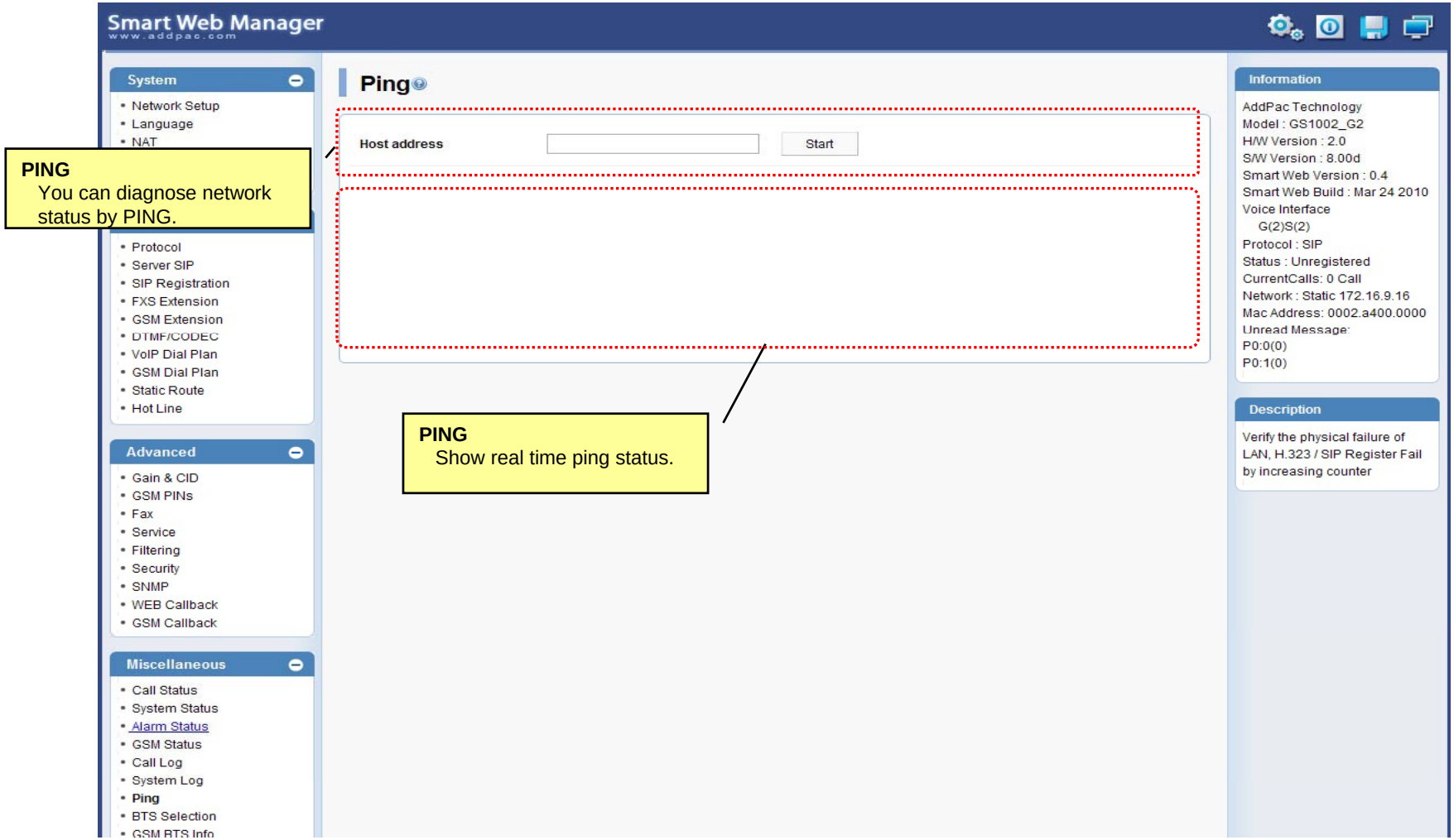
Miscellaneous – Call Log



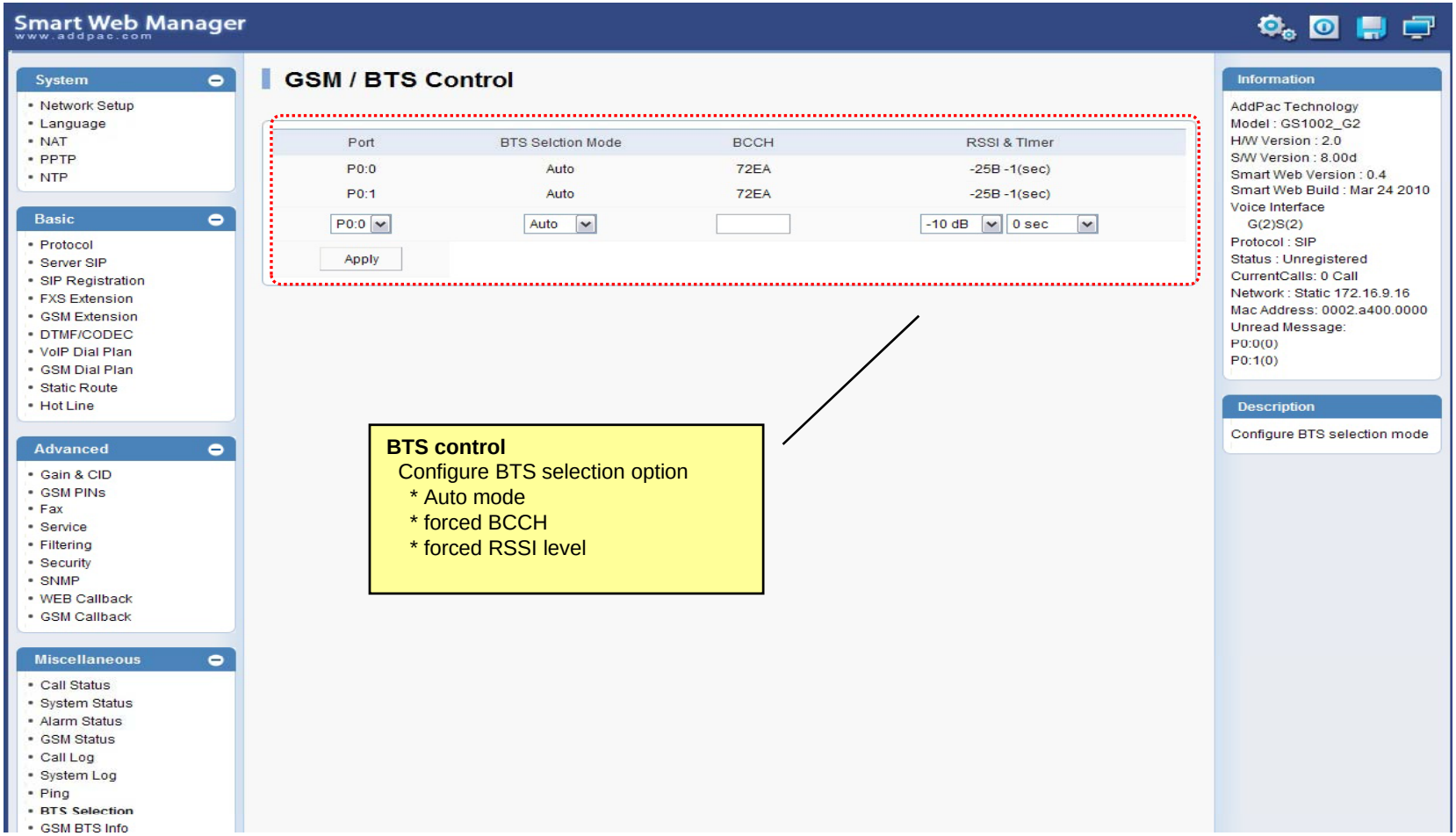
Miscellaneous – System Log



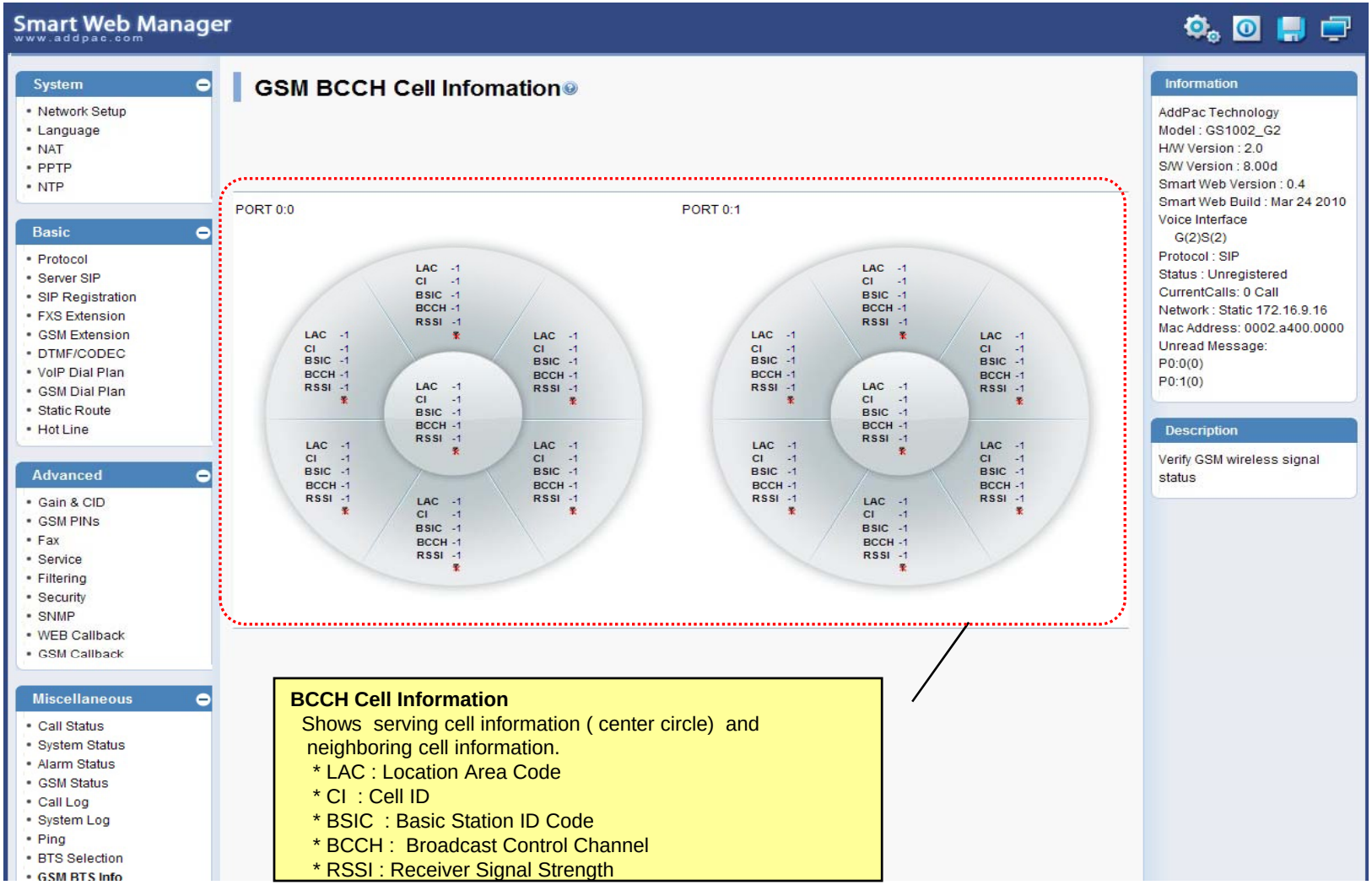
Miscellaneous - Ping



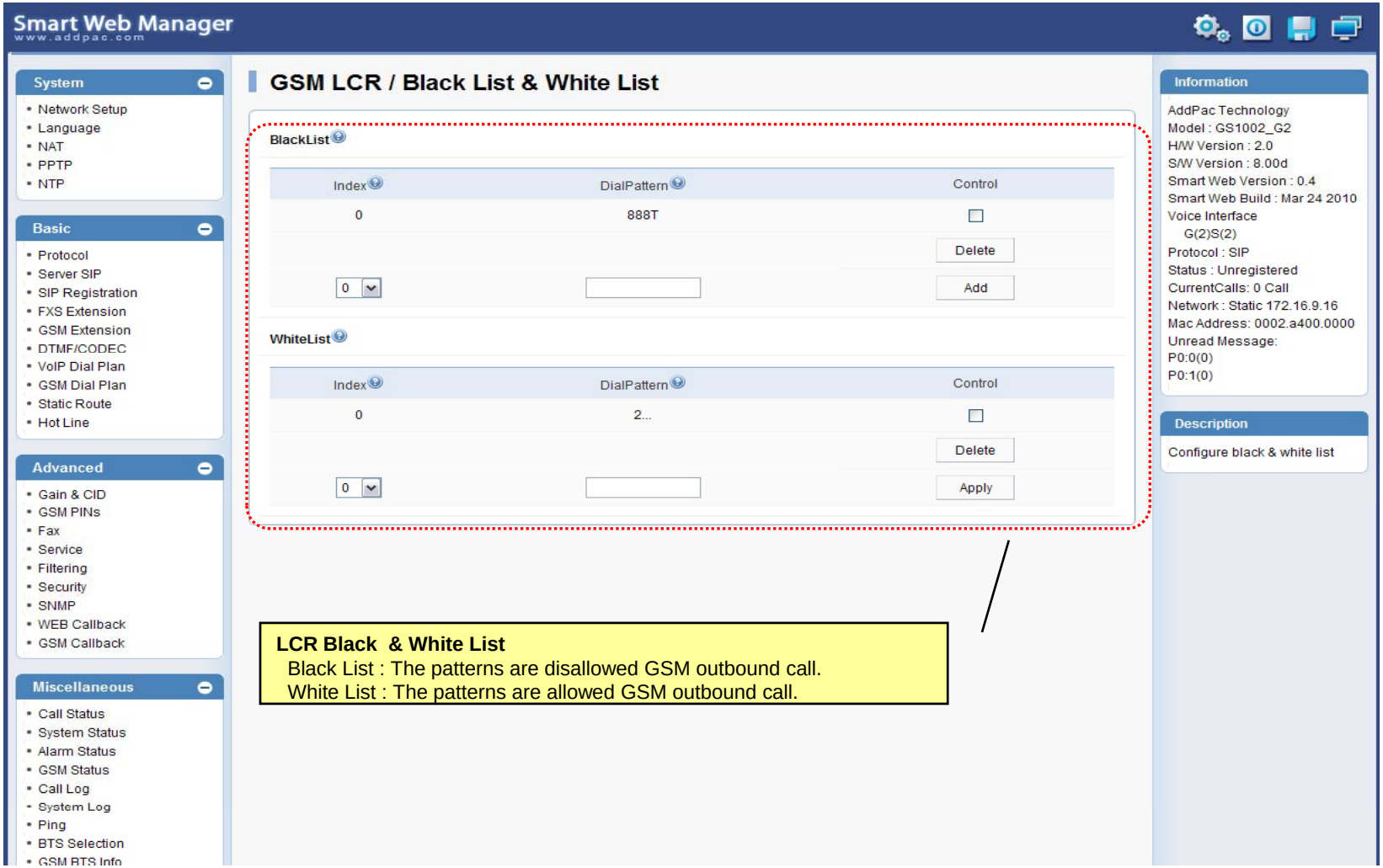
Miscellaneous – BTS Selection



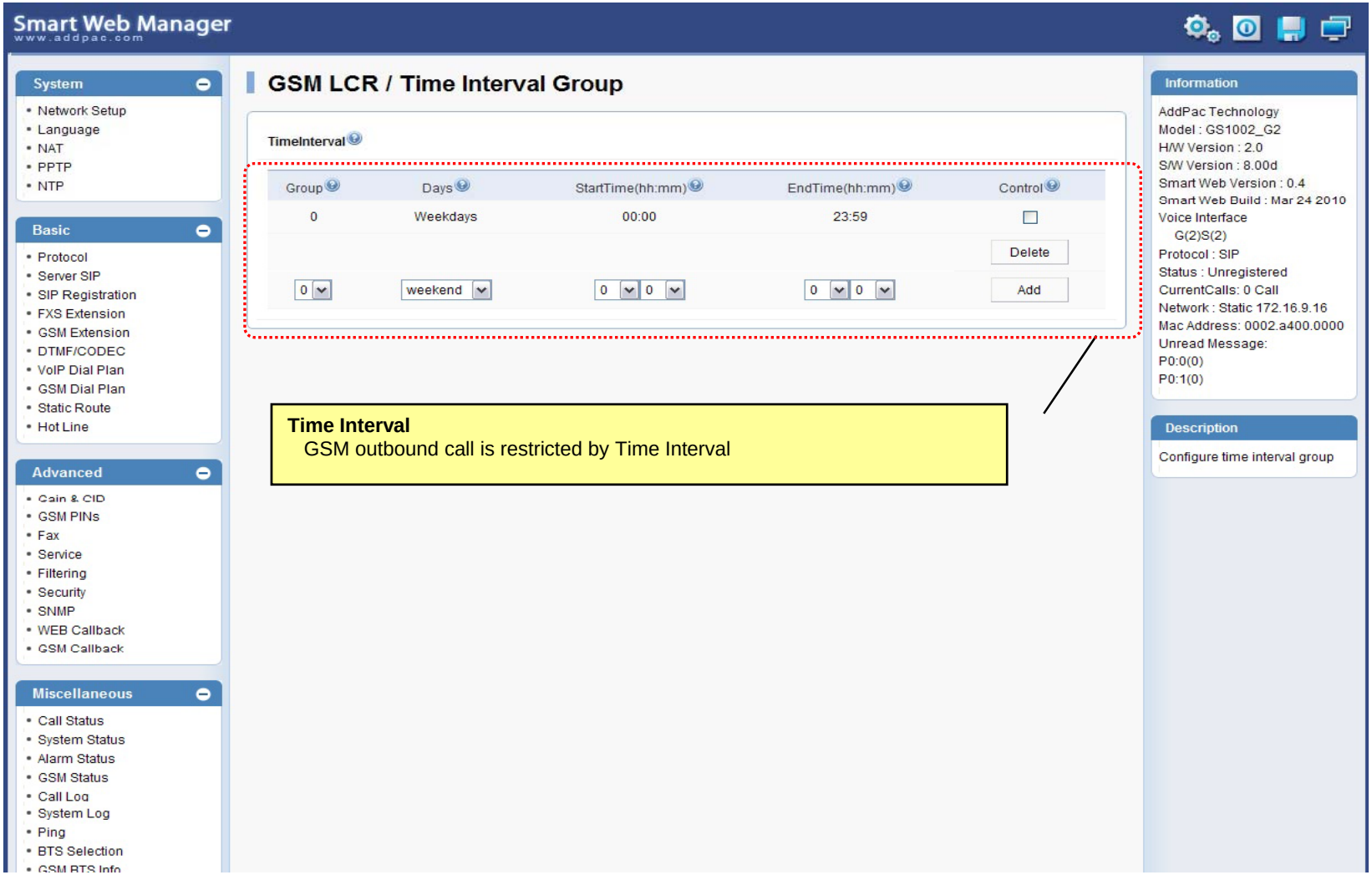
