

Digital VoIP Gateway Solution



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- AP1700 Digital VoIP Gateway
- AP1800 Digital VoIP Gateway
- AP1850 Digital VoIP Gateway
- AP2620 Digital VoIP Gateway
- AP2640 Digital VoIP Gateway
- AP2650 Digital VoIP Gateway
- AP-MG3000 Media Gateway
- AP-MG3800 Media Gateway
- AP-MG5000 Media Gateway

[Learn More >](#)

The image shows a collection of AddPac hardware devices, including several Digital VoIP Gateways and Media Gateways, arranged in two stacks. The devices are black with silver accents and feature various ports and indicators on their front panels.

AddPac

AddPac Technology

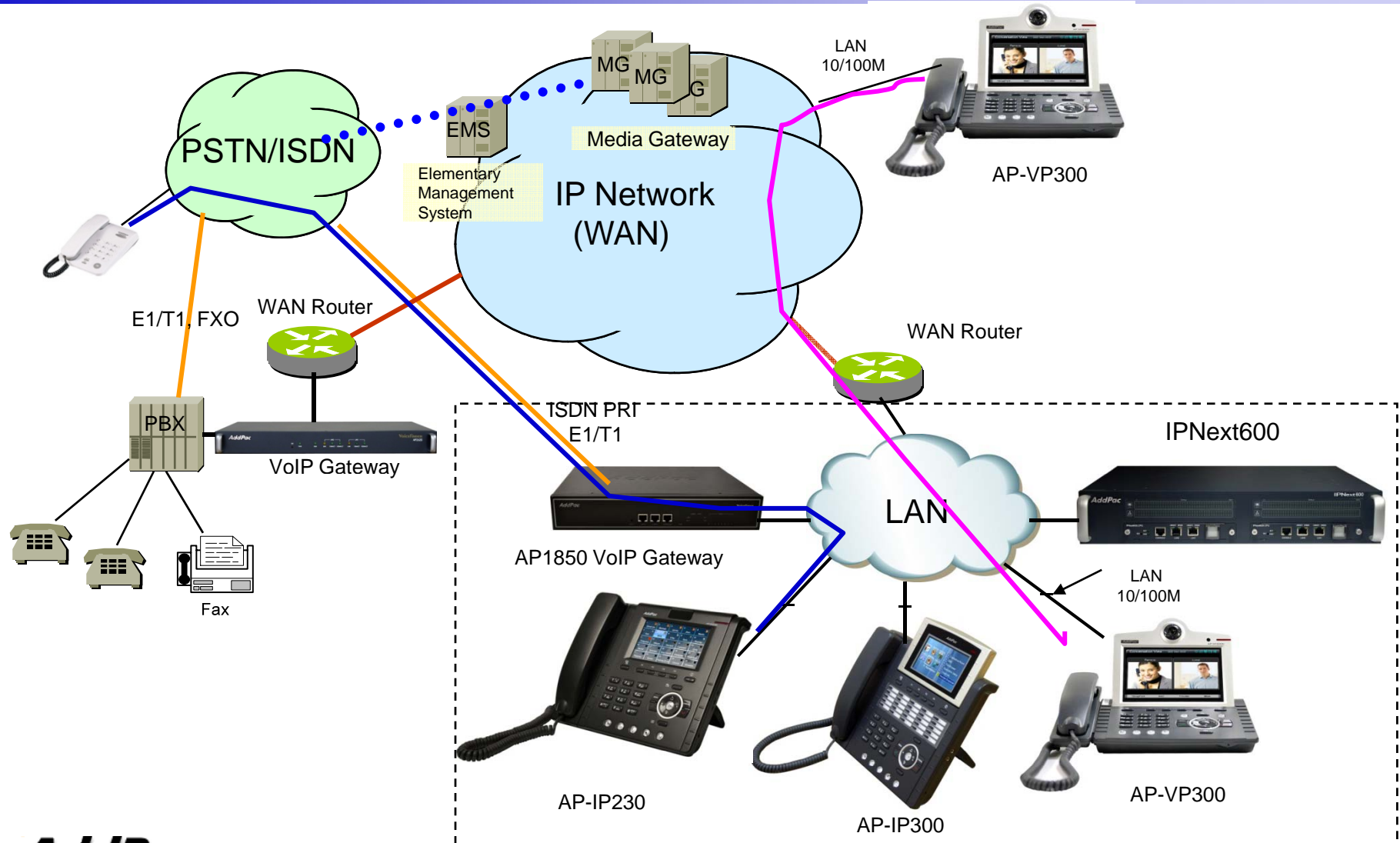
Sales and Marketing

www.addpac.com





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- VoIP Modules for Rack Mountable Equipment
- AddPac VoIP Gateway Service Features
- AddPac VoIP Gateway Management



Digital VoIP Gateway Service Diagram






Digital VoIP Gateways (1~2 E1/T1)

Product	AP1700 	AP2620 	AP2640 	AP2650 
Available Modules	AP-FXS4 AP-FXO4 AP-FXS2O2 AP-E&M4 AP-E1 AP-T1	AP-FXS4 AP-FXO4 AP-FXS2O2 AP-E&M4 AP-E1 AP-T1	AP-FXS8 AP-FXO8 AP-FXS4O4 AP-E&M8 AP-E1 AP-T1	AP-FXS8 AP-FXO8 AP-FXS4O4 AP-E&M8 AP-E1 AP-T1
Analog Ports	Up to 8	Up to 8	Up to 32	Up to 32
VoIP Signaling	SIP, H.323	SIP, H.323	SIP, H.323	SIP, H.323
Digital E1/T1	Up to 2E1	Up to 2E1	Up to 2E1	Up to 2E1
Digital Interface Signaling	ISDN PRI, R2	ISDN PRI, R2	ISDN PRI, R2	ISDN PRI, R2
Module Slot	Two(2)	Two(2)	Four(4)	Four(4)
LAN Port	2	2	2	2
Console	1	1	1	1
Power	Single PSU	Single PSU	Single PSU	Dual PSU

Digital VoIP Gateways (1~4 E1/T1)

Product	AP1800	AP1850
		
Available Modules	AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1, AP-N1-2T1 AP-N1-2E1, AP-N1-2T1	AP-N1-E1, AP-N1-2T1 AP-N1-2E1, AP-N1-2T1
Analog Ports	Up to 16	N/A
VoIP Signaling	SIP, H.323	SIP, H.323
Digital E1/T1	Up to 2E1	Up to 4E1
Digital Interface Signaling	ISDN PRI, R2, SS7*(Option)	ISDN PRI, R2, SS7*(Option)
Module Slot	Two(2)	Two(2)
LAN Port	2	2
Console	1	1
Power	Single PSU	Single PSU

Digital VoIP Gateways (1~16 E1/T1)

Product	AP-MG3000	AP-MG3800	AP-MG5000
			
Available Modules	APv2-1E1 APv2-2E1 APv2-4E1	HIM-VoIP4E1 (4 E1/T1 Module)	HIM-4E1 (4 E1/T1 Module)
VoIP Signaling	SIP, H.323	SIP, H.323	SIP, H.323
Digital E1/T1	Up to 4E1	Up to 8 E1	Up to 16E1
Digital Signaling	ISDN PRI, R2	ISDN PRI, R2	ISDN PRI, R2
Module Slot	Two(2)	Two(2)	Four(4)
LAN Port	2	2	2
Console	1	1	1
Power	Single PSU	Single PSU	Dual PSU









VoIP Modules



Target :
AP2620, AP1700





VoIP Modules

DSP

Target	VoIP Modules	Module Features	Module Picture
AP1700, AP2620	AP-FXS4	4-Port FXS Module	
AP1700, AP2620	AP-FXO4	4-Port FXO Module	
AP1700, AP2620	AP-FXS2O2	2-Port FXS&2-Port FXO Module	
AP1700, AP2620	AP-E&M4	4-Port E&M Module	
AP1700, AP2620	AP-FXS3O1	3-Port FXS&1-Port FXO Module	
AP1700, AP2620	AP-E1	1-Port Digital E1/T1 Module	

Additional VoIP Modules

DSP







Target	Voice Modules	Module Features	Module Picture
AP2620	AP-MP3	1-Pair Audio-In/Out Port, Direct MIC-In, Headphone High Quality Audio Band IP Broadcasting	
AP2620	AP-AUDIO2	2-Pair Audio-In/Out Ports Voice Band IP Broadcasting	
AP2620	AP-AUD1S3	1-Pair Audio-In/Out Ports, FXS Analog Interface Voice Band IP Broadcasting	
AP2610, AP2620	AP-AUD1S2O1	1-Pair Audio-In/Out Ports, FXS 2-Ports, FXO 1-Port Voice Band IP Broadcasting	



Target :
AP2640, AP2650

VoIP Modules

DSP






Target	VoIP Modules	Module Features	Module Picture
AP2640 AP2650	AP-FXS8	8-Port FXS Module	
AP2640 AP2650	AP-FXO8	8-Port FXO Module	
AP2640 AP2650	AP-FXS4O4	4-Port FXS&4-Port FXO Module	
AP2640 AP2650	AP-E&M8	8-Port E&M Module	
AP2640 AP2650	AP-E1	1-Port Digital E1/T1 Module	
AP2640 AP2650	AP-2E1	2-Port Digital E1/T1 Module	



Target :
AP1800, AP1850

VoIP Modules

DSP




Target	VoIP Modules	Module Features	Module Picture
AP1800	AP-N1-FXS8	8-Port FXS Module	
AP1800	AP-N1-FXO8	8-Port FXO Module	
AP1800	AP-N1-FXS4O4	4-Port FXS&4-Port FXO Module	
AP1800 AP1850	AP-N1-E1	1-Port Digital E1/T1 Module	
AP1800 AP1850	AP-N1-2E1	2-Port Digital E1/T1 Module	



Target :
AP-MG3000

VoIP Modules

DSP


Target	VoIP Modules	Module Features	Module Picture
AP-MG3000	APv2-1E1	1-Port Digital E1/T1 Module	 A black VoIP module with a single RJ45 port on the front panel. The top of the module is labeled 'APv2-1E1'.
AP-MG3000	APv2-2E1	2-Port Digital E1/T1 Module	 A black VoIP module with two RJ45 ports on the front panel. The top of the module is labeled 'APv2-2E1'.
AP-MG3000	APv2-4E1	4-Port Digital E1/T1 Module	 A black VoIP module with four RJ45 ports on the front panel. The top of the module is labeled 'APv2-4E1'.



