OfficeServ NMS User Guide





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INTRODUCTION

Purpose

This OfficeServ NMS User guide provides basic understanding of OfficeServ NMS and describes the necessary information for the operation of the OfficeServ NMS.

Document Content and Organization

This document consists of eight Chapters, two Annexes and Abbreviations.

Part I. NMS Introduction and Basic Management

CHAPTER 1. Introduction to OfficeServ NMS

This chapter describes the introduction of OfficeServ NMS and its operating environment.

CHAPTER 2. Basic Information

This chapter describes GUI of OfficeServ NMS and the basic operation method to operate OfficeServ NMS

CHAPTER 3. Network Configuration

This chapter describes network viewer and network configuration methods of OfficeServ NMS.

CHAPTER 4. General Management

This chapter describes general management window and function of OfficeServ NMS.

CHAPTER 5. Inventory Management

This chapter describes inventory management window and function of OfficeServ NMS.

CHAPTER 6. Fault Management

This chapter describes fault management window and function of OfficeServ NMS.

CHAPTER 7. Performance Management

This chapter describes performance management window and function of OfficeServ NMS.

CHAPTER 8. Security Management

This chapter describes user security management window and function of OfficeServ NMS.

ANNEX A. OfficeServ NMS Q & A

Q & A answers many of the questions operators could have about doing operations with OfficeServ NMS.

ANNEX B. Open Source Announcement

This chapter describes license information about open software using in OfficeServ NMS.

ABBREVIATION

Abbreviations frequently used in this document are described.

Part II. Voice Function Management

CHAPTER 1. System Configuration Management

This chapter describes configuration management window and function of OfficeServ NMS.

CHAPTER 2. Telephony Management

This chapter describes telephony management window and function of OfficeServ NMS.

CHAPTER 3. VoIP Management

This chapter describes VoIP management window and function of OfficeServ NMS.

Part III. Data Function Management

CHAPTER 1. System Configuration Management (Data Part)

This chapter describes configuration management window and function related to data.

CHAPTER 2. Switch Management

This chapter describes switch management window and function of OfficeServ NMS.

CHAPTER 3. Router Management

This chapter describes router management window and function of OfficeServ NMS.

Conventions

The following types of paragraphs contain special information that must be carefully read and thoroughly understood. Such information may or may not be enclosed in a rectangular box, separating it from the main text, but is always preceded by an icon and/or a bold title.



CHECKPOINT

Provides the operator with checkpoints for stable system operation.



NOTE

Indicates additional information as a reference.

Console Screen Output

- The lined box with 'Courier New' font will be used to distinguish between the main content and console output screen text.
- 'Bold Courier New' font will indicate the value entered by the operator on the console screen.

Reference

OfficeServ 7000 Series Installation Manuals

Describe the installation procedure and specifications for the OfficeServ 7000 Series Systems.

OfficeServ 7000 Series System Descriptions

Describe the business feature available with the OfficeServ 7000 Series System.

OfficeServ 7000 Series Call Server Programming Manual

Describe a programming method for the OfficeServ 7000 Series System Users.

Revision History

EDITION	DATE OF ISSUE	REMARKS
00	01. 2006.	Original Draft
01	03. 2008.	Added OfficeServ NMS v1.2 Features
02	08. 2008.	Added OfficeServ NMS v1.3 Features
03	12. 2008.	Added OfficeServ NMS v1.4 Features
04	10. 2009.	Added OfficeServ NMS v1.5 Features Separated into three parts
05	07. 2010.	Added OfficeServ NMS v1.6 Features
7.0	03. 2012.	 Manual Edition allocation method is changed.(Ed.06 → Ver.7.0) Modified H/W and S/W Specifications.



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- CHAPTER 6. Fault Management
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ANNEX A. OfficeServ NMS Q & A

ANNEX B. Open Source Announcement

ABBREVIATION

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CHAPTER 1. Introduction to OfficeServ NMS

This chapter describes the functions and specifications of OfficeServ NMS.

OfficeServ NMS

OfficeServ NMS is a Network Management System (NMS) that performs the function to manage, maintain and repair OfficeServ systems.

OfficeServ NMS provides the following management functions to efficiently operate OfficeServ NMS systems on the basis of ITU-T M.3010 standard.