Miscellaneous – GSM BTS Info



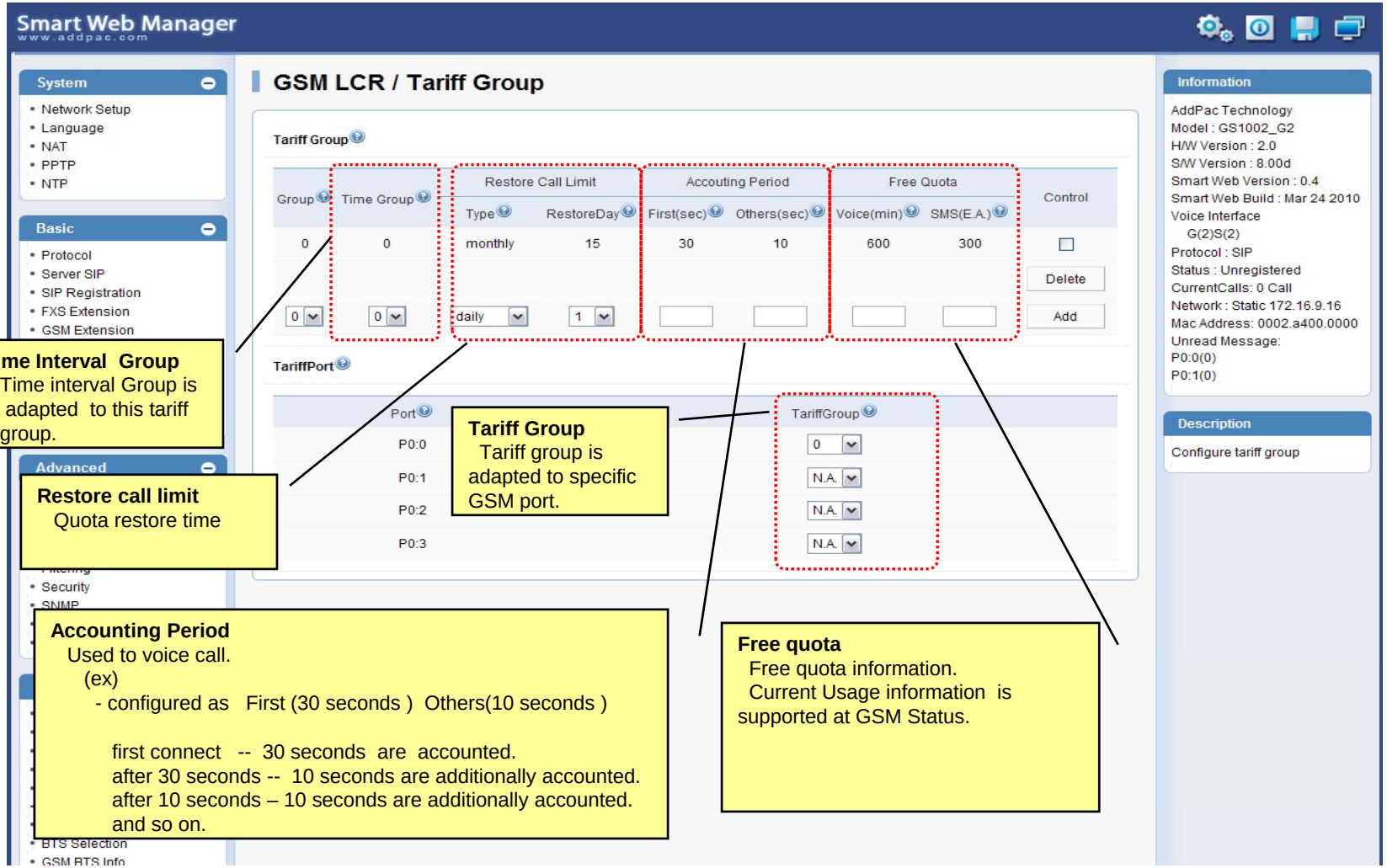
LCR – Black & White List



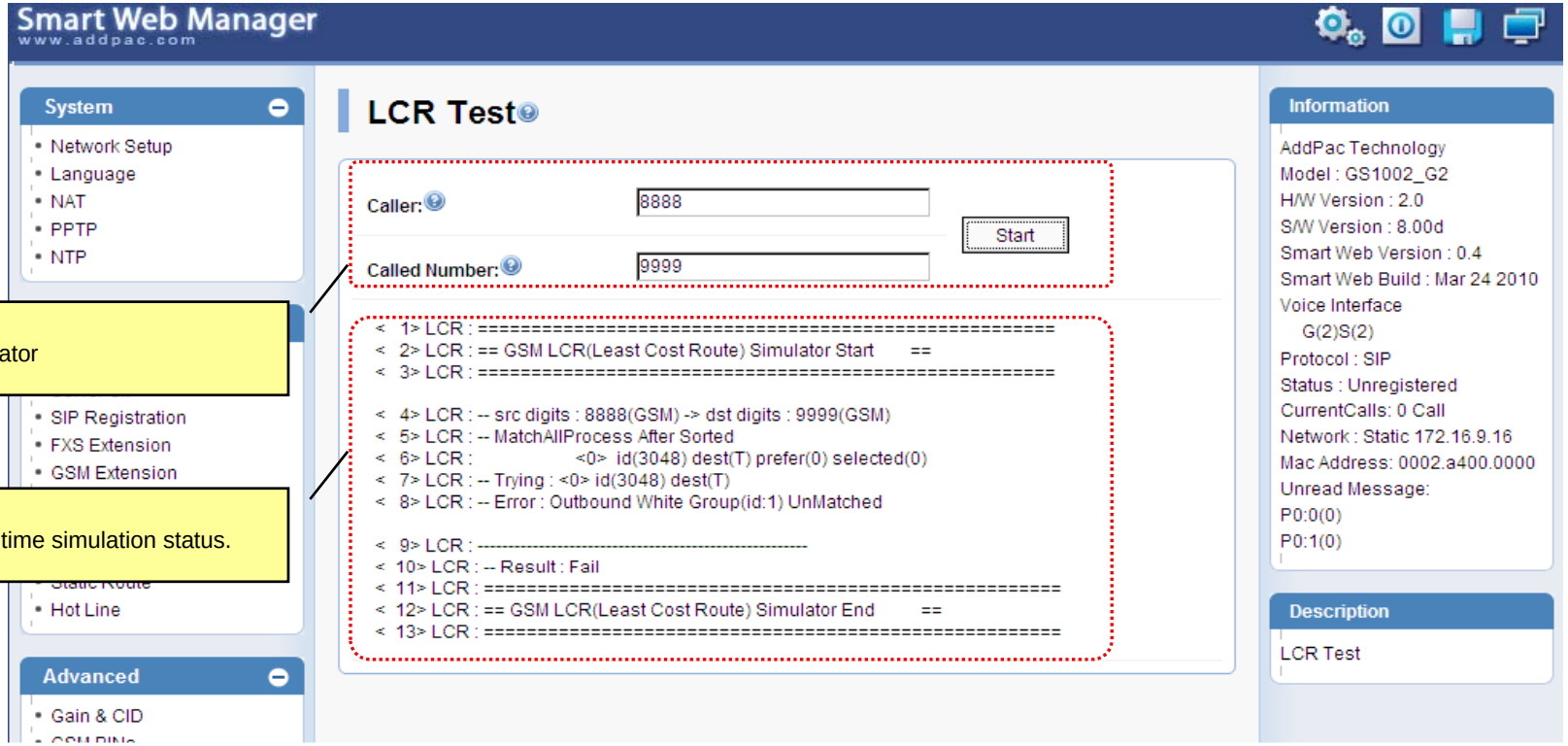
LCR – Time Interval



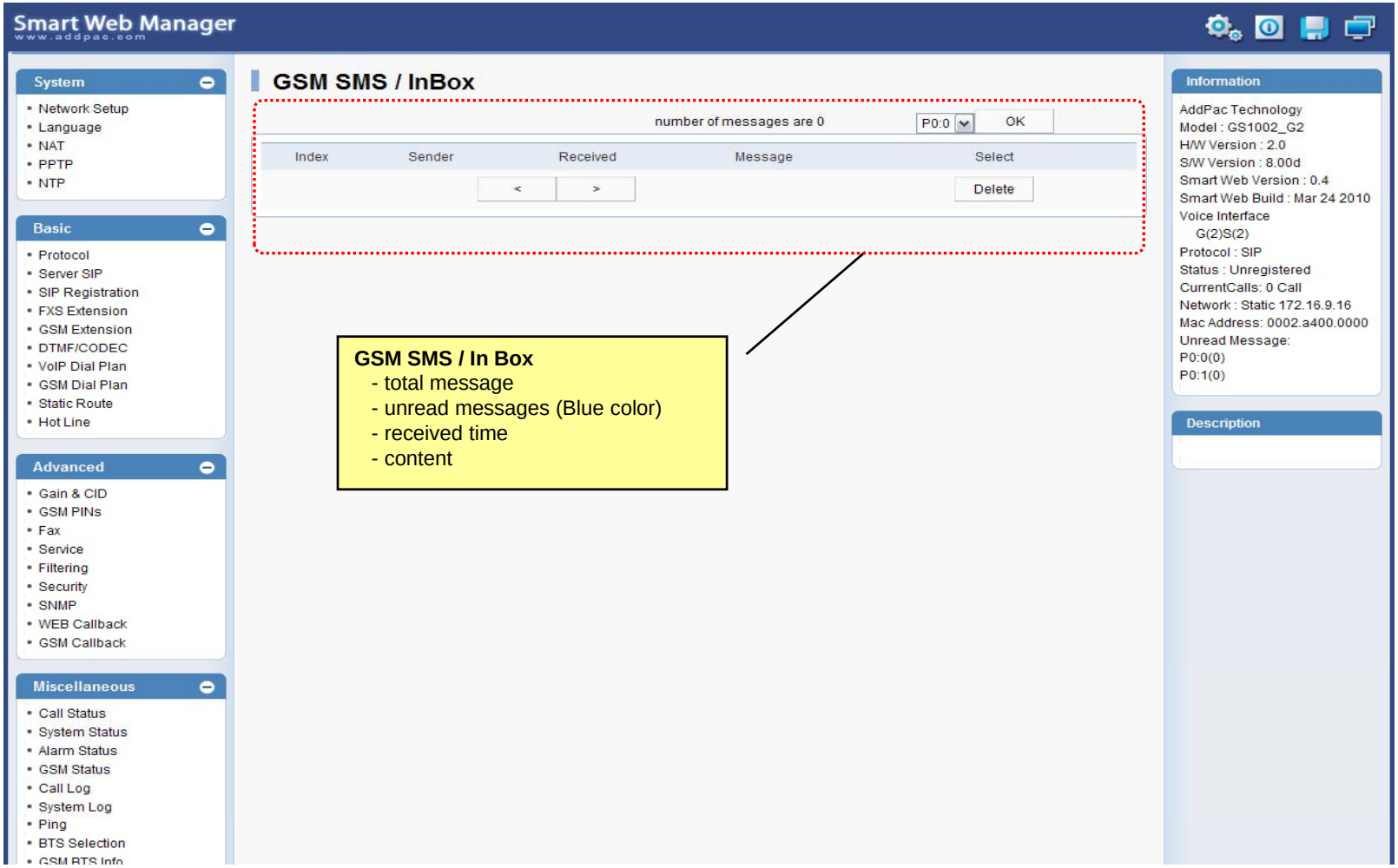
LCR – Tariff Group



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.

