## 1~2 Port FXS VoIP Gateway Solution

1 1

#### **SOHO VOIP Gateway Solution**

AP100 VoIP Gateway AP190 VoIP Gateway AP200 VoIP Gateway AP250 VoIP Gateway AP700 VoIP Gateway AP800 VoIP Gateway AP1000 VoIP Gateway AP1002 VoIP Gateway AP1005 VoIP Gateway

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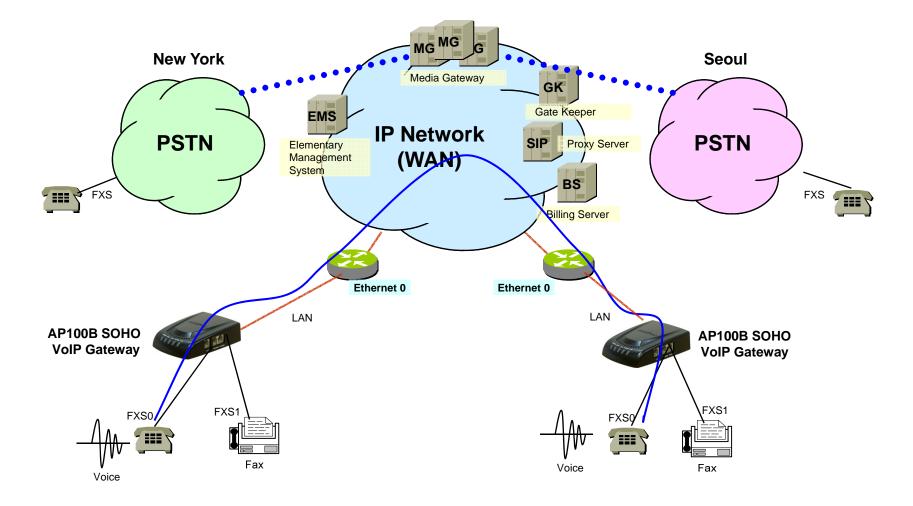
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- VoIP Gateway Service Diagram
- VoIP Gateway Comparison Table
   AP100 VoIP Gateway Series for SOHO (1~2 Port)
- VoIP Gateway Service Features
- VoIP Gateway Smart Web Manager
- VoIP Gateway Smart Network Management (AP-SNMS)

#### VoIP Gateway Service Diagram (FXS Port)



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### VoIP Gateways for SOHO(1~2Port)

Product	AP100		AP100B	
Model	Туре	VoIP	Туре	VoIP
	Ρ	PSTN Backup	В	2FXS, PSTN Backup
VoIP Ports	1		2	
Signaling	SIP, H.323		SIP, H.323	
Module Slot	N/A		N/A	
LAN Port	2		2	
Console	N/A		N/A	
Power	External Adaptor		Externa Adapto	
Power			Adapto	



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# AP100 1~2 Port VoIP Gateway Series



# AP100 1-Port FXS VoIP Gateway



#### **Product** Overview

AP100 VoIP Gateway

- 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
- New Smart Easy Setup for AP100
- SNMS (Smart Network Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Small, Light and Compact Design
- Power Switch for Stability and Status LEDs
- Optional PSTN Backup Interface



### Hardware Specification

#### AP100 VoIP Gateway

- **RISC Microprocessor Computing Power**
- High End Programmable DSP
- VoIP FXS Port
  - AP100 Model : One(1) FXS Port
  - AP100P Model : One(1) FXS Port + PSTN Backup
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- Power Supply
  - External Power Adaptor (5V, 2A)
- Power On/Off Switch
- Power LED, LAN LED, FXS Port LED

RISC

CPU

**High-end** 

DSP

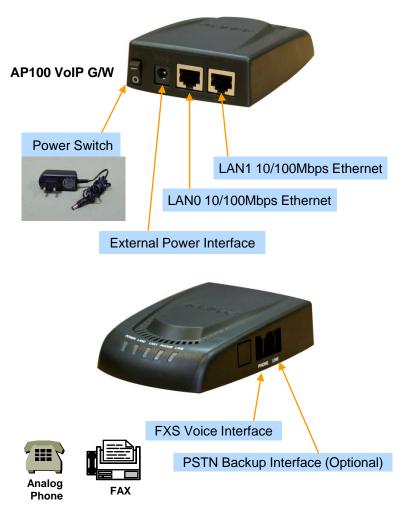
### Hardware Specification

#### AP100 VoIP Gateway

#### **Hardware Specifications**

AP100 VoIP Series	Basic Specifications
CPU	32Bit RISC Microprocessor
Voice Interface	1-Ports FXS Voice Interface(RJ-11)
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
PSTN Backup Port (Optional)	1-Port PSTN Backup Port(RJ-11)
Flash Memory	2Mbyte High-speed Flash Memory
Base Memory	16Mbyte High-speed SDRAM
Power Requirement	External Power Supply Adaptor / VAC 110~220V, 50/60Hz, 10Watt
Operating Temperature	0°C ~ 45°C (32 °F ~ 122°F)
Storage Temperature	-40°C ~ 85°C (-40°C ~ 185°F)
Relative Humidity	5% ~ 95% (Non-condensing)
Dimensions	28.8mm x 77mm x 111mm (H x W x D)

#### **Network interface Configurations**





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# AP100B 2-Port FXS VoIP Gateway



#### **Product** Overview

AP100B VoIP Gateway

- 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
- New Smart Easy Setup for AP100B
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Small, Light and Compact Design
- Power Switch for Stability and Status LEDs
- PSTN Backup Interface + Two(2) Port FXS Interface



### Hardware Specification

AP100B VoIP Gateway

- **RISC Microprocessor Computing Power**
- + High End Programmable DSP
- VoIP FXS Port
  - AP100B Model : Two(2) FXS Port + PSTN Backup
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- Power Supply
  - External Power Adaptor (5V, 2A)
- Power On/Off Switch
- Power LED, LAN LED, FXS Port LED (Dual Color)



#### Hardware Specification

#### AP100B VoIP Gateway

#### Hardware Specifications

AP100 VoIP Series	Basic Specifications
CPU	32Bit RISC Microprocessor
Voice Interface	2-Ports FXS Voice Interface(RJ-11)
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
PSTN Backup Port	1-Port PSTN Backup Port(RJ-11)
Flash Memory	4Mbyte High-speed Flash Memory
Base Memory	16Mbyte High-speed SDRAM
Power Requirement	External Power Supply Adaptor / VAC 110~220V, 50/60Hz, 10Watt
Operating Temperature	0°C ~ 45°C (32 °F ~ 122°F)
Storage Temperature	-40°C ~ 85°C (-40°C ~ 185°F)
Relative Humidity	5% ~ 95% (Non-condensing)
Dimensions	28.8mm x 77mm x 111mm (H x W x D)

#### AP100B VoIP G/W Power Switch LAN1 10/100Mbps Ethernet LAN0 10/100Mbps Ethernet External Power Interface **FXS1** Voice Interface **FXS0** Voice Interface Analog FAX Phone **PSTN Backup Interface**

**Network interface Configurations** 



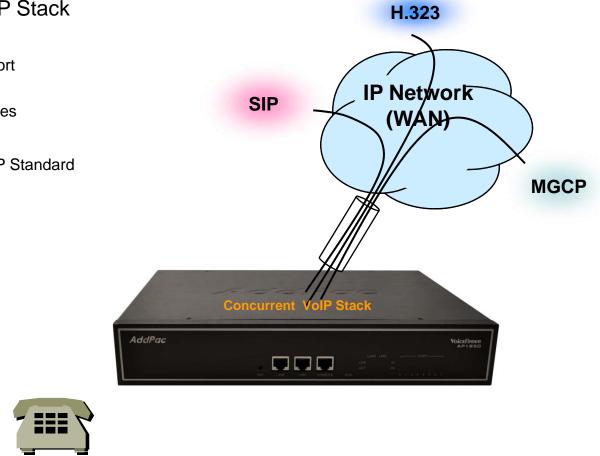
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## VoIP Gateway Service Features



- H.323, SIP Concurrent VoIP Stack
- H.323
  - ITU-T Standard H.323 v3 Support
  - Support H.245 Tunneling
  - Including H.235 Security Features
- SIP
  - IETF RFC3261 or RFC2543 SIP Standard

Voice





#### • H.323

- Fast connect, normal connect support
- H.245 tunneling support
- Q.931 response message setting for inbound VoIP calls
- H.245 logical channel open timing selection function
- Start H.245 procedure support
- DTMF / Hook flash relay with H.245 alphanumeric / signal
- Secondary gatekeeper support
- Gatekeeper assignment according to the domain name
- Gatekeeper discovery with multicast
- Lightweight RRQ support
- Signaling TCP port assignment
- Resource threshold setting with RAI
- H.235 clear-token, crypto-token support
- canMapAlias support
- Technical prefix (supported prefix) support
- Public IP assignment in NAT environment

#### • SIP

- Gateway-based / Endpoint-based registration support
- Secondary proxy-server assignment function
- SIP signaling port change function
- SIP proxy server assignment according to the domain name
- T.38 real-time fax relay support
- DTMF relay support with RFC2833 / OPTION message
- Re-INVITE support



- Voice Codec
  - G.711 A-Law, G.711 U-Law
  - G.726 r16, G.726 r32
  - G.729A
  - G.723.1 r63, G.723.1 r53
  - VAD (Voice Activity Detection) function support
  - DTMF relay support (H.323, SIP, MGCP common) based on RFC2833

#### • RTP

- Redundant RTP packet transmission in case of severe packet loss
- Dynamic jitter buffer management and RPT packet jitter and loss compensation with heuristic & DSP error concealment
- Static jitter buffer setting support
- Voice frame per RTP packet number control for each codec
- In-band ring-back tone support
- Virtual ring-back tone support
- Tone parameter change support

#### • FAX

VoIP

- Fax relay mode supporting T.38, inband-T.38, bypass mode
- Lost packet compensation with redundant setting in case of T.38 fax relay
- Fax relay mode, rate setting for remote end

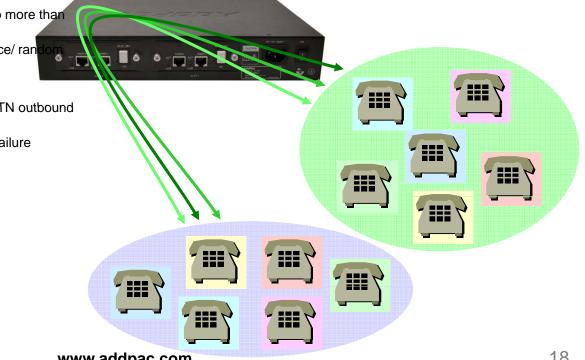


#### VoIP Call Controls

- Hot line connection function with PLAR (Private Line Auto Ring Down)
- Leased line emulation function
- Connection monitoring function
- Fault tolerant with Redundancy and Call Distribution among Gateways for load balancing
- Call attempt with IP address
- H.323, SIP inbound call connection for each voice port
- Multiple E.164 setting for one voice port
- One E.164 or digit pattern can be assigned to more than one voice port
- Hunting with Longest match/ priority/ sequence/ ran
- One stage call setup by Digit forwarding
- Call barring with specific digit patterns
- Calling and called number conversion for PSTN outbound calls
- PSTN rerouting in case of VoIP call attempt failure

#### VoIP Call Controls (cont.)

- Call transfer for internal calls
- Call pickup for internal calls
- Calling and called number conversion for VoIP outbound calls
- Calling and called number conversion for VoIP inbound calls
- Fax broadcasting call control





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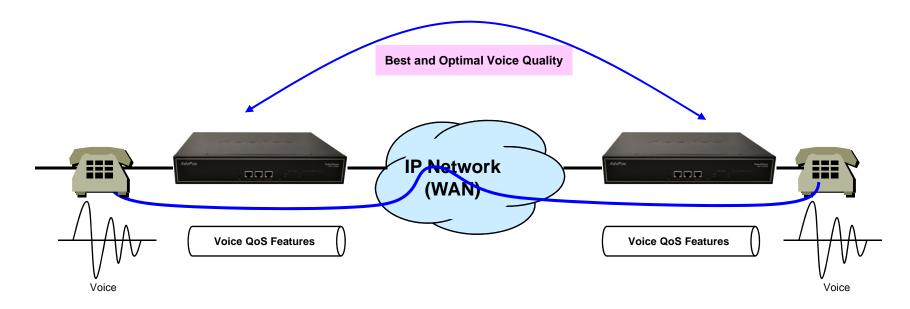
#### **Advanced QoS Features**

#### • Enhances Transmit Voice QoS Features

- Voice Traffic Priority Queuing
- QoS Service Profiling
- Providing Virtual Network Transmit Algorithm
- Real-time Voice Traffic QoS Support
- RTP Packet Transmit Interval Control
- Supporting RTP Packet Redundancy Scheme
- IP Header Control such as ToS, Diffserv

#### • Enhances Receive Voice QoS Features

- Dynamic Jitter Buffer Management
- Error Concealment
- Support T.38 FAX Data Error Recovery Scheme



