



Smart GSM NMS

Smart Network Management System

Smart GSM NMS Overview

The screenshot displays two windows from the Smart GSM NMS. The top window, titled 'Status Information - IPNext 3000 Master', shows system status information including Today's Availability, CPU Utilization, Memory Utilization, and Storage Utilization. The bottom window, titled 'Status Information - GS3000 gateway', shows a table of Device Call History with columns for ID, Create Time, Duration, Caller Type, Caller Number, Called Type, Called Number, Remote IP, GSM Phone N., Codec, and Status.

| ID | Create Time | Duration | Caller Type | Caller Number | Called Type | Called Number | Remote IP | GSM Phone N. | Codec | Status |
|-----|-----------------------|----------|-------------|---------------|-------------|---------------|-------------|--------------|----------|---------|
| 346 | 11/18/2010 3:54:50 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |
| 345 | 11/18/2010 3:50:43 PM | 00:00:03 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g723163 | Success |
| 344 | 11/18/2010 3:46:54 PM | 00:00:16 | FXS | 7000 | GSM | 6000 | | | g711alaw | Success |
| 343 | 11/18/2010 3:45:59 PM | 00:00:02 | FXS | 7000 | GSM | 5000 | | | g711alaw | Success |
| 342 | 11/18/2010 3:43:39 PM | 00:00:03 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g723163 | Success |
| 341 | 11/18/2010 3:43:23 PM | 00:00:00 | FXS | 7000 | GSM | 600 | | | g711alaw | Failed |
| 340 | 11/18/2010 3:43:16 PM | 00:00:00 | FXS | 7000 | GSM | 600 | | | g711alaw | Failed |
| 339 | 11/18/2010 3:43:12 PM | 00:00:00 | FXS | 7000 | GSM | 500 | | | g711alaw | Failed |
| 338 | 11/18/2010 3:43:07 PM | 00:00:00 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g723163 | Failed |
| 337 | 11/18/2010 3:42:32 PM | 00:00:04 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g723163 | Success |
| 336 | 11/18/2010 3:25:48 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |
| 335 | 11/18/2010 3:21:05 PM | 00:00:03 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g723163 | Success |
| 334 | 11/18/2010 3:20:57 PM | 00:00:00 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g723163 | Failed |
| 332 | 11/18/2010 3:20:54 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |
| 330 | 11/18/2010 3:20:43 PM | 00:00:02 | FXS | 7000 | GSM | 6000 | | | g711alaw | Success |
| 328 | 11/18/2010 3:20:30 PM | 00:00:02 | FXS | 7000 | GSM | 5000 | | | g711alaw | Success |
| 325 | 11/18/2010 3:05:30 PM | 00:00:03 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g723163 | Success |
| 324 | 11/15/2010 3:05:22 PM | 00:00:00 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g723163 | Failed |
| 323 | 11/15/2010 3:05:11 PM | 00:00:03 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g723163 | Success |
| 322 | 11/15/2010 3:05:08 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |

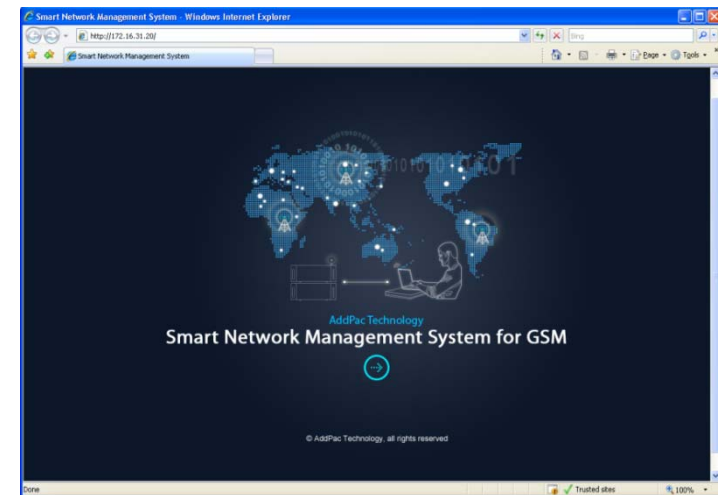
AddPac

AddPac Technology

2010, Sales and Marketing

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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