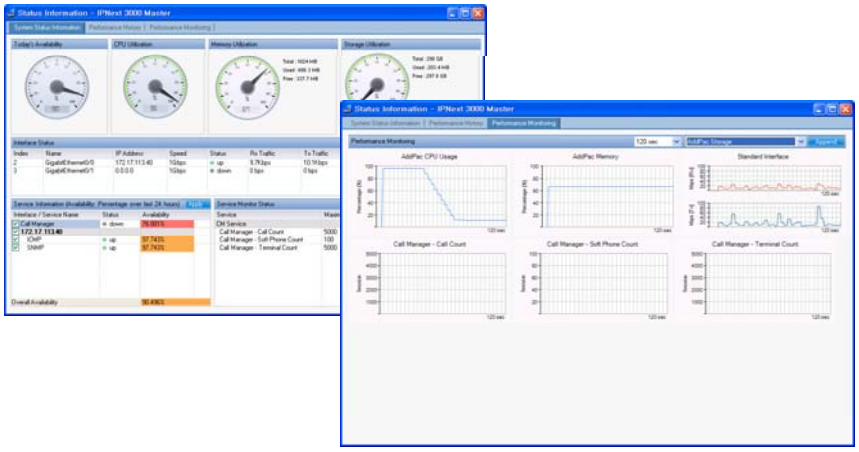
SMS – Inbox


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

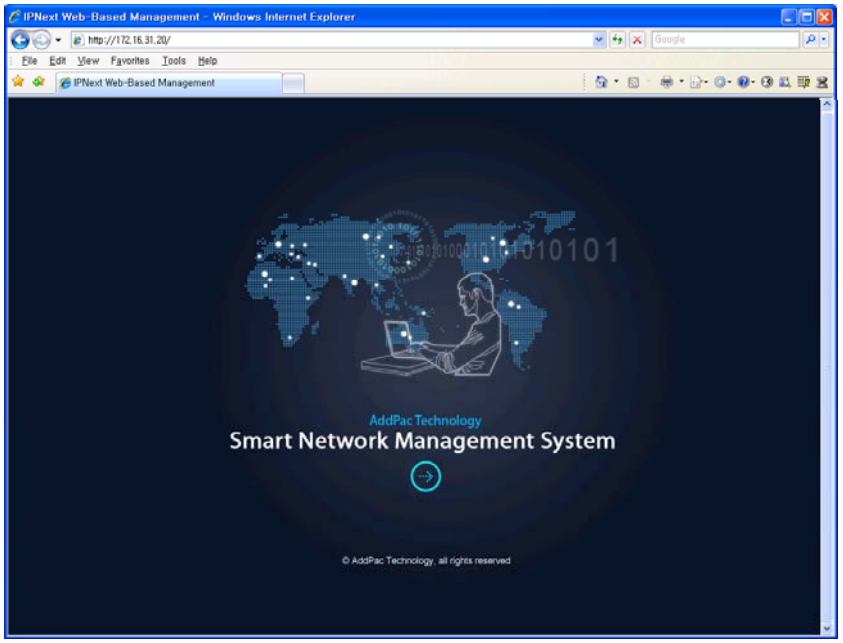
Smart NMS

Smart Network Management System for GSM Gateway



Contents

- System Requirement
- Smart NMS Networking Diagram
- Web-based Management
- Network Resource Management
- Device Fault Management
- Device Fault History Management
- Device Status Information
- Notification Management
- Fault Statistics
- Model & Service Management



System Requirement

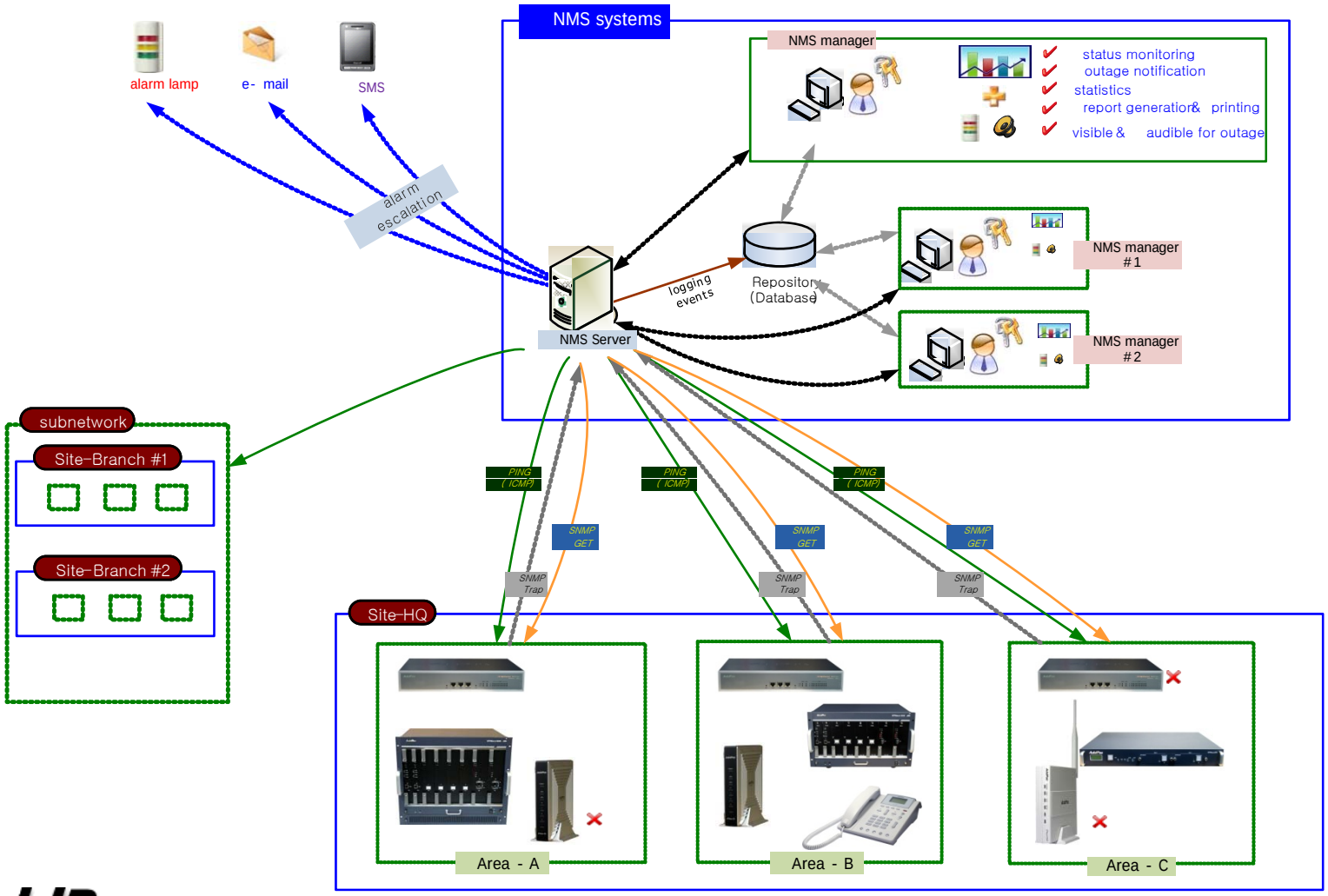
NMS Server

- OS : RHEL (Redhat Enterprise Linux) 5.0 or higher
- CPU : Quad-Core 2.0 GHz / 1333MHz FSB 2x4 MB cache
- Physical Memory : 4 GB
- HDD : 300 G
- JRE (Java Runtime Environment) 1.5.1 or Higher
- Database : PostgreSQL 8.1.11

NMS Client

- Windows XP, Vista, Windows Server 2000/2003
- Microsoft Internet Explorer 6.0 or higher

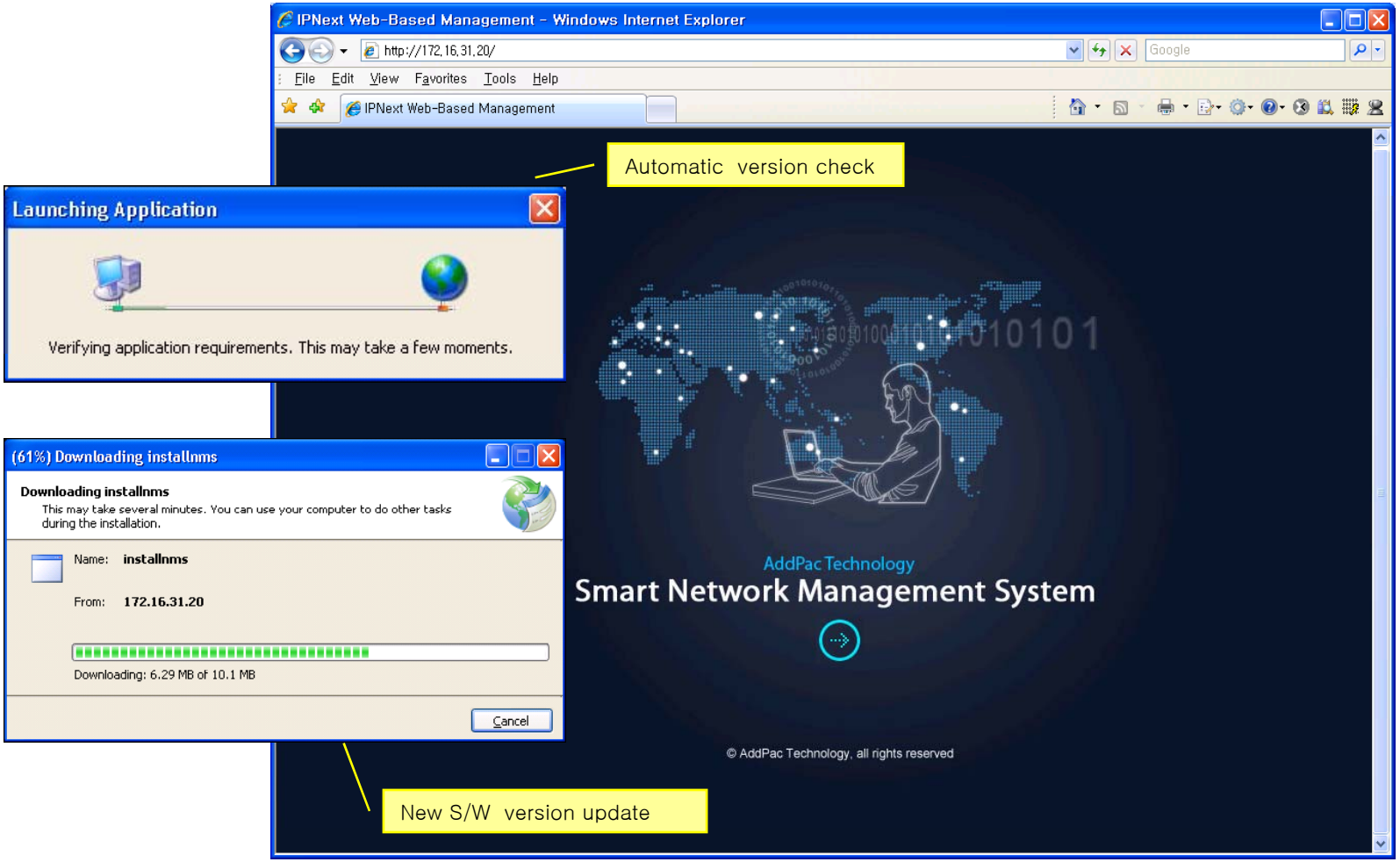
NMS Networking Diagram



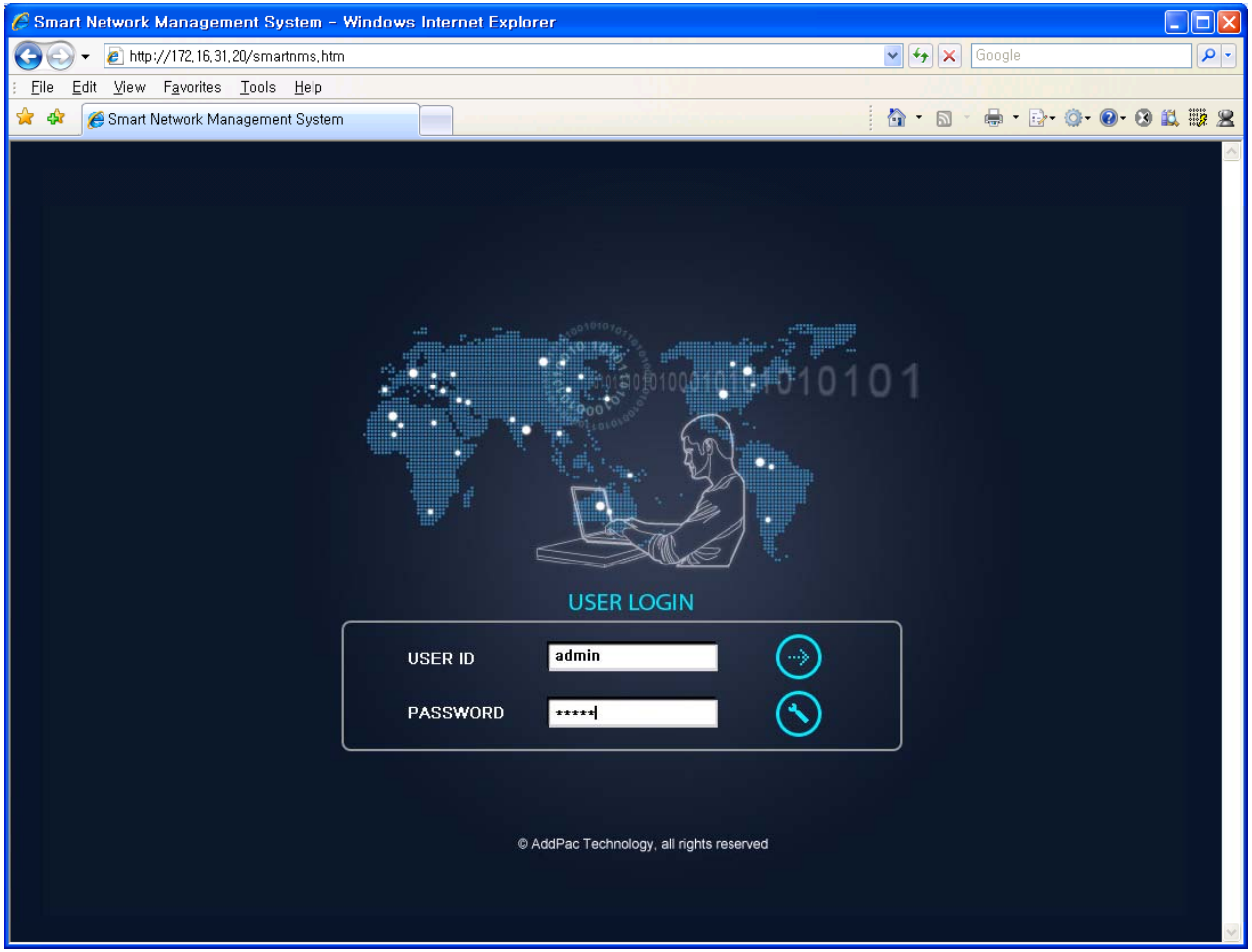
Web-based Management

- **Easy Access via Web browser**
  - Microsoft Internet Explorer 6.0 or higher compatible
- **Version Control**
  - Automatic version check
  - New version software download feature
- **UI control**
  - User friendly GUI management