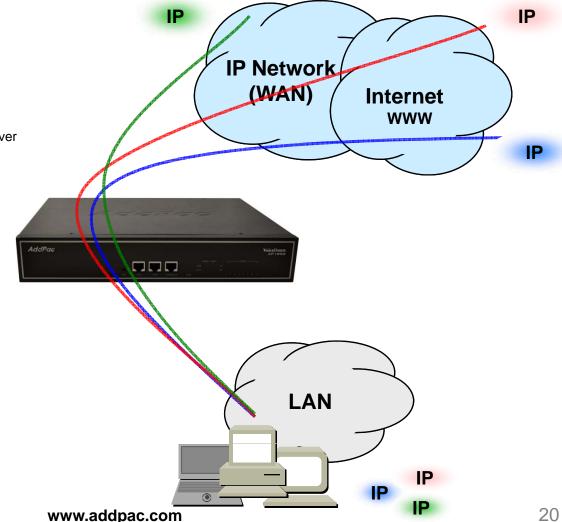
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#### **Network Protocols**

Basic Network Protocols ٠

- ARP, IPv4, TCP, UDP, ICMP, SCTP, IGMP, MLD

- Routing Protocol •
- IPv4 : Static
- Service Protocol ۲
- FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
- CDP (Cisco Discovery Protocol)
- DNS Resolver, DDNS(nsupdate)
- Bridge
- Syslog
- IPv4 Address Configuration ٠
- Fixed (Static)
- DHCP
- PPPoE
- Miscellaneous •
  - -Cisco Style CLI
- Standard & Extended IPv4 Access List
- Multi-level User Account Management
- IP accounting
- STUN Client





### **Network Management**

#### • SNMP

- Standard Simple Network Management Protocol( SNMP) Agent support
- MIB v1 and v2 Support

#### Web-based Management

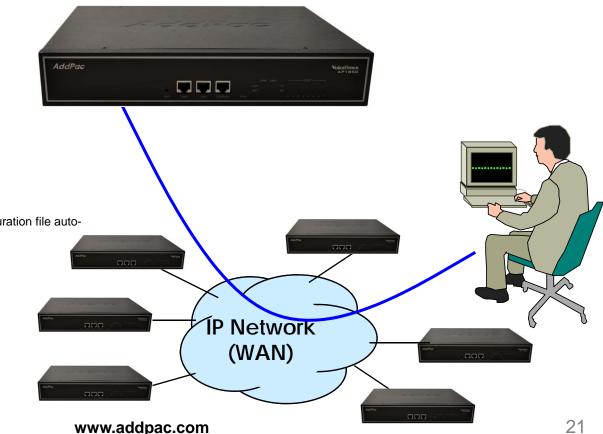
- Smart Easy Setup
- Standard Voice Interface
- Standard PSTN Back-up Interface

#### Watch-dog Function

- Hardware, Software watch-dog services
- Remote Management
  - Telnet
  - Rlogin
- Auto Upgrade Service
  - HTTP server based APOS image and configuration file autoupgrade support
- Batch Job Function
  - Text based script downloading



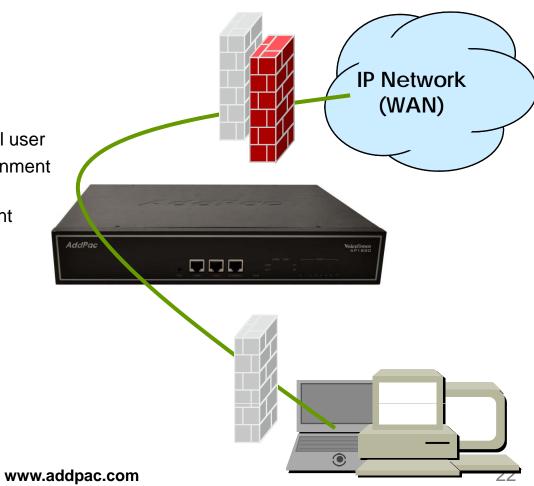
- AddPac VoIP Plug & Play Management System (AP-VPMS)





### Security Management

- IP packet filtering
- IP access list
- User authentication function
  - Password Authentication Protocol (PAP)
  - Challenge Handshake Authentication Protocol (CHAP)
- Enable/Disable specific protocols
- Auto-square connect of Telnet session
- Account Management function for multi-level user
- SNMP/TELNET/FTP/HTTP/TFTP port assignment function
- SNMP/TELNET/FTP access list management
- Boot mode security checking function





## Smart Web Manager for VoIP Gateway Series



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#### Contents

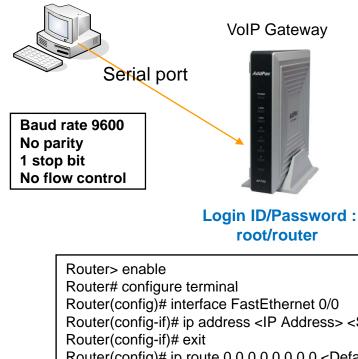
- Web Connection
- Main Page Layout
- System Configuration
  - Language, WAN Setup, LAN Setup, NAT, NTP, System Time, File Browser
- Basic Configuration
  - Protocol : SIP Server , H.323 Server
  - Analog Port : FXS Extension, FXO Extension, FXO Dial Plan, Hot Line
  - Digital Port : E1/T1 Trunk, E1/T1 Extension
  - VoIP : DTMF/CODEC, VoIP Dial Plan, Static Route
- Advanced Configuration
  - Gain/CID, FAX, Service, Filtering, Security
- Miscellaneous Configuration
  - Port & Call Status, System Status
  - Call Log, System Log, Test Call, Ping





### Web Connection

#### IP Address Configuration via RS232C Console Port



- 1. Connect to VoIP Gateway via console port to enter IP address in order to set Interface 0/0
- 2. Input IP address of interface 0/0 using below command
- 3. Connect to the IP address via web after saving

Router> enable	=> Enter the enable mode
Router# configure terminal	=> Enter the configuration mode
Router(config)# interface FastEthernet 0/0	
Router(config-if)# ip address <ip address=""> <subnet mask=""></subnet></ip>	=> Ex) ip address 172.17.109.1 255.255.0.0
Router(config-if)# exit	
Router(config)# ip route 0.0.0.0 0.0.0.0 <defaullt gateway=""></defaullt>	=> Ex) ip route 0.0.0.0 0.0.0.0 172.17.1.1
Router(config)# write	=> saving
Proceed with write? [confirm]y	



### Web Connection

#### Web Connection via LAN 1 Port



- 1. It is the way to connect to VoIP Gateway via LAN 1 port
- 2. The factory default of LAN 1 port
  - IP Address : 192.168.10.1
  - Subnet mask : 255.255.255.0
- 3. After set PC with same IP address subnet, connect to VoIP Gateway
  - Connect PC to VoIP Gateway using Cross UTP-Cable. You may use Ethernet switch with normal UTP-cable
    - Enter IP address 192.168.10.1 on your web browser



### **WEB** Connection

#### Connect to VoIP Gateway

Connect to 193	2.168.10.1	? 🔀
7		GA
AddPac		
User name: Password:		~
	Remember my pas	ssword
	ОК	Cancel

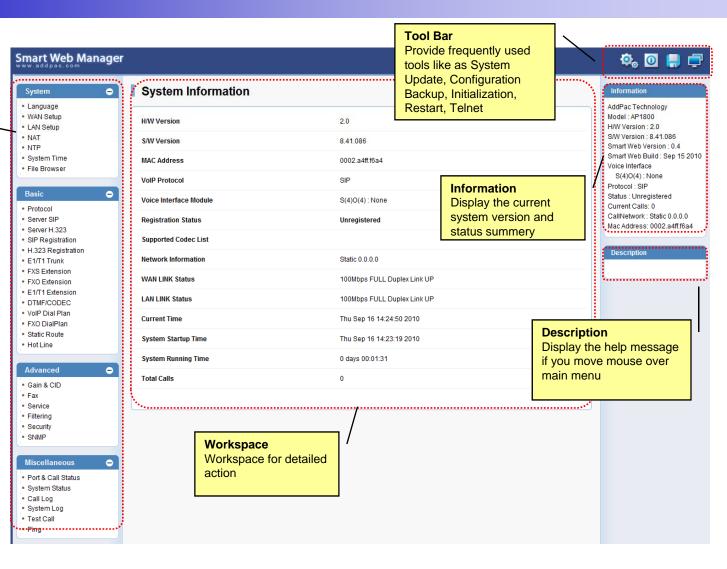
Please enter the below log-in information to access Smart Web Manager

ID : root Password : router

	tem Information		information.
guage N Setup I Setup	rsion	20	AddPac Technology Model: AP1800 HWW Version: 2.0
SWW	rsion	8.41.005	SW Version 8.41.086 Smart Web Version: 0.4
tern Time MAC A	ddress	0002.54870.54	Smart Web Build : Sep 15 201 Voice Interface
Browser VolP Pr	rotocol	SIP	S(4)O(4) : None Protocol : SIP
	nterface Module	5(4)0(4) None	Status : Unregistered Current Calle: 0
	ration Status	Unregistered	Califietwork Static 0.0.0.0 Mac Address: 0002 a4# 55a4
	ned Codec List		No. 100111 000,000,000
23 Registration Network	k information	Static 0.0.0.0	Description
Edension WANU	INK Status	100Mbps FULL Duplex Link UP	
Extension LAN LI	NK Status	100Mbps FULL Duplex Link UP	
Dial Plan Curren	t Time	Thu Sep 16 14:24 50 2010	
of Banda	n Startup Time	Thu Sep 15 14:23:19 2010	
System	n Running Time	0 days 00:01:31	
anced O Total C	ats	0	
dee			
ut) IP			
cellaneous O			
t& Call Status			
Nem Status I Log			

### Main Page Layout

**Main Menu** For easy system setup, provide the various menu and category

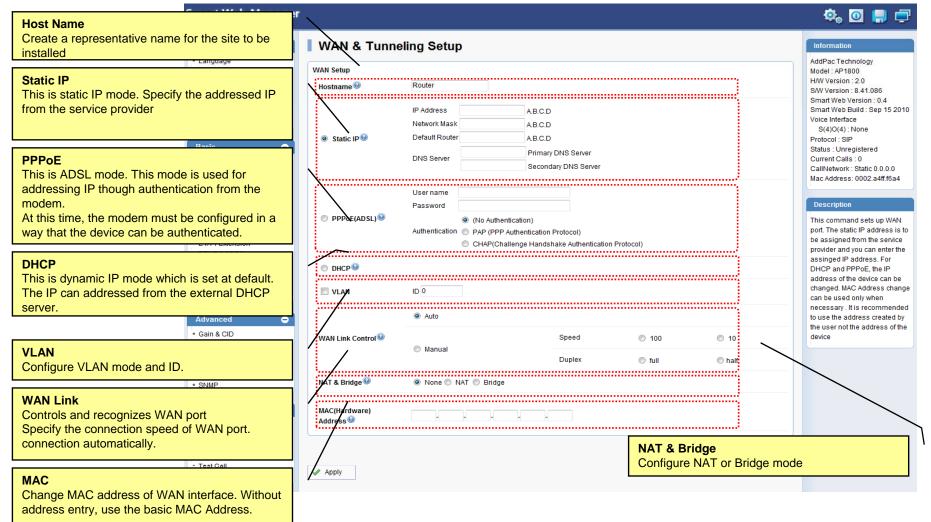




### System - Language

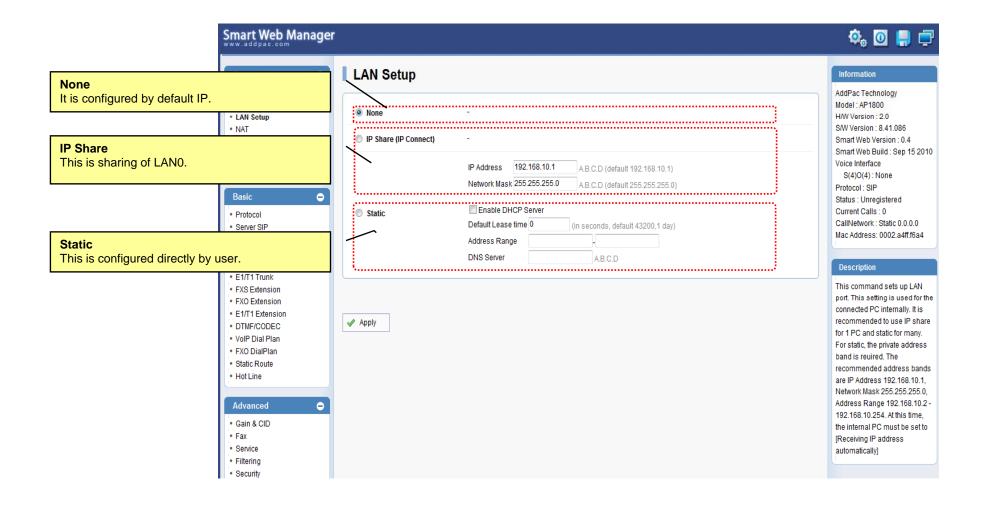
Smart Web Manage	r	🌼 🖸 릙 🚍
System       ●         • Language       •         • WAN Setup       •         • LAN Setup       •         • NAT       •         • NTP       •         • System Time       •         • File Browser       ●         Basic       ●         • Protocol       •         • Server SIP       •         • Server H.323       •         • SIP Registration       •         • H.323 Registration       •         • FXS Extension       ●	ি টারনা ● English ● Portugal ✓ Apply Configure Language English, Korea, Portual	Information AddPac Technology Model : AP1800 HW Version : 2.0 SW Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 2010 Voice Interface S(4)O(4) : None Protocol : SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.adff.f6a4 Description Choose the basic language to
		Choose the basic language to be applied. English is set at default.