Target :
AP-MG3800, AP-MG5000

VoIP Modules

DSP

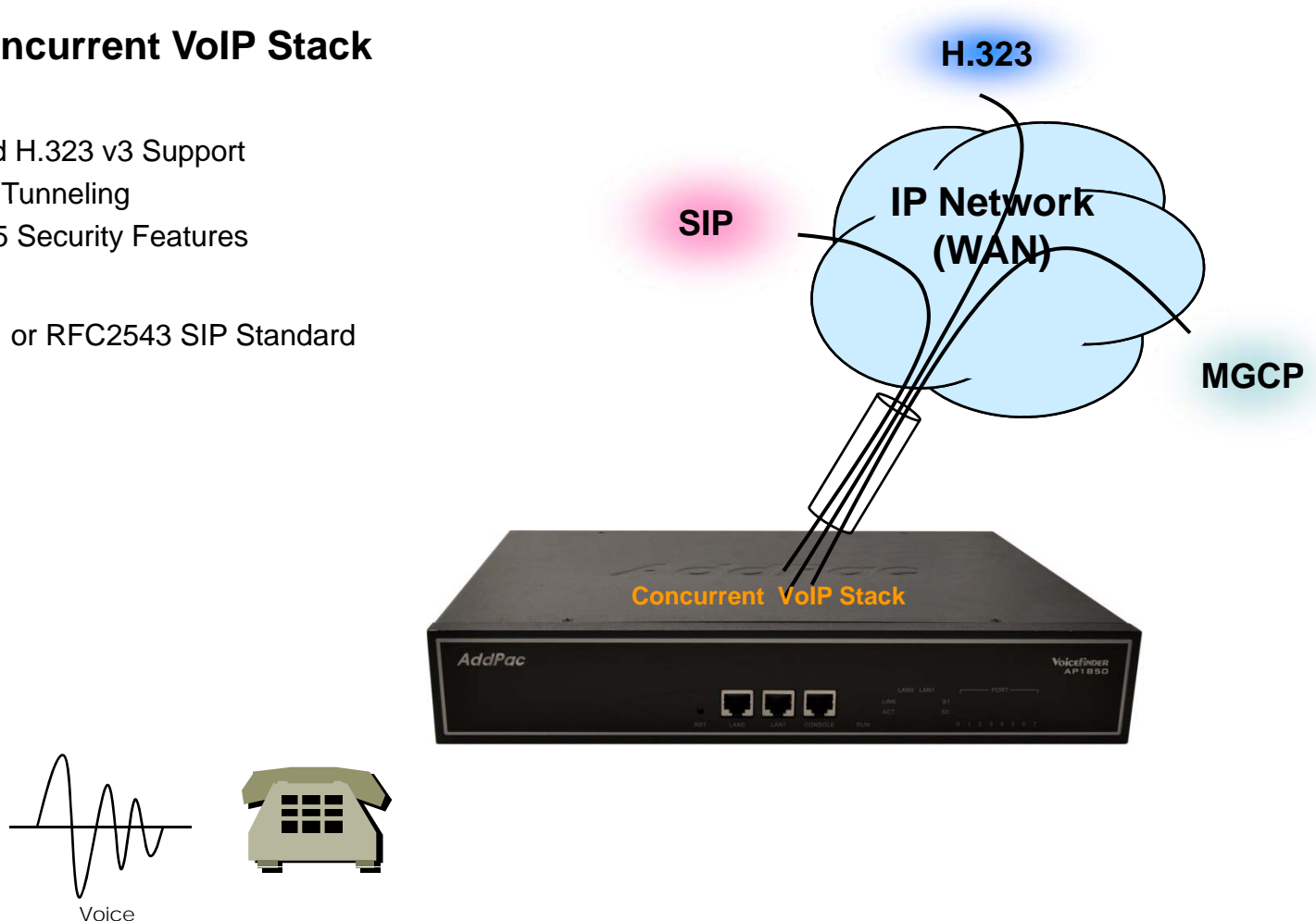
Target	VoIP Modules	Module Features	Module Picture
AP-MG3800, AP-MG5000	HIM-VOIP4E1	4-Port Digital E1/T1 Module	



VoIP Gateway Service Features

VoIP (Voice over IP) Service

- **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



VoIP (Voice over IP) Service

- **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

VoIP (Voice over IP) Service

- **Voice Codec**

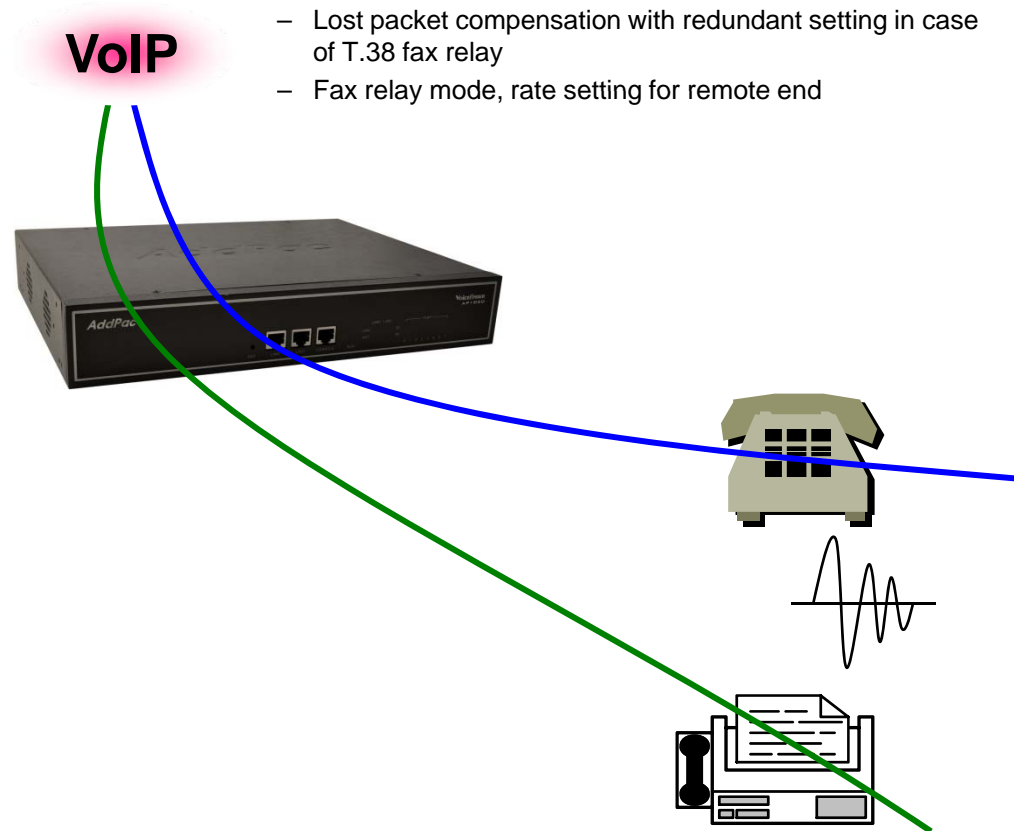
- G.711 A-Law, G.711 U-Law
- G.726 r16, G.726 r32
- G.729A
- G.723.1 r63, G.723.1 r53
- VAD (Voice Activity Detection) function support
- DTMF relay support (H.323, SIP, MGCP common) based on RFC2833

- **RTP**

- Redundant RTP packet transmission in case of severe packet loss
- Dynamic jitter buffer management and RTP 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**

- 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



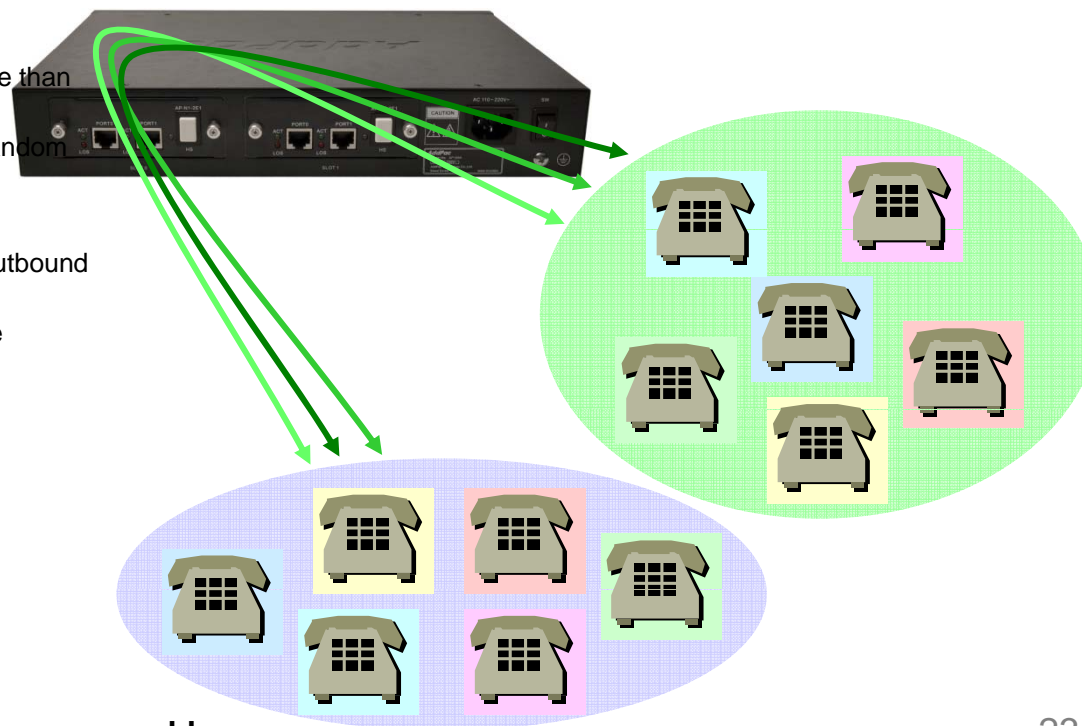
VoIP (Voice over IP) Service

• 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, MGCP 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/ random
- 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



