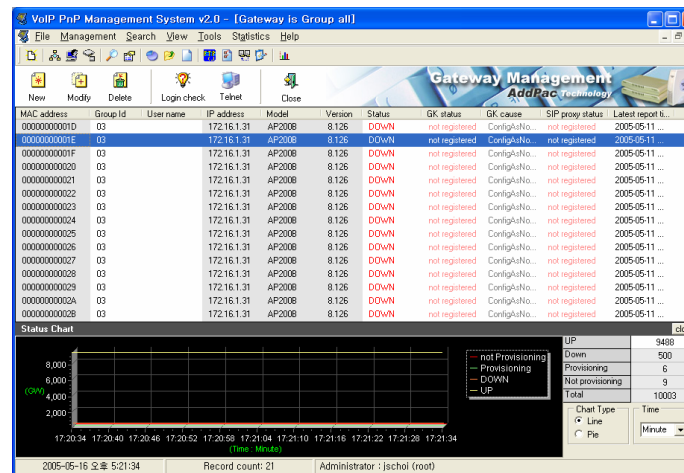




AP-VPMS

VoIP Plug & Play Management System
Next Generation Large Scale VoIP Equipment
Management Solution



AddPac

AddPac Technology

2007, Sales and Marketing

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AP-VPMS

VoIP Plug & Play Management System

- **Product Overview**
- **Network Diagram**
- **Hardware Specification**
- **Software Requirement**
- **AP-VPMS GUI (Example)**
- **System Performance Evaluation**
- **Ordering Information**

Product Overview

AP-VPMS VoIP Plug & Play Management System

- Powerful Management and User Friendly Features
- Graphical VoIP Gateway Plug & Play Manager
- Stability and Reliability Management System
- CLI Interface for Detailed Control
- VPMS Function List
 - Auto Initial Config and Installation
 - Gateway Status Monitoring & Analysis
 - Auto Firmware Upgrade
 - Gateway Management
(Registration, Modification, Search, Delete, Filtering, etc)
 - Account Management
 - Group Management
 - Event Log View
 - Gateway Status Report

Product Highlights

AP-VPMS VoIP Plug & Play Management System

VoIP Plug & Play Management

Window 2000 Server Platform
(VPMS Server)

Commercial H/W Platform
(PC, Server Platform)

JAVA & MS-SQL
Server (DBMS)

Server-Client
Architecture

Gateway
Status Report

Gateway Management
(Registration, etc)

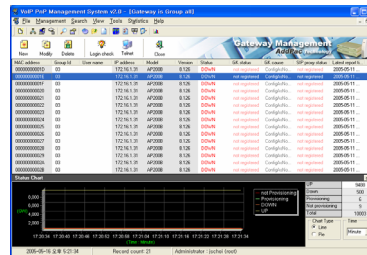
Gateway
Status Monitoring

Gateway
Auto Firmware Upgrade

Gateway Event Log

Account Management

Gateway
Group Management



Hardware Specification

AP-VPMS VoIP Plug & Play Management System



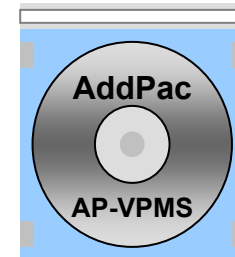
RISC
CPU

- **Commercial H/W Platform**
(Dell Server, Desktop PC, etc)
- **AP-VPMS Server H/W Requirement(1,000Ea)**
 - CPU : Intel Pentium 4 1GHz (minimum)
 - MEMORY : 1GByte(minimum)
 - HDD : 40GB
 - OS : Window 2000 Server
- **AP-VPMS Client H/W Requirement**
 - CPU : Intel Pentium Series
 - MEMORY : 256Mbyte, 128Mbyte (minimum)
 - OS : Window XP, Window 2000, Window 9x,etc

Software Requirement

AP-VPMS VoIP Plug & Play Management System

- **DataBase : MS-SQL server 2000 (standard)**
- **Auto-upgrade server :Windows2000 server (IIS, FTP)**
- **VPMS Server :Java JRE 1.4.1(download), VPMS server**
- **VPMS Client :VPMS client**
- **Others : TeraTerm Pro 2.3 (freeware download)**





AP-VPMS GUI Example

Model Management (Example)

AP-VPMS VoIP Plug & Play Management System

The screenshot displays the 'VoIP PnP Management System v2.0 - [Group Summary]' window. The main interface includes a menu bar (File, Management, Search, View, Tools, Statistics, Help) and a toolbar. The main content area is divided into several sections:

- Gateway Model Management Dialog:** A modal window with a list of gateway models (AP1100_S404, AP200B, AP200C) and input fields for 'Model name', 'Slot count', and 'Slot / Port count'. It features 'New', 'Delete', 'Ok', and 'Close' buttons.
- Group Summary Table:** A table with columns: No, Group Id, Group name, GW UP. It lists five groups: Sungnam (11), Seoul (6634), Kangnam (0), Seocho (1782), and kwanak (1001).
- Summary Statistics Table:** A table with columns: SIP Register, SIP not Register, Group all. It shows counts for each group.
- Search and Filter Section:** Includes a 'Search Define' list (1-10), a 'Delete' button, and a search area with 'Ascending/Descending' radio buttons and a 'Group Id' dropdown.
- Status Bar:** Shows the date '2005-05-17 오후 1:46:11', 'Record count: 5', and 'Administrator : jschoi (root)'.

Equipment Filter Search (Example)

AP-VPMS VoIP Plug & Play Management System

The screenshot displays the 'VoIP PnP Management System v2.0 - [Group Summary]' window. The main table lists five groups with their respective statistics:

No	Group Id	Group name	GW UP	GW Down	GW Provisioning	GW Not provision	GK Register	GK not Register	SIP Register	SIP not Register	Group all
1	01	Sungnam	11	3	0	2	1	15	0	16	16
2	02	Seoul	6694	474	0	0	6688	480	0	7168	7168
3	03	Kangnam	0	21	0	0	0	21	0	21	21
4	04	Seocho	1782	2	6	7	1797	0	0	1797	1797
5	05	kwanak	1001	0	0	0	1001	0	0	1001	1001

Below the table, there is a 'Select management' dropdown set to 'Gateway'. The 'Search Define' section includes five filter criteria with dropdown menus and comparison operators. The 'Sort Type' section has radio buttons for 'Ascending' (selected) and 'Descending'. A 'Search' button is located to the right of the search criteria.

The 'Status Chart' section shows a line graph with the following data series:

Category	Count
UP	9488
Down	500
Provisioning	6
Not provisioning	9
Total	10003

The chart also includes a legend for 'not Provisioning' (red), 'Provisioning' (green), 'DOWN' (orange), and 'UP' (blue). The x-axis represents time in minutes, and the y-axis represents the count (GW). The status bar at the bottom indicates the date and time as '2005-05-17 오전 10:14:35', the record count as '5', and the administrator as 'Administrator : jschoi (root)'.

Firmware Upgrade (Example)

AP-VPMS VoIP Plug & Play Management System

The screenshot shows the 'VoIP PnP Management System v2.0 - [Upgrade Information]' window. The window title bar includes standard OS controls and a menu bar with 'File', 'Management', 'Search', 'View', 'Tools', 'Statistics', and 'Help'. Below the menu bar is a toolbar with various icons. The main content area features a header with 'Upgrade Information' and the 'AddPac Technology' logo. Below the header is a table with the following data:

No	Group code	Type	Old version	New version	Operator ID	Upgrade time	Comment
1	kor_02	BIN	6.12	6.12	root	2003-06-09 오후 4:41:56	FTP upload
2	kor_02	INF	20030609	20030609	root	2003-06-09 오후 4:36:23	test
3	kor_02	INF	20030609	20030609	root	2003-06-09 오후 4:35:27	z
4	kor_02	BIN	6.12	6.12	root	2003-06-09 오후 4:34:48	FTP upload
5	kor_02	BIN	6.12	6.12	root	2003-06-09 오후 4:31:48	FTP upload
6	kor_02	INF		20030609	root	2003-06-09 오후 4:29:13	dir test.
7	kor_02	BIN		6.12	root	2003-06-09 오후 4:28:01	FTP upload

Below the table is a 'Status Chart' section. The chart displays a line graph with the y-axis labeled '(GW)' ranging from 0 to 8,000 and the x-axis labeled '(Time - Minute)' ranging from 14:40:34 to 14:41:34. The chart shows four data series: 'not Provisioning' (red), 'Provisioning' (green), 'DOWN' (orange), and 'UP' (yellow). The 'UP' series is the highest, followed by 'not Provisioning', 'DOWN', and 'Provisioning'. To the right of the chart is a summary table:

UP	9488
Down	500
Provisioning	6
Not provisioning	9
Total	10003

Below the summary table are controls for the chart: 'Chart Type' with radio buttons for 'Line' (selected) and 'Pie', and 'Time' with a dropdown menu set to 'Minute'.