- General Management
- System Configuration Management
- Telephony Management
- VoIP Management
- Switch Management
- Router Management
- Inventory Management
- Fault Management
- Performance Management
- User Security Management

OfficeServ NMS operates in server-client method.

A server is directly connected to the OfficeServ system, interfaces between clients and the OfficeServ system, and manages a variety of database. A clients operates as a terminal providing operator interface.

The OfficeServ NMS server has been developed via JSP, Servlet, RMI, JDBC, and XML, and its clients have been developed via HTML, Java Applet, and Java Script. OfficeServ NMS implemented via Java language with excellent portability is not concerned about types of operating platforms. Interworking relationship between OfficeServ NMS and OfficeServ system is as follows:



Figure 1.1 Interworking of OfficeServ NMS and OfficeServ System

In addition, OfficeServ NMS has many of advantages.

Real-Time System Status Monitoring

OfficeServ NMS collects the fault status generated in a system via SNMP in real time.

User Friendly GUI Design

OfficeServ NMS was developed via standard graphic interface. All commands of OfficeServ NMS are composed of graphic menus so that operators can easily understand and use the functions of OfficeServ NMS.

Various Statistics Reports

OfficeServ NMS provides data including fault information, performance information, and traffic information to operators in text format, graphic format, or statistic data format. Operators can display these data in a file type or print out.

Object-oriented Approach

OfficeServ NMS was designed in object-oriented method. In OfficeServ NMS, several sub-systems are divided into objects so that operators can readily add and upgrade necessary functions.

Error Handling

If a command entered by an operator is not normally executed, OfficeServ NMS displays the relevant error message before running the next process. Therefore, since the operator can check the error message before running the wrong command, he/she can operate the system correctly and effectively.

Flexible Platform

OfficeServ NMS can be installed on a variety of platforms such as personal computers or workstations.

Therefore, operators can select proper OfficeServ NMS platforms in accordance with network size or management range.

Help

OfficeServ NMS has Help function composed of hypertexts. Help briefly describes the information to help the understanding about OfficeServ NMS or the usage of the menus provided by OfficeServ NMS.

OfficeServ NMS Specifications

Hardware Specifications

All systems using Unix/Linux/Windows OS can be used as the Hardware of OfficeServ NMS server. Client Software uses general personal computers (PC) (however, Hardware specifications may vary depending on the capacity supported by OfficeServ system.) In addition, laser printers for printing messages are available.

The Hardware for servers or clients should satisfy the following specifications:

Category	Specifications
CPU	3.0 GHz (Intel Zeon processor) or higher recommended
Main Memory	4 GB or higher recommended
Hard Disk	SAS Hard Disk 300 GB or higher
ODD	DVD-ROM Drive
Monitor	19-inch Monitor
LAN Card	10/100Base-T (RJ-45 Connector)

Server

Client

Category	Specifications
CPU	3.0 GHz (Intel Core Duo Processor) or higher recommended
Main Memory	2GB or higher recommended
Hard Disk	100 GB or higher
Monitor	Color Monitor with resolution of 1280 X 1024
LAN Card	10/100Base-T (RJ-45 Connector)



Hardware Specifications

The specifications mentioned above are based on high capacity OfficeServ NMS. For low-capacity configuration and Linux/Windowsbased configuration, the Hardware specifications may vary according to the management capacity.

Software Specifications

For the normal operation of OfficeServ NMS, the following software environment is required:

Server

Category	Software
OS	Linux (RedHat Enterprise 5)
JSP/Servlet Engine	Tomcat 5.0.28 or higher
Database	MySQL 5.1.51
JVM	JDK 1.6.0_20
Management Protocol	SNMP
Other Protocols	FTP

Client

Category	Software		
OS	Windows XP or higher		
Web Browser	Microsoft Internet Explorer version 6.0, 7.0 or 8.0		



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CHAPTER 2. Basic Information

This chapter describes Graphic User Interface (GUI) of OfficeServ NMS and how to use OfficeServ NMS.

Access to OfficeServ NMS

This section describes the procedure for login/logout of OfficeServ NMS.