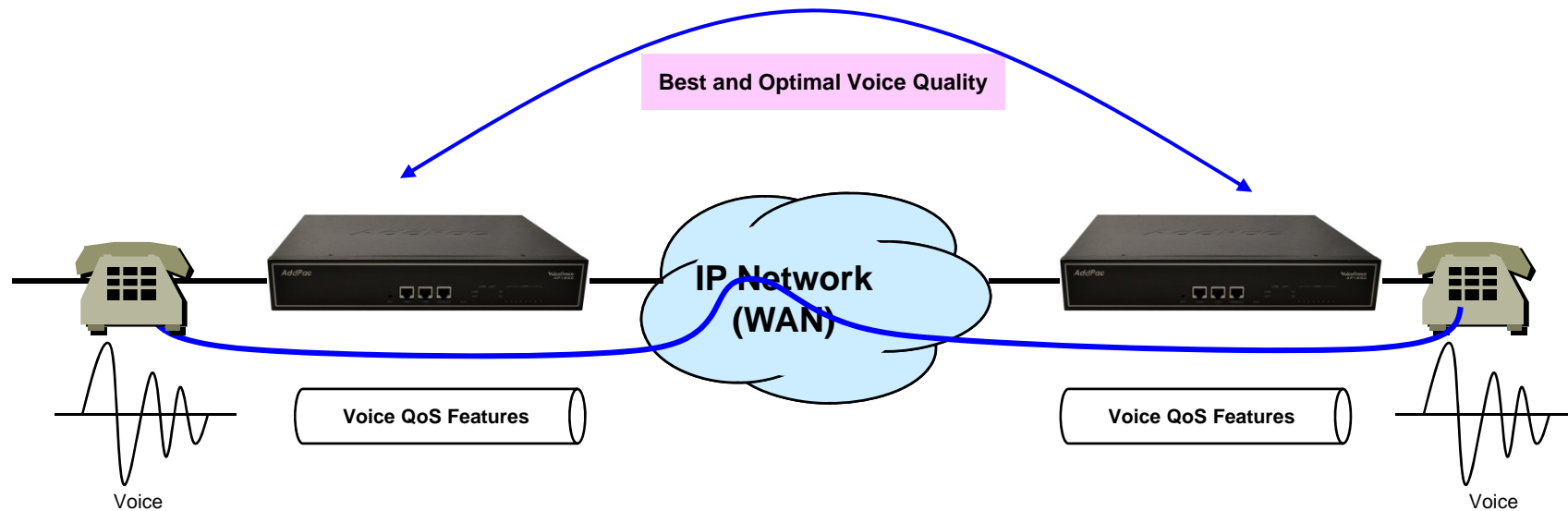
Advanced QoS Features

- **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

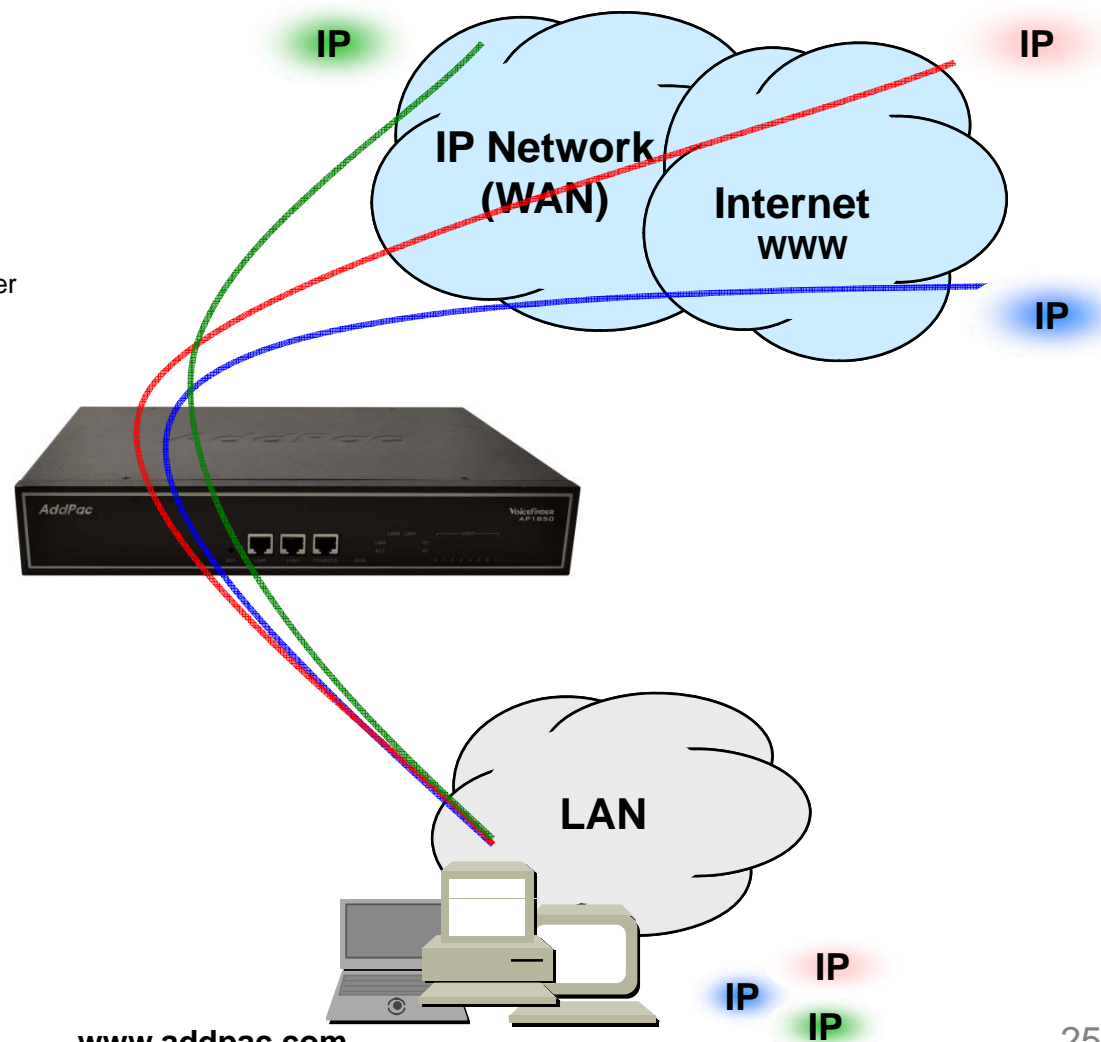
- **Enhances Receive Voice QoS Features**

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



Network Protocols

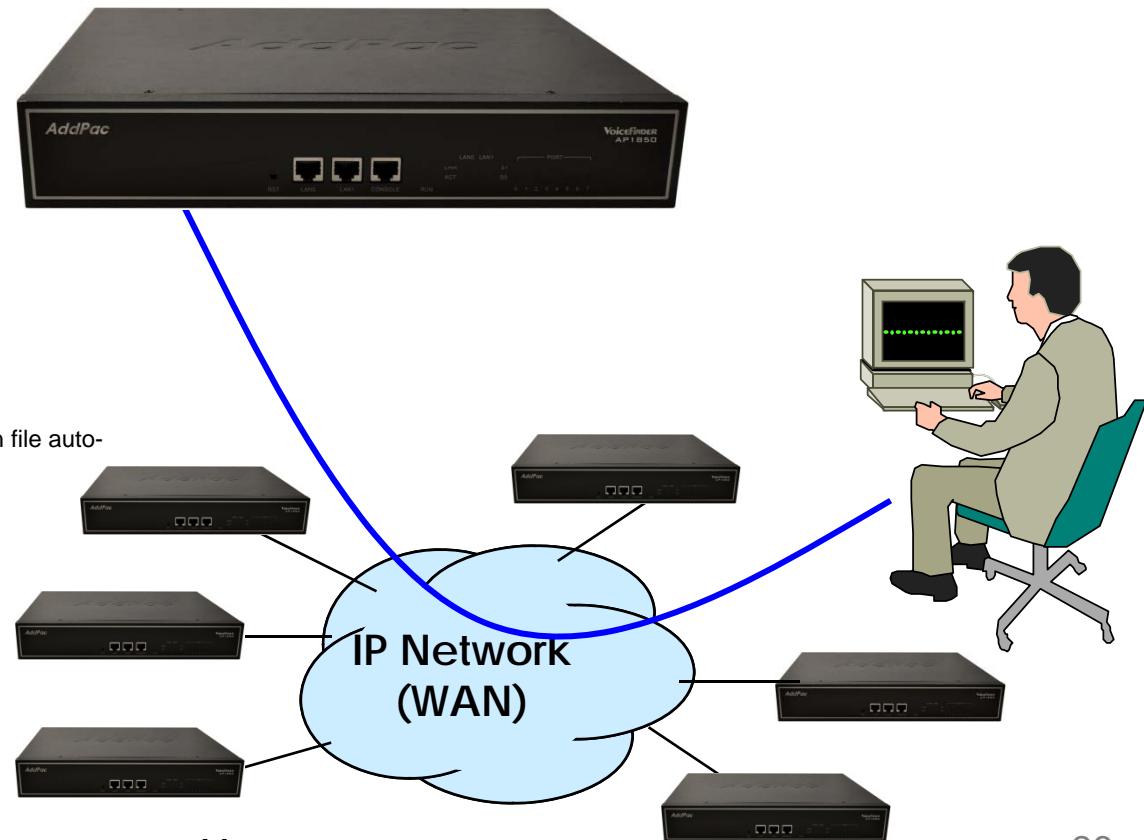
- **Basic Network Protocols**
 - ARP, IPv4, TCP, UDP, ICMP, SCTP, IGMP, MLD
- **Routing Protocol**
 - IPv4 : Static
- **Service Protocol**
 - FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
 - CDP (Cisco Discovery Protocol)
 - DNS Resolver , DDNS(nsupdate)
 - Bridge
 - Syslog
- **IPv4 Address Configuration**
 - Fixed (Static)
 - DHCP
 - PPPoE
- **Miscellaneous**
 - Cisco Style CLI
 - Standard & Extended IPv4 Access List
 - Multi-level User Account Management
 - IP accounting
 - STUN Client



Network Management

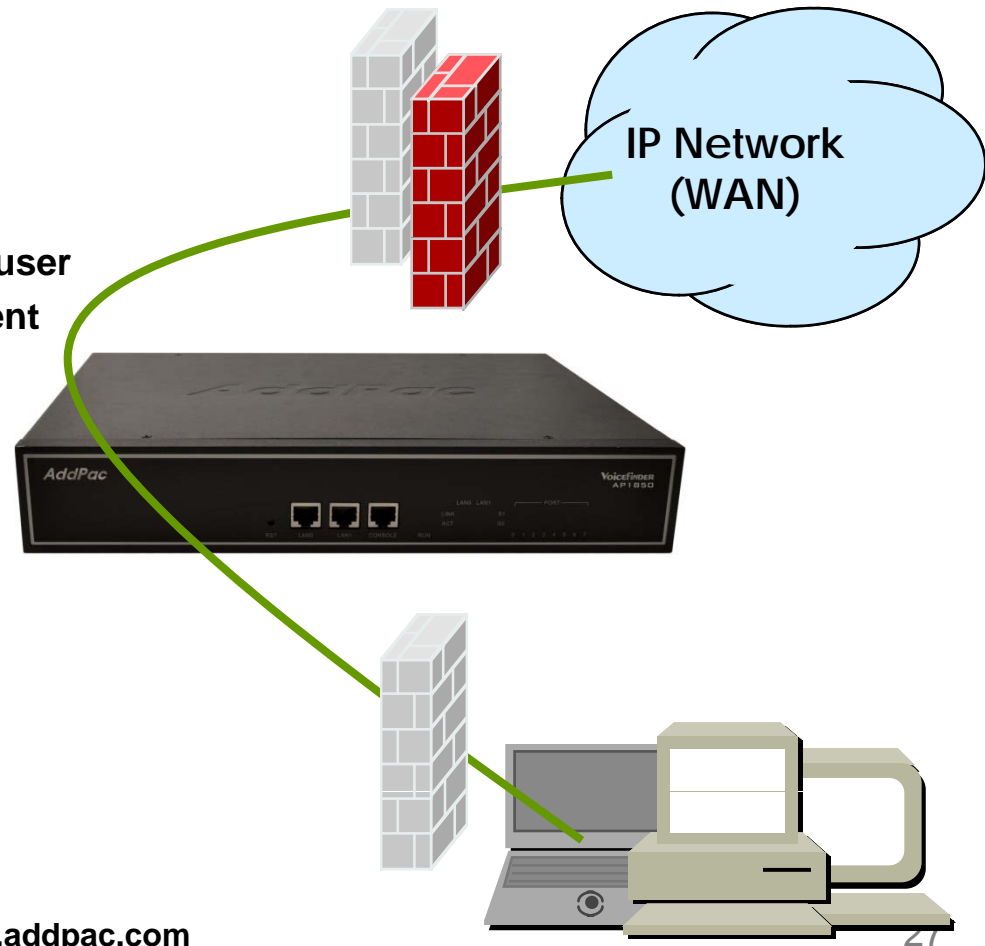
- **SNMP**
 - Standard Simple Network Management Protocol(SNMP) Agent support
 - MIB v1 and v2 Support
- **Web-based Management**
 - Smart Easy Setup
 - Standard Voice Interface
 - Standard PSTN Back-up Interface
- **Watch-dog Function**
 - Hardware, Software watch-dog services
- **Remote Management**
 - Telnet
 - Rlogin
- **Auto Upgrade Service**
 - HTTP server based APOS image and configuration file auto-upgrade support
- **Batch Job Function**
 - Text based script downloading

- **Interoperable with AP-VPMS Service**
 - AddPac VoIP Plug & Play Management System (AP-VPMS)



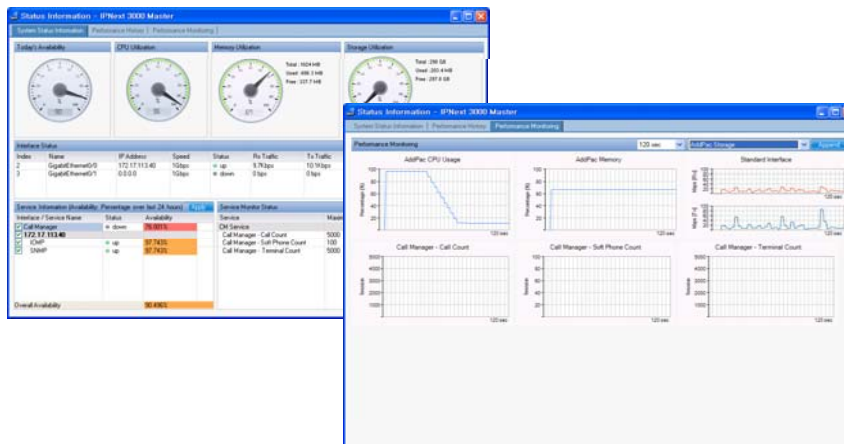
Security Management

- 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



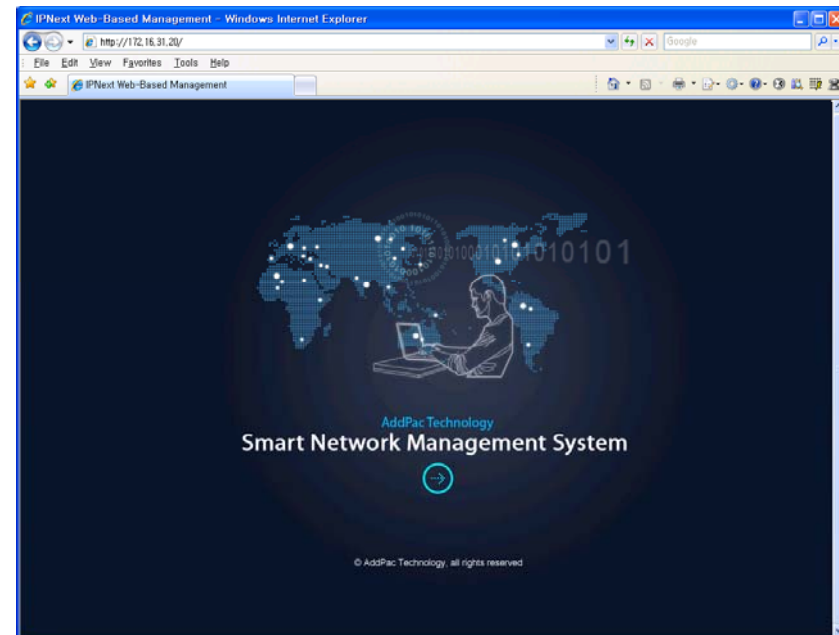
Smart NMS

Smart Network Management System for VoIP 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