Event Log (Example)

AP-VPMS VoIP Plug & Play Management System

Date_Time	IP address	Category	Event
2005-05-12 오후 8:41:00	172.16.1.31	Gatekeeper	Gateway REQUEST
2005-05-12 오후 8:41:00	172.16.1.31	Gateway	Gateway RESPONSE
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.19.102	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	
2005-05-12 오후 8:40:00	172.16.1.31	Gateway	

UP	Count
UP	9488
Down	500
Provisioning	6
Not provisioning	9
Total	10003

Chart Type: Line Pie
Time: Minute

2005-05-17 오후 2:54:07 Record count: 0 Administrator : administrator (root)

Report Preview (Example)

AP-VPMS VoIP Plug & Play Management System

Print Preview

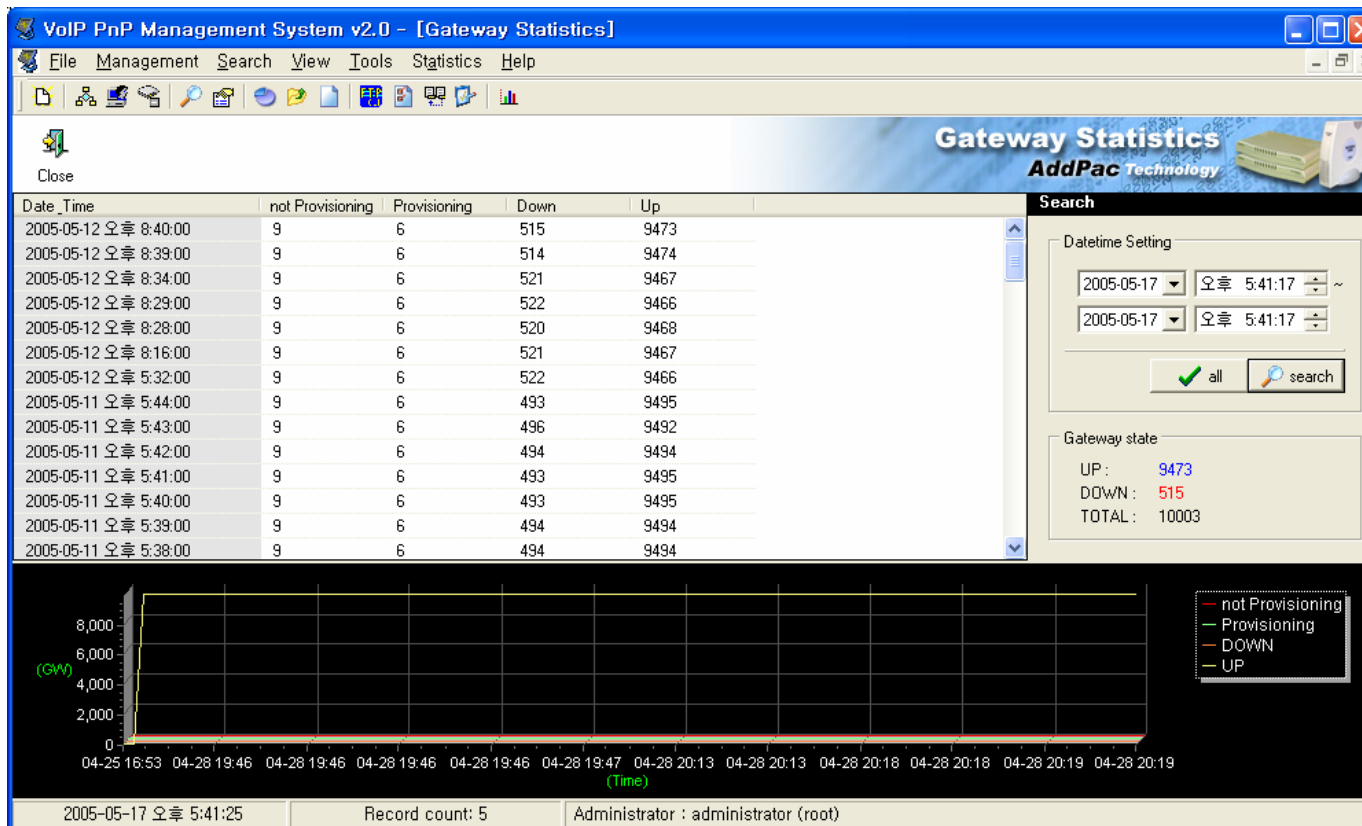
Upgrade Information Report **AddPac**

Area code	Type	Old version	New version	Operator ID	Upgrade time	comment
02	BN	ap1100rom.bin	ap1100rom.bin	root	2003-04-01 오전 10:12:47	FTPupload
02	BN	03 20 2003 2:03PM	ap1100rom.bin	root	2003-04-01 오전 10:06:37	FTPupload
02	BN	03 20 2003 2:00PM	03 20 2003 2:03PM	daw ndew	2003-03-20 오후 2:03:26	bin upgrade
area_id	part	ver_1	ver_2	operator_id	2003-03-20 오후 2:03:26	comment
02	INF		03 20 2003 1:12PM	root	2003-03-20 오후 2:03:26	rule 수정
02	INF		03 20 2003 2:00PM	daw ndew	2003-03-20 오후 2:03:26	file upload test
02	INF	03 20 2003 2:03PM	03 27 2003 3:04PM	root	2003-03-20 오후 2:03:26	
02	BN		ap1100rom.bin	root	2003-03-20 오후 2:03:26	
02	BN	ap1100rom.bin	ap3120romV6_071.bin	root	2003-03-20 오후 2:03:26	