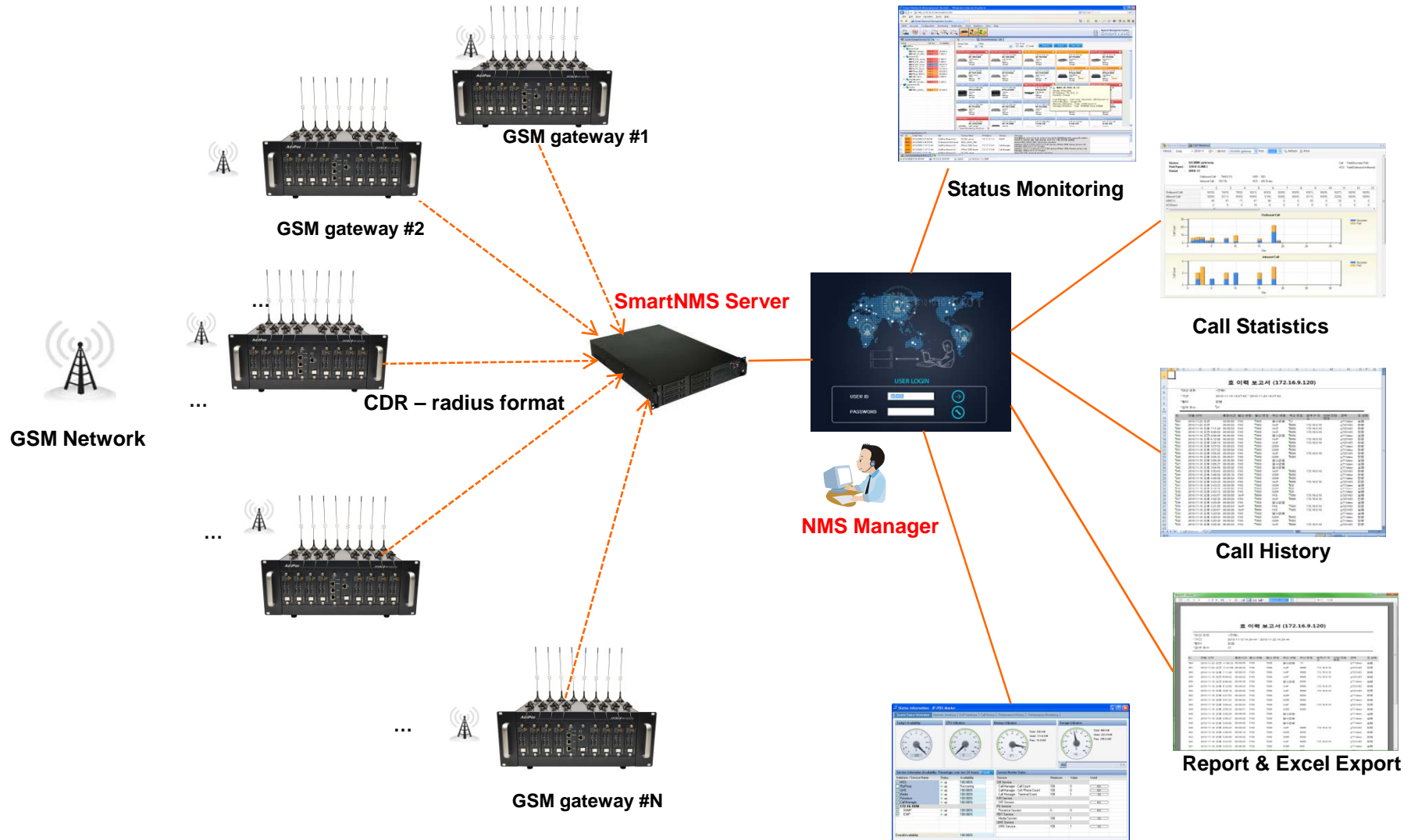
NMS Client

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

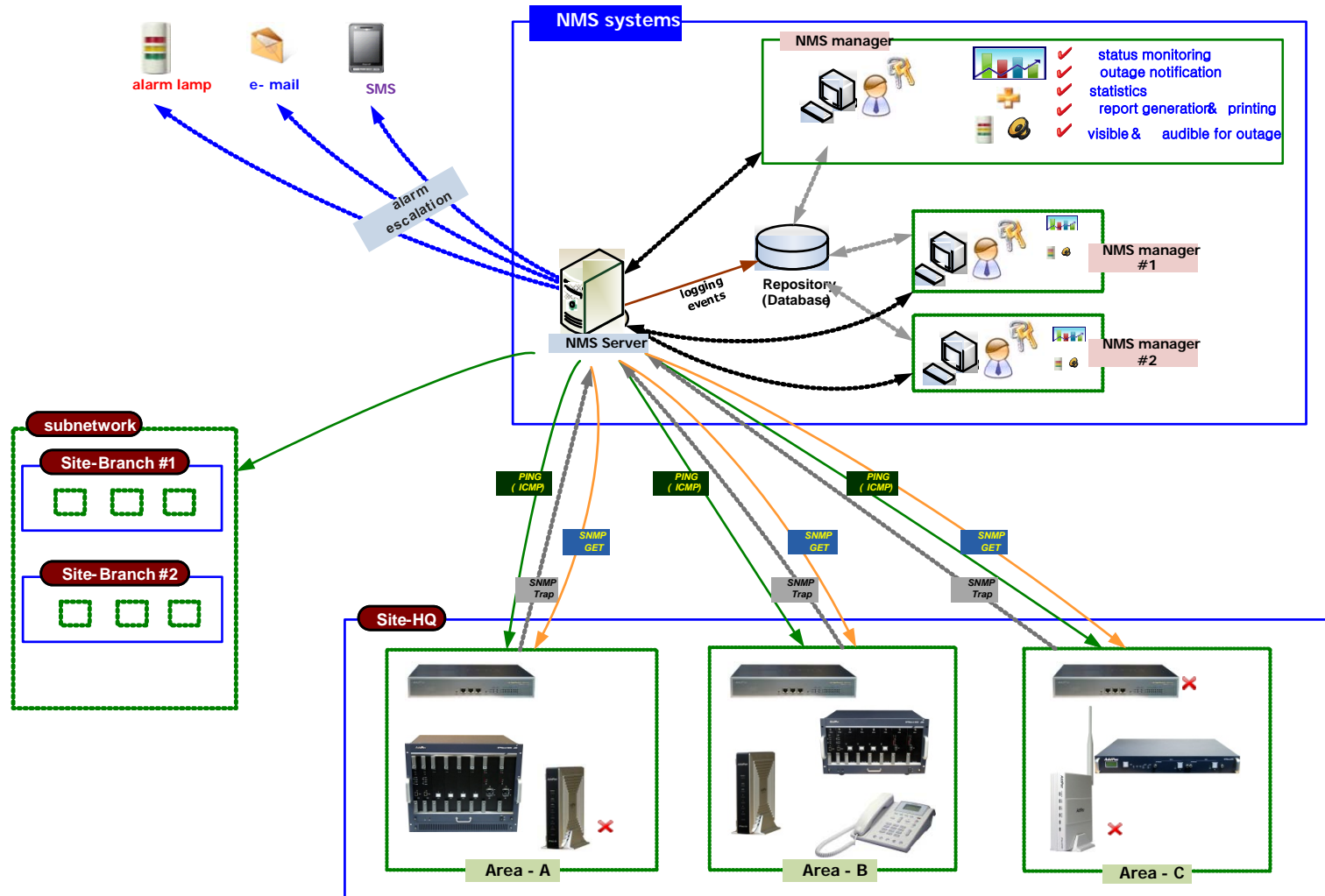
Main Features

- Smart directory server(LDAP) and data(device, end-user..) integration.
- Site level management for the device and group.
- Auto provisioning for each GSM gateways.
- Event and notification management.
- Dashboard-styled real-time fault monitoring for GSM gateways.
- Port status and summary for GSM gateways (call history and statistics) .
- Fault statistics for GSM gateways.
- Batch processing for GSM gateways (initialize, backup, restore, upgrade, batch script, batch excel).
- System backup and restore of the SmartNMS operating data.

Smart NMS CDR Processing Diagram



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

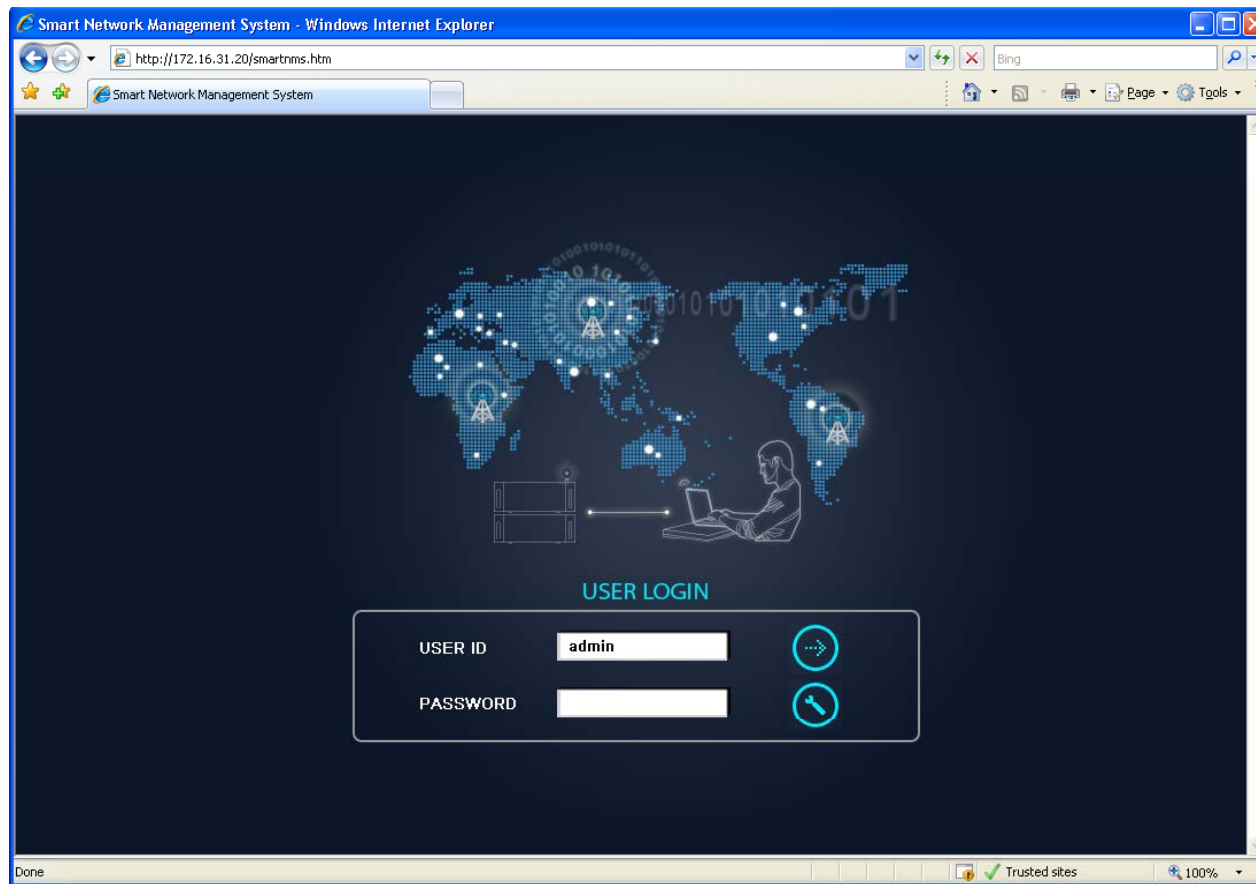
Version Control

The screenshot displays a Windows Internet Explorer browser window titled "Smart Network Management System - Windows Internet Explorer" with the address bar showing "http://172.16.31.20/". The main content area features a dark blue background with a world map, binary code, and a person at a laptop. The text "AddPac Technology Network Management System for GSM" is prominently displayed. Two dialog boxes are overlaid on the browser window:

- 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 text "Name: installnms", "From: 172.16.31.20", and "Downloading: 6.29 MB of 10.1 MB".

Yellow callout boxes highlight "Automatic version check" pointing to the browser window and "New S/W version update" pointing to the "Downloading installnms" dialog box.