### System – WAN Setup





### System – LAN Setup



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## System - NAT

	Smart Web Manage	r					🧟 📑 🚍
	System 👄	NAT Static	Table				Information
	Language     WAN Setup     LAN Setup     NAT     NTP     System Time     File Browser  Basic  / PCs are connected to Lole for delivering TCP/UE		Global Port	Local Address	Local Port	Selection Add	AddPac Technology Model : AP1800 HW Version : 2.0 S/W Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 2010 Voice Interface S(4)O(4) : None Protocol : SIP Status : Unregistered Current Calls: 0 CallNetwork : Static 0.0.0 Mac Address: 0002.a4ff.f6a4
port to PC							Description
	FXS Extension     FXO Extension     E1/T1 Extension     DTMF/CODEC     VoIP Dial Plan						When many PCs are connected to LAN, create a table for delivering TCP/UDP port to PC.

### System - NTP

System			Information
Language     WAN Setup     LAN Setup		🔘 Enable 🖲 Disable	Model : AP1800 H/W Version : 2.0
<ul> <li>NAT</li> <li>NTP</li> <li>System Time</li> </ul>		Primary Server (Domain Name or IP Address)	S/W Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 201
• File Browser	NTP	Secondary Server (Domain Name or IP Address)	Voice Interface S(4)O(4) : None
Basic	2	Interval (1~72 hours)	Protocol : SIP Status : Unregistered
<ul> <li>Protocol</li> <li>Server SIP</li> <li>Server H.323</li> </ul>		Timezone Name Offset : (-23~23 hours): (0~60 minute)	Current Calls: 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>SIP Registration</li> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> </ul>	/		Description
EXS Extension	Apply		Setup NTP Server

### System – System Time

Smart Web Manage	r i la companya de la	🔅 🖸 븕 🚍
System 🗢	System Time	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> <li>NAT</li> <li>NTP</li> </ul>	Current Time Thu Sep 16 14:29:54 2010	AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.086 Smart Web Version : 0.4
System Time     File Browser	Set System Time Year 1 • Month 1 • Day 1 • Hour 1 • Min 1 • Sec	Smart Web Build : Sep 15 2010 Voice Interface S(4)O(4) : None
Basic   Protocol  Server SIP	Apply	Protocol : SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0
<ul> <li>Server H.323</li> <li>SIP Registration</li> <li>H.323 Registration</li> </ul>	System Time Configure Local Time	Mac Address: 0002.a4ff.f6a4 Description
<ul> <li>E1/T1 Trunk</li> <li>FXS Extension</li> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> </ul>		

### System – File Browser

#### Smart Web Manager 🍳 🖸 📑 🚍 • File Browser Information System Language AddPac Technology · WAN Setup Model: AP1800 Index of Root/ LAN Setup H/W Version : 2.0 Name Last Modified Size Type S/W Version : 8.41.086 • NAT Smart Web Version : 0.4 NTP 2010-Sep-16 14:30:09 secondary/ Directory Smart Web Build : Sep 15 2010 System Time Voice Interface File Browser tmp/ Directory 2007-Oct-19 00:56:02 S(4)O(4): None Protocol : SIP Basic • Status : Unregistered ap1800\_g2\_v8\_41\_086.bin 3.3M BIN 2010-Sep-16 23:13:10 Current Calls : 0 Protocol CallNetwork : Static 0.0.0.0 Server SIP 3 0.3K CFG 2010-Sep-16 14:23:20 apos.cfg Mac Address: 0002.a4ff.f6a4 Server H.323 SIP Registration 5 booter.cfg 0.4K CFG 2009-Jul-14 10:26:23 H.323 Registration Description E1/T1 Trunk Back up / Restore the setting of FXS Extension 0.2K 2009-Jul-14 10:26:23 booter.cfg~ the system software and device FXO Extension E1/T1 Extension 찾아보기... Upload • DTMF/CODEC VoIP Dial Plan

File Browser Download and Upload Gateway's firmware or configuration file.

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### **Basic - Protocol**

#### Smart Web Manager

System 👄	Protocol	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> <li>NAT</li> <li>NTP</li> <li>System Time</li> <li>File Browser</li> </ul> Basic • <ul> <li>Protocol</li> <li>Server SIP</li> <li>Server H.323</li> <li>SIP Registration</li> </ul>	<ul> <li>IP(Session Initiation Protocol)</li> <li>H.323(ITU H.323 Protocol)</li> <li>✓ Apply</li> <li>Configure VoIP signaling protocol SIP , H.323</li> </ul>	AddPac Technology Model : AP1800 HW Version : 2.0 SW Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 2010 Voice Interface S(4)O(4) : None Protocol : SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>H.323 Registration</li> </ul>		Description
E1/T1 Trunk     FXS Extension     FXO Extension     E1/T1 Extension     DTMF/CODEC		Configure the settings of the protocol to be used for VoIP communication

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#### Basic – SIP Server

#### Smart Web Manager

System 🗢	SIP (Session Initiation Protocol)	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> </ul>	Use SIP Server 🖗 💿 Yes 💿 No	AddPac Technology Model : AP1800 H/W Version : 2.0
• NAT • NTP	Primary SIP Server 🕑 5060 Server address and Port (default 5060)	S/W Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 2010
<ul> <li>System Time</li> <li>File Browser</li> </ul>	Secondary SIP Server  Server address and Port (default 5060)	Voice Interface S(4)O(4) : None
Basic O	Local Domain Name 3 (SIP userpart of authentication)	Protocol : SIP Status : Unregistered Current Calls : 0
Protocol     Server SIP     Server H.323	SIP Signaling Port 9 5060 (default 5060, between 1 to 65535)	CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>SIP Registration</li> <li>H.323 Registration</li> </ul>	Register Expiration 60 (in seconds, default 60, between 10 to 86400)	Description
<ul><li>E1/T1 Trunk</li><li>FXS Extension</li></ul>	Session Re-Fresh	Configure the settings for SIP. Contact your service provider
FXO Extension     E1/T1 Extension	Session Expire Time (in seconds, default 1800, between 30 to 86400, 0 = disable)	for the settings
DTMF/CODEC     VoIP Dial Plan     FXO DialPlan	Min-SE 1800 (in seconds, default 1800, between 30 to 86400)	
Static Route     Hot Line	SIP Server Primary & Secondary server, Local domain name, SIP Signaling Port ( reboot necessary) Timer * register expire * session refresh * session expire	

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#### **Basic – SIP Registration**

#### 🔅 🖸 📮 🚍 Smart Web Manager **SIP Registration** Information System • Language AddPac Technology · WAN Setup Model: AP1800 SIP Registration Configuration LAN Setup H/W Version : 2.0 S/W Version : 8.41.086 • NAT Pots Num Port E.164 Number User Name 😡 Password DisplayName HuntStop Reg Smart Web Version : 0.4 • NTP Smart Web Build : Sep 15 2010 System Time S0P0 1000 Voice Interface File Browser S(4)O(4): None 1001 S0P1 Protocol : SIP Basic Θ Status : Unregistered 1002 S0P2 Current Calls: 0 Protocol CallNetwork : Static 0.0.0.0 Server SIP 1003 S0P3 Mac Address: 0002.a4ff.f6a4 Server H.323 SIP Registration See. . ..... H.323 Registration Description \* SIP Registration - Assigned Pots Tag Number : 1000 - 1024 • E1/T1 Trunk Set up for using FXS port to FXS Extension registration SIP Server 🖌 Apply FXO Extension E1/T1 Extension DTMF/CODEC **SIP Registration** - ValD Dial Dias - E.164 Number - User Name - Password - Display Name - Hunt Stop - Registration checking

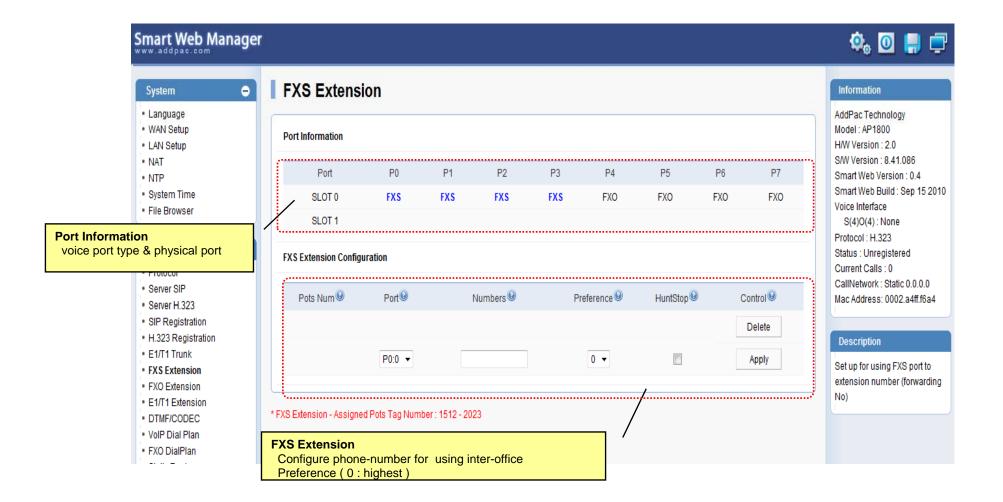
#### Basic – H.323 Server

System 🧧	H.323 (ITU H.323 Protocol)	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> <li>NAT</li> </ul>	Use H.323 Server III O Yes III No	AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.086
• NTP	Primary Gatekeeper	Smart Web Version : 0.4 Smart Web Build : Sep 15 201
<ul> <li>System Time</li> <li>File Browser</li> </ul>	Secondary Gatekeeper 2 1719 Server address and Port (default 1719)	Voice Interface S(4)O(4) : None Protocol : H.323
Basic	H.323 ID (H.323 Identifier string)	Status : Unregistered
Protocol     Server SIP     Server H.323	H.323 Signaling Port () (default 1720, between 1 to 65535)	Current Calls: 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>SIP Registration</li> <li>H.323 Registration</li> </ul>	H.323 Call start mode 🚇 💿 Fast 🔘 Slow	
E1/T1 Trunk FXS Extension	H.323 Tunnel mode 🇐 💿 Enable 🔘 Disable	Description Configure the settings for H.323. Contact your service
<ul> <li>FXO Extension</li> <li>E1/T1 Extension</li> </ul>		provider for the settings
DTMF/CODEC     VoIP Dial Plan	Apply	
• Voir Diai Plan • FXO DialPlan	H.323 Server Primary & Secondary server, H.323 ID SIP Signaling Port (reboot necessary) H.323 Call start mode H.323 Tunnel mode	

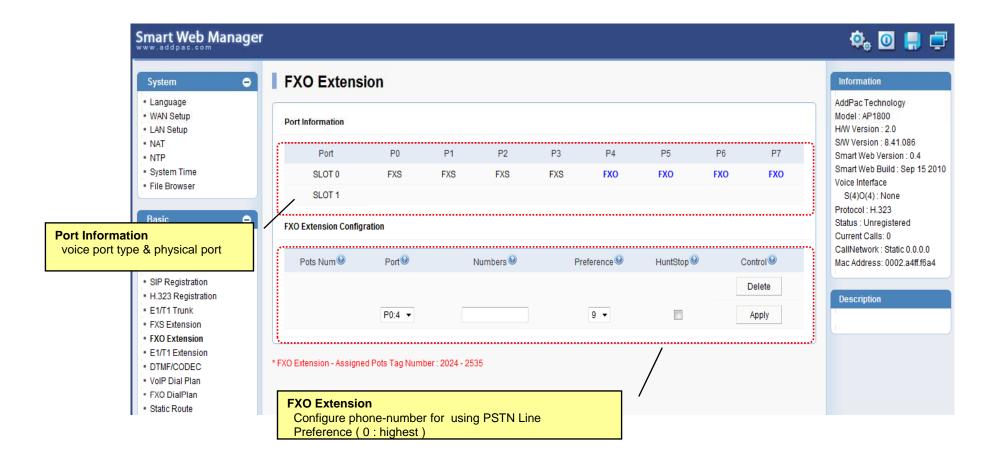
#### Basic – H.323 Registration

Smart Web Manager 🔅 🖸 📮 🚍 H.323 Registration Θ Information System Language AddPac Technology WAN Setup Model: AP1800 H.323 Registration H/W Version : 2.0 LAN Setup S/W Version : 8.41.086 NAT Pots Num Port Number REG HuntStop Smart Web Version : 0.4 NTP Smart Web Build : Sep 15 2010 System Time S0P0 1000 Voice Interface File Browser S(4)O(4): None 1001 S0P1 Protocol : H.323 ٥ Basic Status : Unregistered 1002 S0P2 Current Calls: 0 Protocol CallNetwork : Static 0.0.0.0 Server SIP 1003 S0P3 Mac Address: 0002.a4ff.f6a4 Server H.323 SIP Registration H.323 Registration Description \* H323 Registration - Assigned Pots Tag Number : 1000 - 1024 E1/T1 Trunk Set up for using FXS port to FXS Extension registration H.323 Server 🖌 Apply FXO Extension E1/T1 Extension DTMF/CODEC **H.323 Registration** - Number - Hunt Stop - Registration checking