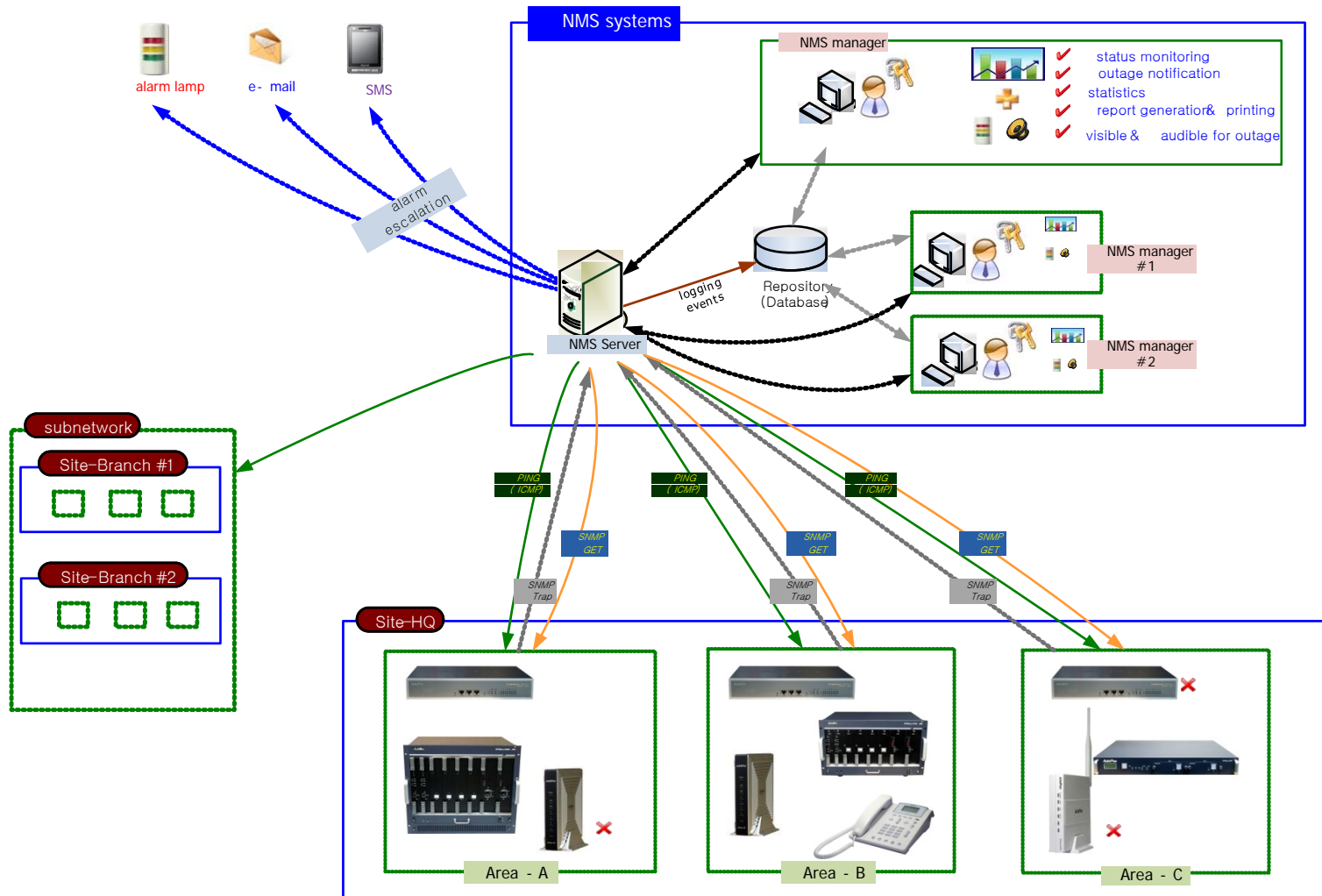
NMS Server

- 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

The screenshot displays the IPNext Web-Based Management interface within a Windows Internet Explorer browser window. The browser's address bar shows the URL `http://172.16.31.20/`. The main content area features a dark blue background with a world map and a person using a laptop. The text "AddPac Technology Smart Network Management System" is prominently displayed. A copyright notice at the bottom reads "© AddPac Technology, all rights reserved".

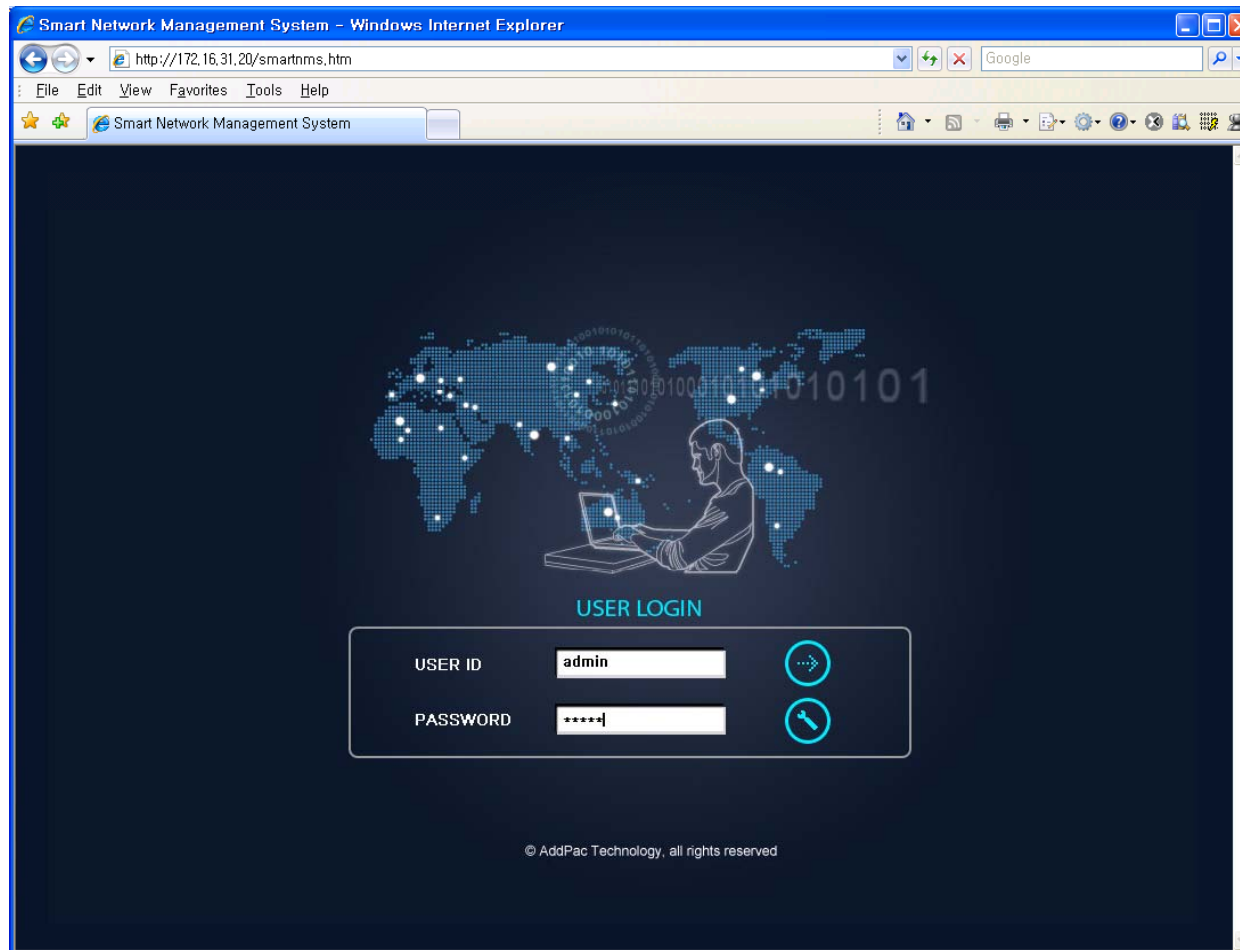
Two callout boxes highlight specific features:

- Automatic version check:** A yellow box with an arrow pointing to the top of the main interface.
- New S/W version update:** A yellow box with an arrow pointing to the bottom of the main interface.

Two Windows dialog boxes are overlaid on the interface:

- Launching Application:** A dialog box with a blue title bar and a close button. It contains a progress bar and the text: "Verifying application requirements. This may take a few moments."
- (61%) Downloading installnms:** A dialog box with a blue title bar and standard window controls. It contains a progress bar and the following information:
 - Name: `installnms`
 - From: `172.16.31.20`
 - Downloading: 6.29 MB of 10.1 MBA "Cancel" button is located at the bottom right.

Web-based Login



Network Resource Management

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

The screenshot displays the AddPac Network Resource Management interface. On the left, a hierarchical tree view shows the network structure, including sites like AddPac, Seoul, and various branches. A context menu is open over the 'GangNamGu' node, with 'Execute SMM' highlighted. In the center, a table lists device categories such as Desktop, Network Camera, Phone, Server, Switch, and VoIP Gateway. On the right, a 'User Properties' dialog box is open, showing a tree view of the same network structure with checkboxes for selecting resources. Three orange callout boxes provide additional context: one points to the tree view stating 'manage the complex network with a structured, hierarchical form'; another points to the 'Execute SMM' menu item stating 'can cooperate with the application executables such as SMM'; and a third points to the 'User Properties' dialog stating 'can assign the hierarchical node to the operator and manage role-based policy'.

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

main window

The screenshot displays the Smart Network Management System (NMS) interface. The main window shows a navigation menu with options like NMS, Account, Configuration, Monitoring, Notification, Fault, Statistics, and View. The interface is divided into several sections:

- Current Outage Devices [111]:** A tree view showing the hierarchy of devices across different sites (AddPac, Branch AQ, Branch GX, HeadQuarter, Subnetwork #2, Center). Each device is listed with its service status and availability percentage.
- Site Device Fault Summary:** A table showing the overall status for each site.

Site	Type	Outages	Availability	Description
AddPac	Sub Netw...	28 / 10 / 32	58%	AddPac Technology C...
Seoul	Sub Netw...	2 / 1 / 2	98%	Seoul subnetwork
- Device Categories:** A table showing the fault summary for various device categories.

Category	Outages	Availability
Desktop	0 / 0 / 1	100%
Network Camera	6 / 1 / 2	54%
Phone	0 / 0 / 3	98%
Server	24 / 10 / 22	58%
Switch	0 / 0 / 0	100%
VoIP Gateway	0 / 0 / 6	98%
- Overall Availability:** A summary bar at the bottom of the site device fault summary table showing 30 / 11 / 34 devices with 78.650% overall availability.
- Your Outstanding Notices [16]:** A table listing recent fault events with columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, and Message.

current device fault list with hierarchy view

site device fault summary

device fault summary for category (classification)

overall total device fault statistics

current device fault event message are shown as below

Device Fault Management

Smart Network Management System - Windows Internet Explorer

http://172.16.31.20/smartnms.htm

NMS Account Configuration Monitoring Notification Fault Statistics View Help

Current Outage Devices (12) Service Outages Device Monitoring - <All>

display message icon when the device have a notification for event

device status matrix with several severity such as critical, major, minor

* severity color

- 1) red : critical
- 2) orange : major
- 3) light blue : normal

ACK ID	Send Time	Site	Device Name	IP Address	Service	Message
9525	4/10/2009 5:21:06 PM	/AddPac/Branch GX	00_Nr_server	172.17.111.21	SNMP	인터페이스 172.17.111.21 (172.17.111.21)의 장비명(00_Nr_server)의 서비스 SNMP가 2009년 4월 10일 금요일 오후 5시 21분 06초에 실패함.
9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Center	NMS_SOHO_PBX			device NMS_SOHO_PBX, all services are down
9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service Call Manager 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	interface 172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) service Call Manager 2009-4-10 11:37:12 failed.
9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			device 00_IVR_server all services are down.