Login

The login procedure to use OfficeServ NMS is as follows:



Figure 2.1 OfficeServ NMS Login Window

- 1. Run Microsoft Internet Explorer to access OfficeServ NMS.
- Enter the IP address of the OfficeServ NMS server in the address box
 (1) of Internet Explorer. The above Login window will appear. Enter the user 'ID' and 'Password' in the information entry box on the Login window and click the [OK] button.
- **3.** If the user information is authenticated, OfficeServ NMS is executed and the OfficeServ NMS window composed of four frames opens.

Logout

The logout procedure of OfficeServ NMS is as follows:

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Figure 2.2 Logout Execution Button

1. If you click the **[LOGOUT]** button of the buttons on the upper right corner of the OfficeServ NMS window, an window to confirm the logout appears as shown in the figure below:



Figure 2.3 Logout Confirmation Window

2. Click the **[OK]** button on the window and OfficeServ NMS will be logged out.

	OfficeServ Operation in Logout Mode
CHECK	In logout mode, OfficeServ NMS can perform various functions, such as the generation of fault messages and the reception of performance data.

Screen Organization

The OfficeServ NMS screen consists of four frames with the following functions:

- Menu Frame
- Main Frame
- Tree Viewer Frame
- Event Viewer Frame

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	7400	7200			
	1.400				
Tree Viewer					
Frame					
	Event Viewer Colle	dition Loc:/ Type:ALL	Location	Proba	tie Cause
	the contract Conte	areab	Levencel	TIUNA	1000
Node info ; MMS					Evert Viewer Frame
Child Count 4					
Alarm Level MAJOR					

Figure 2.4 Configuration of OfficeServ NMS Frames

Menu Frame

The menu of OfficeServ NMS consists of seven management groups. The Menu Frame displays the whole management group of OfficeServ NMS and enable to execute various functions pertaining to each management group. In addition, it supports some additional function.

The configuration and description of the Menu Frame are as follows:

Verset OfficeServ NMS	General Sys Config Surveillance Monitoring St	Telephony VoIP erver Status Database	Switch Self Diagnostic	Router Fault	Mon&Perf	Security	
<pre>* Puebb : / Guncharl</pre>			¥				
OfficeSe	erv N	MS		- Usi Gro	r: oup:	resenc[A [group(dministrator])1]
Display of OfficeServ	V NMS Name			Displa	ay of Us	er's Name a	nd Group
🌒 Sitemap 📘	ttelip 🕑 (logout					
Additional Functions							
General Sys Config Tele Surveillance Monitoring Server Sta	<mark>phony VoIP</mark> atus Database Self	<mark>Switch Router</mark> Diagnostic	Fault	Mon&Perf	Security		
User menu. The Mer property of each grou groups.	u Frame con up. The abov	isists of nine e figure sho	e group: ws the	s and the menus fo	relevant r Genera	t menu deper al Manageme	nding on the ent of management

Figure 2.5 configuration of Menu Frame

Additional Function Buttons

The Menu Frame provides some buttons to perform additional functions.

Button	Description
1 Home	Return to the initial window.
🌒 Sittemap	Display the sitemap for the configuration of OfficeServ NMS.
Help	Execute the Help function.
€> Logout	Log out from the current OfficeServ NMS.

Main Frame

The Main Frame opens each Command Execution window and Command Execution Result window and displays the configuration and the information on the specified item.