#### Basic – Analog : FXS Extension



#### Basic – Analog : FXO Extension

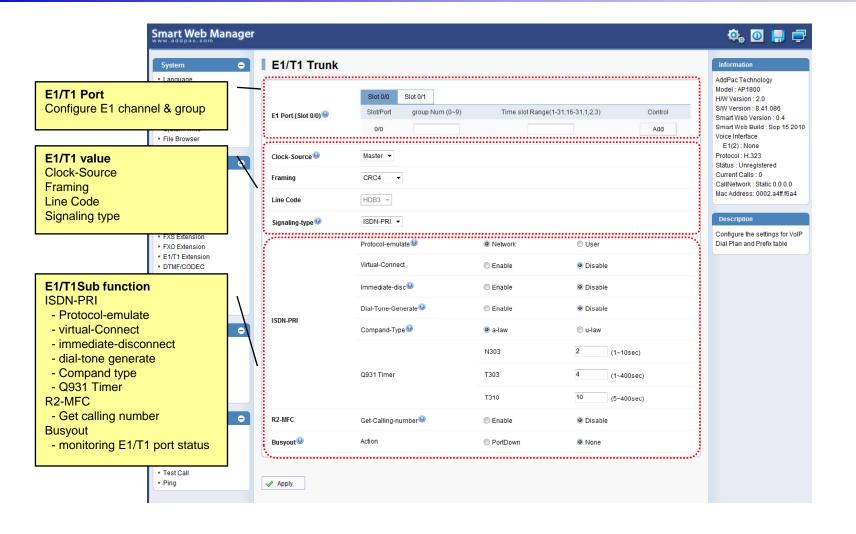


### Basic – Analog : FX0 Dial Plan

Smart Web Manager		ې 🖪 💽 🏟
System 👄	FXO Dial Plan / Prefix	Information
Language     WAN Setup	Port Information	AddPac Technology Model : AP1800
Port Information voice port type & physical port	Port P0 P1 P2 P3 P4 P5 P6 P7	H/W Version : 2.0 S/W Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 2010
Pile Blowser	SLOT 0 FXS FXS FXS FXS FXO FXO FXO FXO SLOT 1	Voice Interface S(4)O(4) : None Protocol : H.323
Basic	Plan Table 🚱	Status : Unregistered Current Calls: 0
<ul> <li>Server SIP</li> <li>Server H.323</li> <li>SIP Registration</li> </ul>	Rule Num 🎱 Digits to Insert 🎱 Digits to delete 🎯 Digit Pattern 🎯 Control 🎯 Delete	CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> <li>FXS Extension</li> </ul>	Add	Description
FXO Extension     E1/T1 Extension     DTMF/CODEC	FXO Table	
VolP Dial Plan     FXO DialPlan	Pots Num Proference Control	
Plan Table Configure translation rule for FXC		
<ul> <li>first, 'Number of Digits to Delet applied.</li> <li>second, 'Digits to Insert' option</li> </ul>		
(ex) Origin called Number = 12	Assigned Pots Tag Number : 3560 - 4071	
Number of Digits to Delete Digits to Insert = "88"	= 2 <b>FXO Table</b> Configure FXO Port with translation rule.	
result = 883456		



#### Basic – Digital : E1/T1 Trunk



AddPac

## Basic – Digital : E1/T1 Extension

System	• E	E1/T1 Exter	nsion										Information
<ul><li>Language</li><li>WAN Setup</li><li>LAN Setup</li></ul>		ort Information											AddPac Technology Model : AP1800 H/W Version : 2.0
NAT     NTP		Po			P0	P1	P2	P3	P4	P5	P6	P7	S/W Version : 8.41.086 Smart Web Version : 0.4
<ul> <li>System Time</li> </ul>		SLO	T 0		E1	E1							Smart Web Build : Sep 15 2 Voice Interface
• File Browser		SLO	T 1										E1(2) : None
Basic Information e port type & physical port		1/T1 Extension Con Pots Num	-	Group		nbers	HuntStop		Forward Digits(0-			Control	Protocol : H.323 Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
SIP Registration												Delete	
<ul> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> <li>FXS Extension</li> </ul>		P	0:0 🔻	•				۲	from 🔘 last 🗌			Apply	Description
<ul> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> </ul>		T1 Extension - Assig							/				

### Basic – DTMF/CODEC

Smart Web Manager		🔅 🖸 📮 🚍
System	DTMF/CODEC	Information AddPac Technology
CODEC Configure voice codec preference (g711a, g711u, g729, g7231, g726) • NTP • System Time • File Browser	Voice CODEC       Preference 1       None <ul> <li>Preference 2</li> <li>None</li> <li>Preference 3</li> <li>None</li> <li>Preference 4</li> <li>None</li> <li>Preference 5</li> <li>None</li> <li>Preference 6</li> <li>None</li> <li>Preference 6</li> <li>None</li> <li>Voice CODEC</li> </ul>	Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.086 Smart Web Version : 0.4 Smart Web Build : Sep 15 2010 Voice Interface T1(2) : None Protocol : H.323
Protocol     Server SIP     Server H.323     SIP Registration     H.323 Registration     E1/T1 Trunk     FXS Extension     FXO Extension	DTMF Relay mode DTMF relay by In-band voice DTMF Relay mode DTMF relay by RTP payload defined by RFC 2833 DTMF relay by Out-of-band signal DTMF relay by Cisco out-of-band signal DTMF Configure DTMF relay method	Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4 Description Configure the settings for GSM Dial Plan and Prefix table
E1/T1 Extension     DTMF/CODEC     VolP Dial Plan	✓ Apply (in-band, RFC2833, out-of-band, CISCO type out-of-band)	·

#### Basic – VoIP Dial Plan

	Smart Web Manager	r,					o, 🛛 📙 草
	System 👄	VoIP Dial Pla	n / Prefix				Information
	• Language • WAN Setup • LAN Setup • NAT	Plan Table 9					AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.086
VoIP PLAN		Rule Num 😉	Digits to Insert 🥹	Digits to delete 🥹	Digit Pattern	Control	Smart Web Version : 0.4 Smart Web Build : Sep 15 2010
Configure translation rule f - first, 'Number of Digits to						Delete	Voice Interface T1(2): None
applied.						Add	Protocol : H.323 Status : Unregistered
<ul> <li>second, 'Digits to Insert'</li> <li>(ex) Origin called Number Number of Digits to</li> </ul>	er = 123456	Prefix Table 🖗					Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
Digits to Insert = "88		Voip Num 🎯	Prefix	Called Num Plan 🈡	Calling Num Plan	Control	Description
result = 883456						Delete	Configure the settings for the outbound call of main/remote
	<ul> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> </ul>			N.A. 🔻	N.A. 🔻	Apply	and incoming E1/T1 and routing
	VolP Dial Plan     FXO DialPlan     Static Route     Hot Line	* VolP Dial Plan - Assigned	Translation-Rule Tag Number VoIP Tag Number : 10000 - 10 fix Table		/		
		C		r with translation ru ERVER)	le.		

#### Basic – Static Route

Smart Web Ma	anager		🌼 🖸 📮 🚍
System	Ð	Static Route	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> </ul>		Set Remote Site Call(5-digit number is set to begin *2->*2)	AddPac Technology Model : AP1800 H/W Version : 2.0
<ul> <li>NAT</li> <li>NTP</li> <li>System Time</li> </ul>		Pots Num Remote Site IP I Signaling Port I Prefix Digits to Insert Digits to Delete Name of Remote Site Answer Addr Control	S/W Version : 8.41.027 Smart Web Version : 0.4 Smart Web Build : Sep 16 2010
• File Browser		* Apply	Voice Interface E1(2) : None Protocol : SIP
Protocol     Server SIP     Server H.323		* Static Route - Assigned Voip Tag Number : 10100 - 10199 * Static Route - Assigned Translation-Rule Tag Number : 10100 - 10199	Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>SIP Registration</li> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> <li>FXS Extension</li> <li>FXO Extension</li> <li>E1/T1 Extension</li> </ul>		Static Route Configure Static VoIP Peer for using Inter-Office . ( Already, I know IP & phone-number)	Description

#### **Basic** – Hot Line

#### Smart Web Manager 🏟 🖸 📮 🚍 Hot Line • Information System Language AddPac Technology · WAN Setup Model: AP1800 **Hot Line Configuration** . LAN Setup H/W Version : 2.0 S/W Version : 8.41.027 • NAT Port Hot Line Number Digit Input Timeout <0~10 sec> Smart Web Version : 0.4 • NTP Smart Web Build : Sep 16 2010 System Time S0P0(S) 0 🔻 Voice Interface File Browser S(4)O(4): None S0P1(S) 0 🔻 Protocol : SIP Basic Θ Status : Unregistered 0 -S0P2(S) Current Calls : 0 Protocol CallNetwork : Static 0.0.0.0 Server SIP 0 🗸 S0P3(S) Mac Address: 0002.a4ff.f6a4 Server H.323 SIP Registration 0 -S0P4(O) H.323 Registration Description E1/T1 Trunk 0 -S0P5(O) FXS Extension 0 - FXO Extension S0P6(O) E1/T1 Extension 0 - DTMF/CODEC S0P7(0) VolP Dial Plan FXO DialPlan Static Route Hot Line 🛷 Apply Hot Line

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



#### Advanced – Gain & CID

#### Smart Web Manager

System e	Gain & CID	9				Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> <li>NAT</li> </ul>	Gain					AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.086
NTP	Port	Port Type	InputGain	OutputGain	Caller ID	Smart Web Version : 0.4 Smart Web Build : Sep 15 201
System Time File Browser	P0:0	FXS	0 -	0 🔻		Voice Interface
	P0:1	FXS	0 🔻	0 -		S(4)O(4) : None Protocol : H.323
asic C	P0:2	FXS	0 🔻	0 -		Status : Unregistered Current Calls : 0
erver SIP erver H.323	P0:3	FXS	0 🔻	0 🗸		CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
IP Registration	P0:4	FXO	0 🔻	0 🗸		
323 Registration 1/T1 Trunk	P0:5	FXO	0 🔻	0 🔻		Description
XS Extension XO Extension	P0:6	FXO	0 🔻	0 🔻		Adjust the input voice volume from FXS/FXO/E1/E&M to DSP
1/T1 Extension DTMF/CODEC	P0:7	FXO	0 🔻	0 🔻	/	and the output volume from DSP to the phone or PSTN line
VolP Dial Plan FXO DialPlan	<b></b>				f	j Ľ
Static Route Hot Line	Apply			/		
HotLine	Apply	Gain & CID	ut-gain, output-gain a			

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#### Advanced - Fax

Smart Web Manager		Ф, 🖸 📮 🚍
System 👄	Fax	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> <li>NAT</li> <li>NTP</li> <li>System Time</li> <li>File Browser</li> </ul>	Fax Mode @         @ T.38 @ Inband T.38 @ Bypass           Fax Rate @         © Disable @ 2400 @ 4800 @ 7200 @ 9600 @ 12000 @ 14400	AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.027 Smart Web Version : 0.4 Smart Web Build : Sep 16 2010 Voice Interface S(4)O(4) : None
Basic	Apply FAX Configure fax mode & rate (VoIP Lines)	Protocol : SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> <li>FXS Extension</li> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> </ul>		Description Enable or disable T.38/Inband T.38, which is fax internet protocol and specify Baudrate