Version Control

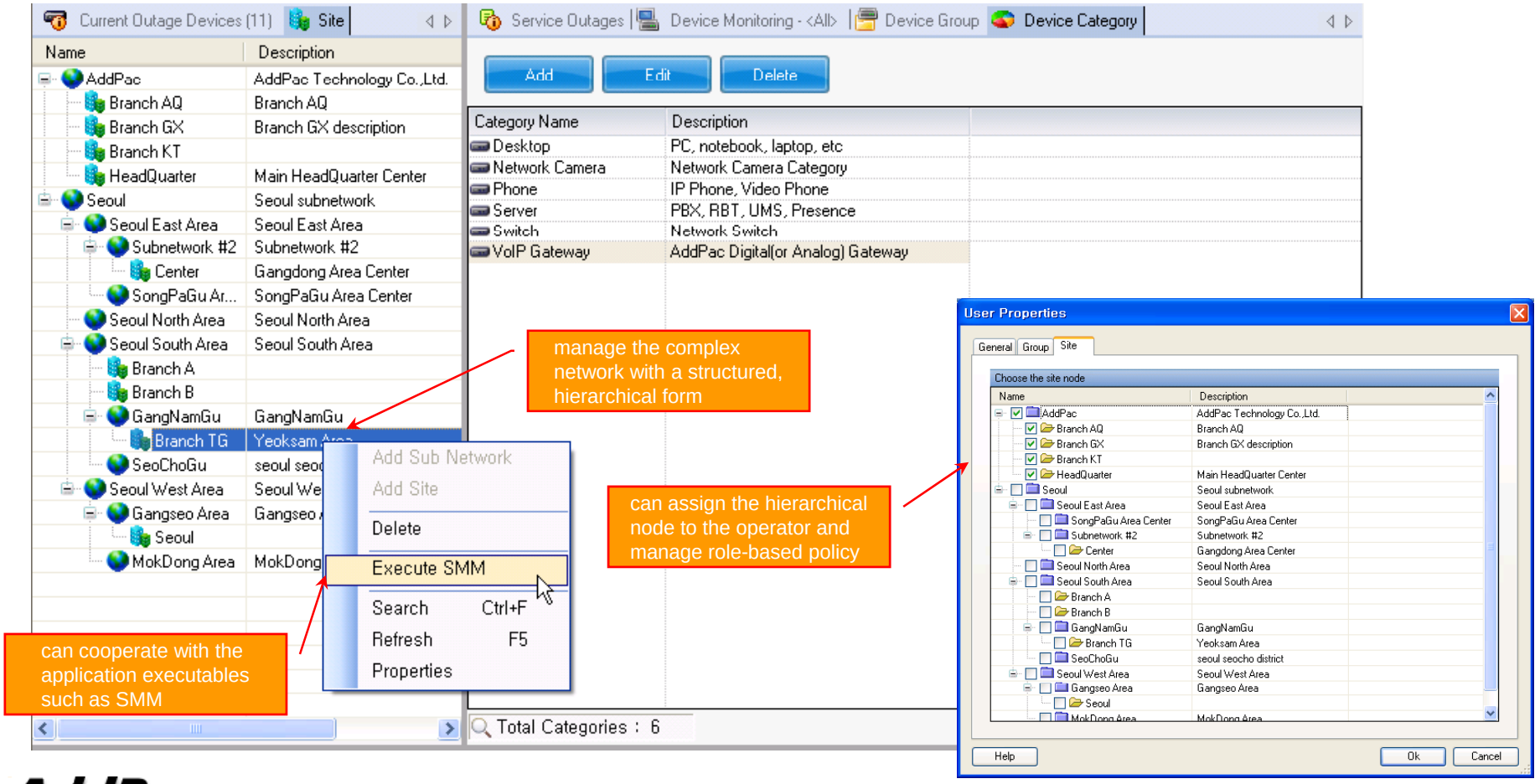


Web-based Login



Network Resource Management

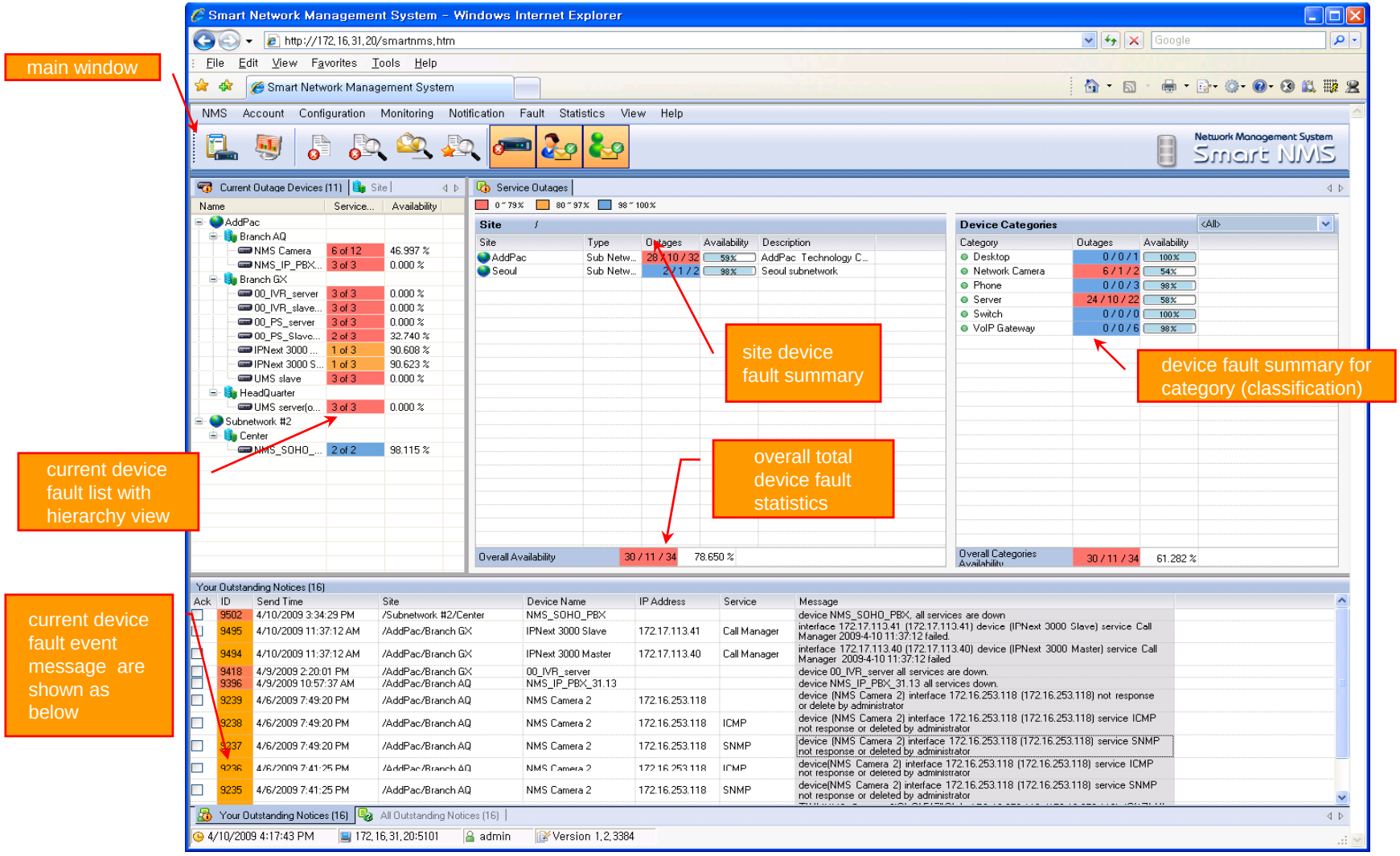
- Network resource management with hierarchical structure
- Role-based resource management for each administrator



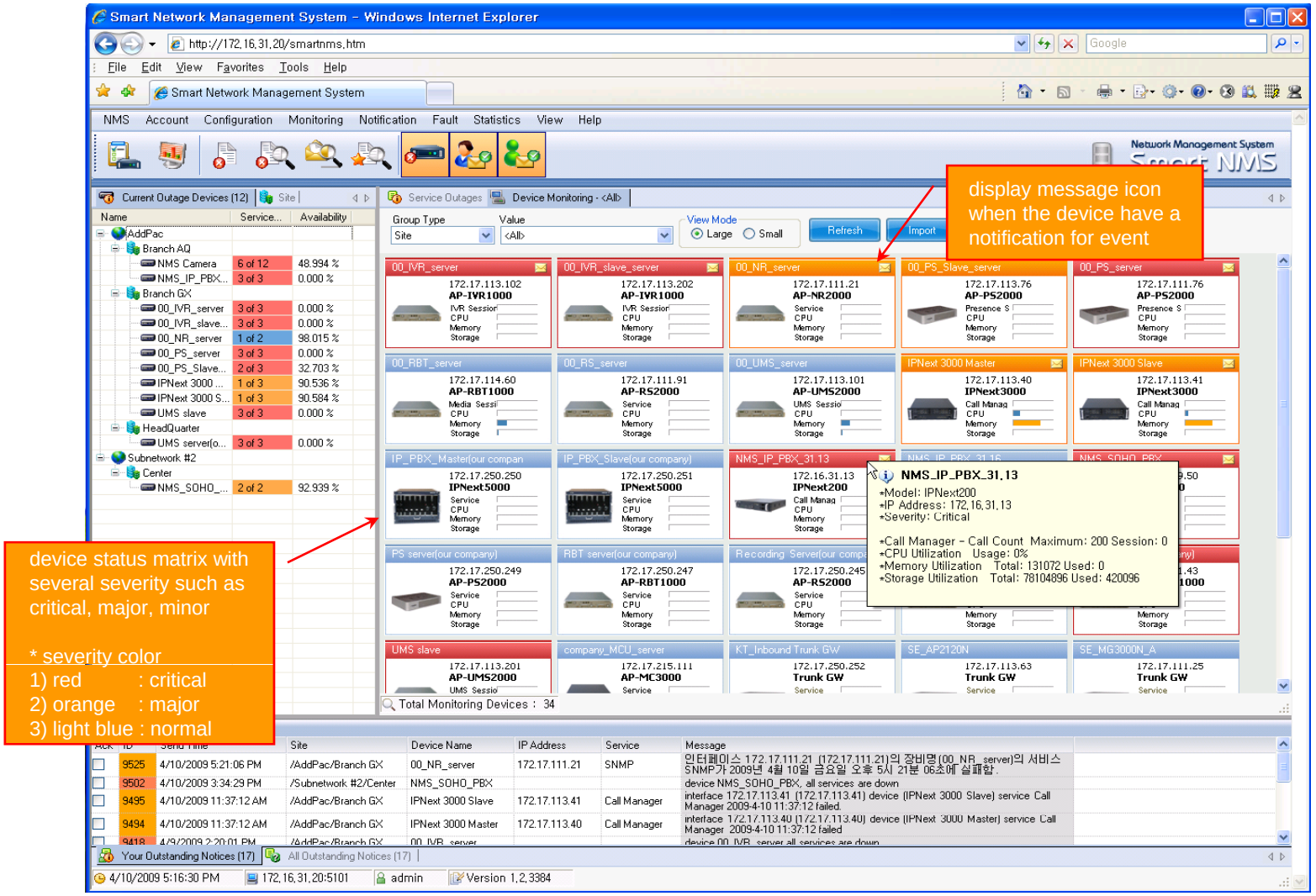
Device Fault Management

- Centralized fault summary information in main window
- Display current fault device through tree view
- Notify administrator with detailed fault information
- Provide device availability information for 24hrs