						6 e e ¹⁹	🍟 🖗 HI 🕂 –
[7100	Data			If you exect menu frame displays the windows in function.	ute a command e, the Main Fra e execution and accordance w	d on the ame d result ith each
	7400	7200	ŀ				
	Viewer 🛛 🙌 Ma	p. Surveilla	nce				C
Contents	Brooner						
Network Network Target IP Addre	Process /			Search			
Network Target IP Addre	Process / ss / tus]		(Search		Total Count : 1	1 1/2
Network Network Target IP Addre etwork Sta	Process / ss NE Index	NE Турс	Location	Search Master IP	Vice IP	Total Count : 1 Ping status	1 1 / 2 (SNMP status
Network Target IP Addre etwork Sta	Process / / ss / tus] NE Index 1.20.82	NE Type OS7x	Location /710//057100_MP10	Search Naster 1P 10.89.25.204	Vice IP	Total Count : 1 Ping status OK	1 1 / 2 C SNMP status
Network Target IP Addre etwork Sta] No.] 1] 2	Process / ss / ns NE Index 1.20.82 1.13.35 1.15.41	NE Type 057x 057x	Location /7100/057100_WF10 /7200/os7200 /1000/esr200	Search Naster IP 10.09225.204 10.09225.30 10.89.27	Vice IP	Total Count : 1 Ping status OK NOK	1 1 / 2 SNMP status OK NOK
Network Target IP Addre	Process 7 55 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	NE Type 057x 057x 057x 057x	Location /7100/057100_MP10 /7200/s7200 /7400/057400	Search Master IP 10.69:25:204 10.69:20:153 10.69:30:45	Vice IP	Total Count : 1 Ping status OK NOK OK	1 5 / 2 (SNMP status OK NOK NOK
Network Target IP Addre No. 1 3 3 4 5	Process	NE Type 057x 057x 057x 057x 957x	Location /7100/057100_MP10 /7200/o57200 /7400/Rew057400 /7400/057400 /Data/gimp	Search Naster IP 10.89.25.204 10.89.30.23 10.89.30.43 10.89.30.45	Vice IP - - - -	Total Count : 1 Ping status OK NOK OK NOK OK	1 1 2 SNNP status OK NOK OK OK
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Network Target IP Addre etwork Sta No. I I I I I I I I I I I I I I I I I I I	Process / ss / ss / NE Index 1.20.82 1.15.41 1.15.93 1.14.36 1.14.38 1.14.37	NE Type OS7x OS7x OS7x OS7x gplim gplim gsim	Location //100/057100_MP10 //200/New057400 //7400/057400 //Data/glimp //Data/glimt //Data/gsim	Search Master IP 10.89.25.204 10.69.29.153 10.69.30.45 10.69.30.45 10.69.30.46 10.69.30.26	Vice IP 	Total Count : 1 Ping status OK NOK NOK OK OK OK	1 1 / 2 (SNMP status OK NOK OK OK OK
Network Target IP Addre No. 1 2 3 4 5 6 7 8 9	Process	NE Type OS7x OS7x OS7x OS7x gplim gplim gsim gsim	Location /7100/057100_MP10 /7200/057200 /7400/057400 /Data/glimp /Data/glimp /Data/glim /Data/gsim /Data/gsim	Search Naster IP 10.65:25:204 10.69:25:23 10:89:30:25 10:89:30:25 10:89:30:26 10:89:30:26 10:89:30:26 10:89:30:28 10:89:30:28	Vice IP 	Total Count : 1 Ping status OK NOK OK OK OK OK OK OK	1 3/2 SNMP status OK NOK OK OK OK OK OK OK
Network Target IP Addre etwork Sta No. 1 2 3 4 5 6	Process / ss / NE Index 1.20.82 1.15.41 1.15.93 1.14.36 1.14.38	NE Type OS7x OS7x OS7x OS7x gplim	Location /7100/057100_MP10 /7200/es7200 /7400/kw+057400 /7400/057400 //Data/glimp /Data/glimp /Data/glimt	Search Master IP 10.89.25.204 10.69.29.153 10.69.30.45 10.69.30.46 10.69.30.46	Vice IP - - - - - - - - - - - -	Total Count : 1 Ping status ok NOK ok OK OK	1 1)/ SNMP status OK NOK NOK OK

Figure 2.6 configuration of Main Frame

Icon Display

The Network Viewer of the Main Frame displays network elements and alarms in icon format.

Site and NE are displayed in the following icon formats and uses multiple colors to indicate the current alarm status.

Category	Normal (White)	Disabled	Critical (Red)	Major (Orange)	Minor (Yellow)
Subnetwork					
NE					

Tree Viewer

The Tree Viewer displays the OfficeServ system architecture in tree structure. The tree displays from the highest layer in turns of Network, Subnetwork, Network Element (NE), cabinet rack, and unit.