#### Advanced - Service

System 👄	Service			Information
Language     WAN Setup     LAN Setup		🖉 Enable Teinet	Server Port 23 (default 23, 1-65535)	AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.027
<ul> <li>NAT</li> <li>NTP</li> <li>Quarters Time</li> </ul>		Enable HTTP	Server Port 80 (default 80, 1-65535)	Silve Version : 8.41.027 Smart Web Version : 0.4 Smart Web Build : Sep 16 2010
System Time     File Browser Basic	Applicaton Services	Enable FTP	Control Port         21         (default 21, 1-65535)           Data Port         20         (default 20, 1-65535)	Voice Interface S(4)O(4) : None Protocol : SIP
Protocol     Server SIP     Server H.323     SIP Registration     H.323 Registration		Enable Syslog	Primary Server Port (default 514) Secondary Server Port (default 514) Log Level 0-emergency V Log Command disable V	Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>E1/T1 Trunk</li> <li>FXS Extension</li> </ul>	Timer	Inter Digit Time	3 sec (default 3, 1-600)	Enable or disable Telnet, HTTP, FTP and specify the
<ul> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> <li>VoIP Dial Plan</li> </ul>	Call Service 😡	Transfer	Hook-Flash     Not-assigned	acess port and Call Hold/ Transfer and Timer .
FXO DialPlan     Static Route     Hot Line	SIP Transfer 🥹	Hold	<ul> <li>Hook-Flash <ul> <li>Not-assigned</li> <li>blind </li> <li>Attended</li> </ul> </li> </ul>	
Advanced O	Skype Server	Use	Enable I Disable	
Gain & CID	Hunt	Algorism	(0) longest - preference - random	
<ul> <li>Fax</li> <li>Service</li> <li>Filtering</li> <li>Security</li> </ul>	Change Password	ID : root	Confirm Password - Configure IDT (Inter Dig	
Miscellaneous   • Port & Call Status • System Status • Coll Log			- Configure Call-Transfer - Configure SIP Call-Transfer - Configure Skype SIP Se - Hunt Algorism - Changing Password	

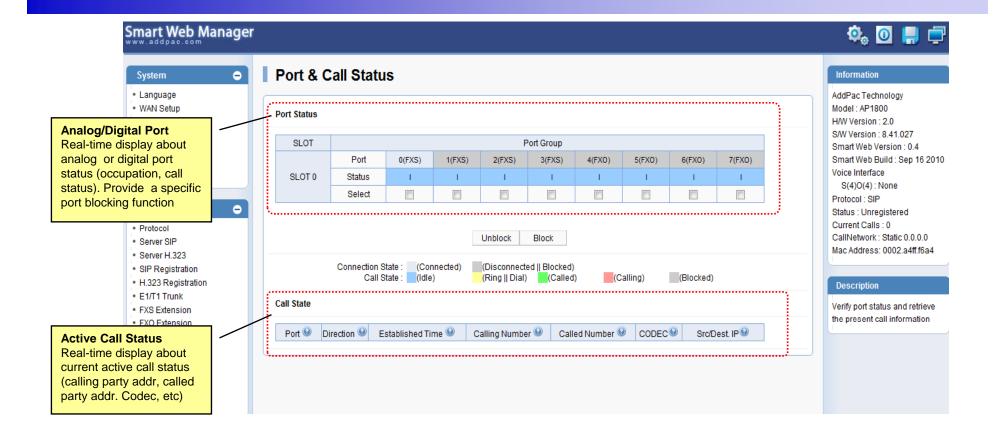
## Advanced - Filtering

mart Web Ma	nager				🔍 🖸 📮 🗖
System	•	Filter@			Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> <li>NAT</li> </ul>		-			AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.027
NTP		Network Addr	Network Mask	Control	Smart Web Version : 0.4 Smart Web Build : Sep 16 201
<ul> <li>System Time</li> <li>File Browser</li> </ul>				Add	Voice Interface S(4)O(4) : None
Basic	•	HTTP Filter			Protocol : SIP Status : Unregistered
<ul> <li>Protocol</li> </ul>					Current Calls: 0
Server SIP		Network Addr	Network Mask	Control	CallNetwork : Static 0.0.0.0
Server H.323				Add	Mac Address: 0002.a4ff.f6a4
SIP Registration				7144	
H.323 Registration					Description
E1/T1 Trunk		Telnet Filter			For FTP, HTTP, Telnet, set up
FXS Extension FXO Extension					one IP or IP band for allowing
E1/T1 Extension		Network Addr	Network Mask	Control	access
DTMF/CODEC				Add	
VolP Dial Plan					2
FXO DialPlan		•••			)
Static Route				\	
Hot Line		Filter		<b>`</b>	

### Advanced - Security

Smart Web Manager		🍳 🖸 📮 🚍
System    · Language  · WAN Setup  · LAN Setup  · NAT  · NTP  · System Time  · File Browser	IP Filtering  Enable  Disable Allowed IP Address List Apply Delete	Information AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.027 Smart Web Version : 0.4 Smart Web Build : Sep 16 2010 Voice Interface
Basic ● Protocol • Server SIP • Server H.323 • SIP Registration • H.323 Registration • E1/T1 Trunk • FXS Extension	WarDialing Filtering <ul> <li>Enable </li> <li>Disable</li> </ul> Allow Digit Length(IP to PSTN)        Min       Max         H323 Shutdown <ul> <li>Enable </li> <li>Disable</li> <li>Enable </li> <li>Disable</li> </ul> SIP Shutdown <ul> <li>Enable </li> <li>Disable</li> </ul>	S(4)O(4) : None Protocol : SIP Status : Unregistered Current Calls: 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4 Description
<ul> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> <li>VoIP Dial Plan</li> <li>EVO Dial Plan</li> </ul>	Security         - IP Filtering       : Allowing only the inbound call which is registered to Call-Routing of the server by static IP.         -Allowed IP address list : Allowing only inbound call which is added ip address.         - 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         - H.323       : H.323 signaling packets are filtered.         - SIP       : SIP signaling packets are filtered.	

#### Miscellaneous – Port & Call Status



### Miscellaneous – System Status

Sr	mart Web Mana	iger	🔍 🖸 📕 🗐
	System	System Status	Information
3	Language WAN Setup LAN Setup NAT	Voice Port	AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.027
System Status - voice port status & information - SIP-UA status & information - gateway status & information - system utilization information * Protocol * Server SIP * Server H 323	tion ation ation Protocol Server SIP	Port         LineType         Status         InGain         OutGain         TieType         TieDigits         CallNum         Toalled         Toal         Toalled         Toalled <thtoalled< th=""> <thtoalled< th=""> <thtoalle< td=""><td>Smart Web Version : 0.4 Smart Web Build : Sep 16 201 Voice Interface S(4)O(4) : None Protocol : SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4</td></thtoalle<></thtoalled<></thtoalled<>	Smart Web Version : 0.4 Smart Web Build : Sep 16 201 Voice Interface S(4)O(4) : None Protocol : SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
<ul> <li>SIP Registration</li> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> <li>FXS Extension</li> <li>FXO Extension</li> <li>E1/T1 Extension</li> </ul>		SIP-UA Proxyserver Registration Information proxyserver registration option = e164 Proxyserver list : No Proxyserver Information.	Description Verify the present port information, Server Register status, CPU and Memory usage
	DTMF/CODEC VolP Dial Plan FXO DialPlan Static Route Hot Line	<pre>SIP UA Timer counters     retry counter = 10 SIP UA Timer values     tretry (sip retry timer) = 500 msec.     tinterval (sip retry max interval timer) = 4 sec.     treg (sip register timer) = 60 sec.     tregtry (sip register retry timer) = 20 sec.</pre>	
	Advanced Gain & CID Fax Service Filtering	<pre>texpires (sip invite expire timer) = 180 sec. tsipping (sip ping timer) = 45 sec. tsrv (sip srv retry timer) = 60 sec. thypolling (sip higher priority polling timer) = 30 sec. SIP UA Session Timer value Min-SE = 1800 sec. Session-Expires = 1800 sec.</pre>	
÷	Security	SIP DNS SRV Query : Disable SIP Called-Party-Number : from URL	

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### Miscellaneous – Call Log

Smart Web Manag	er		🌼 🖸 릙 🚍
System 🗢	Call Log		
Language     WAN Setup     LAN Setup     NAT     NTP     System Time     File Browser	CallNum EventTime Descript CallingPartyNum CalledPartyNum RemoteInfo	SetupTime	Dur Reason
Basic • • Protocol • Server SIP • Server H.323			
SIP Registration     H.323 Registration     E1/T1 Trunk     FXS Extension     FXO Extension     E1/T1 Extension	Call Log Show call history information * call number * event time	/	
DTMF/CODEC     VoIP Dial Plan     FXO Dial Plan     Static Route     Hot Line	* description * calling number * called number * remote IP information * call setup time		
Advanced O Gain & CID Fax Service	* call duration * call clear reason		
Filtering     Security     Miscellaneous			
<ul> <li>Port &amp; Call Status</li> <li>System Status</li> <li>Call Log</li> <li>System Log</li> <li>Test Call</li> <li>Ping</li> </ul>			



### Miscellaneous – System Log

Smart Web Manager		端 🖸 븕 🚍
System O • Language • WAN Setup • LAN Setup • LAN Setup • NAT • NTP • System Time	System Log	Information AddPac Technology Model : AP1800 H/W Version : 2.0 S/W Version : 8.41.027 Smart Web Version : 0.4 Smart Web Bulld : Sep 16 2010 Voice Interface
<ul> <li>File Browser</li> <li>Basic</li> <li>Protocol</li> <li>Server SIP</li> <li>Server H.323</li> <li>SilP Registration</li> <li>H.323 Registration</li> <li>E1/T1 Trunk</li> <li>FXS Extension</li> <li>FXO Extension</li> <li>E1/T1 Extension</li> <li>DTMF/CODEC</li> <li>VolP Dial Plan</li> <li>FXO DialPlan</li> <li>Static Route</li> <li>Hot Line</li> </ul>	System Log - command log - system alarm log ( ex : interface down)	S(4)O(4): None Protocol: SIP Status : Unregistered Current Calls : 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4 Description Retrieve the system log
Advanced  Gain & CID Gain & CID Fax Service Filtering Security Miscellaneous Pott & Call Status Contex Others		
<ul> <li>System Status</li> <li>Call Log</li> <li>System Log</li> <li>Test Call</li> <li>Ping</li> </ul>		

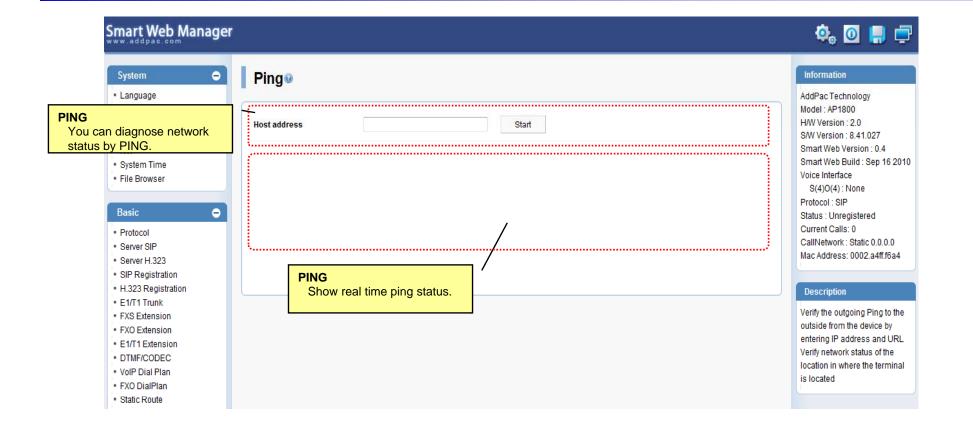


#### Miscellaneous – Test Call

#### Smart Web Manager

Smart Web Manager	r 	🔍 🖸 📒 🚍
System 🗢	Test Call	Information
<ul> <li>Language</li> <li>WAN Setup</li> <li>LAN Setup</li> </ul>	Port B-Ch (1-24) Test Phone Number Digits Command	AddPac Technology Model : AP1800 H/W Version : 2.0
• NAT • NTP	S0P0 - Start Voice Digit End	S/W Version : 8.41.027 Smart Web Version : 0.4
<ul> <li>System Time</li> <li>File Browser</li> </ul>	S0P1 - Start Voice Digit End	Smart Web Build : Sep 16 2010 Voice Interface
	S0P2 - Start Voice Digit End	S(4)O(4) : None Protocol : SIP
Basic    Protocol  Server SIP  Server H.323	S0P3 - Start Voice Digit End	Status : Unregistered Current Calls: 0 CallNetwork : Static 0.0.0.0 Mac Address: 0002.a4ff.f6a4
SIP Registration H.323 Registration E1/T1 Trunk FXS Extension FXO Extension E1/T1 Extension DTHE/CODEC	Test Call         remote diagnose the proper operation of VoIP call         - Test Phone Number         - Digits         - Start / Voice / Digit / End Button	Description Make a test call remotely through web

#### Miscellaneous - Ping



# Smart NMS

# Smart Network Management System for Large Scale VoIP Gateway Deployment





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#### 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