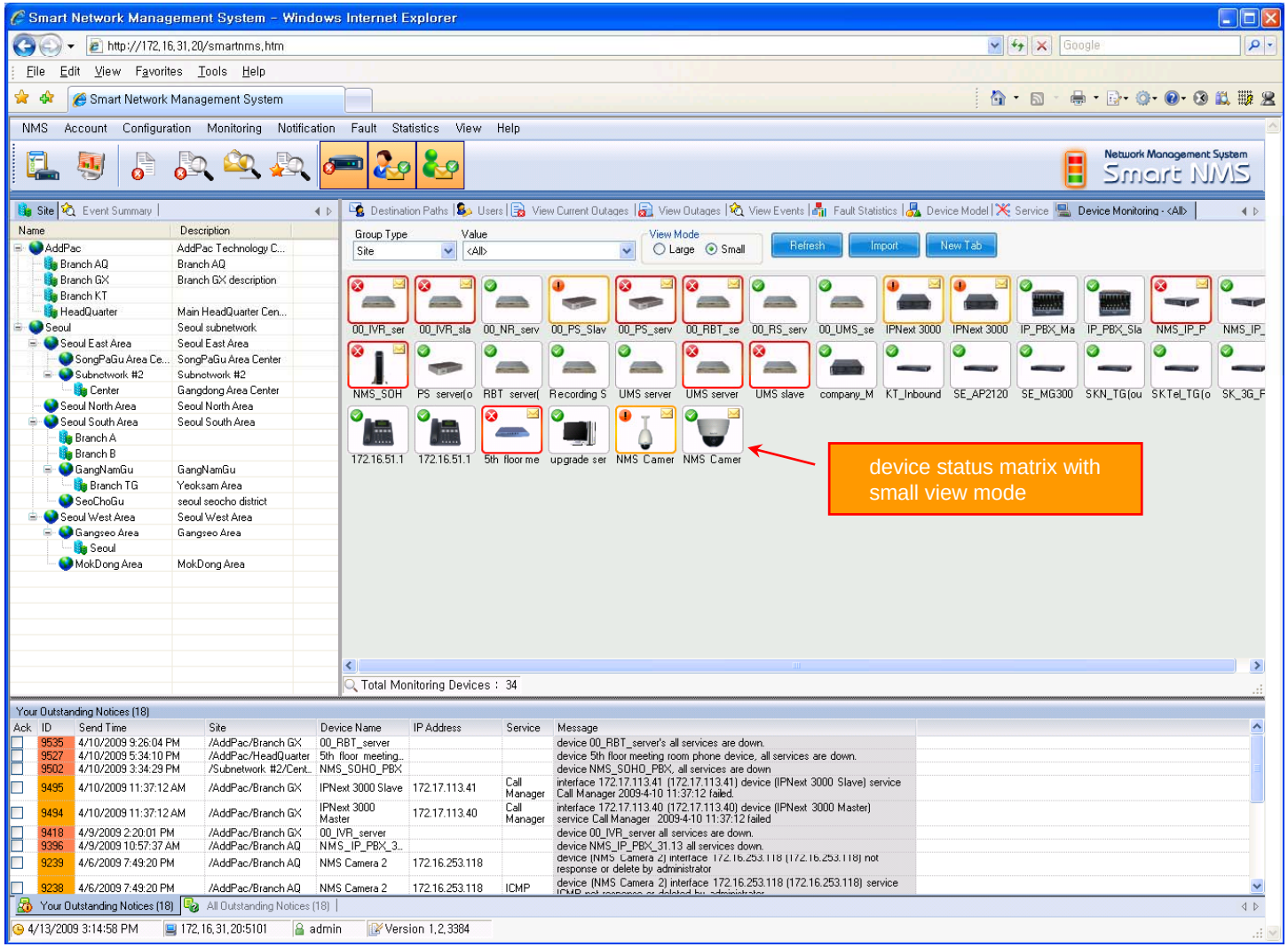
Device Fault Management



Device Fault Management



Device Fault Management



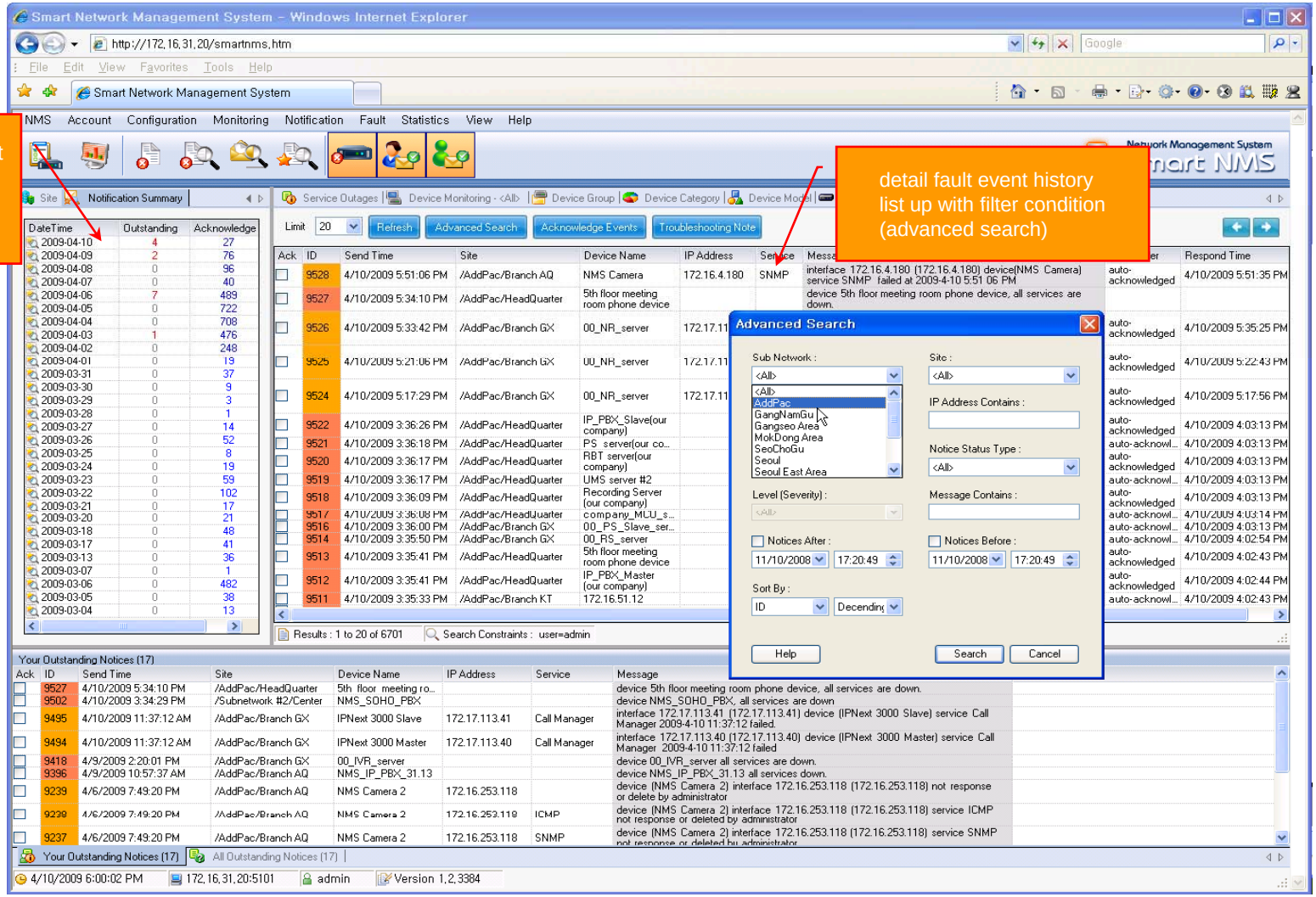
Device Fault History Management

- Provide both summary view and detailed event message
- Can Write troubleshooting job note for each event manually
- Administrator can query for a history fault with search condition
- Each fault is related to the several raw events

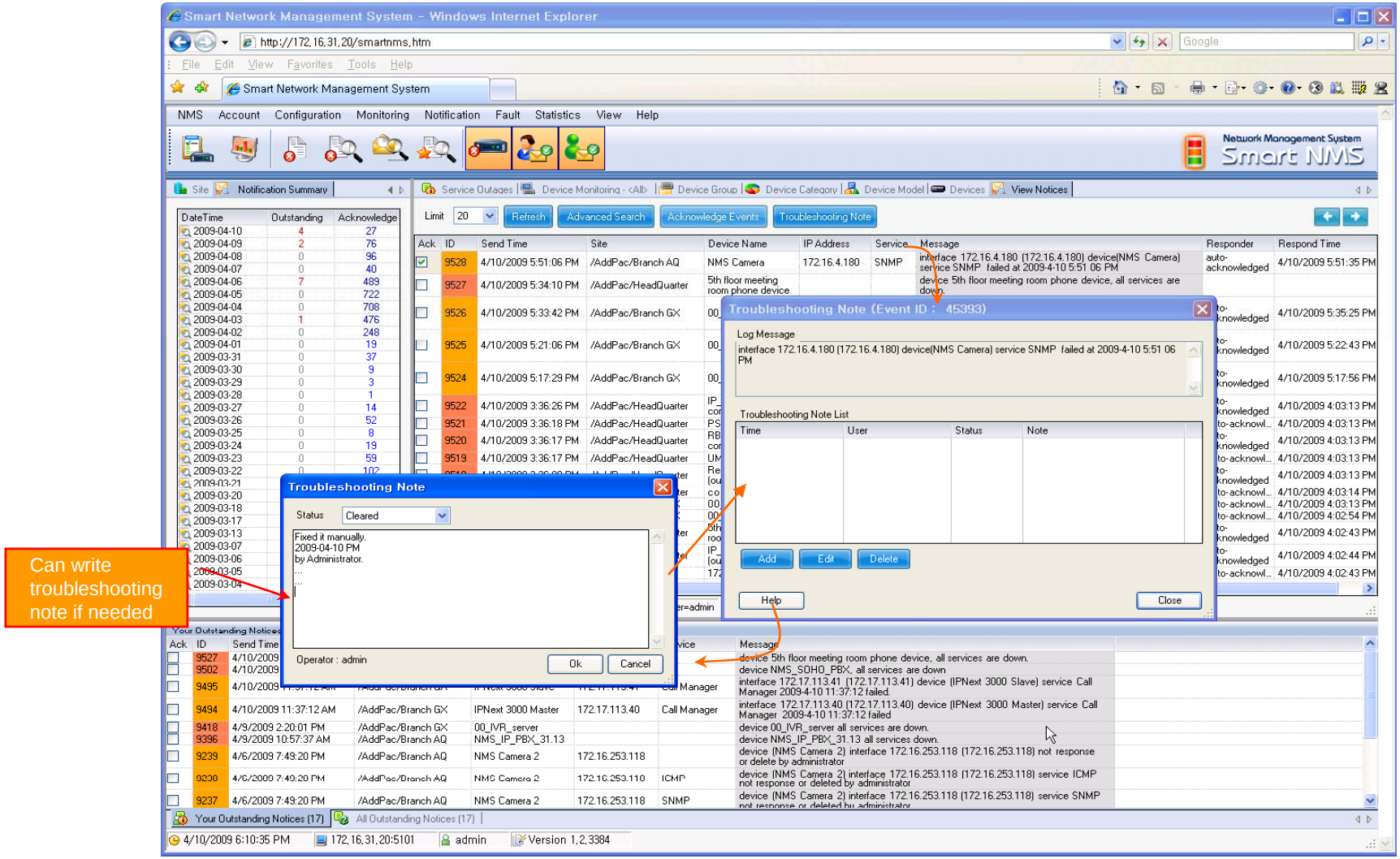
Device Fault History Management

daily fault event summary statistics information

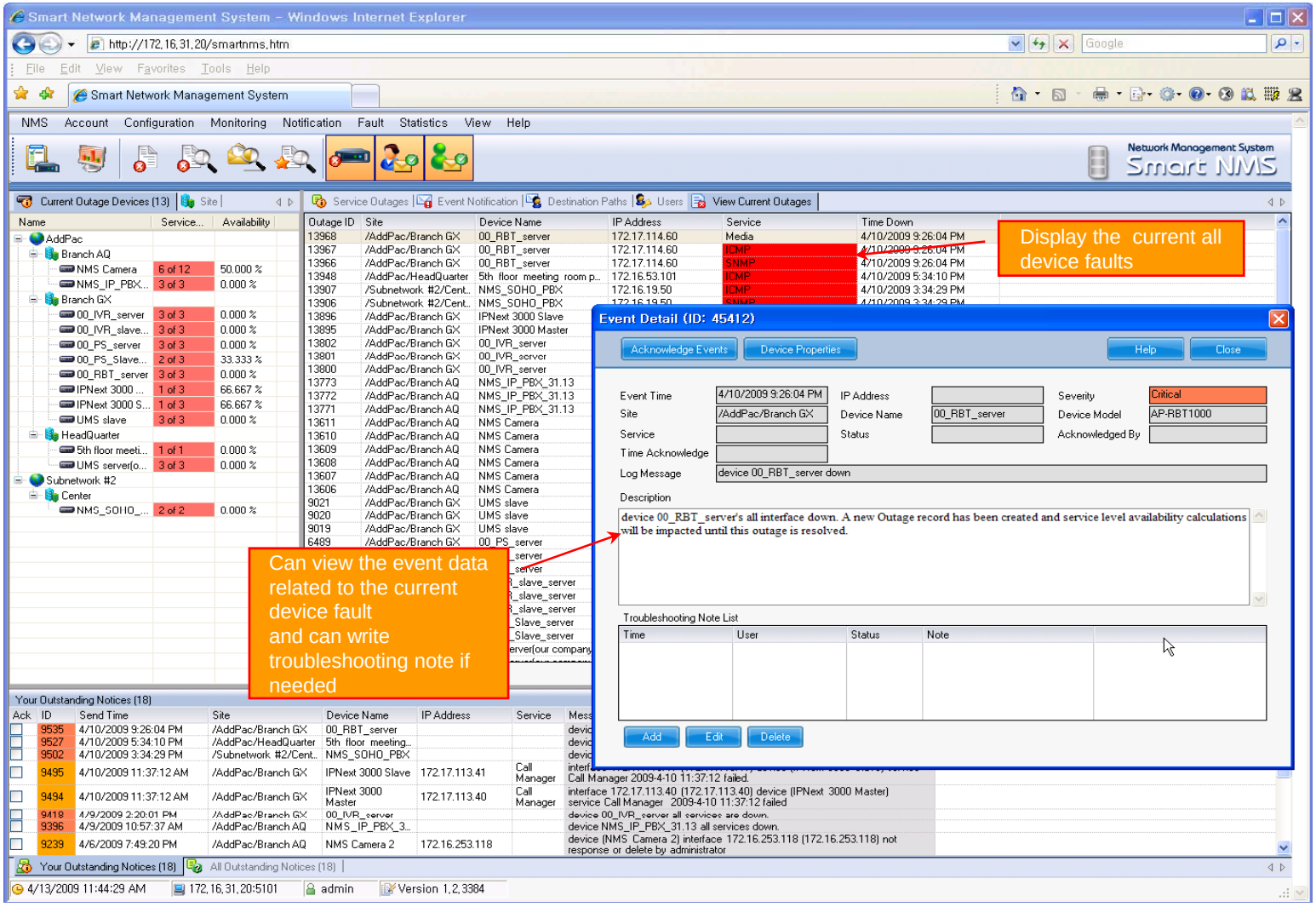
detail fault event history list up with filter condition (advanced search)



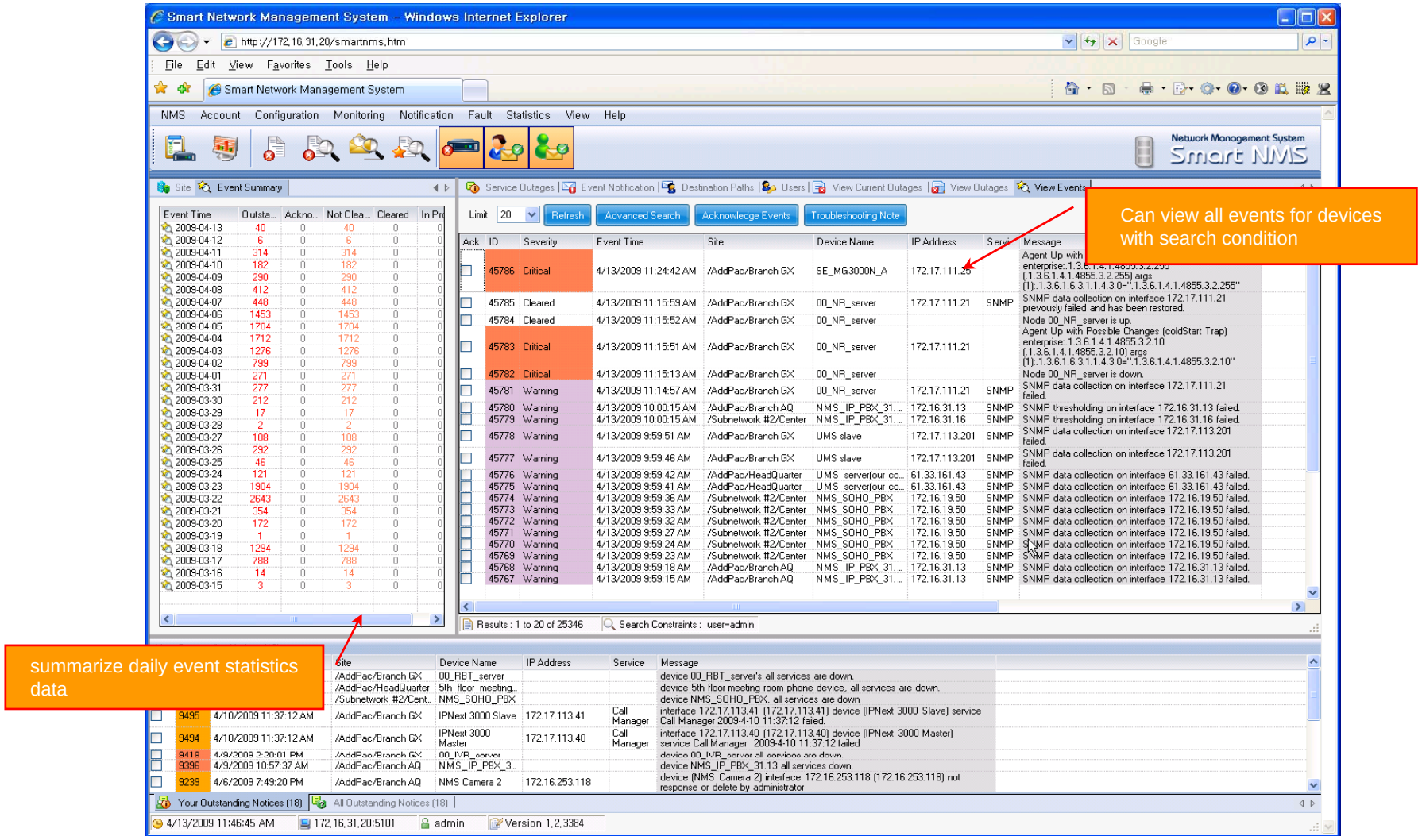
Device Fault History Management



Current Device Fault (Outage)