Your Outstanding Notices (17)

4/10/2009 5:16:30 PM 172.16.31.20:5101 admin Version 1.2.3384

Device Fault Management

The screenshot displays the Smart Network Management System (NMS) interface within a Windows Internet Explorer browser. The address bar shows the URL `http://172.16.31.20/smartnms.htm`. The interface features a top navigation menu with options like NMS, Account, Configuration, Monitoring, Notification, Fault, Statistics, and View. Below this is a toolbar with various icons for system management.

On the left side, there is a tree view showing the network hierarchy under the 'Site' tab. The main area is divided into two sections: a 'Destination Paths' section with filters for 'Site' and 'Value', and a 'Device Monitoring' section. The 'Device Monitoring' section displays a grid of device icons, each with a status indicator (green for OK, red for fault, yellow for warning). A red arrow points to a device labeled 'NMS Camera' with a red status indicator.

At the bottom of the interface, there is a table titled 'Your Outstanding Notices (18)'. The table has columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, and Message. The messages describe various service outages and failures, such as 'device 00_RBT_server's all services are down' and 'interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service Call Manager 2009-4-10 11:37:12 failed'.

A text box with an orange background and black text points to the device status matrix, stating: "device status matrix with small view mode".

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

The screenshot displays the Smart Network Management System (NMS) interface. The main window shows a list of fault events with columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, Message, Status, and Respond Time. An 'Advanced Search' dialog box is open, allowing users to filter events based on Sub Network, Site, IP Address, Notice Status Type, Level (Severity), Message Contains, Notices After, Notices Before, and Sort By.

daily fault event summary statistics information

DateTime	Outstanding	Acknowledge
2009-04-10	4	27
2009-04-09	2	76
2009-04-08	0	96
2009-04-07	0	40
2009-04-06	7	489
2009-04-05	0	722
2009-04-04	0	708
2009-04-03	1	476
2009-04-02	0	248
2009-04-01	0	19
2009-03-31	0	37
2009-03-30	0	9
2009-03-29	0	3
2009-03-28	0	1
2009-03-27	0	14
2009-03-26	0	52
2009-03-25	0	8
2009-03-24	0	19
2009-03-23	0	59
2009-03-22	0	102
2009-03-21	0	17
2009-03-20	0	21
2009-03-18	0	48
2009-03-17	0	41
2009-03-13	0	36
2009-03-07	0	1
2009-03-06	0	482
2009-03-05	0	38
2009-03-04	0	13

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

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message	Status	Respond Time
<input type="checkbox"/>	9528	4/10/2009 5:51:06 PM	/AddPac/Branch AQ	NMS Camera	172.16.4.180	SNMP	interface 172.16.4.180 (172.16.4.180) device(NMS Camera) service SNMP failed at 2009-4-10 5:51:06 PM	auto-acknowledged	4/10/2009 5:51:35 PM
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meeting room phone device			device 5th floor meeting room phone device, all services are down.	auto-acknowledged	4/10/2009 5:35:25 PM
<input type="checkbox"/>	9526	4/10/2009 5:33:42 PM	/AddPac/Branch GX	00_NR_server	172.17.113.41			auto-acknowledged	4/10/2009 5:35:25 PM
<input type="checkbox"/>	9525	4/10/2009 5:21:06 PM	/AddPac/Branch GX	UU_NR_server	172.17.113.41			auto-acknowledged	4/10/2009 5:22:43 PM
<input type="checkbox"/>	9524	4/10/2009 5:17:29 PM	/AddPac/Branch GX	00_NR_server	172.17.113.41			auto-acknowledged	4/10/2009 5:17:56 PM
<input type="checkbox"/>	9522	4/10/2009 3:36:26 PM	/AddPac/HeadQuarter	IP_PBX_Slave(our company)				auto-acknowledged	4/10/2009 4:03:13 PM
<input type="checkbox"/>	9521	4/10/2009 3:36:18 PM	/AddPac/HeadQuarter	PS_server(our company)				auto-acknowledged	4/10/2009 4:03:13 PM
<input type="checkbox"/>	9520	4/10/2009 3:36:17 PM	/AddPac/HeadQuarter	RBT_server(our company)				auto-acknowledged	4/10/2009 4:03:13 PM
<input type="checkbox"/>	9519	4/10/2009 3:36:17 PM	/AddPac/HeadQuarter	UMS_server #2				auto-acknowledged	4/10/2009 4:03:13 PM
<input type="checkbox"/>	9518	4/10/2009 3:36:09 PM	/AddPac/HeadQuarter	Recording Server (our company)				auto-acknowledged	4/10/2009 4:03:13 PM
<input type="checkbox"/>	9517	4/10/2009 3:36:08 PM	/AddPac/HeadQuarter	company_MUU_server				auto-acknowledged	4/10/2009 4:03:14 PM
<input type="checkbox"/>	9516	4/10/2009 3:36:00 PM	/AddPac/Branch GX	00_PS_Slave_server				auto-acknowledged	4/10/2009 4:03:13 PM
<input type="checkbox"/>	9514	4/10/2009 3:35:50 PM	/AddPac/Branch GX	00_PS_server				auto-acknowledged	4/10/2009 4:02:54 PM
<input type="checkbox"/>	9513	4/10/2009 3:35:41 PM	/AddPac/HeadQuarter	5th floor meeting room phone device				auto-acknowledged	4/10/2009 4:02:43 PM
<input type="checkbox"/>	9512	4/10/2009 3:35:41 PM	/AddPac/HeadQuarter	IP_PBX_Master (our company)				auto-acknowledged	4/10/2009 4:02:44 PM
<input type="checkbox"/>	9511	4/10/2009 3:35:33 PM	/AddPac/Branch KT		172.16.51.12			auto-acknowledged	4/10/2009 4:02:43 PM

Results: 1 to 20 of 6701 Search Constraints: user=admin

Your Outstanding Notices (17)

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meeting ro...			device 5th floor meeting room phone device, all services are down.
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Center	NMS_SOHD_PBX			device NMS_SOHD_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service Call Manager 2009-4-10 11:37:12 failed.
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	interface 172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) service Call Manager 2009-4-10 11:37:12 failed.
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			device 00_IVR_server all services are down.
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_31.13			device NMS_IP_PBX_31.13 all services down.
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) not response or delete by administrator
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.119	ICMP	device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) service ICMP not response or deleted by administrator
<input type="checkbox"/>	9237	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	SNMP	device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) service SNMP not response or deleted by administrator

Device Fault History Management

The screenshot displays the Smart Network Management System (NMS) interface in a Windows Internet Explorer browser. The main window shows a list of device faults with columns for Date/Time, Outstanding count, and Acknowledge status. A 'Troubleshooting Note' dialog box is open, allowing users to enter a note for a specific event. The note text reads: "Fixed it manually. 2009-04-10 PM by Administrator." Below the note, there are fields for 'Operator' (admin) and buttons for 'Ok' and 'Cancel'. Another 'Troubleshooting Note' dialog box is also visible, showing a 'Log Message' and a 'Troubleshooting Note List' table with columns for Time, User, Status, and Note. The background interface includes a navigation menu with options like NMS, Account, Configuration, Monitoring, Notification, Fault, Statistics, and View. The status bar at the bottom shows the current date and time as 4/10/2009 6:10:35 PM.

Can write troubleshooting note if needed

Current Device Fault (Outage)

The screenshot displays the Smart Network Management System (NMS) interface. The main window shows a tree view of network devices on the left and a table of 'Current Outage Devices' on the right. The table lists various devices and their availability status. A red box highlights the 'Current Outage Devices' table with the text 'Display the current all device faults'. Below this, a detailed 'Event Detail (ID: 45412)' window is open, showing event information such as Event Time (4/10/2009 9:26:04 PM), Site (/AddPac/Branch GX), Device Name (00_RB_T_server), and Severity (Critical). The description of the event states: 'device 00_RB_T_server's all interface down. A new Outage record has been created and service level availability calculations will be impacted until this outage is resolved.' A red box highlights this description with the text 'Can view the event data related to the current device fault and can write troubleshooting note if needed'. Below the event detail, there is a 'Troubleshooting Note List' table with columns for Time, User, Status, and Note. The interface also shows 'Your Outstanding Notices (18)' at the bottom.

Name	Service...	Availability	Outage ID	Site	Device Name	IP Address	Service	Time Down
AddPac			13968	/AddPac/Branch GX	00_RB_T_server	172.17.114.60	Media	4/10/2009 9:26:04 PM
Branch AQ			13967	/AddPac/Branch GX	00_RB_T_server	172.17.114.60	ICMP	4/10/2009 9:26:04 PM
NMS Camera	6 of 12	50.000 %	13966	/AddPac/Branch GX	00_RB_T_server	172.17.114.60	ICMP	4/10/2009 9:26:04 PM
NMS_IP_PBX...	3 of 3	0.000 %	13948	/AddPac/HeadQuarter	5th floor meeting room p...	172.17.114.60	SNMP	4/10/2009 9:26:04 PM
Branch GX			13907	/Subnetwork #2/Cent.	NMS_SOHO_PBX	172.16.53.101	ICMP	4/10/2009 5:34:10 PM
00_IVR_server	3 of 3	0.000 %	13906	/Subnetwork #2/Cent.	NMS_SOHO_PBX	172.16.19.50	ICMP	4/10/2009 3:34:29 PM
00_IVR_slave...	3 of 3	0.000 %	13896	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	
00_PS_server	3 of 3	0.000 %	13895	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	
00_PS_slave...	2 of 3	33.333 %	13802	/AddPac/Branch GX	00_IVR_server	172.17.113.40	ICMP	
00_RB_T_server	3 of 3	0.000 %	13801	/AddPac/Branch GX	00_IVR_server	172.17.113.40	ICMP	
IPNext 3000 S...	1 of 3	66.667 %	13800	/AddPac/Branch GX	00_IVR_server	172.17.113.40	ICMP	
IPNext 3000 S...	1 of 3	66.667 %	13773	/AddPac/Branch AQ	NMS_IP_PBX_31.13	172.17.113.40	ICMP	
UMS slave	3 of 3	0.000 %	13772	/AddPac/Branch AQ	NMS_IP_PBX_31.13	172.17.113.40	ICMP	
5th floor meeti...	1 of 1	0.000 %	13711	/AddPac/Branch AQ	NMS_IP_PBX_31.13	172.17.113.40	ICMP	
UMS serverfo...	3 of 3	0.000 %	13611	/AddPac/Branch AQ	NMS Camera	172.16.253.118	ICMP	
Subnetwork #2			13610	/AddPac/Branch AQ	NMS Camera	172.16.253.118	ICMP	
NMS_SOHO ID...	2 of 2	0.000 %	13609	/AddPac/Branch AQ	NMS Camera	172.16.253.118	ICMP	
			13608	/AddPac/Branch AQ	NMS Camera	172.16.253.118	ICMP	
			13607	/AddPac/Branch AQ	NMS Camera	172.16.253.118	ICMP	
			13606	/AddPac/Branch AQ	NMS Camera	172.16.253.118	ICMP	
			9021	/AddPac/Branch GX	UMS slave	172.16.253.118	ICMP	
			9020	/AddPac/Branch GX	UMS slave	172.16.253.118	ICMP	
			9019	/AddPac/Branch GX	UMS slave	172.16.253.118	ICMP	
			6489	/AddPac/Branch GX	00_PS_server	172.16.253.118	ICMP	

Device Event History

Smart Network Management System - Windows Internet Explorer

http://172.16.31.20/smatnms.htm

NMS Account Configuration Monitoring Notification Fault Statistics View Help

Service Outages Event Notification Destination Paths Users View Current Outages View Outages View Events