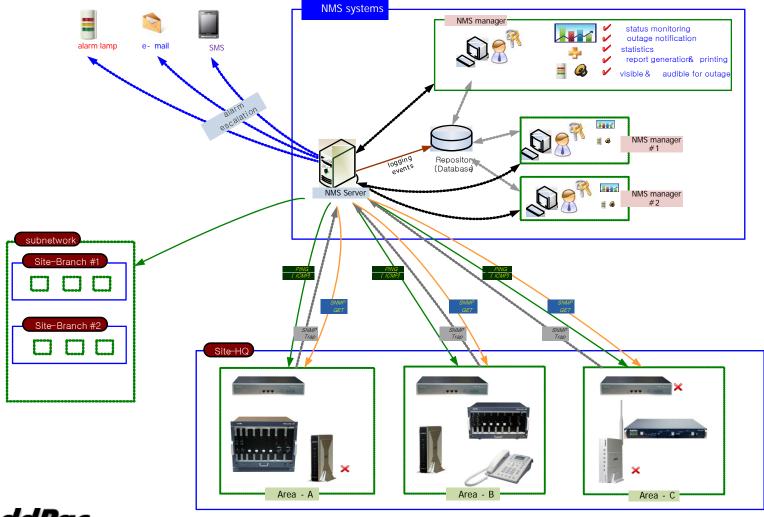
- OS : RHEL (Redhat Enterprise Linux) 5.0 or higher
- CPU: Quad-Core 2.0 GHz / 1333MHz FSB 2x4 MB cache
- Physical Memory : 4 GB
- HDD : 300 G
- JRE (Java Runtime Environment) 1.5.1 or Higher
- Database : PostgreSQL 8.1.11

#### 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

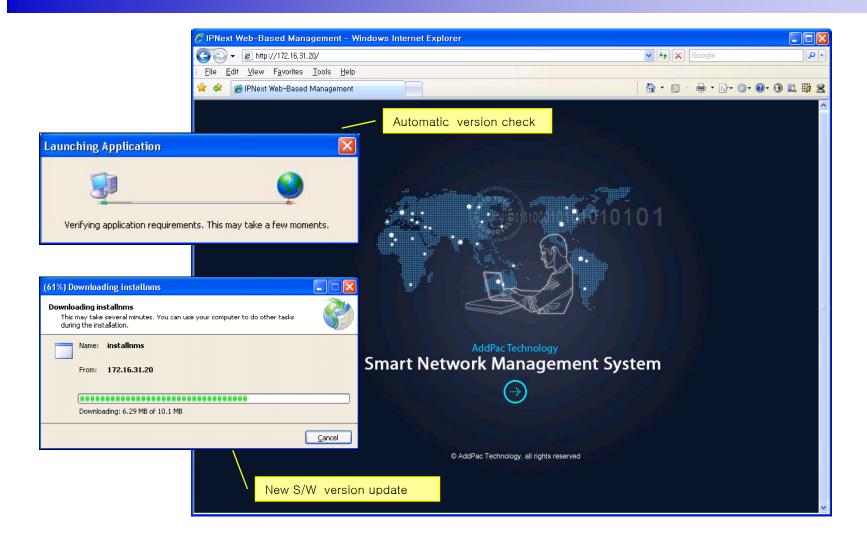
#### • Version Control

- Automatic version check
- New version software download feature

#### UI control

- User friendly GUI management

#### **Version Control**





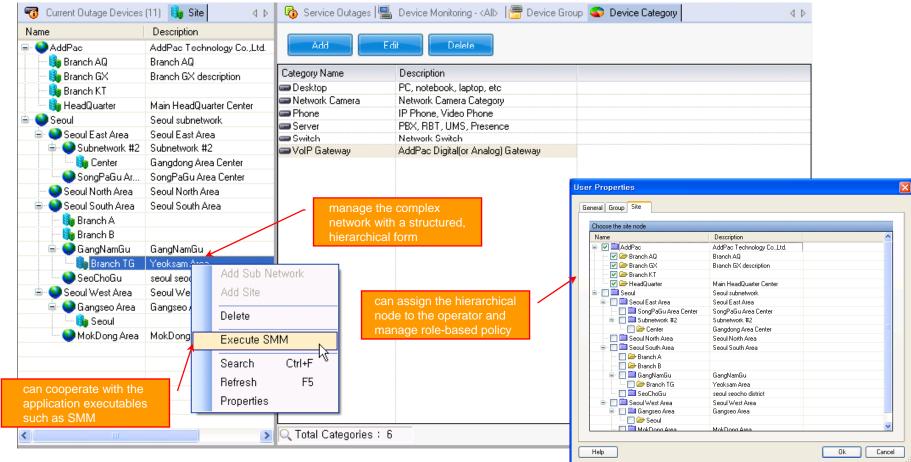
### Web-based Login

🖉 Smart Network Management System - V	Vindows Internet Expl	orer		
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🚖 🕸 🌈 Smart Network Management System			🙆 • 🗟 • 🖶 •	📴 • 🞯 • 🕲 🛍 🗱 😤
	USER ID PASSWORD	USER LOGIN	4	

AddPac

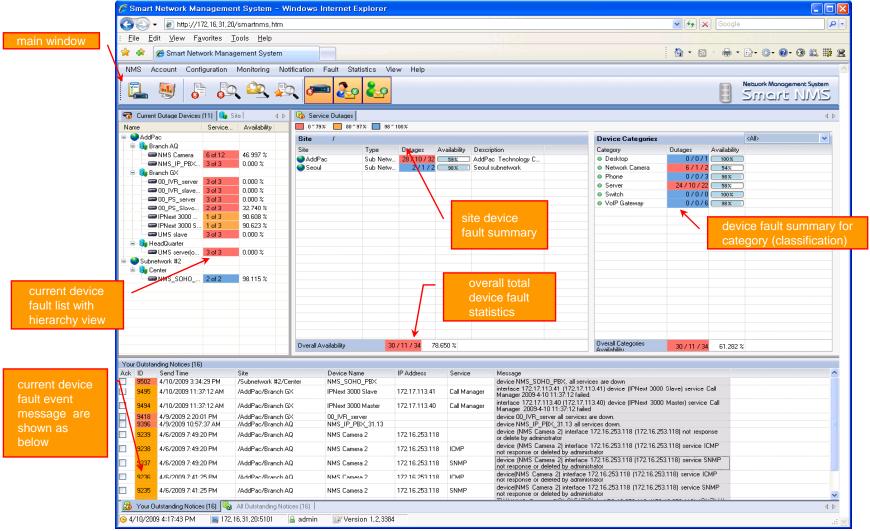
#### Network Resource Management

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

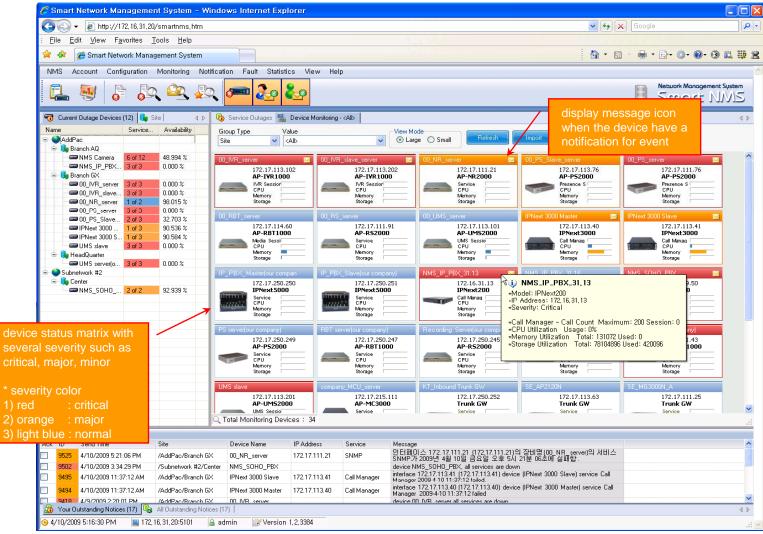




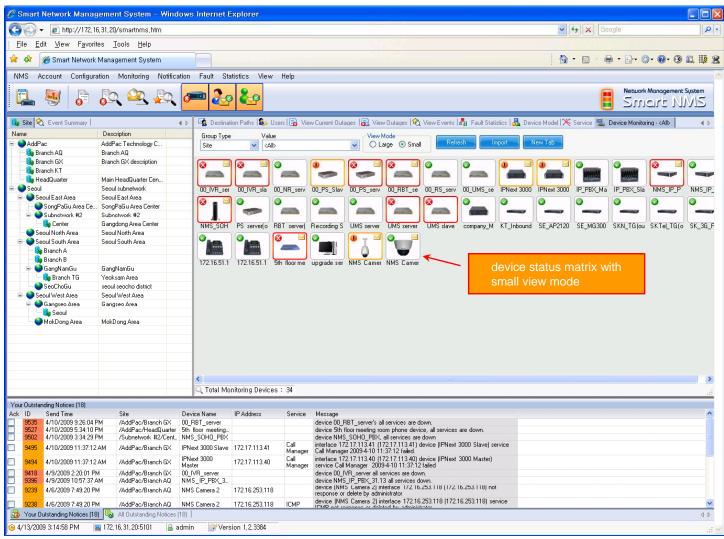
- Centralized fault summary information in main window
- Display current fault device through tree view
- Notify administrator with detailed fault information
- Provide device availability information for 24hrs











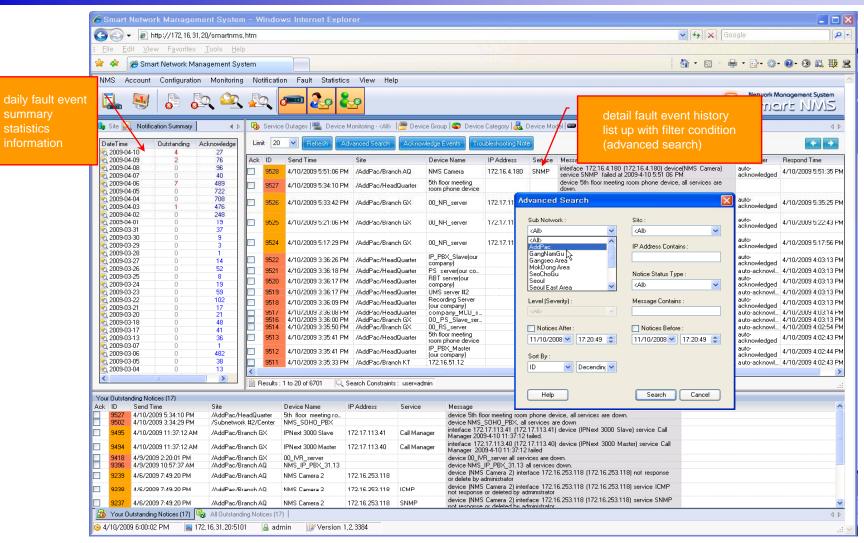


www.addpac.com

## **Device Fault History Management**

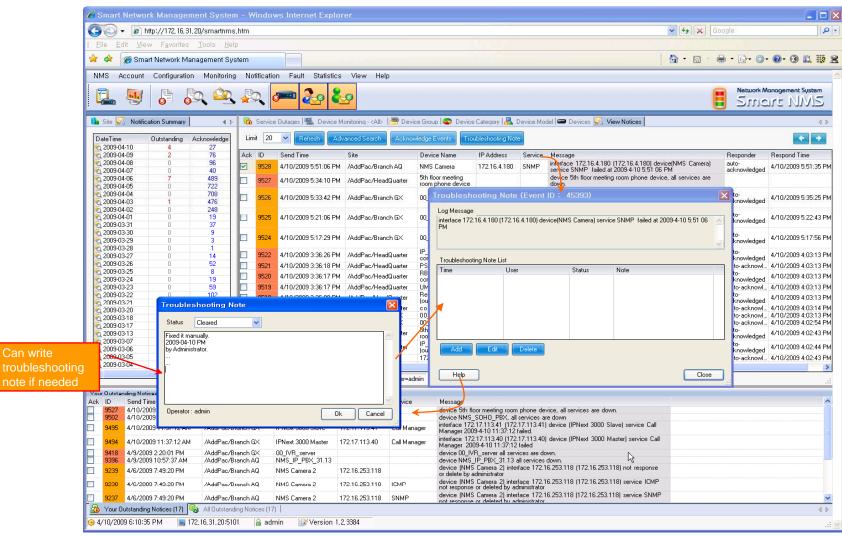
- Provide both summary view and detailed event message
- Can Write troubleshooting job note for each event manually
- Administrator can query for a history fault with search condition
- Each fault is related to the several raw events