02	INF	03 27 2003 3:04PM	03 27 2003 4:16PM	root	2003-03-20 오후 2:03:26	test
02	INF	03 27 2003 4:16PM	03 27 2003 5:53PM	root	2003-03-20 오후 2:03:26	
02	INF	03 27 2003 5:53PM	03 27 2003 5:54PM	root	2003-03-20 오후 2:03:26	Area code test 일니
02-01	INF		03 28 2003 4:52PM	root	2003-03-20 오후 2:03:26	
02-01	INF	03 28 2003 4:52PM	03 28 2003 4:52PM	root	2003-03-20 오후 2:03:26	
02-01	INF	03 28 2003 4:52PM	03 28 2003 4:53PM	root	2003-03-20 오후 2:03:26	
02-01	BN		ap1100rom.bin	root	2003-03-20 오후 2:03:26	
02-01	BN	ap1100rom.bin	ap1100rom.bin	root	2003-03-20 오후 2:03:26	
02-01	BN	ap1100rom.bin	ap1100rom.bin	root	2003-03-20 오후 2:03:26	
02	INF		03 20 2003 2:00PM	daw ndew	2003-03-20 오후 2:00:10	file upload test
02	INF		03 20 2003 1:12PM	root	2003-03-20 오후 1:12:29	rule 수정
02-01	INF	03 28 2003 4:53PM	03 28 2003 6:02PM	root		BMS client autoscri
02-01	INF	03 28 2003 6:02PM	03 28 2003 6:04PM	root		
02-01	INF	03 28 2003 6:04PM	03 28 2003 6:08PM	root		
02-01	INF	03 28 2003 6:08PM	03 28 2003 6:08PM	root		
02-01	INF	03 28 2003 6:08PM	03 28 2003 6:09PM	root		
02-01	INF	03 28 2003 6:09PM	03 28 2003 6:09PM	root		BMS client test..
02	INF	03 28 2003 7:07PM	03 28 2003 7:09PM	root		upgrade 2
02-01	BN	ap2520rom.bin	ap3120romV6_071 bin	root		FTPupload
02	INF	03 27 2003 5:54PM	03 28 2003 7:07PM	root		upgrade 1
02	INF	03 28 2003 7:09PM	03 28 2003 7:13PM	root		

Page 1 of 1

Gateway Statistics (Example)