🛓 Tree Vie	ewer 🖉	
Sort	Name 🔻	
Q Search	IP V	
🕈 🚵 NMS		
9 10 71	00	
9 b	OS7100_MP10	
	– 📊 Cabinet_1	
	- 📊 Cabinet_2	
	– 📊 Cabinet_3	
	– 📊 Cabinet_4	
	📲 Cabinet_5	
🌳 🚹 72	00	
9 D	os7200	
	– 📊 Cabinet_1	
	📲 📊 Cabinet_3	
	- 📊 Cabinet_4	
	– 📊 Cabinet_5	
	– 📊 Cabinet_6	
9 <u>11</u> 74	00	
P 🚹	NewOS7400	
	– 📊 Cabinet_1	
	– 📊 Cabinet_4	
	- 📊 Cabinet_5	
	- 🔒 Cabinet_6	
	OS7400	
🌳 🛄 Da	ata	
- 00	l glimp	
- 00	gplimt	
- 00	gsim	
	gsimt	
- LD	l gwim	
- 10	j gwimt	
	l wim	
Node Info	9: OS7400	
Child Count	0	
Alarm Leve	CRITICAL	
	2 2 0 0	

The tree structure enables operators to easily understand the upper-lower structure of OfficeServ NMS. If you search the lower items, click its upper item or located next to the item.

Figure 2.7 Tree Viewer Architecture

Icon display

The tree viewer composed of the following icons indicates the upper-lower relationship of network and displays alarms by means of the following icons. However, NMS icons do not indicate the alarm status.

Category	Normal (White)	Disable	Critical (Red)	Major (Orange)	Minor (Yellow)	
NMS	NMS			T ^e		
Subnetwork						
NE						
Cabinet	-	- 11	-		-	

System Viewer

The System Viewer displays the resource status of the OfficeServ NMS (Server System), the representative alarm for the node, and the managed NE count.



Figure 2.8 System Viewer Frame

Event Viewer

The Event viewer enables operators to view the information on various faults generated in the OfficeServ system.

	ent Viewer		Cond. Loc:/ Ty	pe:ALL			<u></u>	H	DZX
No.	Severity	Code	Group	Location	Probable Cause			Time	
									-
									1000
							_		
	l						_		
	-								
							-		
						 	-		
									•

Figure 2.9 Event Viewer

The table below lists the descriptions about the event viewer items

Parameter	Description				
Severity	Displays event severity.				
	- Critical: Critical alarm				
	- Major: Major alarm				
	- Minor: General alarm				
	- Warning: Alarm information				
	- Inform: General information				
	- Recovery: Recovery information				
Code	Displays alarm code.				
Group	Displays event group including the event concerned.				
	Event Group Types:				
	- Communication				
	- Processing				
	- Environmental				
	- QoS				
	- Equipment				
Location	Displays the location where the event occurred.				
Probable Cause	Displays the probable cause of the event occurred.				
Time	Displays the time when the event occurred.				

Reception of Specific Events

Users can set the Event Viewer to display only a specific event. If a user click 'Detailed Information' of the menu item placed in the upper right of the Event Viewer, the following window appears.

Provide the second se		x		Select NE to be displayed from the 'Location' box, fill check marks in the boxes of Event Type, Severity or Event Group to be received, and click the [OK] button.
• (1) 7400 • (1) Data				
Event Type				
🗹 ALL			L .	
🗌 Status			L .	
🗌 Fault			Ŀ.	
🗌 Alarm			ι.	
Severity				
2 ALL	Critical	🗌 Major	L	
🗌 Minor	🗌 Warning	🗌 Clear		
Group				
ALL	Communications	Processing	L	
Environment	🗌 QoS	🗌 Equipment		
Java Applet Window		OK Close)	

Figure 2.10 Specific Event Reception Setup Window

Removal of a Displayed Event

Click the **[Clear]** button locates in the top of the Event Viewer to remove the event displayed in the current viewer. However, the history stored in database is not removed.
Basic Use Information

This section describes the basic information required for the use of OfficeServ NMS.

Adjustment of Frame Size

The sizes of Tree viewer Frame and Event Viewer Frame can be adjusted for the convenience of OfficeServ NMS operators.



Figure 2.11 Adjustment of OfficeServ NMS Client Size

Buttons

The command buttons of OfficeServ NMS can perform the same functions in each different window. The table below describes the common command buttons of OfficeServ NMS.

Button	Description
Ack	Check if an operator confirms the generated fault.
Active	Activate the selected task.
Clear	Clear the selected data.
Deactive	Inactivate the selected task.
Execute	Execute the selected command.
Get	Display the previously established or stored data.
Save	Save the selected data.
Search	Search the previously established or stored data.
Set	Set data or a function.
Test	Test the selected task.
Unack	Check if an operator confirms the generated fault.

Basic Setups

In general, operators set several setups while executing functions of OfficeServ NMS.