#### **Device Fault History Management**





#### **Device Fault History Management**





## Current Device Fault (Outage)

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IMS Account Configuration	Monitoring N	Notification E:	ault Statistics \	view Help							
	-								_	Network Management System	
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🕽 Current Outage Devices (13) ا 🎭	Site 🛛 🛛 🛛 🗸	D Construction	e Outages 🛛 🖓 Event	Notification 😼 Desti	nation Paths 🕵 Users	🚡 View Current Outages					
	Availability	Outage ID		Device Name	IP Address	Service	Time Down			· · · ·	
S AddPac			/AddPac/Branch GX /AddPac/Branch GX	00_RBT_server 00 RBT server	172.17.114.60	Media	4/10/2009 :		Display the	current all	
🖶 🎭 Branch AQ			/AddPac/Branch GX	00_RBT_server	172.17.114.60	SNMP	4/10/2009		device faul	ts	
MMS Camera 6 of 12	50.000 %		/AddPac/HeadQuarter			ICMP	4/10/2009				
MMS_IP_PBX 3 of 3	0.000 %	13907	/Subnetwork #2/Cent	NMS_SOHO_PBX	172.16.19.50	ICMP	4/10/2009	34:29 PM			
🖻 🍓 Branch GX			/Subnetwork #2/Cent		172 16 19 50	SNMP	4/10/2009	234-29 PM			
	0.000 %		/AddPac/Branch GX	IPNext 3000 Slave	Event Detail (	D: 45412)					
	0.000 %		/AddPac/Branch GX	IPNext 3000 Master					_		
00_PS_server 3 of 3	0.000 %		/AddPac/Branch GX /AddPac/Branch GX	00_IVR_server 00_IVR_server	Acknowledge	Events Device Pro	perties			Help Close	
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CO_RBT_server 3 of 3	0.000 %		/AddPac/Branch AQ	NMS_IP_PBX_31.13	3						
	66.667 %	13772	/AddPac/Branch AQ	NMS_IP_PBX_31.13	B Event Time	4/10/2009 9:26:04 F	M IP Address		Severity	Critical	
	66.667 %		/AddPac/Branch AQ	NMS_IP_PBX_31.13	B Site	/AddPac/Branch GX	Device Name	00 RBT serv	er Device Mode	AP-RBT1000	
UMS slave 3 of 3	0.000 %		/AddPac/Branch AQ	NMS Camera							
🗄 🍓 HeadQuarter	0.000.01		/AddPac/Branch AQ	NMS Camera	Service		Status		Acknowledge	аву	
Sth floor meeti 1 of 1	0.000 %		/AddPac/Branch AQ /AddPac/Branch AQ	NMS Camera NMS Camera	Time Acknowle	dge					
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Subnetwork #2			/AddPac/Branch AQ	NMS Camera							
	0.000 %	9021	/AddPac/Branch GX	UMS slave	Description						
MMS_SUHU 2 of 2	0.000 %		/AddPac/Branch GX	UMS slave				record has been	created and service leve	el availability calculations 🙆	
			/AddPac/Branch GX	UMS slave	will be impact	ed until this outage is re	solved.				
			/AddPac/Branch GX	00_PS_server							
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		lated to t	he current	R_slave_serve	۲						
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9502 4/10/2009 5:34:10 PM 9502 4/10/2009 3:34:29 PM	/AddPac/Headu /Subnetwork #2				devic	ليتسبب المحمد					
				a 🚛 🖸 Call in	nterf						
9495 4/10/2009 11:37:12 AM /AddPac/Branch GX IPNext 3000 Slave 172.17.113.41				<sup>3.41</sup> Manager C	Call Manager 2009-4-10 11						
9494 4/10/2009 11:37:12 AM /AddPac/Branch GX IPNext 3000 172.17.113.40					interface 172 17.113.40 (172.17.113.40) device (IPNext 3000 Master)						
9418 4/9/2009 2:20:01 PM	/AddPac/Branck		server		service Call Manager 2009-4-10 11:37:12 failed device 00_IVR_server all services are down.						
9396 4/9/2009 2:20:01 PM / Addres/Branch GX 00_10R_server					device NMS_IP_PBX_31.1	vice NMS_IP_PBX_31.13 all services down.					
9239 4/6/2009 7:49:20 PM	/AddPac/Branch	AQ NMS Car	mera 2 172.16.25	3.118	levice (NMS Camera 2) in esponse or delete by admi	terface 172.16.253.118 (17	72.16.253.118) not				
3Z33 4767Z0037:43:20 PM											



# **Device Event History**

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🍓 Site 💫 Event Summary		♦ ▷ ☑ Service	e Uutages   🖧 Ex	vent Notification 😼 Dest	ination Paths   🎒 Users	View Current Uuta	ages   🚮 View L	lutages 4	
Event Time Outsta Ackno	Not Clea Cleared In I	Pro Limit 20	✓ Refresh	Advanced Search	Acknowledge Events	Troubleshooting Note			Can view all events for de
2009-04-12	6 0	0 Ack ID	Severity	Event Time	Site	Device Name	IP Address	Servi	Message with search condition
<b>1 2009-04-11 314</b> 0 <b>1 2009-04-10 182</b> 0	314 0 182 0		ex. I	4 11 2 12 20 20 11 24 42 454		65 MC2000N A			Agent Up with enterprise: 1.35.1.4.1.4000.3.2.200
2009-04-09     290     0     2009-04-08     412     0	290 0 412 0	45786	Critical	4/13/2009 11:24:42 AM	/AddPac/Branch GX	SE_MG3000N_A	172.17.111.25		(.1.3.6.1.4.1.4855.3.2.255) args (1):.1.3.6.1.6.3.1.1.4.3.0=".1.3.6.1.4.1.4855.3.2.255"
2009-04-07	448 0	0 . 45785	Cleared	4/13/2009 11:15:59 AM	/AddPac/Branch GX	00_NR_server	172.17.111.21	SNMP	CNIND data and a firm on interfaces 170 17 111 01
₹ 2009-04-06 1453 0 ₹ 2009-04-05 1704 0	1453 0 1704 0	0 45784	Cleared	4/13/2009 11:15:52 AM	/AddPac/Branch GX	00_NR_server			Node 00_NR_server is up.
2009-04-04 1712 0	1712 0 1276 0	45783	Critical	4/13/2009 11:15:51 AM	/AddPac/Branch GX	00_NR_server	172.17.111.21		Agent Up with Possible Changes (coldStart Trap) enterprise: 1.3.6.1.4.1.4855.3.2.10
2009-04-02	799 0	0							(.1.3.6.1.4.1.4855.3.2.10) args (1):.1.3.6.1.6.3.1.1.4.3.0=".1.3.6.1.4.1.4855.3.2.10"
₹ 2009-04-01 271 0 ₹ 2009-03-31 277 0	271 0 277 0		Critical Warning	4/13/2009 11:15:13 AM 4/13/2009 11:14:57 AM	/AddPac/Branch GX /AddPac/Branch GX	00_NR_server	172.17.111.21	SNMP	Node 00_NR_server is down. SNMP data collection on interface 172.17.111.21
₹ 2009-03-30 212 0	212 0		Warning	4/13/2009 10:00:15 AM	/AddPac/Branch AQ	00_NR_server NMS_IP_PBX_31	172.17.111.21		railed.
<b>17</b> 0 <b>17</b> 0 <b>17</b> 0 <b>17</b> 0 <b>17</b> 0 <b>17</b> 0 <b>1</b>	17 0 2 0		Warning	4/13/2009 10:00:15 AM		NMS_IP_PBX_31			SNMP thresholding on interface 172.16.31.16 failed.
	108 0 292 0	0 🗋 45778	Warning	4/13/2009 9:59:51 AM	/AddPac/Branch GX	UMS slave	172.17.113.201	SNMP	ralied.
2009-03-25	46 0	0	Warning	4/13/2009 9:59:46 AM	/AddPac/Branch GX	UMS slave	172.17.113.201	SNMP	ralled.
₹ 2009-03-24 121 0 2009-03-23 1904 0	121 0 1904 0		Warning Warning	4/13/2009 9:59:42 AM 4/13/2009 9:59:41 AM	/AddPac/HeadQuarter /AddPac/HeadQuarter	UMS server(our co UMS server(our co			
2009-03-22	2643 0	0 45774	Warning Warning	4/13/2009 9:59:36 AM 4/13/2009 9:59:33 AM	/Subnetwork #2/Center /Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50 172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
2009-03-21 354 0 ≥ 2009-03-20 172 0	354 0 172 0	0 45772	Warning	4/13/2009 9:59:32 AM	/Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
₹ 2009-03-19 1 0 2009-03-18 1294 0	1 0 1294 0		Warning Warning	4/13/2009 9:59:27 AM 4/13/2009 9:59:24 AM	/Subnetwork #2/Center /Subnetwork #2/Center		172.16.19.50 172.16.19.50	SNMP SNMP	
2009-03-17	788 0		Warning Warning	4/13/2009 9:59:23 AM 4/13/2009 9:59:18 AM	/Subnetwork #2/Center /AddPac/Branch A0	NMS_SOHO_PBX NMS_IP_PBX_31	172.16.19.50 172.16.31.13	SNMP SNMP	
<b>2009-03-16</b> 14 0 <b>2009-03-15</b> 3 0	14 O 3 O		Warning	4/13/2009 9:59:15 AM	/AddPac/Branch AQ	NMS_IP_PBX_31			
		<							
<	1	Results :	1 to 20 of 25346	Q Search Constraints :	user=admin				
	1								
ly event statistics	bite	Device Name	IP Address	Service Message					<u> </u>
	/AddPac/Branch GX /AddPac/HeadQuarter	00_RBT_server 5th floor meeting.	-		LRBT_server's all services h floor meeting room phone		re down.		
	/Subnetwork #2/Cent	NMS_SOHO_PBX		device NM	MS_SOHO_PBX, all servic 172.17.113.41 (172.17.11)	es are down			
9495 4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Manager Call Mana	ager 2009-4-10 11:37:12 fa	iiled.	ŕ	•	
HaddPac/Branch GX Ma		IPNext 3000 Master	172.17.113.40 Manager service C		172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) all Manager 2009-4-10 11:37:12 failed				
9418 4/9/2009 2:20:01 PM 9396 4/9/2009 10:57:37 AM	/AddPao/Branoh GX /AddPac/Branch AQ	00_IVR_corver NMS_IP_PBX_3.			_IV/R_eerver all eervicee are down. MS_IP_PBX_31.13 all services down.				
9239 4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	device (N	MS Camera 2) interface 1 or delete by administrator		.253.118) not		
🔬 Your Outstanding Notices (18) 🔩	All Outstanding Notices	18)							4 Þ



- 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

	us Information - I Status Information Per			er mance Monitori	ing							
Today's Availability CPU Utilization						ization		Stor	Storage Utilization			
		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	20 20 20 20 20 20 20 20 20 20 20 20 20 2	20 TO	10 °	Use	al : 1024 MB ad : 686.3 MB e : 337.7 MB	Zho		Total : 298 G Used : 203.4 Free : 297.8	мв	
Interface	e Status								_			
Index	Name	IP Addr	ess	Speed	Status	Rx Traffic	Tx Traf	ific	Errors (pkts)			
2	GigabitEthernet0/0	172.17.	113.40	1Gbps	😐 up	9.7Kbps	10.1Kb	ps	0			
3	GigabitEthernet0/1	0.0.0.0		1Gbps	down	0 bps	0 bps		0			
Service	Information (Availability:	Persentage ov	ver last 24	hours) Apply	Service N	Monitor Status						
		Status Availability		Service Max			Maximum	Value	Used			
		down			CM Service							
✓ 172.17.113.40					Call Manager - Call Count			5000	0	0%	)	
VICMP 🔍 U		单 up	up 97.743%		Call Mar	ager - Soft Phone Count		100	0	0%	)	
SNMP •		● up	97.743%		Call Mar	Call Manager - Terminal Count 5000			7	0%		
Dverall Availability 90.496%												

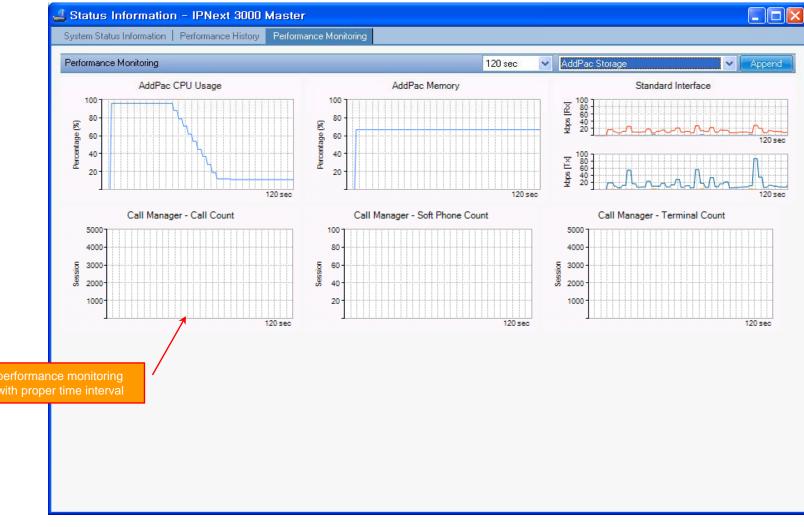




performance analysis graph for last 24 hours



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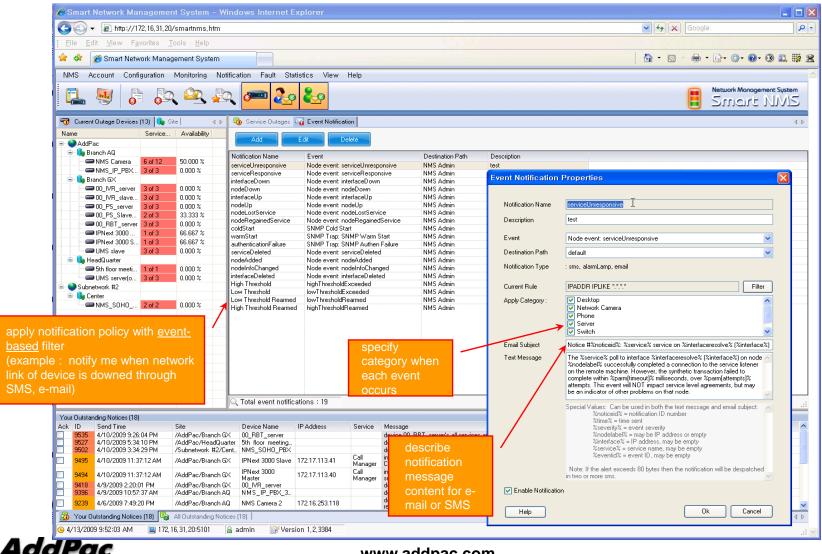