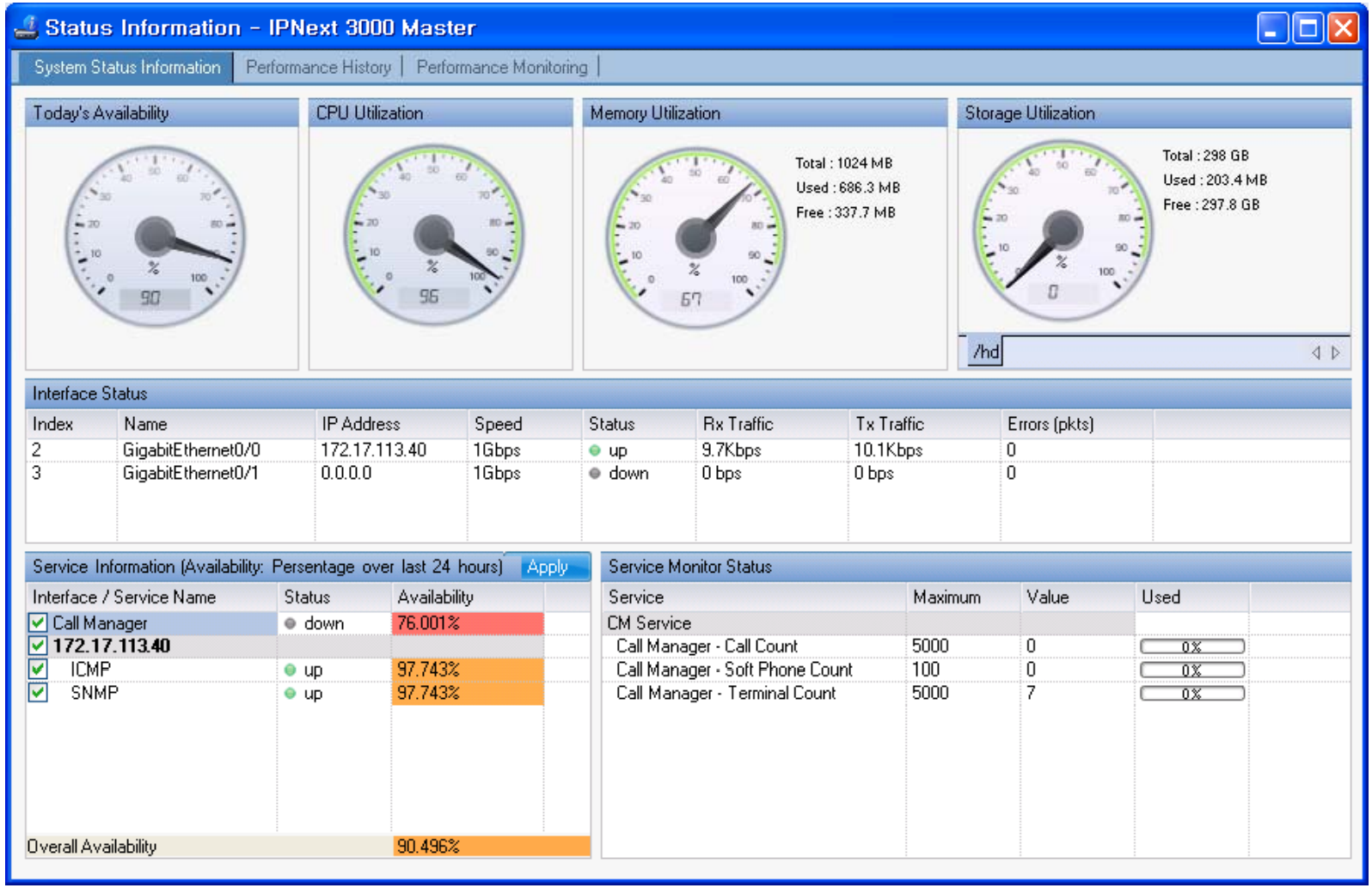
Device Event History



Device Status Information

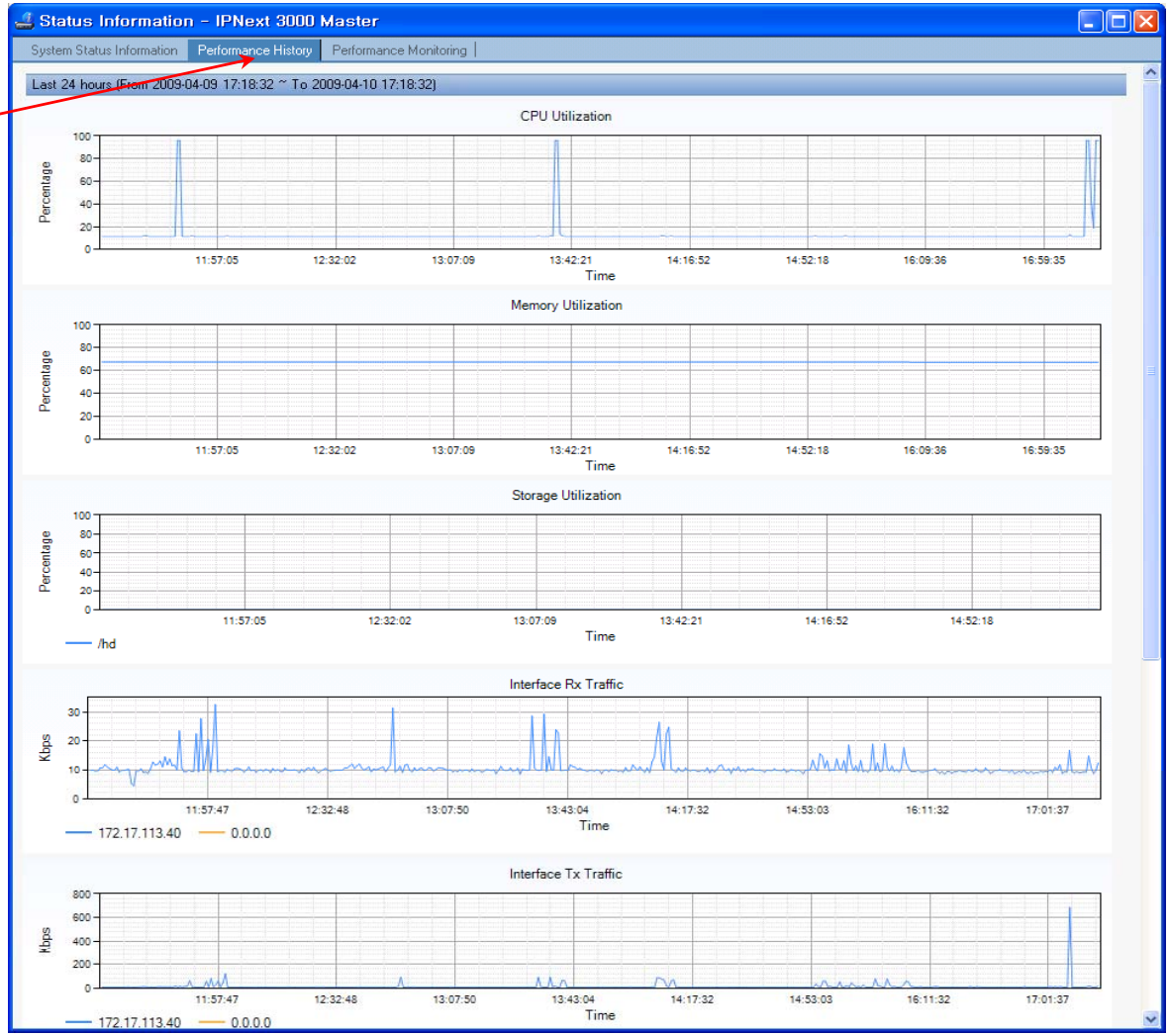
- System Performance Information (CPU, HDD, Memory,…)
- Provide device current service status (up/down)
- Provide device main status (max value vs current value)
- Display Graph Series with System Performance Information
- Monitor Main Status Flow with System Monitoring View