The common setup is the setup of search period.

Event Viewer Frame some tasks have the item to set the search period. The units and types of time in the search period setup table are as follows:





To set the search period, enter the information in the text box directly or select a desired data from the calendar after clicking the Calendar button (

Sel <	ecta	Date . 2005	M -01-0	icros 4] C	io (>>)	Enter a date and click the Go button. The month corresponding to the date is displayed.
5UN	MON	TUE	WED	тни	FRI	SAT	between months.
						1	
2	3	4	5	6	7	В	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	When a date is selected, the search window closes
30	31						 and the selected date is entered into the main frame.

Figure 2.13 Data Selection Dialog Box Window

Sitemap

OfficeServ NMS provides the sitemap to help operators search the operation menu.

The sitemap enables operators to understand the organization of the entire menu and execute a function directly.

Alaspanial System Su	veillance Monitoring Server Status D	vouv Switch Router Fault M stabase Self Diegnostic	ionæverr Security	11:30:3
OfficeServ NMS	0844		1	
: Viewer 📃	d Con.			
name v rch IP v				1 2 4 11 + -
1) 710 10 Garta, Jera 10 Gar	600 Data	ļ.		
80) 5 4 4	Cendition Loc// Severative Code Original Vealandy 0164 efc Clear 9012 Code Clear 9012 Code	Type:ALL // 2001evo/5/1400/230net, 1460,10 // 20001110, WP16-speetTunk // 100001100, WP16-speetTunk	BIG INSTITUTE TRANS FEDOLARIE A ALMAY Gaspen & PA TRANS FEDOLARIE A ALMAY Gaspen & PA TRANS FEDOLARIE A ALMAY Gaspen & PA	Time 2006-06-27/22.06.33 2006-06-1111:11:12 2006-09-1111:11:12
hro: NMS	Cinscil 9012 OoS Clear 9012 OoS	/7100/087100_MP10-hTrunk /7100/087100_MP10-hTrunk	TRUNK RESOURCE ALARN (usage=0.0%) TRUNK RESOURCE ALARN (usage=0.0%)	2000-09-11 11 11 32 2000-09-11 11 11 32
ount 4				
8 966 11 3 1 0				
p://10,254,199,209 - Sitemap General Surveillance	Sitemap – Microsoft +Card (Internet Explorer Sys Config Config	-Grp	-
p://10.254.199,209 - Sitemap General Surveillance fonitoring Server Status Jatabase Self Diagnostic	Sitemap Microsoft +Card 0 +Card 0 +Card 0 +Port C +TEPAL +VolP 0 +Sys 0 +Sys. Is	Internet Explorer Sys Config Config (BR1 Card Strons Yo	Forp + Grp + Ring Plan + SpdDial + CoS + Toll Restrict + DISA	
tp://10.254.199.209 - Sitemap General Surveillance Monitoring Server Status Database Self Diagnostic YoIP	Sitemap – Microsoft +Card (+Port C +Port C +VorP (+Sys 0) +Sys 1, +Sys 0, -Sys 0,	Internet Explorer Sys Config Config Onfig RRI Card ptions Yo	•Grp •Ring Plan •SpdDial •COS •Toll Restrict •DISA •Incoming •Incoming	
tp://10.254,199,209 - Sitemap General Surveillance Monitoring Server Status Database Self Diagnostic VoIP VoIP Port System-Wide	Sitemap Microsoft +Card (+Port C +TEPRI -VotP (+Sys 0; -Sys 0; -Sys 4; -Sys 6; -Sys 6; -Sy	Internet Explorer Sys Config C	Telepho +Grp +Ring Plan +SpdDial +COS +Toll Restrict +DISA +Incoming +LCR +NetLCR	
tp://10.254.199.209 - Sitemap General Surveillance Monitoring Server Status Database Self Diagnostic YoIP Port System-Wide SIP	Sitemap – Microsoft +Card (+Port C +TEPRI, +VOIP (+Sys 0 +Sys 1 +Equip. +Officet +NMS L +Trap S	Internet Explorer Sys Config Config Onfig Onfig Offig Offig Card Stard Stores Serv License Gense Gense Gense Gense Gense	Telepho +Grp +Ring Plan +SpdDial +COS +Toll Restrict +DISA +Incorning +LCR +NetLCR +Sth Port Config	iny
pp://10.254.199.209 - Sitemap General Surveillance Monitoring Server Status Database Self Diagnostic VoIP Port System-Wide SIP 4923	Sitemap - Microsoft +Card 0 +Port C -TEPAJ +VoIP (+Sys 0 +Sys 1 +Sys 2 +Sys 2 +	Internet Explorer Sys Config Config dBR1 Card Serv License Config Config Config	• Grp • Ring Plan • SpdDial • COS • Toll Restrict • DISA • Incoming • LCR • NetLCR • Stn Port Config	iny.
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tp://10.254.199.209 - Sitemap General Surveillance Monitoring Server Status Database Self Diagnostic VoIP Port System-Wide SIP H323 VoWLAN Phone Info Router Static Routing RIP OSPF BGCP DVMRP PIM Frame Relay Security User Manager IP Manager I	Sitemap - Microsoft +Card 0 +Port C -Port C -Port C -Port C -Sys 0 -Sys 1 -Sys 2 -Sys	Internet Explorer Sys Config Config dBR1 ard dBR1 ard bions Yo Serv License iense iense Fault Control History Statustics e Alarm	*Grp *Grp *Ring Plan *SpdDial *COS *Toll Restrict *DISA *Incoming *LCR *NetLCR *Sth Part Config *Mithentication *QoS *Bindging *Tunking *VLAN *Status Mon. *Status don. *Status don. *Status don. *Status don. *Status don. *Report Set	iny orf