AP-VPMS VoIP Plug & Play Management System



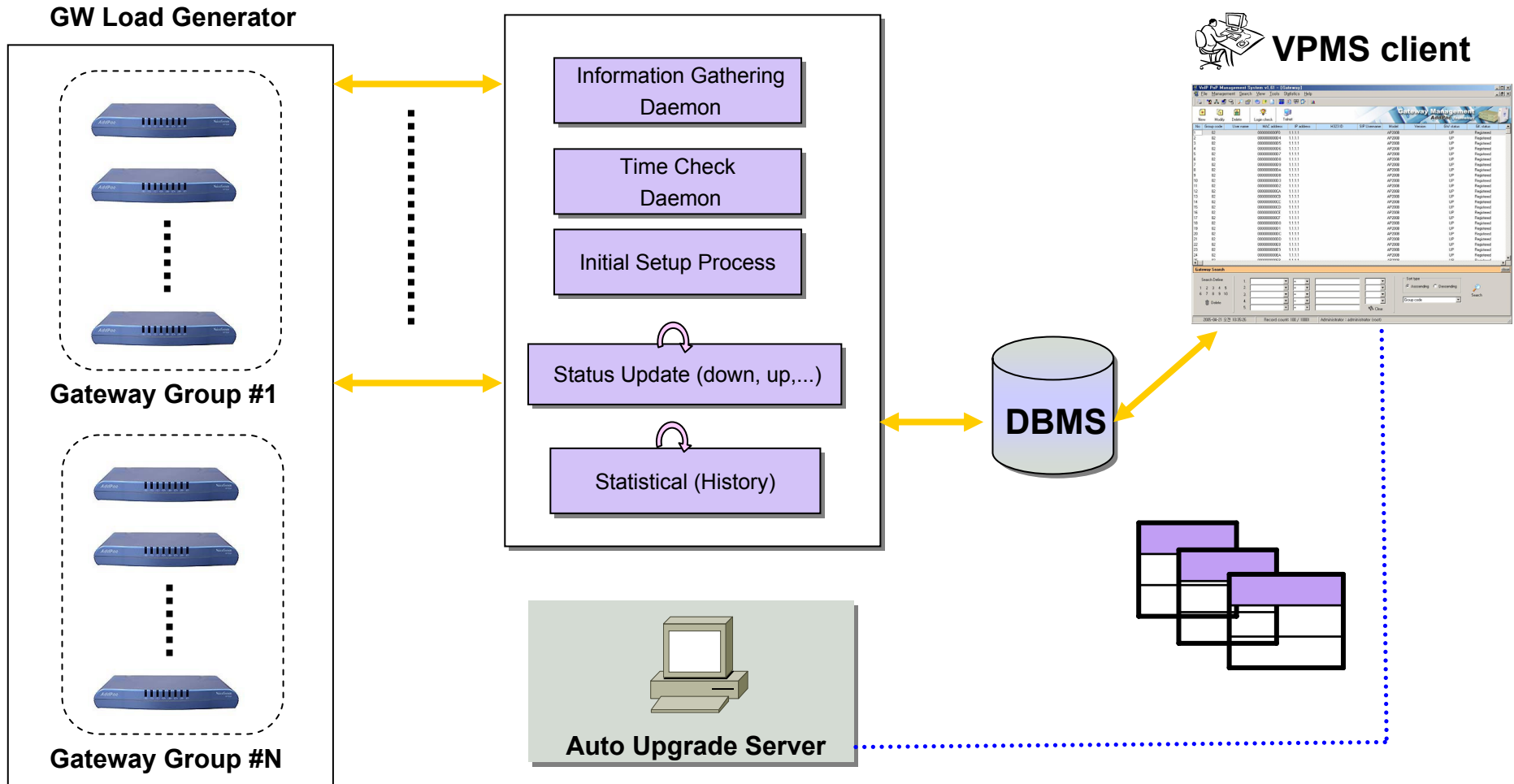


AP-VPMS Performance Analysis

System Performance Simulation Env.