Device Status Information

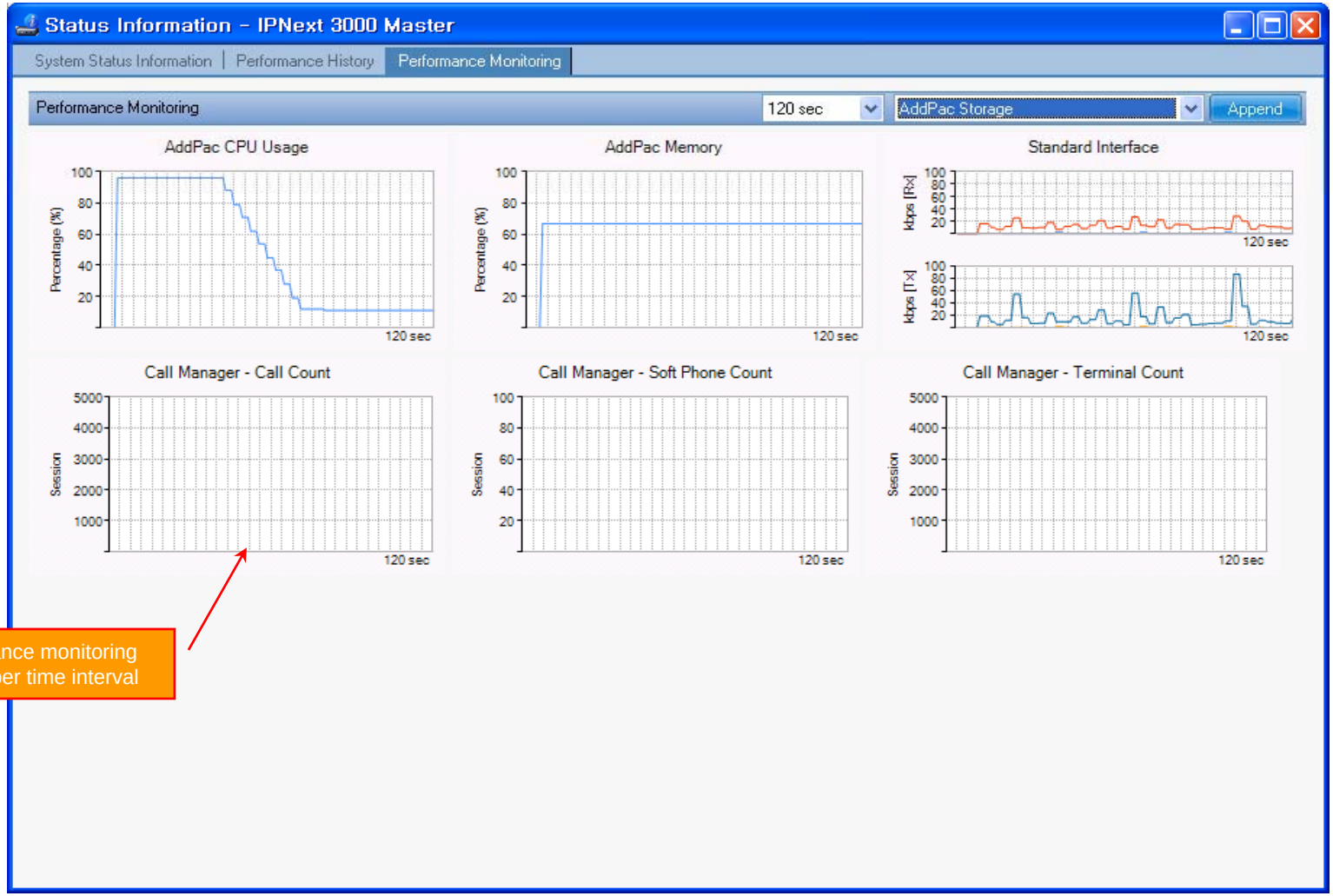


Device Status Information

performance analysis graph for last 24 hours



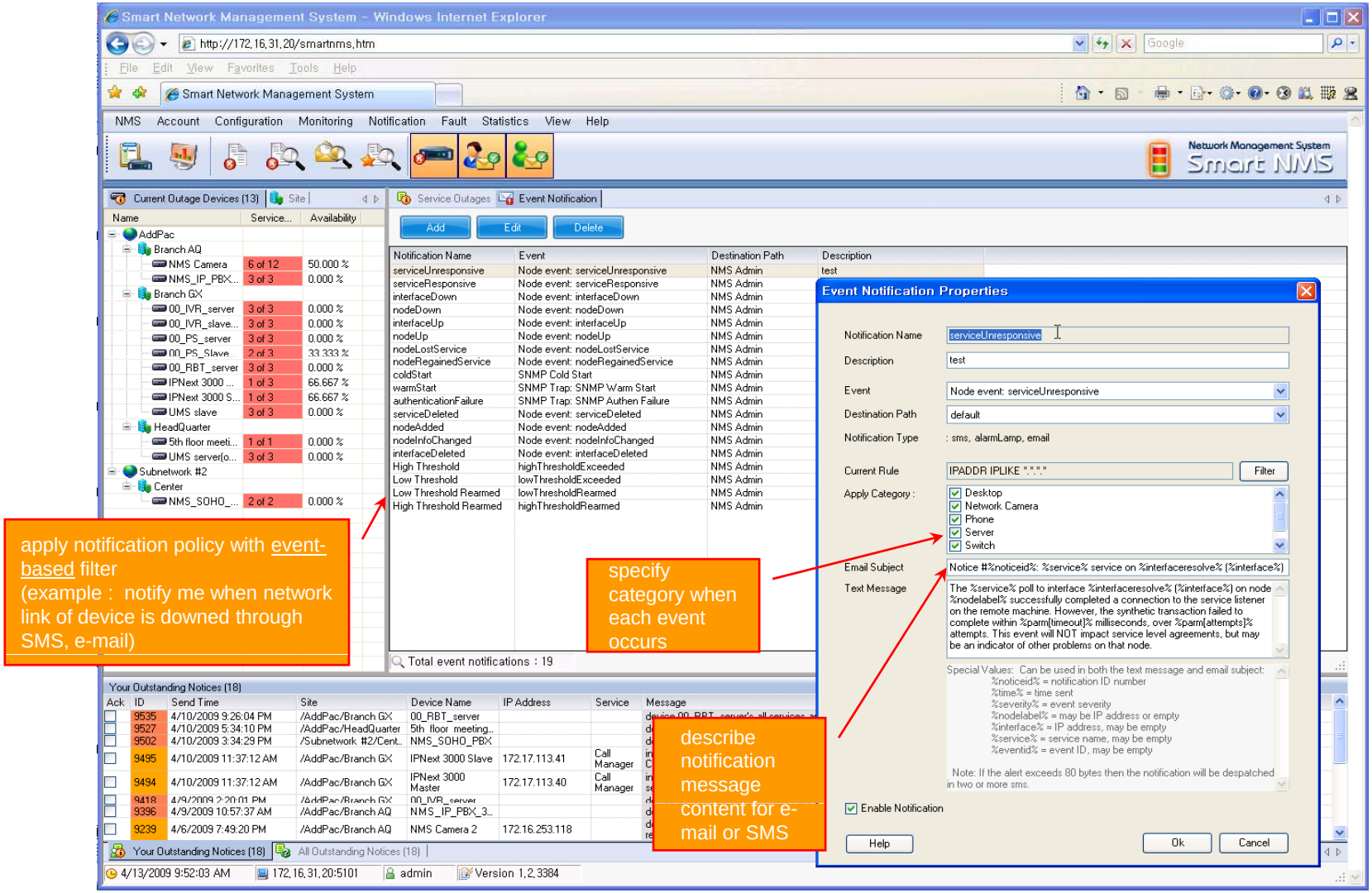
Device Status Information



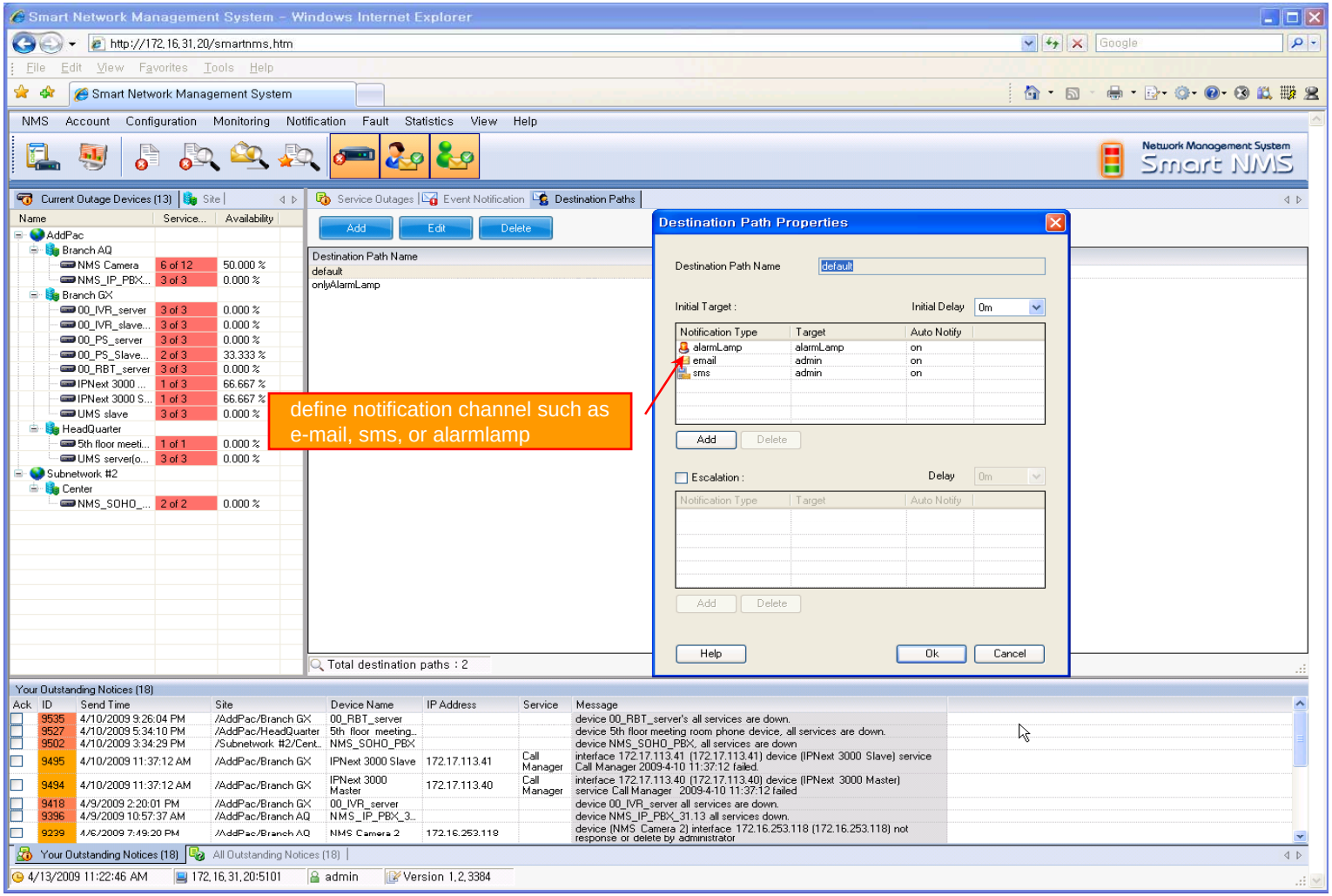
Notification Management

- Notify administrator for important event such as critical device fault when proper action needs
- Provide several notification channel such as SMS, e-mail, alarm lamp
- Notification channel configuration for each event
- Manage notification with device category such as Server, Terminal, PC, etc
- Provide Alarm with audible (play sound), visible (alarm lamp) form