Event Summary

Event Time	Outsta...	Ackno...	Not Clea...	Cleared	In Pr...
2009-04-13	40	0	40	0	0
2009-04-12	6	0	6	0	0
2009-04-11	314	0	314	0	0
2009-04-10	182	0	182	0	0
2009-04-09	290	0	290	0	0
2009-04-08	412	0	412	0	0
2009-04-07	448	0	448	0	0
2009-04-06	1453	0	1453	0	0
2009-04-05	1704	0	1704	0	0
2009-04-04	1712	0	1712	0	0
2009-04-03	1276	0	1276	0	0
2009-04-02	799	0	799	0	0
2009-04-01	271	0	271	0	0
2009-03-31	277	0	277	0	0
2009-03-30	212	0	212	0	0
2009-03-29	17	0	17	0	0
2009-03-28	2	0	2	0	0
2009-03-27	108	0	108	0	0
2009-03-26	292	0	292	0	0
2009-03-25	46	0	46	0	0
2009-03-24	121	0	121	0	0
2009-03-23	1904	0	1904	0	0
2009-03-22	2643	0	2643	0	0
2009-03-21	354	0	354	0	0
2009-03-20	172	0	172	0	0
2009-03-19	1	0	1	0	0
2009-03-18	1294	0	1294	0	0
2009-03-17	788	0	788	0	0
2009-03-16	14	0	14	0	0
2009-03-15	3	0	3	0	0

Limit 20 Refresh Advanced Search Acknowledge Events Troubleshooting Note

Ack	ID	Severity	Event Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	45786	Critical	4/13/2009 11:24:42 AM	/AddPac/Branch GX	SE_MG3000N_A	172.17.111.25		Agent Up with enterprise.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"
<input type="checkbox"/>	45785	Cleared	4/13/2009 11:15:59 AM	/AddPac/Branch GX	00_NR_server	172.17.111.21	SNMP	SNMP data collection on interface 172.17.111.21 previously failed and has been restored.
<input type="checkbox"/>	45784	Cleared	4/13/2009 11:15:52 AM	/AddPac/Branch GX	00_NR_server	172.17.111.21		Node 00_NR_server is up.
<input type="checkbox"/>	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 [1].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"
<input type="checkbox"/>	45782	Critical	4/13/2009 11:15:13 AM	/AddPac/Branch GX	00_NR_server	172.17.111.21		Node 00_NR_server is down.
<input type="checkbox"/>	45781	Warning	4/13/2009 11:14:57 AM	/AddPac/Branch GX	00_NR_server	172.17.111.21	SNMP	SNMP data collection on interface 172.17.111.21 failed.
<input type="checkbox"/>	45780	Warning	4/13/2009 10:00:15 AM	/AddPac/Branch AQ	NMS_IP_PBX_31...	172.16.31.13	SNMP	SNMP thresholding on interface 172.16.31.13 failed.
<input type="checkbox"/>	45779	Warning	4/13/2009 10:00:15 AM	/Subnetwork #2/Center	NMS_IP_PBX_31...	172.16.31.16	SNMP	SNMP thresholding on interface 172.16.31.16 failed.
<input type="checkbox"/>	45778	Warning	4/13/2009 9:59:51 AM	/AddPac/Branch GX	UMS slave	172.17.113.201	SNMP	SNMP data collection on interface 172.17.113.201 failed.
<input type="checkbox"/>	45777	Warning	4/13/2009 9:59:46 AM	/AddPac/Branch GX	UMS slave	172.17.113.201	SNMP	SNMP data collection on interface 172.17.113.201 failed.
<input type="checkbox"/>	45776	Warning	4/13/2009 9:59:42 AM	/AddPac/HeadQuarter	UMS server(our co...	61.33.161.43	SNMP	SNMP data collection on interface 61.33.161.43 failed.
<input type="checkbox"/>	45775	Warning	4/13/2009 9:59:41 AM	/AddPac/HeadQuarter	UMS server(our co...	61.33.161.43	SNMP	SNMP data collection on interface 61.33.161.43 failed.
<input type="checkbox"/>	45774	Warning	4/13/2009 9:59:36 AM	/Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
<input type="checkbox"/>	45773	Warning	4/13/2009 9:59:33 AM	/Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
<input type="checkbox"/>	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.
<input type="checkbox"/>	45771	Warning	4/13/2009 9:59:27 AM	/Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
<input type="checkbox"/>	45770	Warning	4/13/2009 9:59:24 AM	/Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
<input type="checkbox"/>	45769	Warning	4/13/2009 9:59:23 AM	/Subnetwork #2/Center	NMS_SOHO_PBX	172.16.19.50	SNMP	SNMP data collection on interface 172.16.19.50 failed.
<input type="checkbox"/>	45768	Warning	4/13/2009 9:59:18 AM	/AddPac/Branch AQ	NMS_IP_PBX_31...	172.16.31.13	SNMP	SNMP data collection on interface 172.16.31.13 failed.
<input type="checkbox"/>	45767	Warning	4/13/2009 9:59:15 AM	/AddPac/Branch AQ	NMS_IP_PBX_31...	172.16.31.13	SNMP	SNMP data collection on interface 172.16.31.13 failed.

Results: 1 to 20 of 25346 Search Constraints: user=admin

summarize daily event statistics data

Site	Device Name	IP Address	Service	Message
/AddPac/Branch GX	00_RBT_server			device 00_RBT_server's all services are down.
/AddPac/HeadQuarter	5th floor meeting...			device 5th floor meeting room phone device, all services are down.
/Subnetwork #2/Cent...	NMS_SOHO_PBX			device NMS_SOHO_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave 172.17.113.41
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master 172.17.113.40
<input type="checkbox"/>	9419	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2 172.16.253.118

Your Outstanding Notices (18) All Outstanding Notices (18)

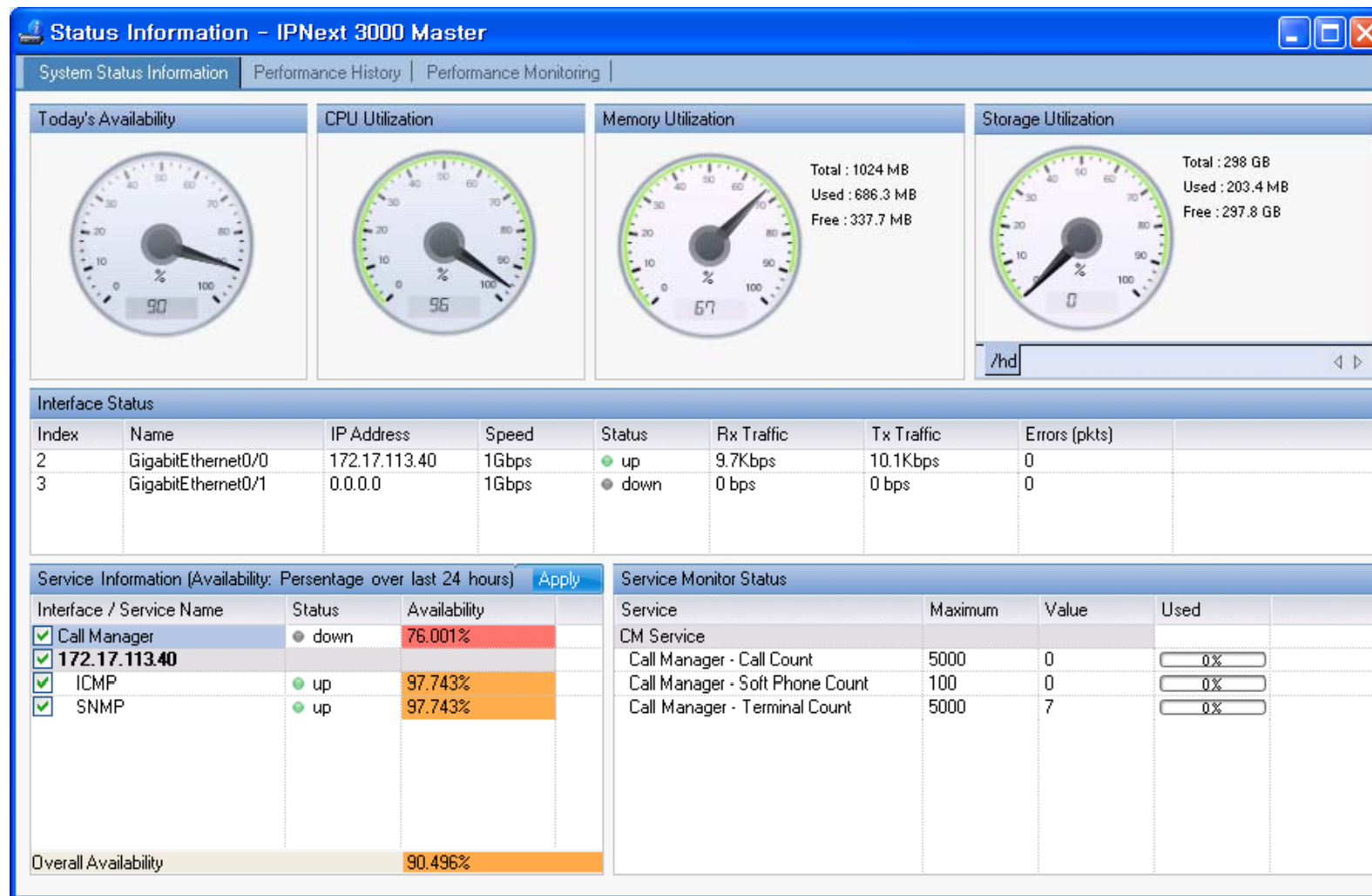
4/13/2009 11:46:45 AM 172.16.31.20:5101 admin Version 1.2.3384

Can view all events for devices with search condition

Device Status Information

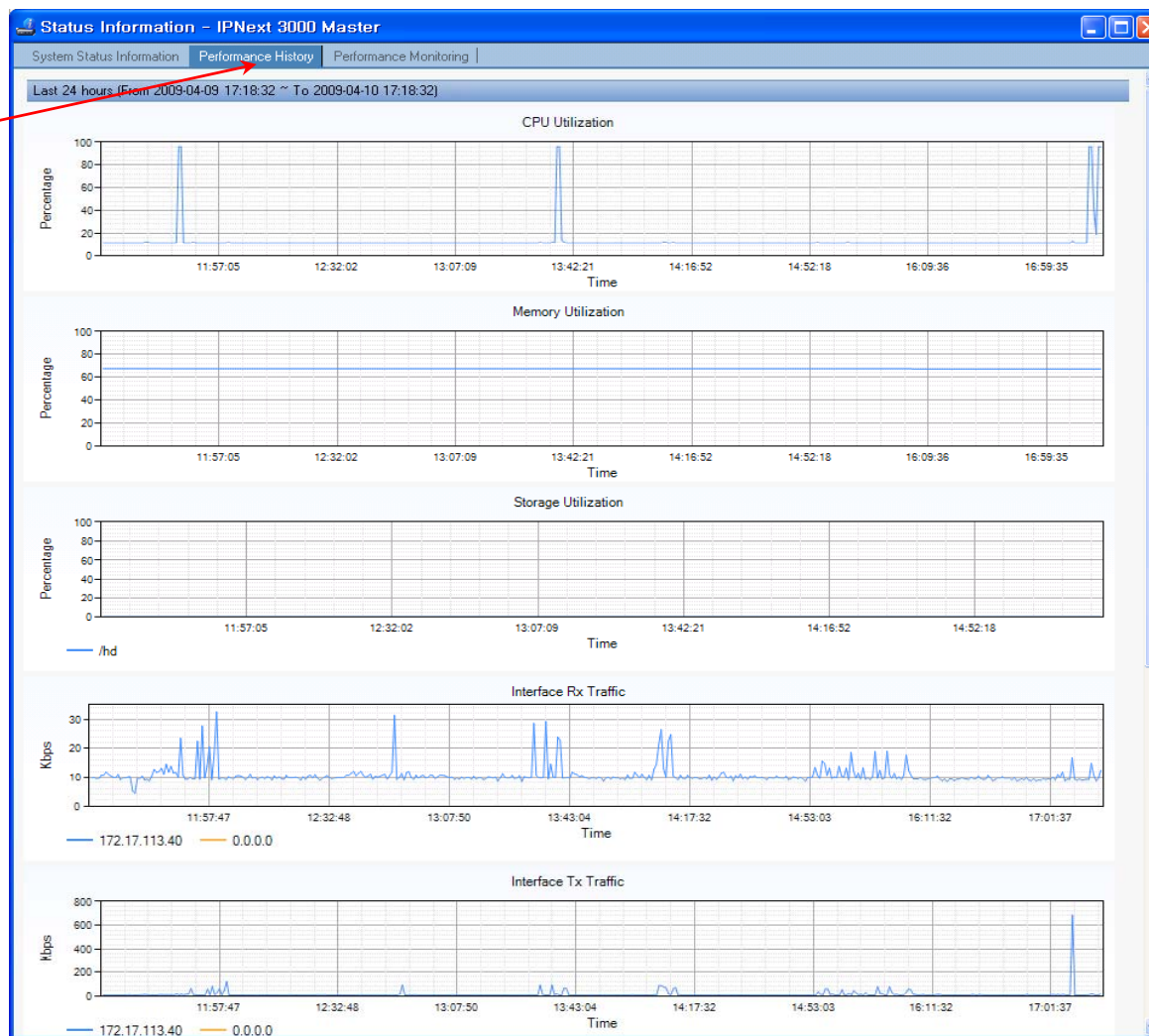
- System Performance Information (CPU, HDD, Memory,...)
- Provide device current service status (up/down)
- Provide device main status (max value vs current value)
- Display Graph Series with System Performance Information
- Monitor Main Status Flow with System Monitoring View