Web-based Login

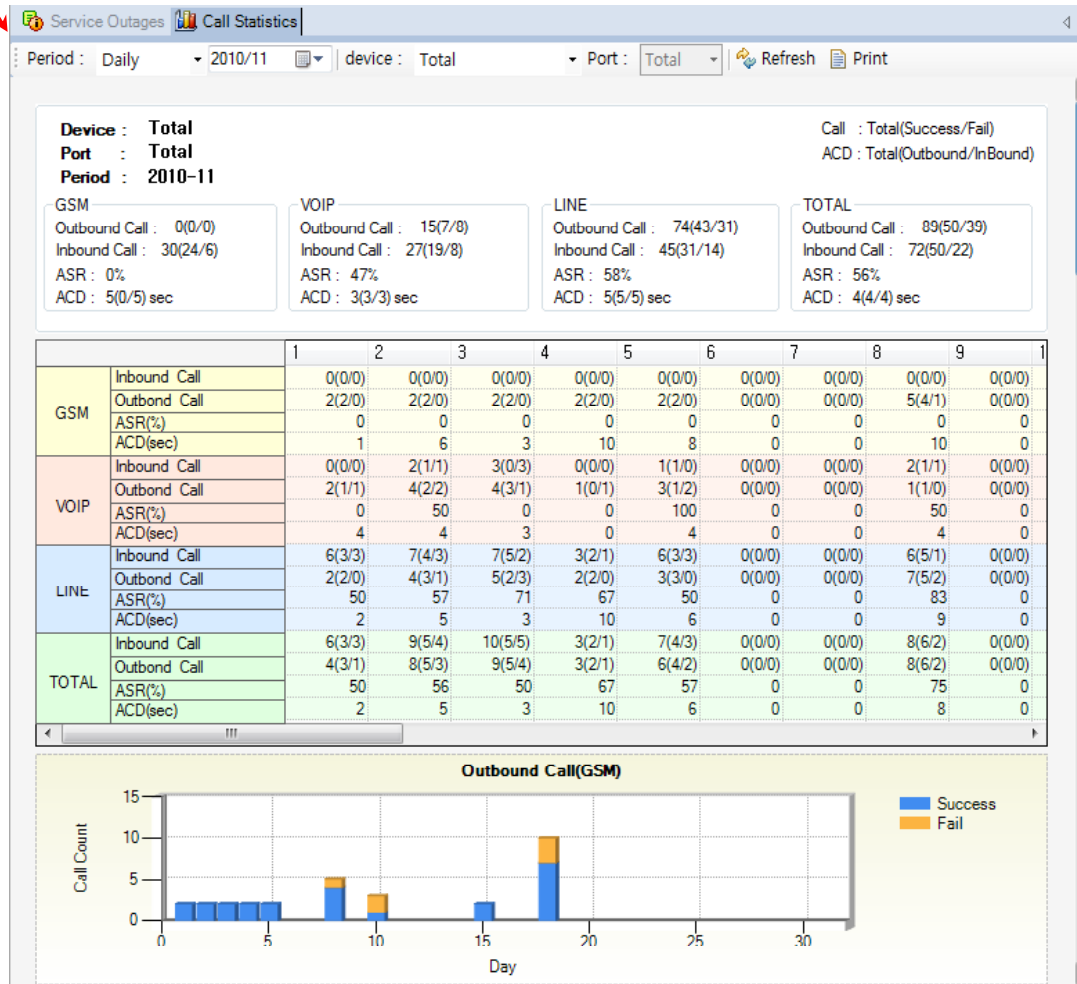


Call Statistics

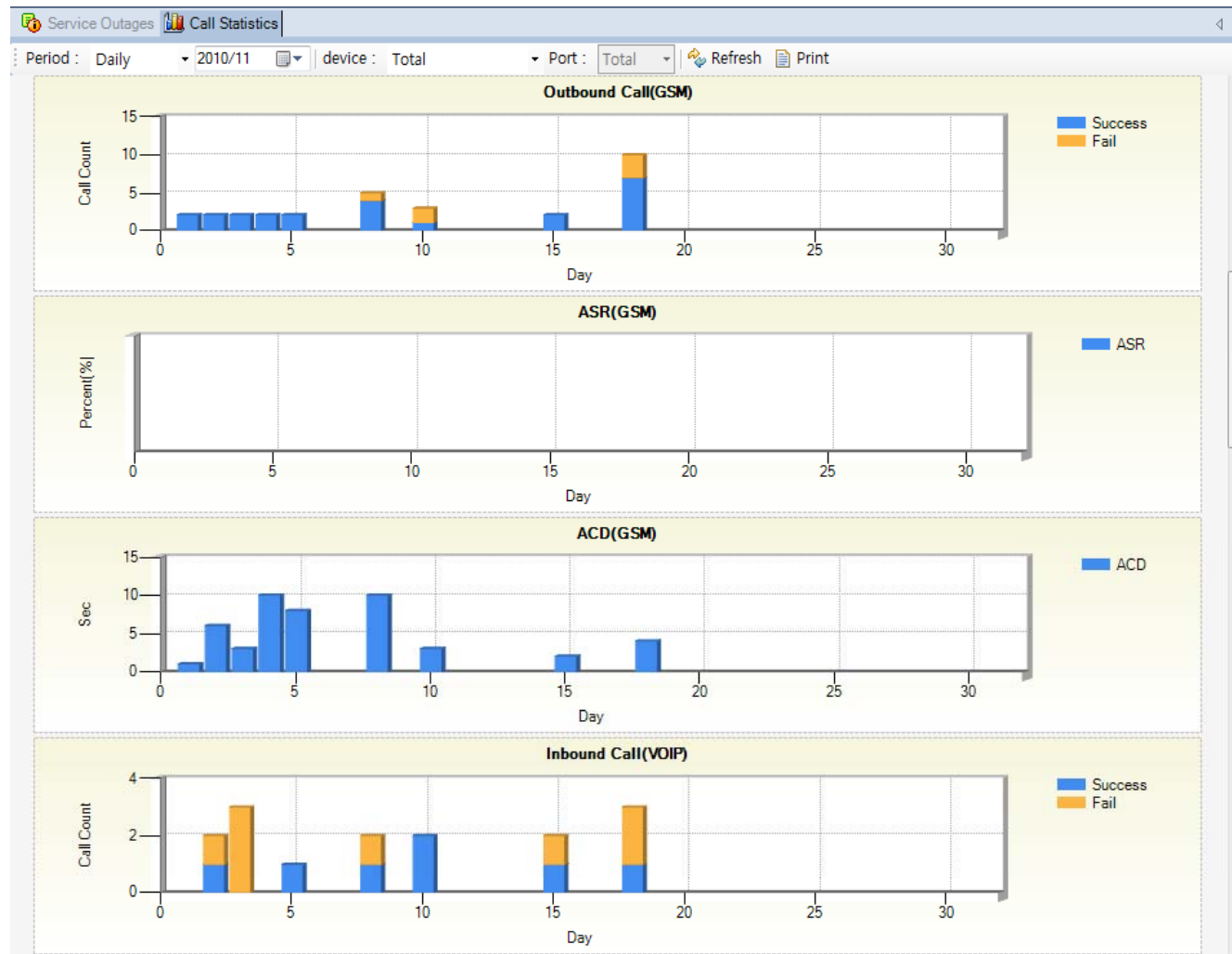
- SmartNMS receives CDR data for calls which is used for call statistics from the VOIP or GSM gateway.
- You can get statistics data with various time interval conditions such as daily and monthly basis for the device and VOIP port.
- Report statistics can be exported to the various document formats such as PDF and MS-Excel.

Call Statistics

Total call statistics



Call Statistics



Call Statistics

Call statistics for the specified gateway.

Service Outages | Call Statistics

Period : Daily 2010/11 device : GS3000 gateway Port : Refresh Print

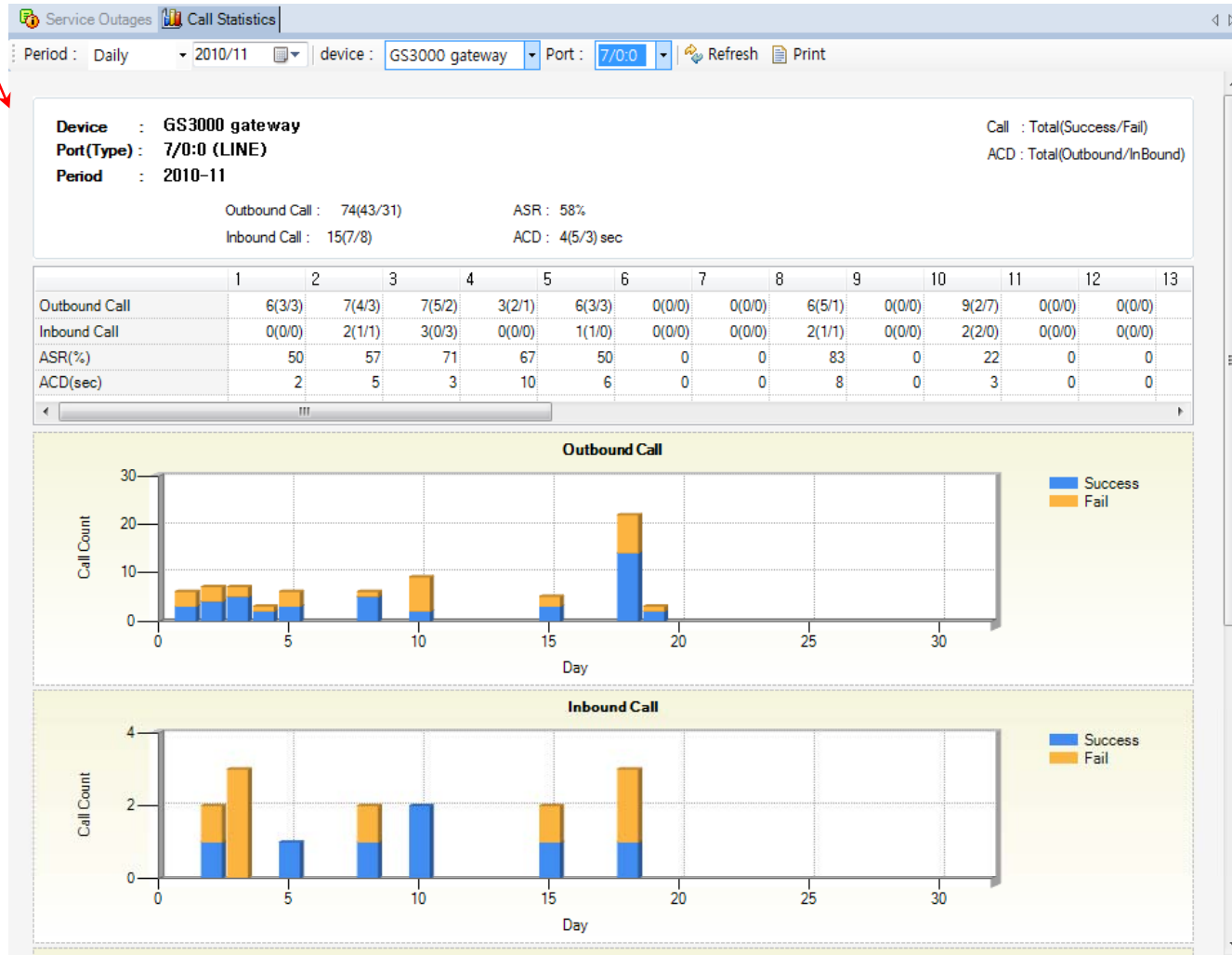
Device : GS3000 gateway Call : Total(Success/Fail)
Port : Total ACD : Total(Outbound/InBound)
Period : 2010-11

| | GSM | VOIP | LINE | TOTAL |
|-----------------|------------|------------|------------|------------|
| Outbound Call : | 0(0/0) | 15(7/8) | 76(44/32) | 91(51/40) |
| Inbound Call : | 30(24/6) | 28(20/8) | 45(31/14) | 73(51/22) |
| ASR : | 0% | 47% | 58% | 56% |
| ACD : | 5(0/5) sec | 3(3/3) sec | 5(4/5) sec | 4(4/4) sec |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------|---------------|--------|--------|---------|--------|--------|--------|--------|--------|
| GSM | Inbound Call | 0(0/0) | 0(0/0) | 0(0/0) | 0(0/0) | 0(0/0) | 0(0/0) | 0(0/0) | 0(0/0) |
| | Outbound Call | 2(2/0) | 2(2/0) | 2(2/0) | 2(2/0) | 2(2/0) | 0(0/0) | 0(0/0) | 5(4/1) |
| | ASR(%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ACD(sec) | 1 | 6 | 3 | 10 | 8 | 0 | 0 | 10 |
| VOIP | Inbound Call | 0(0/0) | 2(1/1) | 3(0/3) | 0(0/0) | 1(1/0) | 0(0/0) | 0(0/0) | 2(1/1) |
| | Outbound Call | 2(1/1) | 4(2/2) | 4(3/1) | 1(0/1) | 3(1/2) | 0(0/0) | 0(0/0) | 1(1/0) |
| | ASR(%) | 0 | 50 | 0 | 0 | 100 | 0 | 0 | 50 |
| | ACD(sec) | 4 | 4 | 3 | 0 | 4 | 0 | 0 | 4 |
| LINE | Inbound Call | 6(3/3) | 7(4/3) | 7(5/2) | 3(2/1) | 6(3/3) | 0(0/0) | 0(0/0) | 6(5/1) |
| | Outbound Call | 2(2/0) | 4(3/1) | 5(2/3) | 2(2/0) | 3(3/0) | 0(0/0) | 0(0/0) | 7(5/2) |
| | ASR(%) | 50 | 57 | 71 | 67 | 50 | 0 | 0 | 83 |
| | ACD(sec) | 2 | 5 | 3 | 10 | 6 | 0 | 0 | 9 |
| TOTAL | Inbound Call | 6(3/3) | 9(5/4) | 10(5/5) | 3(2/1) | 7(4/3) | 0(0/0) | 0(0/0) | 8(6/2) |
| | Outbound Call | 4(3/1) | 8(5/3) | 9(5/4) | 3(2/1) | 6(4/2) | 0(0/0) | 0(0/0) | 8(6/2) |
| | ASR(%) | 60 | 66 | 60 | 67 | 67 | 0 | 0 | 76 |
| | ACD(sec) | 2 | 5 | 3 | 10 | 6 | 0 | 0 | 8 |