AddPac

# 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**

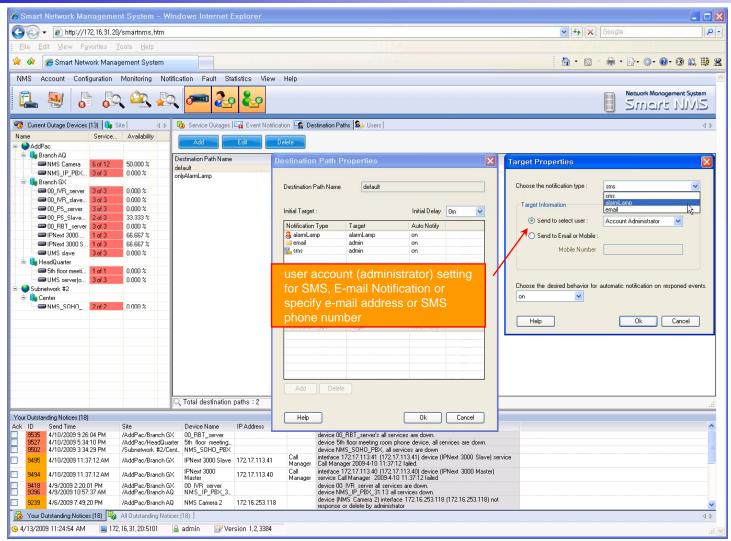


## **Event Notification Management**

🔗 Smart Network Management System – Windows Internet Explorer	
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Eile Edit View Favorites Tools Help	
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NMS Account Configuration Monitoring Notification Fault Statistics View Help	
🖳 🧕 🖟 🕰 🕰 🚛 🌆	Network Management System
🐨 Current Dutage Devices (13) 🙀 Site 🛛 4 🕨 🚯 Service Dutages 🖓 Event Notification 🦉 Destination Paths	٩ ٩
Name Service Availability Add Edit Delete	Destination Path Properties
Addrac         Destination Path Name           Image: MMS Camera         6 of 12         50.000 %           Image: MMS LIP_PBX         3 of 3         0.000 %           Image: MMS LIP_PBX         3 of 3         0.000 %	Destination Path Name
Image: Constraint of the second se	Initial Target :     Initial Delay     Om       Notification Type     Target     Auto Notify       B     alarmLamp     on       If email     admin     on       If email     admin     on       Add     Delete         Delay     Om       Notification Type     Target       Auto Notify
Your Dutstanding Notices (18)	Help Ok Cancel
Ack ID Send Time Site Device Name IP Address Service Message 9535 4/10/2009 9:26:04 PM /AddPac/Branch GX 00 RBT server device 00 RB	ST_server's all services are down.
9527 4/10/2009 5:34:10 PM /AddPac/HeadQuarter 5th floor meeting device 5th floo	or meeting room phone device, all services are down.
C 0405 4 110 12000 11 27 12 444 14 1/0 - 10 - 1 CV 104 + 2000 Cl 172 17 172 41 Call interface 172.	2009-4-10 11:37:12 failed 2009-4-10 11:37:12 failed
9494         4/10/2009 11:37:12 AM         /AddPac/Branch GX         IPNext 3000 Master         172.17.113.40         Call Manager Service Call M	2009 172 17, 113,40 (172 17, 113,40) device (IPNext 3000 Master) lanager 2009 4-10 11:37.12 failed
9418 4/9/2009 2:20:01 PM //AddPac/Branch GX 00_IVR_server device 00_IVF	Randge 2000 4-10 11 - 10 - 12 - 10 - 10 - 10 - 10 - 1
9229 4/6/2009 7:49:20 PM //AddPao/Pranch AD NMS Camera 2 172:16:252:110 device (NMS	IP_PRX_1113 all services drawn Camera 2) interface 172.16.253.118 (172.16.253.118) not elete by administrator ✓
3 Your Outstanding Notices (18) 😼 All Outstanding Notices (18)	
😋 4/13/2009 11:22:46 AM 🛛 📓 172,16,31,20:5101 🔒 admin 📝 Version 1,2,3384	

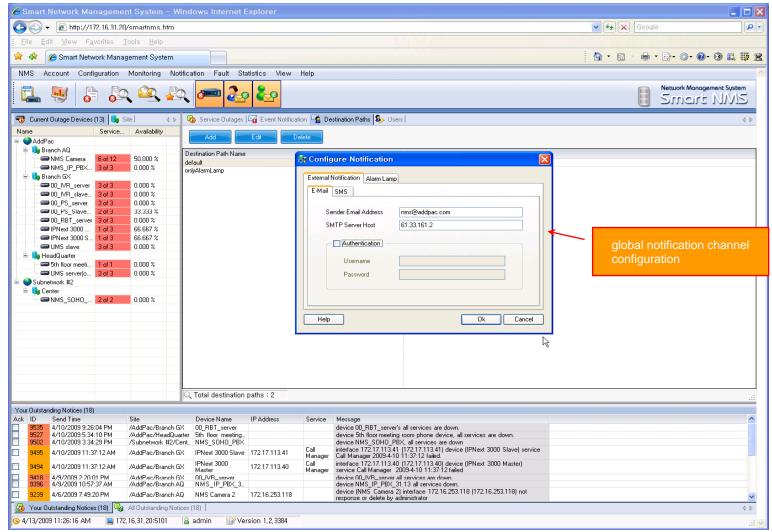


#### **Event Notification Management**



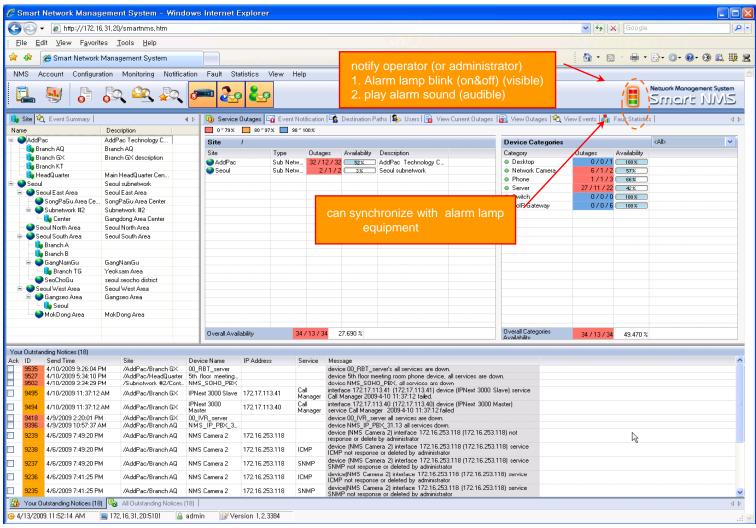


## Configuration





#### Audible & Visible Alarm

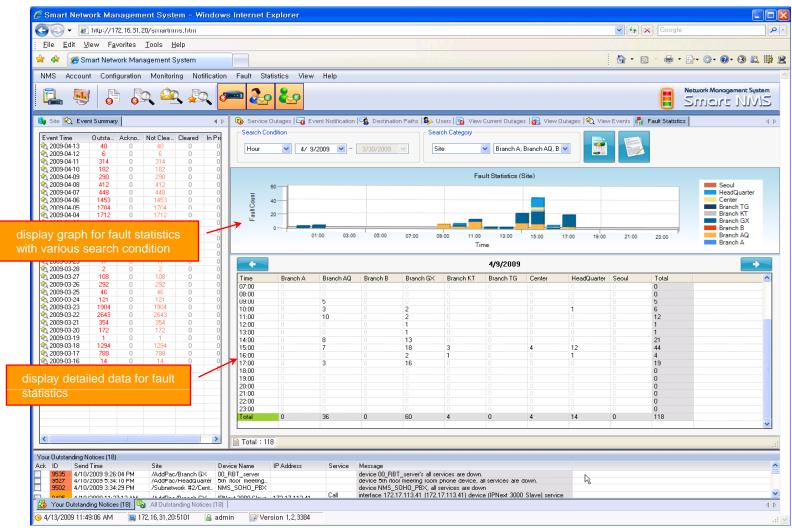




## **Fault Statistics**

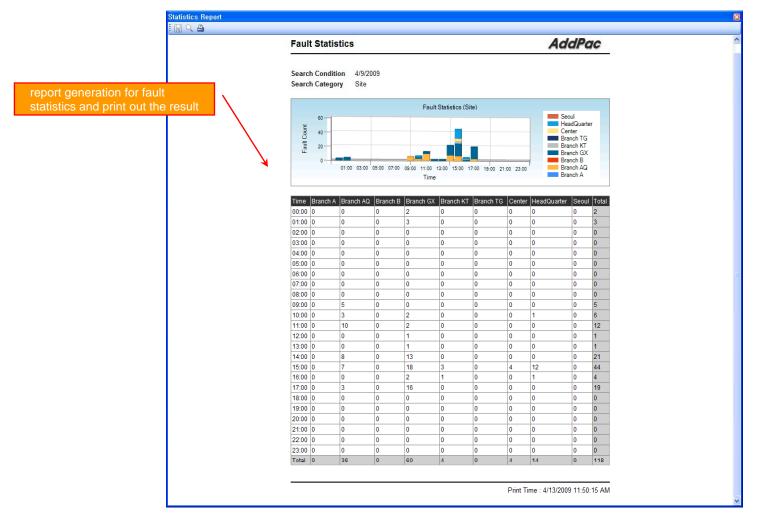
- analyze for a fault event with graph and detailed list data
- Report form generation and print out for statistics result

#### **Fault Statistics**





#### **Fault Statistics – Report Generation**



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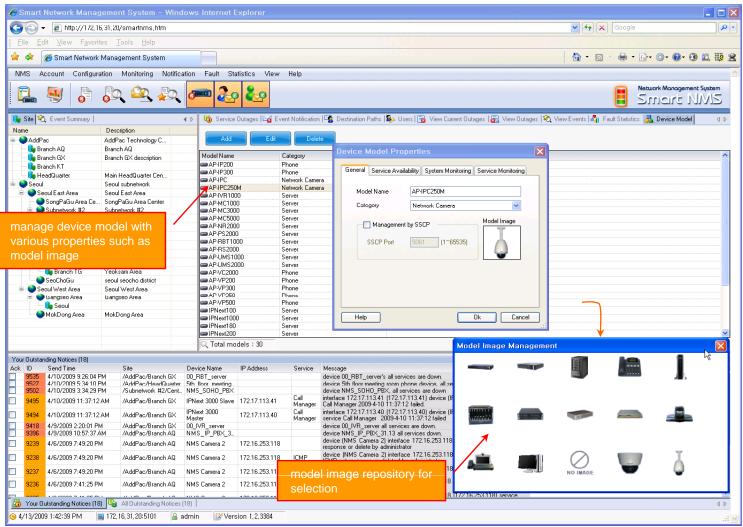
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## Model & Service Management

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

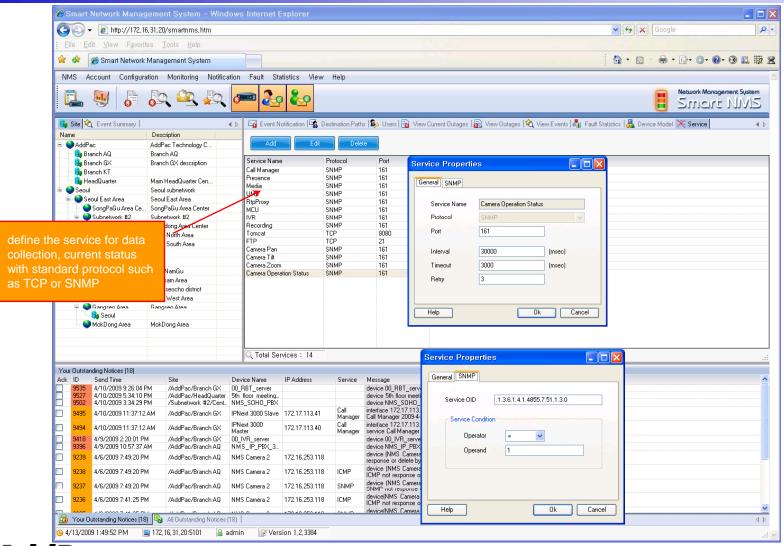


## **Device Model Management**





#### **Service** Definition





# Thank you!

## AddPac Technology Co., Ltd. Sales and Marketing

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