AP-VPMS VoIP Plug & Play Management System

VPMS Server



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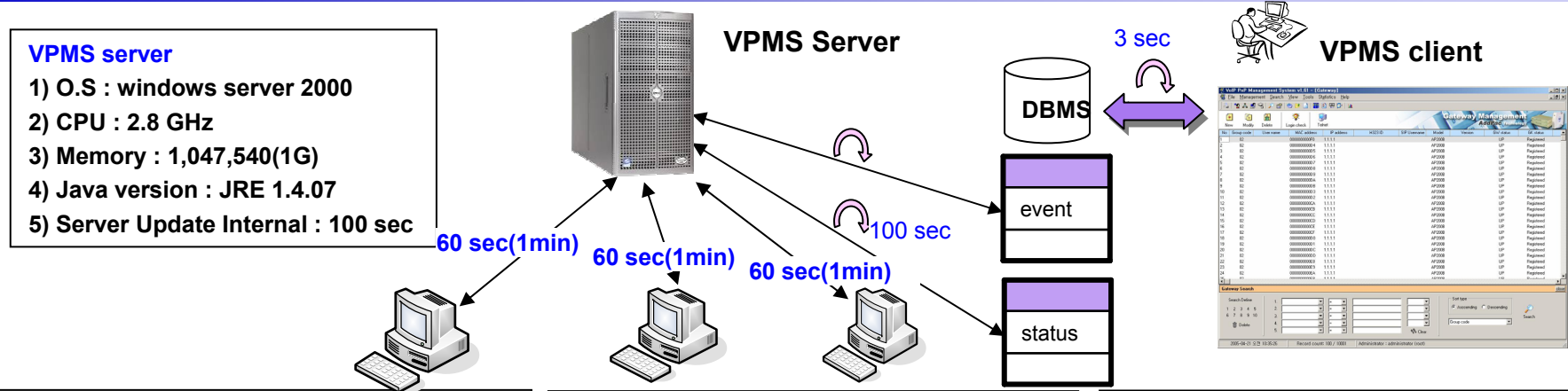
Simulation Parameters

AP-VPMS VoIP Plug & Play Management System

Item		Item	Contents		Comments
GW Simulator	Number of Gateway	machine 1	1000	Total 2000 GW, 3 machine	
		machine 2	500		
		machine 3	500		
	GW->VPMS Server	Transmission Method	Socket Type		
		Packet Type	UDP		
		Transmission Interval	60 sec		
		Packet size	63 octet (Radius Status Report)		
VPMS Server	Transmission Method	Socket Type			
	Packet Type	UDP			
	Socket Type	Non-Blocking Mode (selector)			
VPMS Client	Status Check Interval	3 sec (default value) – adjustable			
	Group Management	Maximum Depth One(1)			
DBMS (Database Mgt System)	DBMS Type	Microsoft MS SQL Server 2000 with sp3			
	Server-> DBMS Connection	JDBC Driver Type 4			
	TABLE	Total 11 Table (9 Master + 2 Hisory Data)			
	TABLE INCREMENT Rate	Management GW # = 2,000, Number of Status Change is 5 time per day			
		History Data (Table)	event	2,000 x 5 x 27(byte per event) = 270,000 = 270k/day	Total= 300K per day
	status	24 Hour / server status update Interval (ex: 60 sec) = 1,440 event per day 1,440 x 24 byte (byte per evenet) = 34,560 = 34 K/day			

Simulation Result

AP-VPMS VoIP Plug & Play Management System



GW simulator #1

- 1) O.S : windows server 2003
- 2) CPU : 3.6 GHz (Xeon CPU)
- 3) Memory : 2 G
- 4) GW# : 10 Group X 100 GW# per Group = **1000**

GW simulator #2

- 1) O.S : windows XP Home Edition with sp2
- 2) CPU : 1.69 GHz
- 3) Memory : 1 G
- 4) GW# : = 10 Group X100 GW# per Group = **500**

GW simulator #3

- 1) O.S : windows server 2003 Enterprise Ed.
- 2) CPU : centrino 1.4 G
- 3) Memory : 256 M
- 4) GW# : = 10 Group X100 GW# per Group = **500**

Item	Start	End	Comments
Time	D-2 16:35 min	D+0 09:35 min	Duration = 65 hrs
CPU	2% under	2 % under	
Memory	12,136 KB(12 M)	13,368 KB (13 M)	
GW down (data loss)	Not Occurred		
History table	Number of Event Table : 103,174, Number of GW status : 9,721		
VPMS Server Setting	1) socket receiver buffer : 5,000,000 byte(5M), 2) socket type : Non-Blocking (Selector)		
VPMS Client (Test Result)	1) Memory : OK (No Leaked), 2) Program Termination (abnormal, normal) : OK, 3) Program Processing Speed : OK (No Delay) 4) if Polling Interval is 5 min or longer than 5min, GWs more than 10000 Ea are supported or controlled by VPMS		

Ordering Information

- **AP-VPMS VoIP Plug & Play Management S/W**
 - VPMS Server Program
 - VPMS Client Program
- **Including 1 Year Hardware Warranty**
- **Product Documents**
 - Install and Operation Guide (PDF)
- **Pricing**
 - AddPac Technology Regional Sales Manager
 - Authorized Sales and Marketing Representatives
 - Please Contact www.addpac.com

AP-VPMS VoIP Plug & Play Management

Thank you!

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