Device Status Information

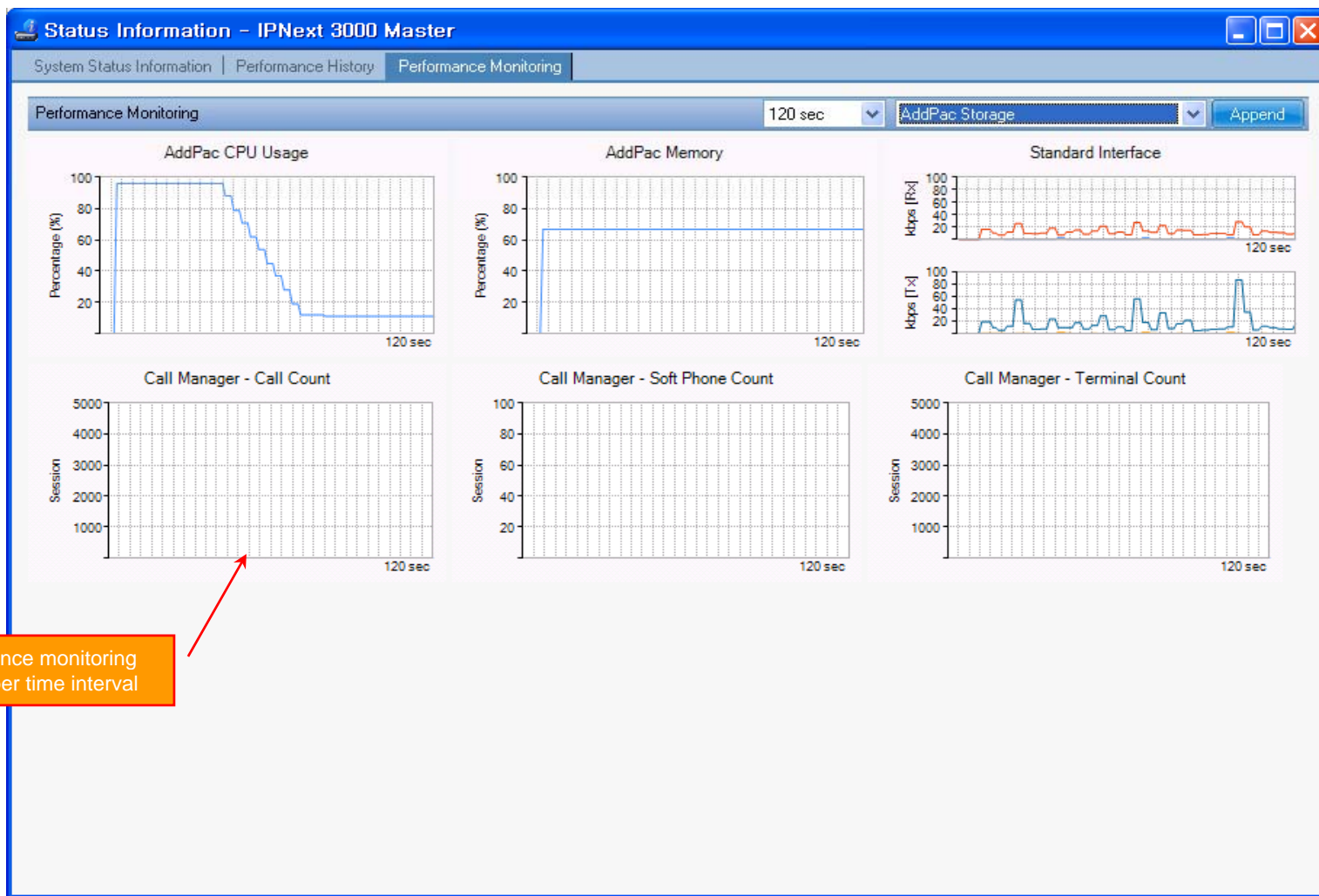


Device Status Information

performance analysis graph for last 24 hours



Device Status Information



performance monitoring with proper time interval

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

The screenshot displays the Smart Network Management System (NMS) interface. The main window shows a tree view of devices on the left, a table of event notifications in the center, and a detailed 'Event Notification Properties' dialog box on the right. Three orange callout boxes provide instructions:

- apply notification policy with event-based filter** (example : notify me when network link of device is down through SMS, e-mail)
- specify category when each event occurs**
- describe notification message content for e-mail or SMS**

The 'Event Notification Properties' dialog box shows the following configuration:

- Notification Name: serviceUnresponsive
- Description: test
- Event: Node event: serviceUnresponsive
- Destination Path: default
- Notification Type: sms, alarmLamp, email
- Current Rule: IPADDR IPLIKE ****
- Apply Category: Desktop, Network Camera, Phone, Server, Switch
- Email Subject: Notice #noticeid% %service% service on %interfaceresolve% (%interface%)
- Text Message: The %service% poll to interface %interfaceresolve% (%interface%) on node %nodelabel% successfully completed a connection to the service listener on the remote machine. However, the synthetic transaction failed to complete within %iparam[timeout]% milliseconds, over %iparam[attempts]% attempts. This event will NOT impact service level agreements, but may be an indicator of other problems on that node.
- Special Values: Can be used in both the text message and email subject: %noticeid% = notification ID number, %time% = time sent, %severity% = event severity, %nodelabel% = may be IP address or empty, %interface% = IP address, may be empty, %service% = service name, may be empty, %eventid% = event ID, may be empty.
- Note: If the alert exceeds 80 bytes then the notification will be dispatched in two or more sms.
- Enable Notification:

The 'Your Outstanding Notices (18)' table at the bottom shows the following data:

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server			device 00_RBT_server is all services...
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meeting...			
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cent.	NMS_SOHO_PBX			
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...			
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		

Event Notification Management

The screenshot displays the Smart NMS web interface. The main window shows a tree view of network devices and their service availability. A 'Destination Path Properties' dialog box is open, showing the configuration for a destination path named 'default'. The dialog includes a table for defining notification channels:

Notification Type	Target	Auto Notify
alarmLamp	alarmLamp	on
email	admin	on
sms	admin	on

A red callout box with the text "define notification channel such as e-mail, sms, or alarmlamp" points to the 'alarmLamp' entry in the table. Below the dialog, there is a table of 'Your Outstanding Notices (18)' with columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, and Message.

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server			device 00_RBT_server's all services are down.
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meeting...			device 5th floor meeting room phone device, all services are down.
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cent...	NMS_SOHD_PBX			device NMS_SOHD_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service Call Manager 2009-4-10 11:37:12 failed.
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	interface 172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) service Call Manager 2009-4-10 11:37:12 failed
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			device 00_IVR_server all services are down.
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch &N	NMS_IP_PBX_3			device NMS_IP_PBX_3 13 all services down
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) not response or delete by administrator

Event Notification Management

Smart Network Management System - Windows Internet Explorer

http://172.16.31.20/smartnms.htm

NMS Account Configuration Monitoring Notification Fault Statistics View Help

Current Outage Devices (13) | Site | Service Outages | Event Notification | Destination Paths | Users

Name	Service...	Availability
Branch AQ		
NMS Camera	6 of 12	50.000 %
NMS_IP_PBX...	3 of 3	0.000 %
Branch GX		
00_IVR_server	3 of 3	0.000 %
00_IVR_slave...	3 of 3	0.000 %
00_PS_server	3 of 3	0.000 %
00_PS_slave...	2 of 3	33.333 %
00_RBT_server	3 of 3	0.000 %
IPNext 3000 ...	1 of 3	66.667 %
IPNext 3000 S...	1 of 3	66.667 %
UMS slave	3 of 3	0.000 %
HeadQuarter		
5th floor meeti...	1 of 1	0.000 %
UMS serverfo...	3 of 3	0.000 %
Subnetwork #2		
Center		
NMS_SOHO_...	2 of 2	0.000 %

Destination Path Name: default
onlyAlarmLamp

Destination Path Properties

Destination Path Name: default

Initial Target: Initial Delay: 0m

Notification Type	Target	Auto Notify
alarmLamp	alarmLamp	on
email	admin	on
sms	admin	on

Target Properties

Choose the notification type: sms

Target Information

Send to select user: Account Administrator

Send to Email or Mobile: Mobile Number

Choose the desired behavior for automatic notification on responded events: on

Help Ok Cancel

Your Outstanding Notices (18)

Ack	ID	Send Time	Site	Device Name	IP Address	
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server		device 00_RBT_server's all services are down.
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meeting...		device 5th floor meeting room phone device, all services are down.
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cent...	NMS_SOHO_PBX		device NMS_SOHO_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service Call Manager 2009-4-10 11:37:12 failed
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	interface 172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) service Call Manager 2009-4-10 11:37:12 failed
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server		device 00_IVR_server all services are down.
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...		device NMS_IP_PBX_31.13 all services down.
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) not response or delete by administrator

4/13/2009 11:24:54 AM | 172.16.31.20:5101 | admin | Version 1.2.3384

Configuration

Smart Network Management System - Windows Internet Explorer

http://172.16.31.20/smartnms.htm

Smart Network Management System

NMS Account Configuration Monitoring Notification Fault Statistics View Help

Current Outage Devices [13] Site

Service Outages Event Notification Destination Paths Users

Name Service... Availability

AddPac

Branch AQ

- NMS Camera 6 of 12 50.000 %
- NMS_IP_PBX... 3 of 3 0.000 %

Branch GX

- 00_IVR_server 3 of 3 0.000 %
- 00_IVR_slave... 3 of 3 0.000 %
- 00_FS_server 3 of 3 0.000 %
- 00_IPS_slave... 2 of 3 33.333 %
- 00_RBT_server 3 of 3 0.000 %
- IPNext 3000 ... 1 of 3 66.667 %
- IPNext 3000 S... 1 of 3 66.667 %
- UMS slave 3 of 3 0.000 %

HeadQuarter

- 5th floor meeti... 1 of 1 0.000 %
- UMS serverfo... 3 of 3 0.000 %

Subnetwork #2

- Center
- NMS_S0HD_... 2 of 2 0.000 %

Configure Notification

External Notification Alarm Lamp

E-Mail SMS

Sender Email Address nms@addpac.com

SMTP Server Host 61.33.161.2

Authentication

Username

Password

Help Ok Cancel

global notification channel configuration

Your Outstanding Notices (18)

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server			device 00_RBT_server's all services are down.
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meeting...			device 5th floor meeting room phone device, all services are down.
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cent...	NMS_S0HD_PBX			device NMS_S0HD_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	interface 172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) service Call Manager 2009-4-10 11:37:12 failed
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			device 00_IVR_server all services are down
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...			device NMS_IP_PBX_31.13 all services down.
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device (NMS_Camera 2) interface 172.16.253.118 (172.16.253.118) not response or delete by administrator