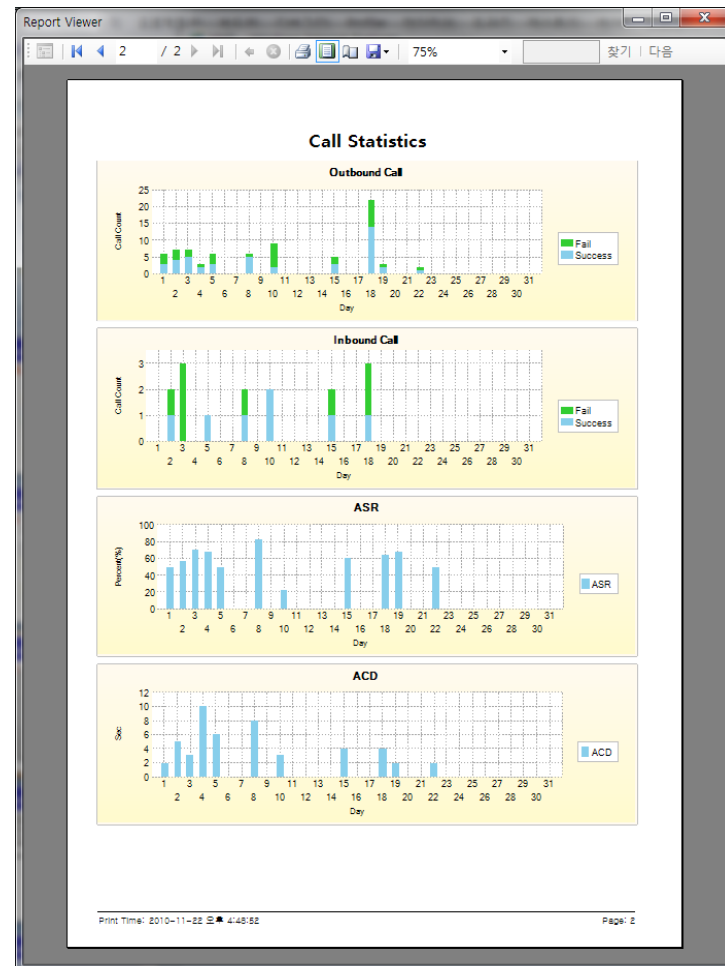
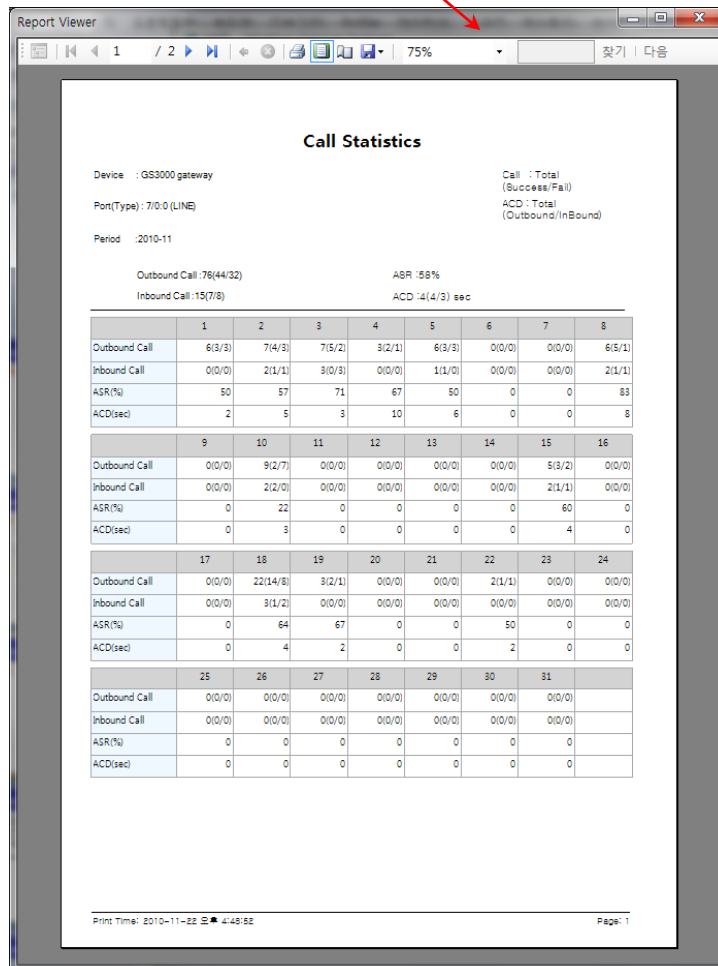
Call Statistics

Call statistics for the specified port of the GSM gateway.



Call Statistics Report

Can export to MS-Excel document or PDF and printout for the call statistics.



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. The main area shows a table of device categories with columns for 'Category Name' and 'Description'. A context menu is open over the tree, highlighting 'Execute SMM'. A 'User Properties' dialog box is also open, showing a selection of site nodes.

| Category Name | Description |
|----------------|-----------------------------------|
| Desktop | PC, notebook, laptop, etc |
| Network Camera | Network Camera Category |
| Phone | IP Phone, Video Phone |
| Server | PBX, RBT, UMS, Presence |
| Switch | Network Switch |
| VoIP Gateway | AddPac Digital(or Analog) Gateway |

manage the complex network with a structured, hierarchical form

can assign the hierarchical node to the operator and manage role-based policy

can cooperate with the application executables such as SMM

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

current device fault list with hierarchy view

current device fault event message are shown as below

site device fault summary

overall total device fault statistics

device fault summary for category (classification)

Smart Network Management System - Windows Internet Explorer

http://172.16.31.20/smartnms.htm

NMS Account Configuration Monitoring Notification Fault Statistics View Help

Network Management System Smart NMS

Current Outage Devices (11) Site

| Name | Service... | Availability |
|------------------|------------|--------------|
| AddPac | | |
| Branch AQ | | |
| NMS Camera | 6 of 12 | 46.937 % |
| 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 | 32.740 % |
| IPNext 3000 ... | 1 of 3 | 90.608 % |
| IPNext 3000 S... | 1 of 3 | 90.623 % |
| UMS slave | 3 of 3 | 0.000 % |
| HeadQuarter | | |
| UMS server(o... | 3 of 3 | 0.000 % |
| Subnetwork #2 | | |
| Center | | |
| NMS_SOHO_... | 2 of 2 | 98.115 % |

Service Outages

| Site | Type | Outages | Availability | Description |
|--------|-------------|--------------|--------------|------------------------|
| AddPac | Sub Netw... | 28 / 10 / 32 | 59% | AddPac Technology C... |
| Seoul | Sub Netw... | 2 / 1 / 2 | 98% | Seoul subnetwork |

Overall Availability: 30 / 11 / 34 78.650 %

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 Categories Availability: 30 / 11 / 34 61.282 %

Your Outstanding Notices (16)

| Ack | ID | Send Time | Site | Device Name | IP Address | Service | Message |
|-------------------------------------|------|-----------------------|-----------------------|--------------------|----------------|--------------|---|
| <input checked="" type="checkbox"/> | 9502 | 4/10/2009 3:34:29 PM | /Subnetwork #2/Center | NMS_SOHO_PBX | | | device NMS_SOHO_PBX, all services are down |
| <input checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" 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 deleted by administrator |
| <input checked="" 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 checked="" 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 checked="" 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 checked="" 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 |

Your Outstanding Notices (16) All Outstanding Notices (16)

4/10/2009 4:17:43 PM 172.16.31.20:5101 admin Version 1.2.3384

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>

View Mode: Large Small Refresh Import

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

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

display message icon when the device have a notification for event

| Name | Service... | Availability |
|------------------|------------|--------------|
| Branch AQ | | |
| NMS Camera | 6 of 12 | 48.934 % |
| 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_NR_server | 1 of 2 | 98.015 % |
| 00_PS_server | 3 of 3 | 0.000 % |
| 00_PS_Slave... | 2 of 3 | 32.703 % |
| IPNext 3000 ... | 1 of 3 | 90.536 % |
| IPNext 3000 S... | 1 of 3 | 90.584 % |
| UMS slave | 3 of 3 | 0.000 % |
| HeadQuarter | | |
| UMS server(o... | 3 of 3 | 0.000 % |
| Subnetwork #2 | | |
| NMS_SOHO_... | 2 of 2 | 92.939 % |

Total Monitoring Devices : 34

| 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 NMS interface in a Windows Internet Explorer browser. The main content area shows a 'Device Monitoring' view with a grid of device status icons. A red box highlights this grid, with a red arrow pointing to it and the text 'device status matrix with small view mode'. The grid contains various device types such as servers, routers, and cameras, each with a status icon (green for OK, red for fault, yellow for warning). Below the grid, a table lists 'Your Outstanding Notices (18)' with columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, and Message. The table shows several entries with fault messages, such as 'device 00_RBT_server's all services are down' and 'device NMS_Camera 2 interface 172.16.253.118 [172.16.253.118] not response or delete by administrator'.

| 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_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 | Call Manager | 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"/> | 9229 | 4/6/2009 7:49:20 PM | /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | | 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 delete by administrator |

Device Fault History Management

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

Device Fault History Management

daily fault event summary statistics information

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

The screenshot displays the Smart Network Management System (NMS) interface. The top navigation bar includes: NMS, Account, Configuration, Monitoring, Notification, Fault, Statistics, View, Help. The main content area is divided into several sections:

- Notification Summary:** A table showing daily fault event statistics.

| Date/Time | 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 |
- Main Fault Event History Table:** A table listing individual fault events with columns: Ack, ID, Send Time, Site, Device Name, IP Address, Service, Message, Status, and Respond Time.

| 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 | 172.17.11 | | | auto-acknowledged | 4/10/2009 5:22:43 PM |
| <input type="checkbox"/> | 9525 | 4/10/2009 5:21:06 PM | /AddPac/Branch GX | 00_NR_server | 172.17.11 | | | auto-acknowledged | 4/10/2009 5:17:56 PM |
| <input type="checkbox"/> | 9524 | 4/10/2009 5:17:29 PM | /AddPac/Branch GX | 00_NR_server | 172.17.11 | | | auto-acknowledged | 4/10/2009 4:03:13 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 co... | | | | 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 4:03:14 PM |
| <input type="checkbox"/> | 9517 | 4/10/2009 3:36:08 PM | /AddPac/HeadQuarter | company_MCU_s... | | | | auto-acknowledged | 4/10/2009 4:03:13 PM |
| <input type="checkbox"/> | 9516 | 4/10/2009 3:36:00 PM | /AddPac/Branch GX | 00_Ps_Slave_ser... | | | | auto-acknowledged | 4/10/2009 4:02:54 PM |
| <input type="checkbox"/> | 9514 | 4/10/2009 3:35:50 PM | /AddPac/Branch GX | 00_Ps_server | | | | auto-acknowledged | 4/10/2009 4:02:43 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 4:02:44 PM |
| <input type="checkbox"/> | 9512 | 4/10/2009 3:35:41 PM | /AddPac/HeadQuarter | IP_PBX_Master (our company) | | | | auto-acknowledged | 4/10/2009 4:02:43 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 |
- Advanced Search Dialog:** A modal window for filtering fault events. It includes fields for Sub Network, Site, IP Address Contains, Notice Status Type, Message Contains, Level (Severity), Notices After, and Notices Before. The 'Sub Network' dropdown is currently open, showing options like AddPac, GangNamGu, Gangseo Area, MokDong Area, SeoChoGu, and Seoul East Area.
- Your Outstanding Notices (17):** A table listing current outstanding fault events.

| 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_SOH_PBX | | | device NMS_SOH_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"/> | 9386 | 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"/> | 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. |

Device Fault History Management

The screenshot displays the Smart Network Management System (NMS) interface. The main window shows a table of fault events with columns for Date/Time, Outstanding status, Acknowledge status, Limit, ID, Send Time, Site, Device Name, IP Address, Service, Message, Responder, and Respond Time. A 'Troubleshooting Note (Event ID : 45393)' dialog box is open, showing a log message and a table for adding notes. Another dialog box is open with the status set to 'Cleared' and a text area containing 'Fixed it manually. 2009-04-10 PM by Administrator.' An orange callout box points to this text area with the text 'Can write troubleshooting note if needed'.

| Date/Time | Outstanding | Acknowledge | Limit | ID | Send Time | Site | Device Name | IP Address | Service | Message | Responder | Respond Time |
|------------|-------------|-------------|-------|------|----------------------|---------------------|-------------------------------------|--------------|---------|--|-------------------|----------------------|
| 2009-04-10 | 4 | 27 | 20 | 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 |
| 2009-04-09 | 2 | 76 | | 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. | to-acknowledged | 4/10/2009 5:35:25 PM |
| 2009-04-08 | 0 | 96 | | 9526 | 4/10/2009 5:33:42 PM | /AddPac/Branch GX | | | | | to-acknowledged | 4/10/2009 5:22:43 PM |
| 2009-04-07 | 0 | 40 | | 9525 | 4/10/2009 5:21:06 PM | /AddPac/Branch GX | | | | | to-acknowledged | 4/10/2009 5:17:56 PM |
| 2009-04-06 | 7 | 489 | | 9524 | 4/10/2009 5:17:29 PM | /AddPac/Branch GX | | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-04-05 | 0 | 722 | | 9523 | 4/10/2009 3:36:26 PM | /AddPac/HeadQuarter | IP cor | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-04-04 | 0 | 708 | | 9522 | 4/10/2009 3:36:18 PM | /AddPac/HeadQuarter | PB cor | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-04-03 | 1 | 476 | | 9521 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | IP cor | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-04-02 | 0 | 248 | | 9520 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | LUM | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-04-01 | 0 | 19 | | 9519 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | Re (ou | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-03-31 | 0 | 37 | | 9518 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | ter | | | | to-acknowledged | 4/10/2009 4:03:14 PM |
| 2009-03-30 | 0 | 9 | | 9517 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:03:13 PM |
| 2009-03-29 | 0 | 3 | | 9516 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:54 PM |
| 2009-03-28 | 0 | 1 | | 9515 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-27 | 0 | 14 | | 9514 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:44 PM |
| 2009-03-26 | 0 | 52 | | 9513 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-25 | 0 | 8 | | 9512 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-24 | 0 | 19 | | 9511 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-23 | 0 | 59 | | 9510 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-22 | 0 | 102 | | 9509 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-21 | 0 | 102 | | 9508 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-20 | 0 | 102 | | 9507 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-19 | 0 | 102 | | 9506 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-18 | 0 | 102 | | 9505 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-17 | 0 | 102 | | 9504 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-16 | 0 | 102 | | 9503 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-15 | 0 | 102 | | 9502 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-14 | 0 | 102 | | 9501 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-13 | 0 | 102 | | 9500 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-12 | 0 | 102 | | 9499 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-11 | 0 | 102 | | 9498 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-10 | 0 | 102 | | 9497 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-09 | 0 | 102 | | 9496 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-08 | 0 | 102 | | 9495 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-07 | 0 | 102 | | 9494 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-06 | 0 | 102 | | 9493 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-05 | 0 | 102 | | 9492 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 PM |
| 2009-03-04 | 0 | 102 | | 9491 | 4/10/2009 3:36:17 PM | /AddPac/HeadQuarter | 00 | | | | to-acknowledged | 4/10/2009 4:02:43 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 outages in the center. A red box highlights the 'Current Outage Devices' table, with an annotation: "Display the current all device faults".

| Name | Service... | Availability | Outage ID | Site | Device Name | IP Address | Service | Time Down |
|--------------------|------------|--------------|-----------|------------------------|-----------------------------|---------------|---------|----------------------|
| AddPac | | | 13968 | /AddPac/Branch GX | 00_RBT_server | 172.17.114.60 | Media | 4/10/2009 9:26:04 PM |
| Branch AQ | | | 13967 | /AddPac/Branch GX | 00_RBT_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_RBT_server | 172.17.114.60 | SNMP | 4/10/2009 9:26:04 PM |
| NMS_IP_PBX... | 3 of 3 | 0.000 % | 13948 | /AddPac/HeadQuarter | 5th floor meeting room p... | 172.16.53.101 | ICMP | 4/10/2009 5:34:10 PM |
| Branch GX | | | 13907 | /Subnetwork #2/Cent... | NMS_SOHO_PBX | 172.16.19.50 | ICMP | 4/10/2009 3:34:29 PM |
| 00_IVR_server | 3 of 3 | 0.000 % | 13906 | /Subnetwork #2/Cent... | NMS_SOHO_PBX | 172.16.19.50 | SNMP | 4/10/2009 3:34:29 PM |
| 00_IVR_slave... | 3 of 3 | 0.000 % | 13896 | /AddPac/Branch GX | IPNext 3000 Slave | | | |
| 00_PS_server | 3 of 3 | 0.000 % | 13895 | /AddPac/Branch GX | IPNext 3000 Master | | | |
| 00_PS_slave... | 2 of 3 | 33.333 % | 13802 | /AddPac/Branch GX | 00_IVR_server | | | |
| 00_RBT_server | 3 of 3 | 0.000 % | 13801 | /AddPac/Branch GX | 00_IVR_server | | | |
| IPNext 3000 ... | 1 of 3 | 66.667 % | 13800 | /AddPac/Branch GX | 00_IVR_server | | | |
| IPNext 3000 S... | 1 of 3 | 66.667 % | 13773 | /AddPac/Branch AQ | NMS_IP_PBX_31.13 | | | |
| UMS slave | 3 of 3 | 0.000 % | 13772 | /AddPac/Branch AQ | NMS_IP_PBX_31.13 | | | |
| UMS slave | 3 of 3 | 0.000 % | 13771 | /AddPac/Branch AQ | NMS_IP_PBX_31.13 | | | |
| HeadQuarter | | | 13611 | /AddPac/Branch AQ | NMS Camera | | | |
| 5th floor meeti... | 1 of 1 | 0.000 % | 13610 | /AddPac/Branch AQ | NMS Camera | | | |
| UMS serverfo... | 3 of 3 | 0.000 % | 13609 | /AddPac/Branch AQ | NMS Camera | | | |
| Subnetwork #2 | | | 13608 | /AddPac/Branch AQ | NMS Camera | | | |
| Center | | | 13607 | /AddPac/Branch AQ | NMS Camera | | | |
| NMS_SOHO_... | 2 of 2 | 0.000 % | 13606 | /AddPac/Branch AQ | NMS Camera | | | |
| | | | 9021 | /AddPac/Branch GX | UMS slave | | | |
| | | | 9020 | /AddPac/Branch GX | UMS slave | | | |
| | | | 9019 | /AddPac/Branch GX | UMS slave | | | |
| | | | 6489 | /AddPac/Branch GX | 00_PS_server | | | |

An 'Event Detail (ID: 45412)' window is open, showing the following information:

- Event Time: 4/10/2009 9:26:04 PM
- Site: /AddPac/Branch GX
- Device Name: 00_RBT_server
- Service: Media
- Severity: Critical
- Device Model: AP-RBT1000
- Log Message: device 00_RBT_server down
- Description: device 00_RBT_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.

An annotation points to the 'Event Detail' window: "Can view the event data related to the current device fault and can write troubleshooting note if needed".