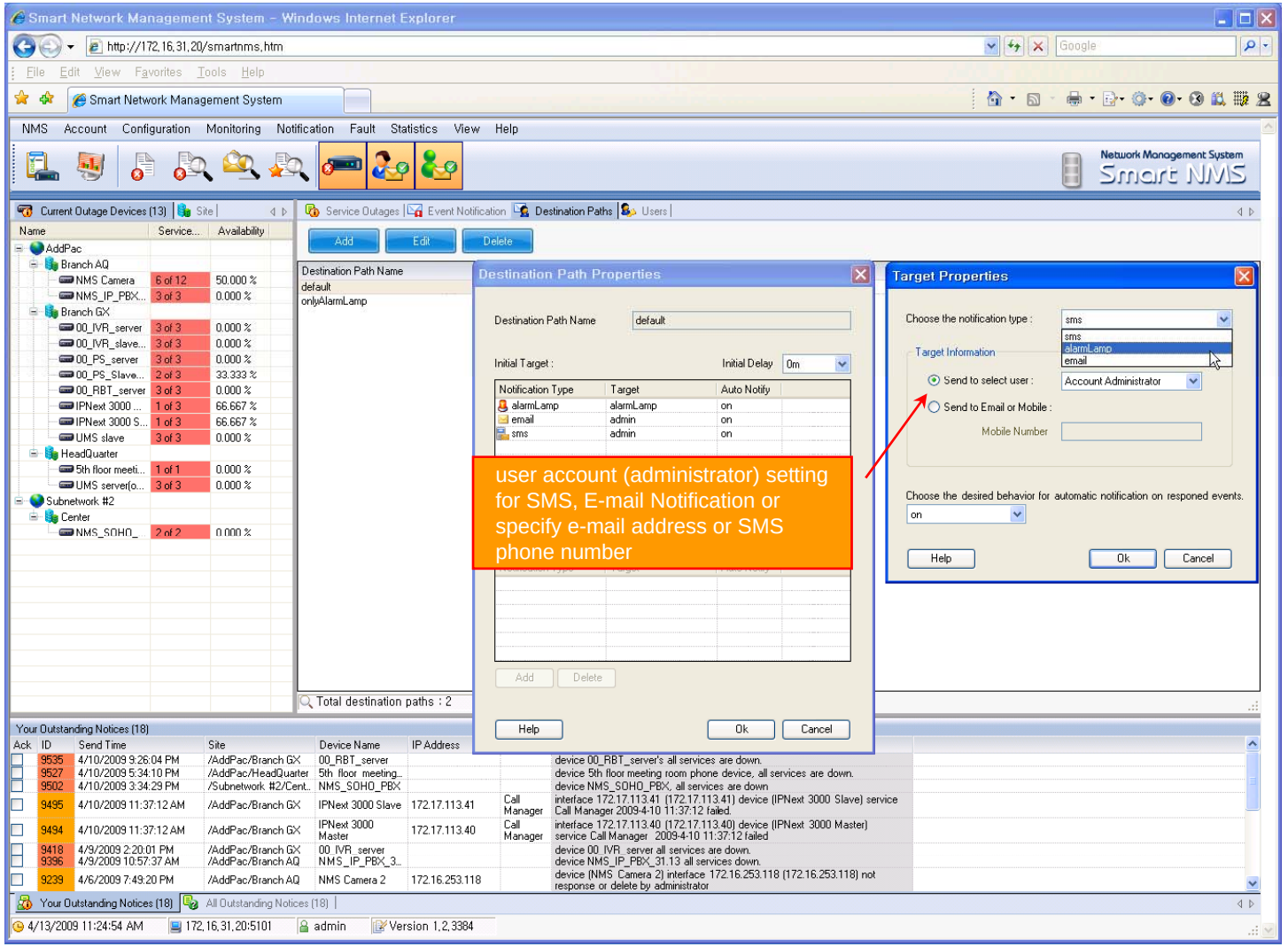
Event Notification Management



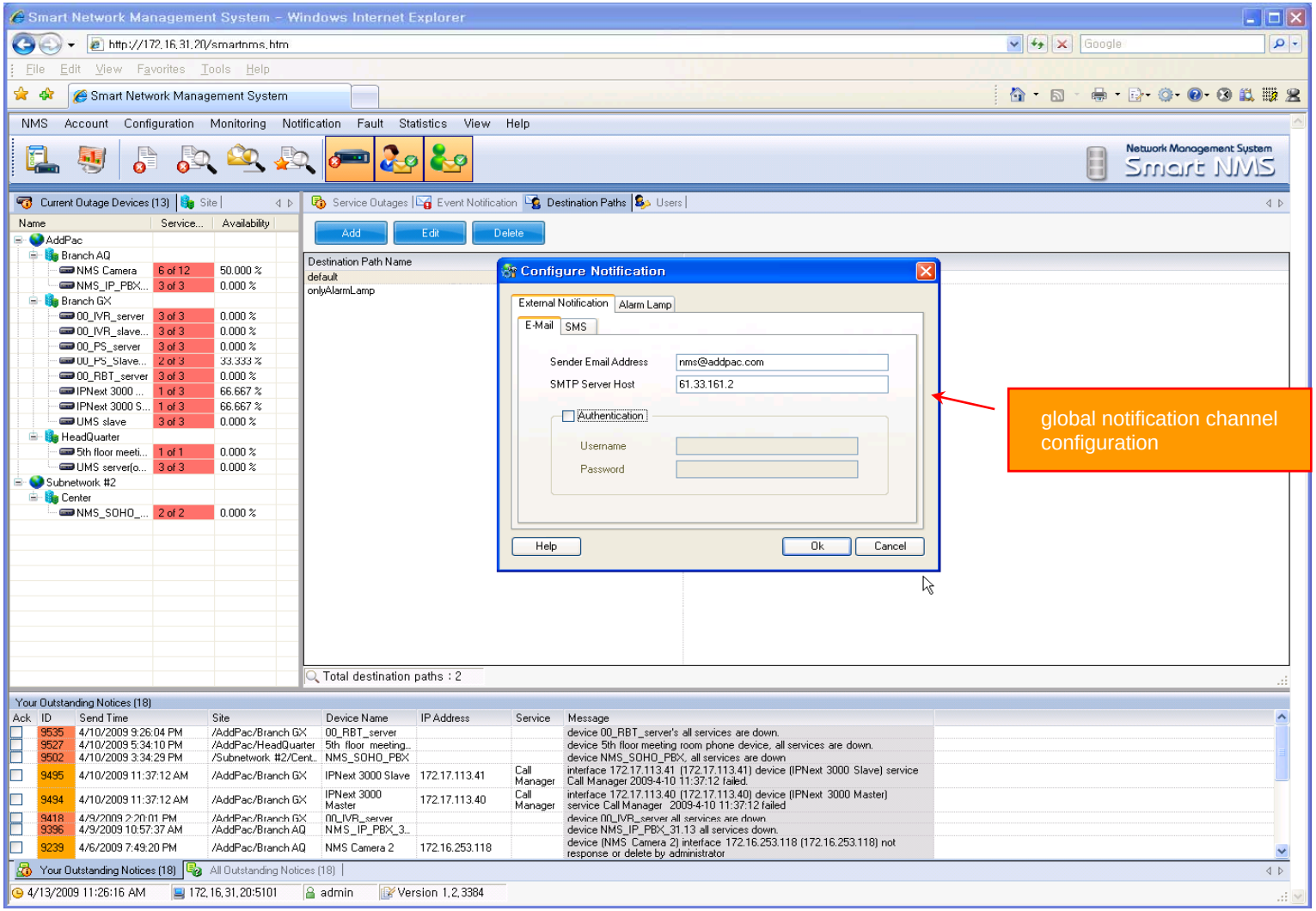
Event Notification Management



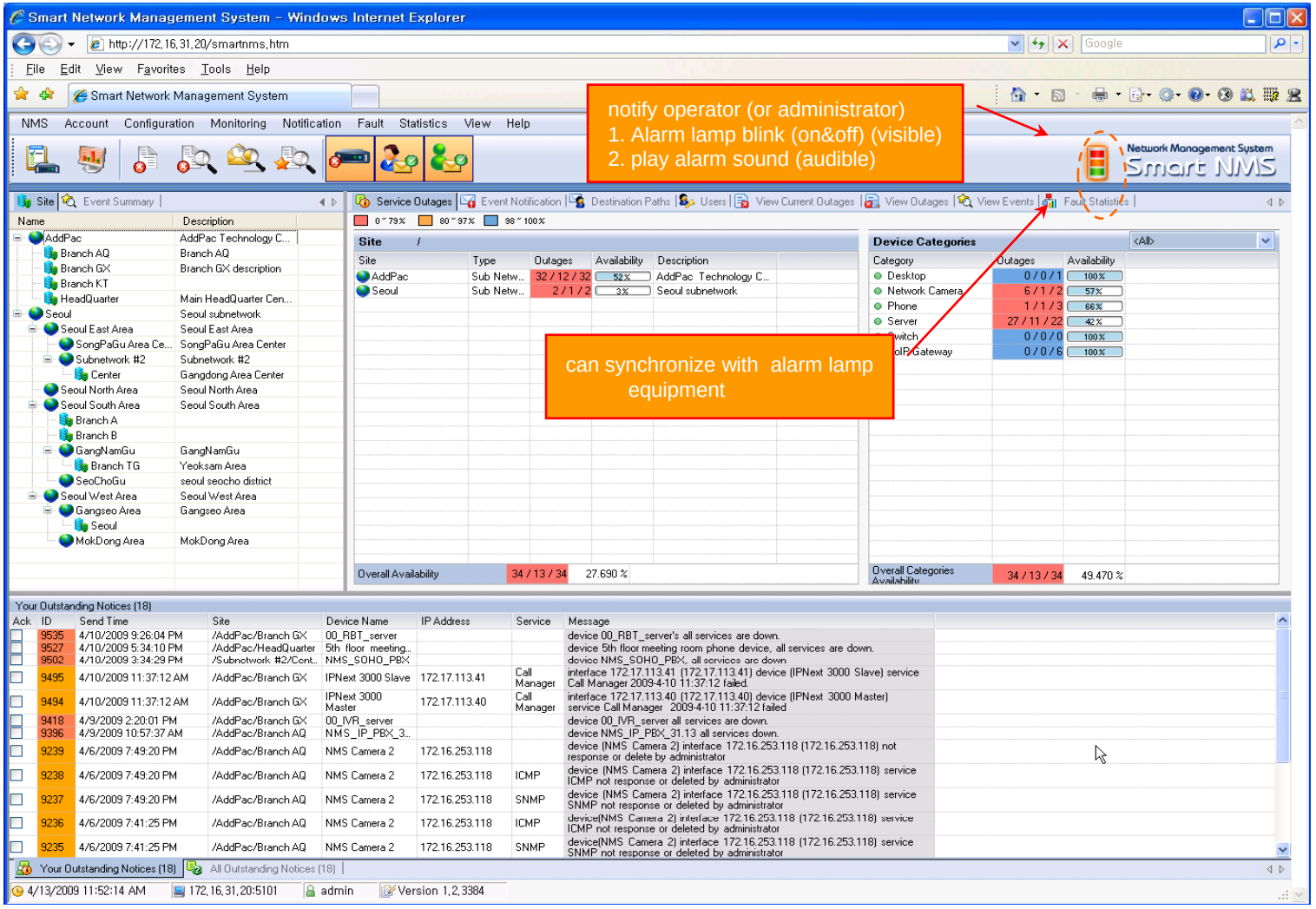
Event Notification Management



Configuration



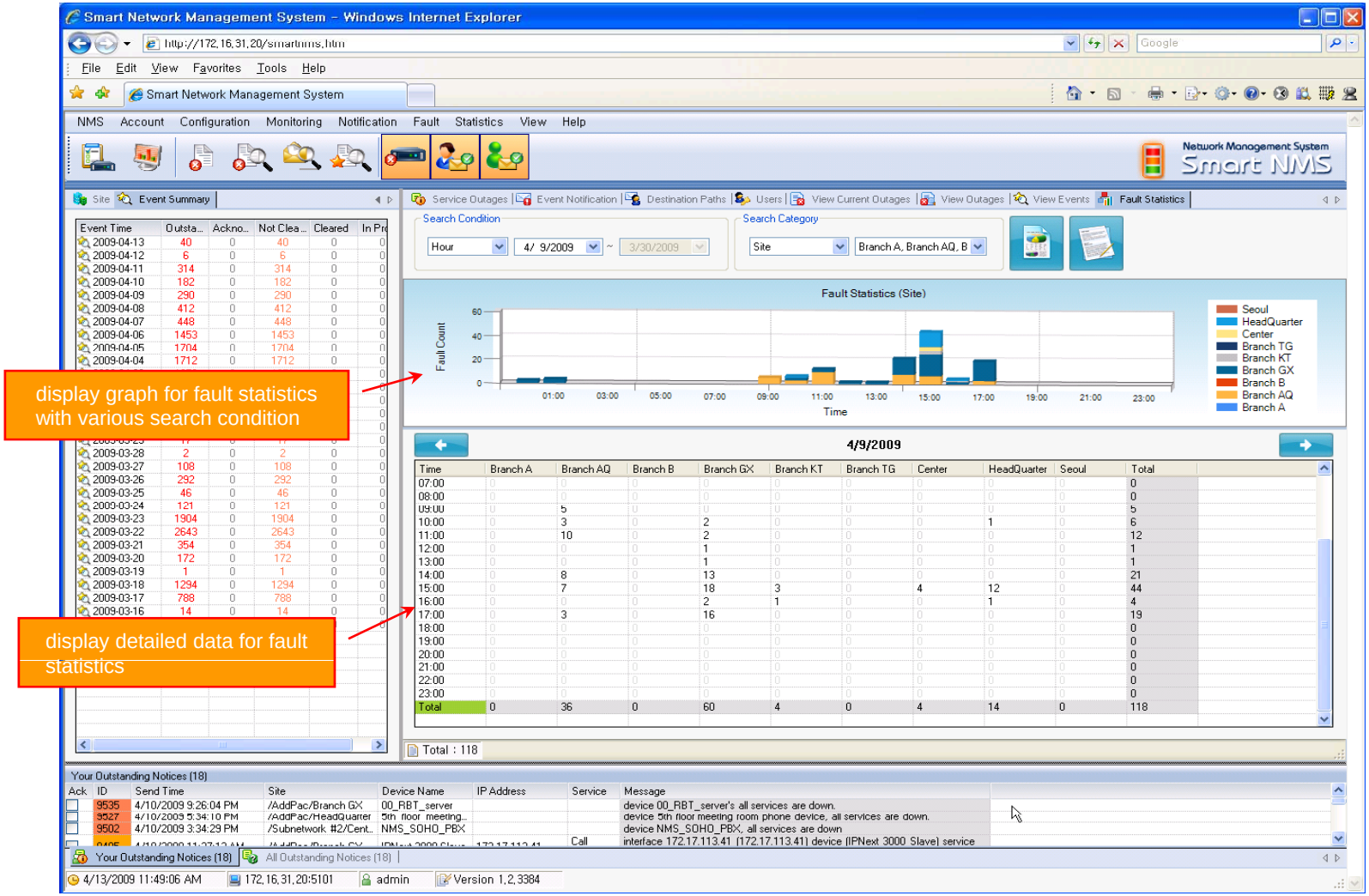
Audible & Visible Alarm



Fault Statistics

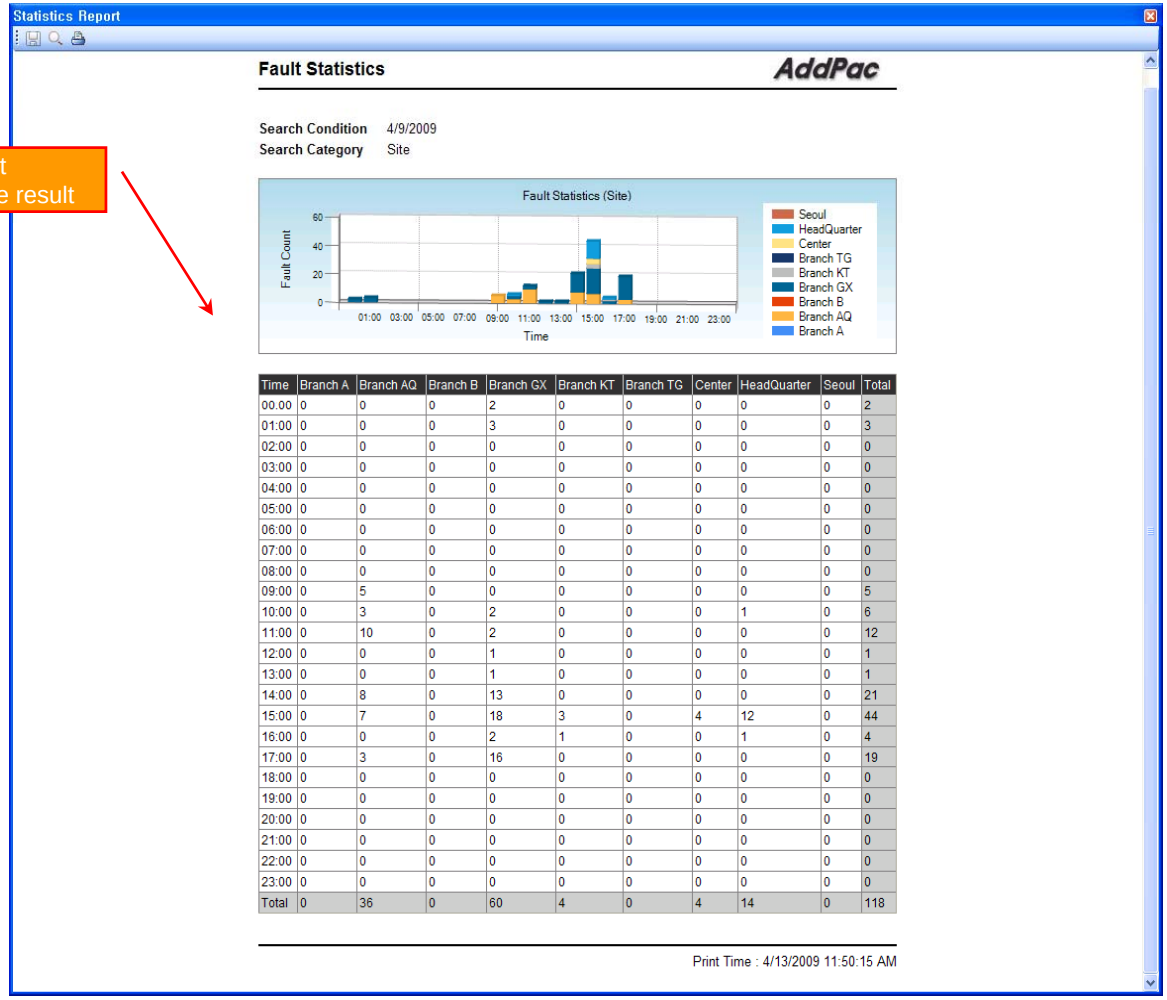
- analyze for a fault event with graph and detailed list data
- Report form generation and print out for statistics result

Fault Statistics



Fault Statistics – Report Generation

report generation for fault statistics and print out the result



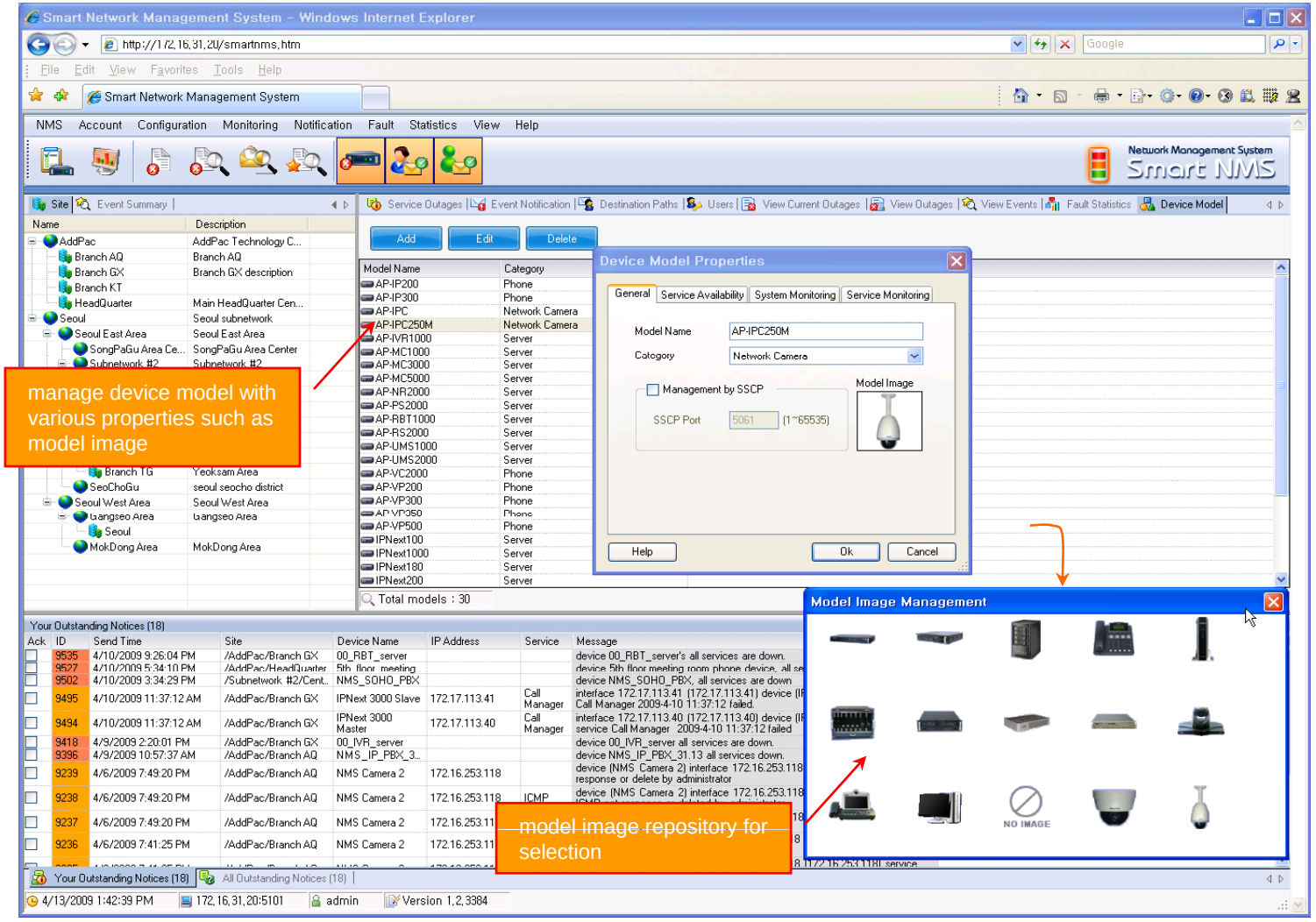
Time	Branch A	Branch AQ	Branch B	Branch GX	Branch KT	Branch TG	Center	HeadQuarter	Seoul	Total
00:00	0	0	0	2	0	0	0	0	0	2
01:00	0	0	0	3	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0
09:00	0	5	0	0	0	0	0	0	0	5
10:00	0	3	0	2	0	0	0	1	0	6
11:00	0	10	0	2	0	0	0	0	0	12
12:00	0	0	0	1	0	0	0	0	0	1
13:00	0	0	0	1	0	0	0	0	0	1
14:00	0	8	0	13	0	0	0	0	0	21
15:00	0	7	0	18	3	0	4	12	0	44
16:00	0	0	0	2	1	0	0	1	0	4
17:00	0	3	0	16	0	0	0	0	0	19
18:00	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0
Total	0	36	0	60	4	0	4	14	0	118

Print Time : 4/13/2009 11:50:15 AM

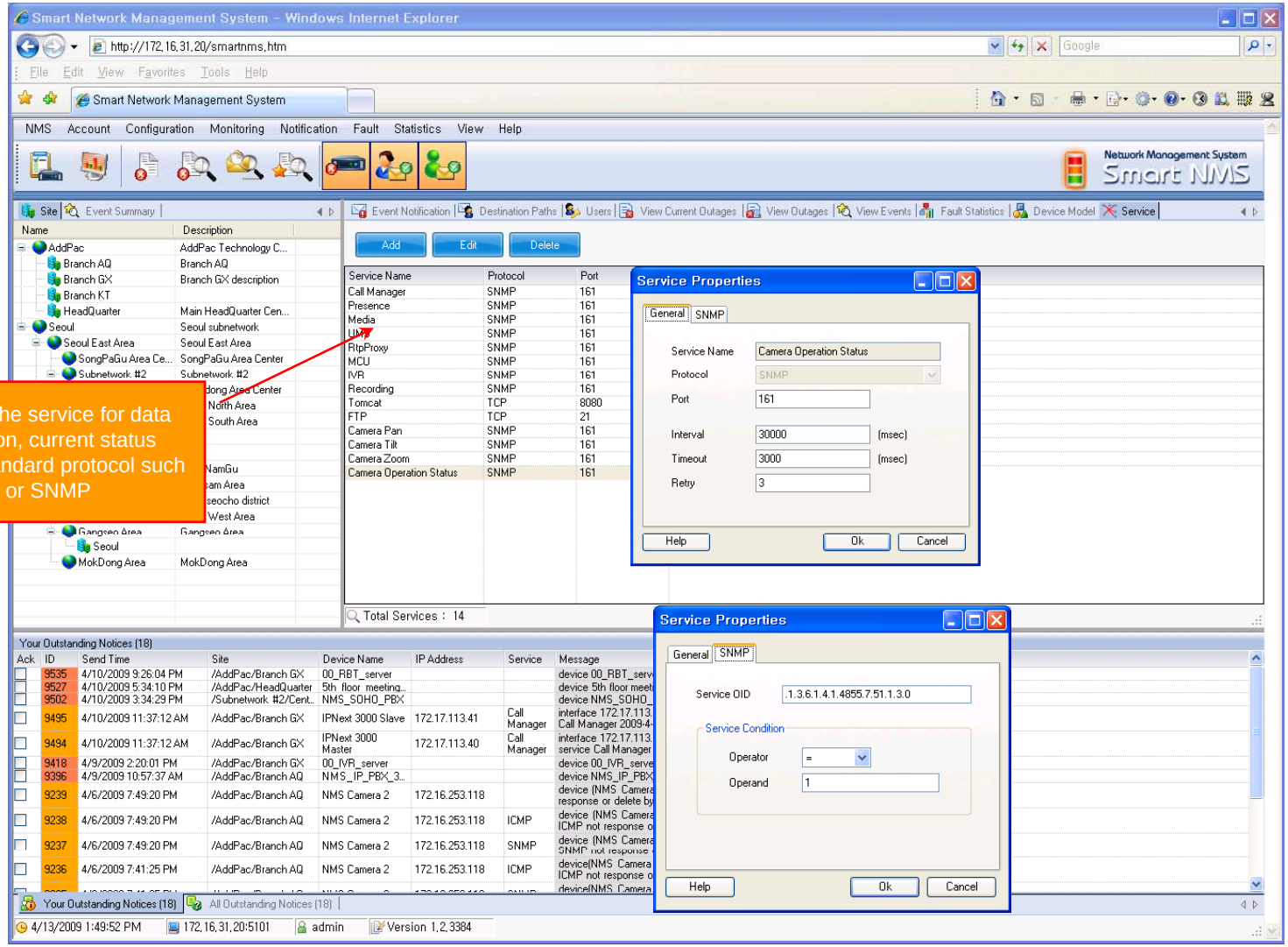
Model & Service Management

- Define new model with provided template image & properties
- Customize data collection with standard protocol such as TCP, SNMP

Device Model Management



Service Definition



define the service for data collection, current status with standard protocol such as TCP or SNMP

Thank you!

AddPac Technology Co., Ltd.
Sales and Marketing

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FAX +82.2.568.3847 (KOREA)
E-mail sales@addpac.com