Your Outstanding Notices (18) All Outstanding Notices (18)

4/13/2009 11:26:16 AM 172.16.31.20:5101 admin Version 1.2.3384

Audible & Visible Alarm

notify operator (or administrator)
1. Alarm lamp blink (on&off) (visible)
2. play alarm sound (audible)

can synchronize with alarm lamp equipment

Site	Type	Outages	Availability	Description
AddPac	Sub Netw...	32 / 12 / 32	52%	AddPac Technology C...
Seoul	Sub Netw...	2 / 1 / 2	33%	Seoul subnetwork

Category	Outages	Availability
Desktop	0 / 0 / 1	100%
Network Camera	6 / 1 / 2	57%
Phone	1 / 1 / 3	66%
Server	27 / 11 / 22	42%
Switch	0 / 0 / 0	100%
WiFi Gateway	0 / 0 / 6	100%

Overall Availability	Outages	Availability
Overall Availability	34 / 13 / 34	27.690 %
Overall Categories Availability	34 / 13 / 34	49.470 %

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server			device 00_RBT_server's all services are down.
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuater	5th floor meeting...			device 5th floor meeting room phone device, all services are down.
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cont...	NMS_SDHO_PBX			device NMS_SDHO_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113.41 (172.17.113.41) device (IPNext 3000 Slave) service Call Manager 2009-4-10 11:37:12 failed.
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	interface 172.17.113.40 (172.17.113.40) device (IPNext 3000 Master) service Call Manager 2009-4-10 11:37:12 failed
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			device 00_IVR_server all services are down.
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...			device NMS_IP_PBX_31.13 all services down.
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) not response or delete by administrator
<input type="checkbox"/>	9238	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	ICMP	device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) service ICMP not response or deleted by administrator
<input type="checkbox"/>	9237	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	SNMP	device (NMS Camera 2) interface 172.16.253.118 (172.16.253.118) service SNMP not response or deleted by administrator
<input type="checkbox"/>	9236	4/6/2009 7:41:25 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	ICMP	device(NMS Camera 2) interface 172.16.253.118 (172.16.253.118) service ICMP not response or deleted by administrator
<input type="checkbox"/>	9235	4/6/2009 7:41:25 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	SNMP	device(NMS Camera 2) interface 172.16.253.118 (172.16.253.118) service SNMP not response or deleted by administrator

Fault Statistics

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

Fault Statistics

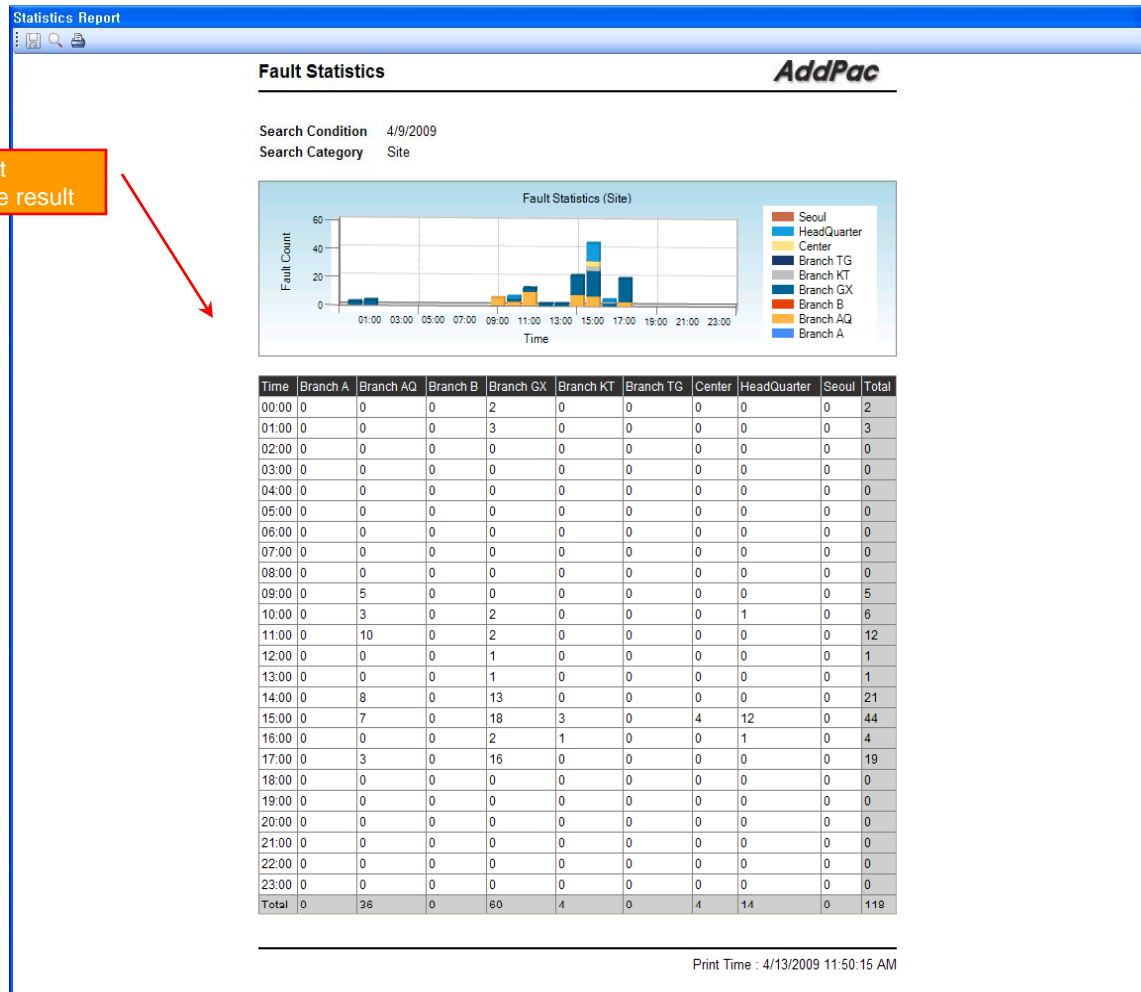
The screenshot displays the Smart Network Management System (NMS) interface. The search conditions are set to 'Hour' for '4/ 9/2009' from '3/30/2009' and 'Site' as 'Branch A, Branch AQ, B'. The bar chart shows fault counts over time, with a peak around 15:00. The detailed data table below the chart shows the following fault counts for 4/9/2009:

Time	Branch A	Branch AQ	Branch B	Branch GX	Branch KT	Branch TG	Center	HeadQuarter	Seoul	Total
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

Two orange callout boxes highlight the search conditions and the detailed data table.

Fault Statistics – Report Generation

report generation for fault statistics and print out the result



Model & Service Management

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

Device Model Management

manage device model with various properties such as model image

model image repository for selection

Smart Network Management System - Windows Internet Explorer

http://172.16.31.20/smartnms.htm

Smart Network Management System

NMS Account Configuration Monitoring Notification Fault Statistics View Help

Site Event Summary Service Outages Event Notification Destination Paths Users View Current Outages View Outages View Events Fault Statistics Device Model

Name	Description
AddPac	AddPac Technology C...
Branch AQ	Branch AQ
Branch GX	Branch GX description
Branch KT	
HeadQuarter	Main HeadQuarter Cen...
Seoul	Seoul subnetwork
Seoul East Area	Seoul East Area
SongPaGu Area Ce...	SongPaGu Area Center
Subnetwork #2	Subnetwork #2
Branch TG	Yeoksam Area
SeoChoGu	seoul seocho district
Seoul West Area	Seoul West Area
Uangseo Area	Uangseo Area
Seoul	
MokDong Area	MokDong Area

Model Name	Category
AP-IP200	Phone
AP-IP300	Phone
AP-IPC	Network Camera
AP-IPC250M	Network Camera
AP-IVR1000	Server
AP-MC1000	Server
AP-MC3000	Server
AP-MC5000	Server
AP-NR2000	Server
AP-PS2000	Server
AP-RBT1000	Server
AP-RS2000	Server
AP-UMS1000	Server
AP-UMS2000	Server
AP-VC2000	Phone
AP-VP200	Phone
AP-VP300	Phone
AP-VP350	Phone
AP-VP500	Phone
IPNext1000	Server
IPNext1000	Server
IPNext180	Server
IPNext200	Server

Device Model Properties

General Service Availability System Monitoring Service Monitoring

Model Name: AP-IPC250M

Category: Network Camera

Management by SSCP:

SSCP Port: 5061 (1~65535)

Model Image:

Model Image Management

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server			device 00_RBT_server's all services are down.
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th_floor_meeting			device 5th_floor_meeting room phone device, all services are down
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cent...	NMS_SOHD_PBX			device NMS_SOHD_PBX, all services are down
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113.41 (172.17.113.41) device (IP
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	interface 172.17.113.40 (172.17.113.40) device (IP
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			Call Manager 2009-4-10 11:37:12 failed
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...			device 00_IVR_server all services are down.
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device NMS_IP_PBX_31.13 all services down.
<input type="checkbox"/>	9238	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	ICMP	device (NMS Camera 2) interface 172.16.253.118
<input type="checkbox"/>	9237	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		response or delete by administrator
<input type="checkbox"/>	9236	4/6/2009 7:41:25 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device (NMS Camera 2) interface 172.16.253.118

Your Outstanding Notices (18)

4/13/2009 1:42:39 PM 172.16.31.20:5101 admin Version 1,2,3384

Service Definition

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

The screenshot displays the Smart Network Management System (SNMS) interface in a Windows Internet Explorer browser. The main window shows a tree view of sites on the left and a list of services in the center. A red arrow points from an orange callout box to the 'Camera Operation Status' service in the list. Two 'Service Properties' dialog boxes are open, showing configuration details for this service.

Service List:

Service Name	Protocol	Port
Call Manager	SNMP	161
Presence	SNMP	161
Media	SNMP	161
UP	SNMP	161
RtpProxy	SNMP	161
MCU	SNMP	161
IVR	SNMP	161
Recording	SNMP	161
Tomcat	TCP	8080
FTP	TCP	21
Camera Pan	SNMP	161
Camera Tilt	SNMP	161
Camera Zoom	SNMP	161
Camera Operation Status	SNMP	161

Service Properties - General - SNMP

Service Name: Camera Operation Status
Protocol: SNMP
Port: 161
Interval: 30000 (msec)
Timeout: 3000 (msec)
Retry: 3

Service Properties - General - SNMP

Service OID: 1.3.6.1.4.1.4895.7.51.1.3.0
Service Condition:
Operator: =
Operand: 1

Your Outstanding Notices (18)

Ack	ID	Send Time	Site	Device Name	IP Address	Service	Message
<input type="checkbox"/>	9535	4/10/2009 9:26:04 PM	/AddPac/Branch GX	00_RBT_server			device 00_RBT_serv
<input type="checkbox"/>	9527	4/10/2009 5:34:10 PM	/AddPac/HeadQuarter	5th floor meetin...			device 5th floor meet
<input type="checkbox"/>	9502	4/10/2009 3:34:29 PM	/Subnetwork #2/Cent...	NMS_SOHD_PBX			device NMS_SOHD_P
<input type="checkbox"/>	9495	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Slave	172.17.113.41	Call Manager	interface 172.17.113
<input type="checkbox"/>	9494	4/10/2009 11:37:12 AM	/AddPac/Branch GX	IPNext 3000 Master	172.17.113.40	Call Manager	Call Manager 2009:4
<input type="checkbox"/>	9418	4/9/2009 2:20:01 PM	/AddPac/Branch GX	00_IVR_server			interface 172.17.113
<input type="checkbox"/>	9396	4/9/2009 10:57:37 AM	/AddPac/Branch AQ	NMS_IP_PBX_3...			device NMS_IP_PBX
<input type="checkbox"/>	9239	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118		device (NMS Camera
<input type="checkbox"/>	9238	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	ICMP	response or delete by
<input type="checkbox"/>	9237	4/6/2009 7:49:20 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	SNMP	device (NMS Camera
<input type="checkbox"/>	9236	4/6/2009 7:41:25 PM	/AddPac/Branch AQ	NMS Camera 2	172.16.253.118	ICMP	SNMP not response o



Thank you!

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