The bottom of the interface shows 'Your Outstanding Notices (18)' with a table of notices including ID, Send Time, Site, Device Name, IP Address, Service, and Message.

Device Event History

Smart Network Management System - Windows Internet Explorer
 http://172.16.31.20/smartnms.htm

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

Limit: 20 Refresh Advanced Search Acknowledge Events Troubleshooting Note

| Event Time | Outlets | 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 |

| 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 [1.3.6.1.4.1.4855.3.2.255] args [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 | | | 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 [1.3.6.1.4.1.4855.3.2.10] args [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 | | | 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/Cent... | 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/HeadQuater | 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/HeadQuater | 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/Cent... | NMS_SDHO_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/Cent... | NMS_SDHO_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/Cent... | NMS_SDHO_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/Cent... | NMS_SDHO_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/Cent... | NMS_SDHO_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/Cent... | NMS_SDHO_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

| Site | Device Name | IP Address | Service | Message |
|------------------------|----------------------|----------------|--------------|---|
| /AddPac/Branch GX | 00_RBT_server | | | device 00_RBT_server's all services are down. |
| /AddPac/HeadQuater | 5th floor meeting... | | | device 5th floor meeting room phone device, all services are down. |
| /Subnetwork #2/Cent... | NMS_SDHO_PBX | | | device NMS_SDHO_PBX, all services are down |
| /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. |
| /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. |
| /AddPac/Branch GX | 00_IVR_server | | | device 00_IVR_server all services are down. |
| /AddPac/Branch AQ | NMS_IP_PBX_3... | | | device NMS_IP_PBX_31.13 all services down. |
| /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 11:46:45 AM 172.16.31.20:5101 admin Version 1.2.3384

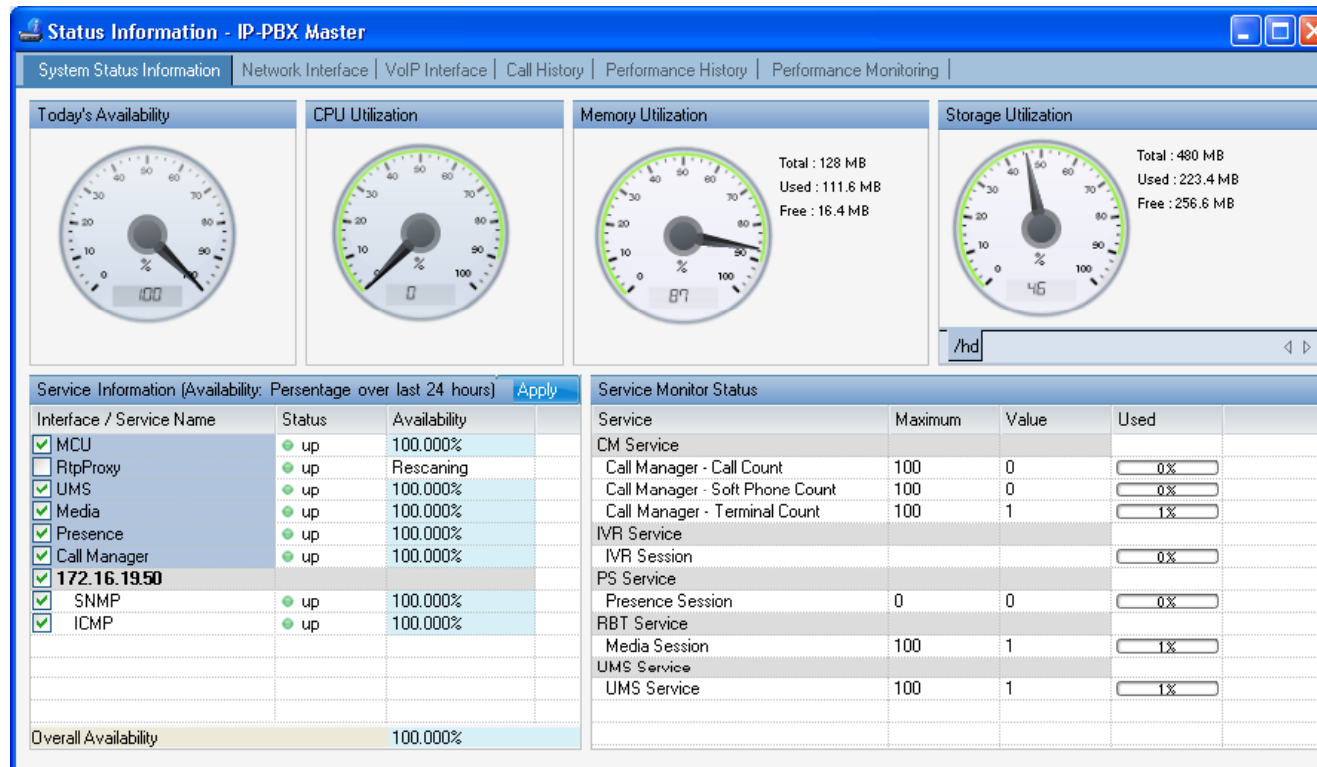
Can view all events for devices with search condition

summarize daily event statistics data

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)
- Provide network interface status (up/down & network traffic)
- Provide VoIP interface status and call statistics.
- Search call history for the device and port
- Display Graph Series with System Performance Information
- Monitor Main Status Flow with System Monitoring View

System Status Information



VoIP Interface

You can view call summary informations such as total call, ASR, and ACD for the GSM gateway device each

Status Information - GS3000 gateway

System Status Information | Network Interface | **VoIP Interface** | Call History | Performance History | Performance Monitoring

GSM Call Statistics

| Inbound Calls | | | | Total | | | All Clear |
|---------------|-----|-----|----|-------|---------|-----------|-----------|
| VoIP | FXS | FXD | E1 | Call | ASR (%) | ACD (sec) | |
| 0 | 58 | 0 | 0 | 58 | 94 % | 11 | |

VoIP Interfaces Status

| Port | Line Type | Line Status | In Gain | Out Gain | Phone Number | GSM Phone Number | Inbound Calls (VoIP/FXS/FXD/E1) | ASR (%) | ACD (sec) |
|------|-----------|-------------|---------|----------|--------------|------------------|---------------------------------|---------|-----------|
| 0/0 | GSM | hookOn | 0 | 0 | 5T | | 0 / 37 / 0 / 0 | 94% | 5 |
| 0/1 | GSM | hookOn | 0 | 0 | 6T | | 0 / 21 / 0 / 0 | 95% | 6 |
| 0/2 | GSM | hookOn | 0 | 0 | 7T | | 0 / 0 / 0 / 0 | 0% | 0 |
| 0/3 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 1/0 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 1/1 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 1/2 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 1/3 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 2/0 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 2/1 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 2/2 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 2/3 | GSM | hookOn | 0 | 0 | | | 0 / 0 / 0 / 0 | 0% | 0 |
| 7/0 | FXS | hookOn | 0 | 0 | 7000 | | | 0% | |
| 7/1 | FXS | hookOn | 0 | 0 | | | | 0% | |
| 7/2 | FXS | hookOn | 0 | 0 | | | | 0% | |
| 7/3 | FXS | hookOn | 0 | 0 | | | | 0% | |
| 7/4 | FXD | hookOn | 0 | 0 | 1231 | | | 0% | |
| 7/5 | FXD | hookOn | 0 | 0 | | | | 0% | |

ⓘ GSM call statistics (Inbound calls, ASR, ACD) was created in the device to collect data is displayed on the screen.

Call History

You can search call history with various conditions such as start date, end date, port and ip etc.

System Status Information | Network Interface | VoIP Interface | **Call History** | Performance History | Performance Monitoring

Limit: 30 | Latest 24 Hours | Refresh | Advanced Search | Report View | 1/6

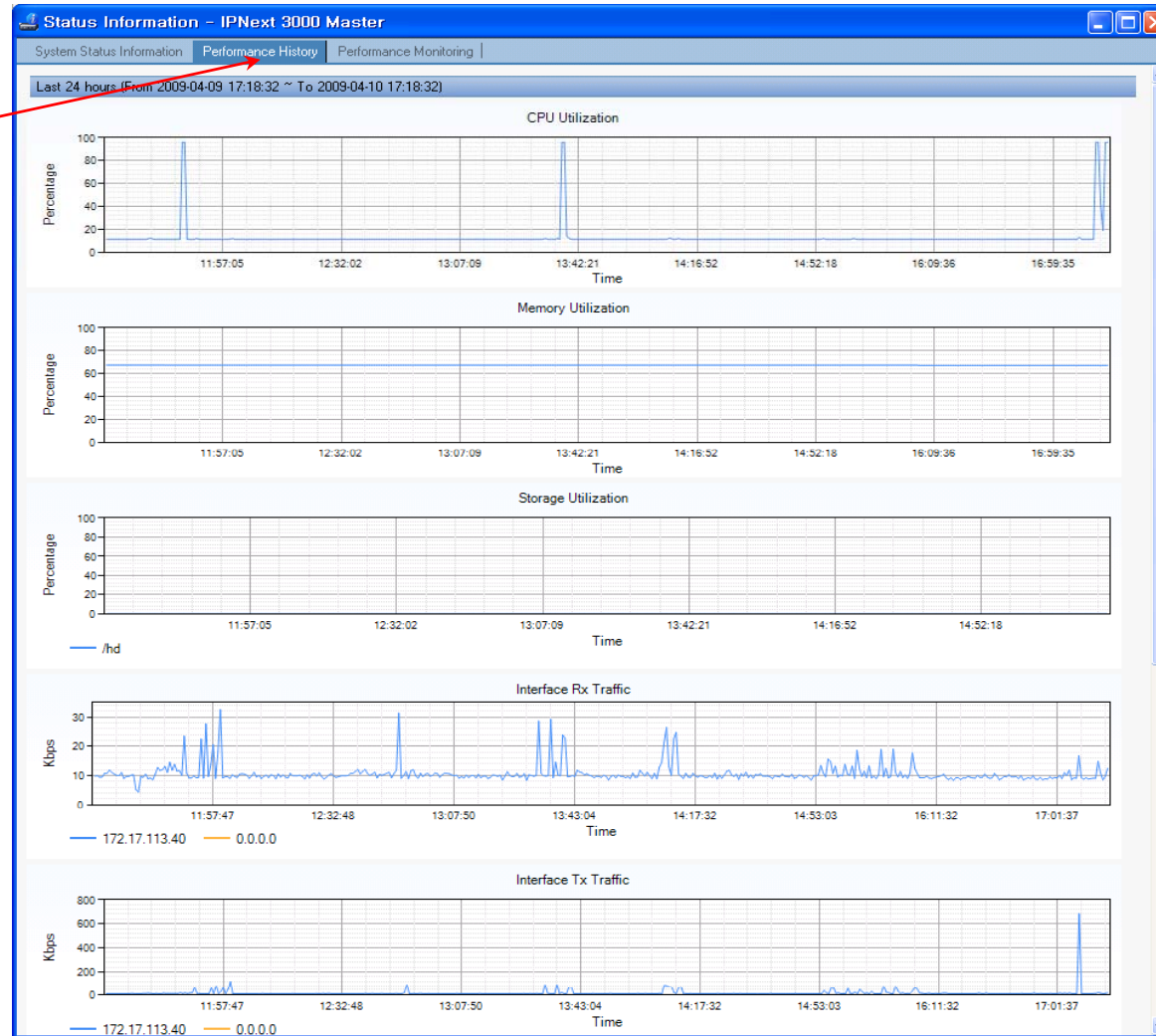
Device Call History

*Destination Port: <All> *Search Count: 153
*Period: 2010-11-18 10:15:01 ~ 2010-11-19 10:15:01
*Filter: Empty

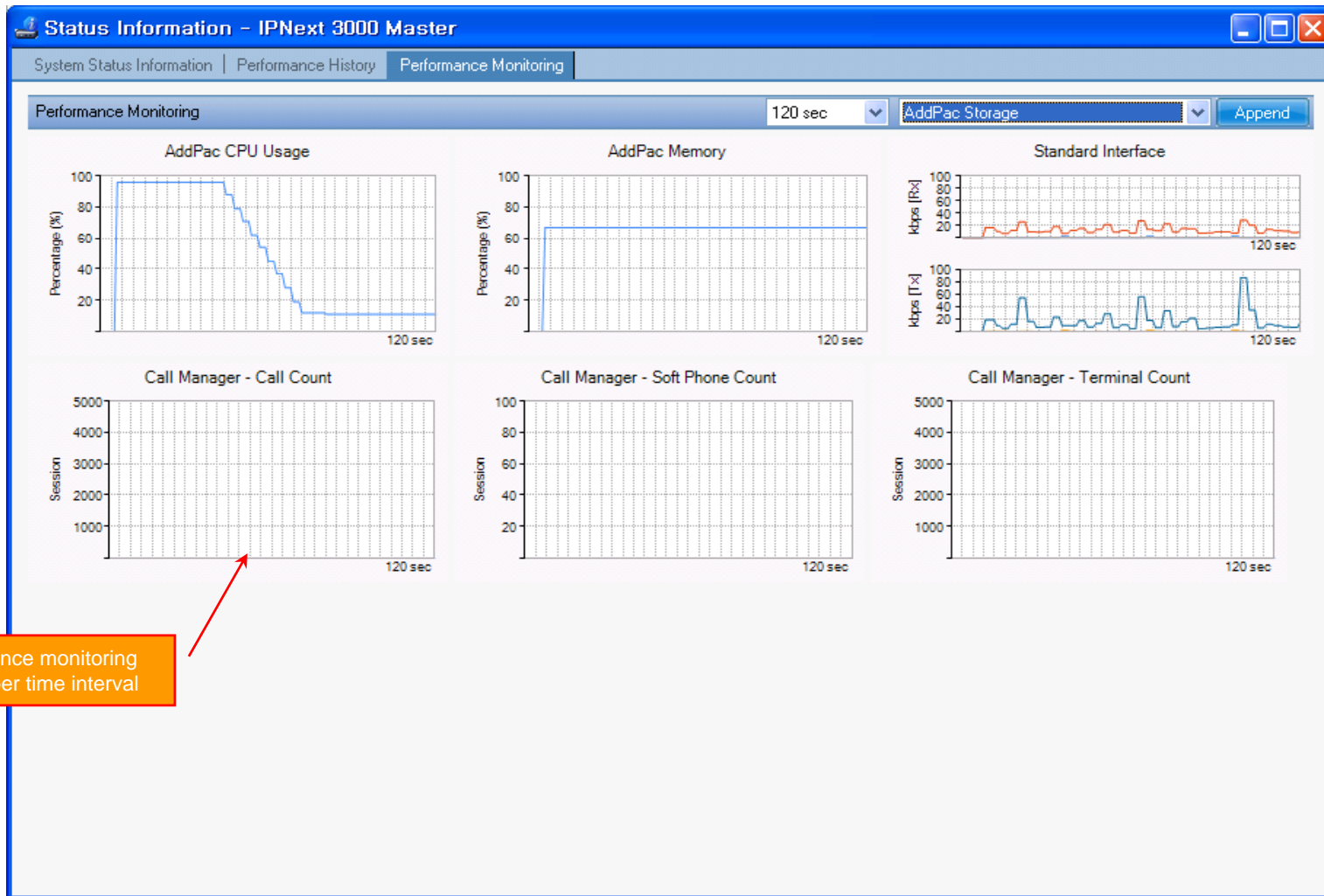
| ID | Create Time | Duration | Caller Type | Caller Number | Called Type | Called Number | Remote IP | GSM Phone N... | Codec | Status |
|-----|-----------------------|----------|-------------|---------------|-------------|---------------|-------------|----------------|----------|---------|
| 346 | 11/18/2010 3:54:50 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |
| 345 | 11/18/2010 3:50:43 PM | 00:00:03 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g7231r63 | Success |
| 344 | 11/18/2010 3:46:54 PM | 00:00:16 | FXS | 7000 | GSM | 6000 | | | g711alaw | Success |
| 343 | 11/18/2010 3:45:59 PM | 00:00:02 | FXS | 7000 | GSM | 5000 | | | g711alaw | Success |
| 342 | 11/18/2010 3:43:33 PM | 00:00:03 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g7231r63 | Success |
| 341 | 11/18/2010 3:43:23 PM | 00:00:00 | FXS | 7000 | GSM | 600 | | | g711alaw | Failed |
| 340 | 11/18/2010 3:43:16 PM | 00:00:00 | FXS | 7000 | GSM | 600 | | | g711alaw | Failed |
| 339 | 11/18/2010 3:43:12 PM | 00:00:00 | FXS | 7000 | GSM | 500 | | | g711alaw | Failed |
| 338 | 11/18/2010 3:43:07 PM | 00:00:00 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g7231r63 | Failed |
| 337 | 11/18/2010 3:42:32 PM | 00:00:04 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g7231r63 | Success |
| 336 | 11/18/2010 3:25:48 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |
| 335 | 11/18/2010 3:21:05 PM | 00:00:03 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g7231r63 | Success |
| 334 | 11/18/2010 3:20:57 PM | 00:00:00 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g7231r63 | Failed |
| 332 | 11/18/2010 3:20:54 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |
| 330 | 11/18/2010 3:20:43 PM | 00:00:02 | FXS | 7000 | GSM | 6000 | | | g711alaw | Success |
| 328 | 11/18/2010 3:20:30 PM | 00:00:02 | FXS | 7000 | GSM | 5000 | | | g711alaw | Success |
| 325 | 11/18/2010 3:05:30 PM | 00:00:03 | FXS | 7000 | VoIP | 9999 | 172.16.9.18 | | g7231r63 | Success |
| 324 | 11/15/2010 3:05:22 PM | 00:00:00 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g7231r63 | Failed |
| 323 | 11/15/2010 3:05:11 PM | 00:00:03 | VoIP | 9999 | FXS | 7000 | 172.16.9.18 | | g7231r63 | Success |
| 322 | 11/15/2010 3:05:08 PM | 00:00:00 | FXS | 7000 | Unknown | | | | g711alaw | Failed |

Performance History

performance analysis graph for last 24 hours



Performance Monitoring



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

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

Event Notification Properties

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 %param[timeout]% milliseconds, over %param[attempts]% attempts. This event will NOT impact service level agreements, but may be an indicator of other problems on that node.

| ACK | ID | Send Time | Site | Device Name | IP Address | Service | Message |
|-----|------|-----------------------|------------------------|----------------------|----------------|---|---------|
| | 9535 | 4/10/2009 9:26:04 PM | /AddPac/Branch GX | 00_RB_T_server | | device:00_RB_T_server's all services... | |
| | 9527 | 4/10/2009 5:34:10 PM | /AddPac/HeadQuarter | 5th_floor_meeting... | | | |
| | 9502 | 4/10/2009 3:34:29 PM | /Subnetwork #2/Cent... | NMS_SOHO_PBX | | | |
| | 9495 | 4/10/2009 11:37:12 AM | /AddPac/Branch GX | IPNext 3000 Slave | 172.17.113.41 | Call Manager | |
| | 9494 | 4/10/2009 11:37:12 AM | /AddPac/Branch GX | IPNext 3000 Master | 172.17.113.40 | Call Manager | |
| | 9418 | 4/9/2009 2:20:01 PM | /AddPac/Branch GX | 00_IVR_server | | | |
| | 9396 | 4/9/2009 10:57:37 AM | /AddPac/Branch AQ | NMS_IP_PBX_3... | | | |
| | 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 Network Management System (NMS) interface. A 'Destination Path Properties' dialog box is open, showing configuration options for event notifications. The dialog includes a 'Destination Path Name' field set to 'default', an 'Initial Target' dropdown set to '0m', and a table for defining notification channels. The table has columns for 'Notification Type', 'Target', and 'Auto Notify'. The 'alarmLamp' channel is selected, and the 'email' and 'sms' channels are also visible. A red callout box with the text 'define notification channel such as e-mail, sms, or alarmlamp' points to the 'email' and 'sms' rows in the table.

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

Below the dialog, the 'Your Outstanding Notices (18)' section shows a list of events with columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, and Message. The status bar at the bottom indicates the current date and time as 4/13/2009 11:22:46 AM, the user as admin, and the system version as 1.2.3384.

Event Notification Management

The screenshot displays the Smart Network Management System (NMS) interface. The main window shows a tree view of network devices and their availability. Two dialog boxes are open: 'Destination Path Properties' and 'Target Properties'. The 'Target Properties' dialog is the primary focus, showing the configuration for event notifications. It includes a dropdown for 'Choose the notification type:' with options 'sms', 'sms', 'alarmLamp', and 'email'. Below this, there are radio buttons for 'Send to select user:' (selected) and 'Send to Email or Mobile:'. The 'Send to select user:' option is set to 'Account Administrator'. A red callout box points to this dropdown menu with the text: 'user account (administrator) setting for SMS, E-mail Notification or specify e-mail address or SMS phone number'. At the bottom of the interface, there is a table of 'Your Outstanding Notices (18)'.

| Ack | ID | Send Time | Site | Device Name | IP Address | 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 meeti... | | 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 |

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

| 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_FBT_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_SOHD_... | 2 of 2 | 0.000 % |

Destination Path Name

default
onlyAlarmLamp

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

Total destination paths : 2

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_FBT_server | | | device 00_FBT_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 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 | 92% | 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% |

| 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/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/Cent... | 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 main content area shows a search condition panel with a date range of 4/9/2009 to 3/30/2009 and a site selection of Branch A, Branch AQ, B. Below this is a bar chart titled "Fault Statistics (Site)" showing fault counts over time for various sites. A detailed data table for 4/9/2009 is also visible, showing fault counts for different sites and a total of 118 faults. At the bottom, there is a section for "Your Outstanding Notices (18)" with columns for Ack, ID, Send Time, Site, Device Name, IP Address, Service, and Message.

Event Summary Table:

| Event Time | Outsta... | Ackno... | Not Clo... | 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 |

4/9/2009 Detailed Data Table:

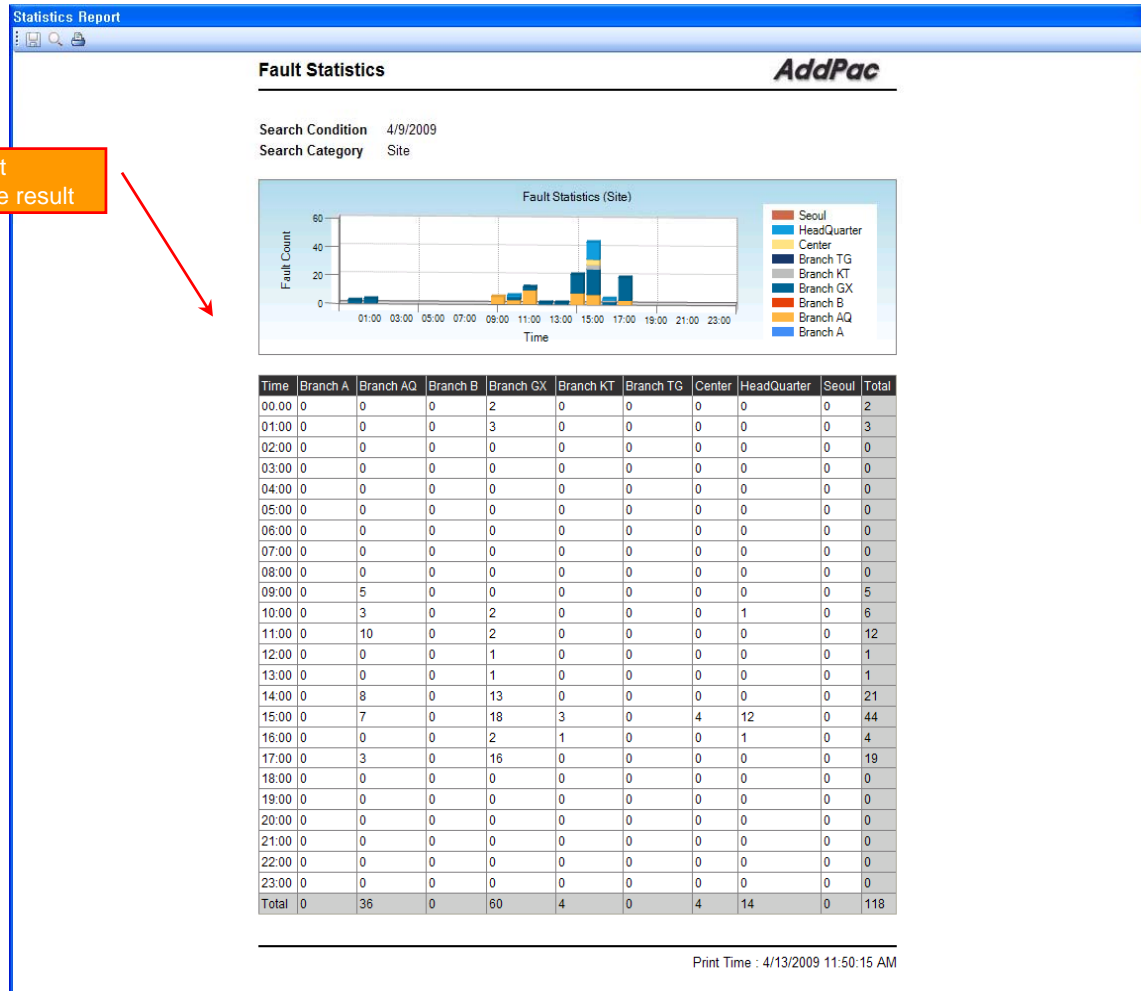
| Time | Branch A | Branch AQ | Branch B | Branch GX | Branch KT | Branch TG | Center | HeadQuarter | Seoul | Total |
|--------------|----------|-----------|----------|-----------|-----------|-----------|----------|-------------|----------|------------|
| 07:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 1 | 0 | 0 | 1 | 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 |

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_SOHO_PBX | | | device NMS_SOHO_PBX, all services are down |
| <input type="checkbox"/> | 9505 | 4/10/2009 11:23:13 AM | /AddPac/Branch GX | IPNext_3000_Slave1 | 172.17.113.41 | Call | interface 172.17.113.41 (172.17.113.41) device IPNext_3000_Slave1 service |

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

Network Management System Smart NMS

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 |
| Branch B | |
| GangNamGu | GangNamGu |
| Branch TG | Yeoksam Area |
| SeoChoGu | seoul seochodistrict |
| Seoul West Area | Seoul West Area |
| Gangseo Area | Gangseo 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 se |
| <input type="checkbox"/> | 9502 | 4/10/2009 3:34:29 PM | /Subnetwork #2/Cent... | 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 (If |
| <input type="checkbox"/> | 9494 | 4/10/2009 11:37:12 AM | /AddPac/Branch GX | IPNext 3000 Master | 172.17.113.4 | | 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 (If |
| <input type="checkbox"/> | 9396 | 4/9/2009 10:57:37 AM | /AddPac/Branch AQ | NMS_IP_PBX_3... | | | 53.118 |
| <input type="checkbox"/> | 9239 | 4/6/2009 7:49:20 PM | /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.1 | | |
| <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 | SNMP | ICMP not response or deleted by administrator |
| <input type="checkbox"/> | 9236 | 4/6/2009 7:49:20 PM | /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | ICMP | device (NMS Camera 2) interface 172.16.253.118 |
| <input type="checkbox"/> | 9235 | 4/6/2009 7:49:20 PM | /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.118 | SNMP | SNMP not response or deleted by administrator |
| <input type="checkbox"/> | 9234 | 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"/> | 9233 | 4/6/2009 7:49:20 PM | /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.118 | SNMP | SNMP not response or deleted by administrator |
| <input type="checkbox"/> | 9232 | 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"/> | 9231 | 4/6/2009 7:49:20 PM | /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.118 | SNMP | SNMP not response or deleted by administrator |
| <input type="checkbox"/> | 9230 | 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 |

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

| Service Name | Protocol | Port |
|-------------------------|----------|------|
| Call Manager | SNMP | 161 |
| Presence | SNMP | 161 |
| Media | SNMP | 161 |
| NMS | 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 |

| Site | Device Name | IP Address | Service | Message |
|---------------------|--------------------|----------------|--------------|-----------------------|
| /AddPac/Branch GX | 00_RBT_server | | Call Manager | device 00_RBT_serv |
| /AddPac/HeadQuarter | 5th floor meeting | | Call Manager | device 5th floor meet |
| /Subnetwork #2/Cent | NMS_S0HD_PBX | | Call Manager | device NMS_S0HD_PBX |
| /AddPac/Branch GX | IPNext 3000 Slave | 172.17.113.41 | Call Manager | interface 172.17.113 |
| /AddPac/Branch GX | IPNext 3000 Master | 172.17.113.40 | Call Manager | interface 172.17.113 |
| /AddPac/Branch GX | 00_IVR_server | | Call Manager | service Call Manager |
| /AddPac/Branch AQ | NMS_IP_PBX_3 | | Call Manager | device 00_IVR_serv |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.118 | SNMP | device NMS_IP_PBX |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.118 | ICMP | device (NMS_Camera |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.118 | SNMP | response or delete by |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | ICMP | device (NMS_Camera |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | ICMP | ICMP not response o |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | SNMP | device (NMS_Camera |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | ICMP | SNMP not response |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | ICMP | device(NMS_Camera |
| /AddPac/Branch AQ | NMS Camera 2 | 172.16.253.110 | ICMP | ICMP not response o |

| Service Name | Protocol | Port | Service Condition |
|-------------------------|----------|------|--|
| Camera Operation Status | SNMP | 161 | Operator: =, Operand: 1 |
| NMS Camera 2 | ICMP | | Service OID: 1.3.6.1.4.1.4855.7.51.1.3.0 |



Thank you!

AddPac Technology Co., Ltd.
Sales and Marketing

Phone +82.2.568.3848 (KOREA)

FAX +82.2.568.3847 (KOREA)

E-mail sales@addpac.com