Figure 2.14 Sitemap Window

Online Help

OfficeServ NMS provides the sitemap to help operators search the operation menu.

The sitemap enables operators to understand the organization of the entire menu and execute a function directly.



Figure 2.15 Online Help Window



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CHAPTER 3. Network Configuration

This chapter describes Network Viewer of OfficeServ NMS and how to use OfficeServ NMS.

Network Viewer

Configuration of Network Viewer

The Network Viewer provides a variety of functions to easily handle the Network Viewer as well as the Information window.



Figure 3.1 Network Viewer Menu

Button	Description	Button	Description
Ŷ4	Create Node Create a new node.	~	Delete Node Delete a node.
<u>î</u>	Modify Node Modify the node information.	TOP	Move to TOP Move to the highest node map window.
UP 2	Move Up Convert the node map to the upper window by a level.	Ð	Refresh Reflect the latest information and refresh the node map.
1:1	Zoom (1:1) Restore the enlarged or reduced window size into the original size.	+	Zoom (+) Zoom in the node map.
	Zoom (-) Zoom out the node map.		

Node Map of Network Viewer

The Network Viewer provides three types of Maps according to the upperlower layer structure of network. The Network Viewer supports the following Information windows:

- Network Node Map
- NE Node Map
- Cabinet Viewer

🖞 Map Viewer 🛛 👌 Con.	8	🖞 Map Viewer 🛛 💐 Con.	8
EMS/Subnetwork2	& & & ¥ ¥ & + -	EMS/Subnetwork/OfficeS1	8 E B ¥ \$ 4 11 + -
Subarburk		officeS1 officeS2 of	fice3
<network n<="" node="" th=""><th>lap></th><th></th><th><ne map="" node=""></ne></th></network>	lap>		<ne map="" node=""></ne>

Subnetwork nodes connected to OfficeServ System is displayed in icon symbols. NE nodes connected OfficeServ System is displayed in icon symbols.



<Cabinet Viewer>

The status of cabinets and units connected to OfficeServ System is displayed.

Figure 3.2 Types of Node Maps

Network Map Configuration

Network Node

Network node indicates the grouping of system to location. Network node can be created, deleted, searched, and changed in the Map viewer.



Figure 3.3 Network Creation Window

The parameters displayed in the window are described as follows:

ltem	Description
NodeName	Network node (network group) name
Location	Location information of the network node (network group)

Creating a Network Node

- When a network node is displayed in the Map viewer, click the [Node Creation] button (1). Then, the <Network Creation> window that enables creating a network node in the Map viewer appears.
- 2. Enter the node name into the 'Alias' field (③) and enter the network node location information into the 'Location' field (④).
- Click the [Create] button (6).
 Then, the corresponding network node is created in the window.

Deleting a Network Node

- Select the target network node from the Map viewer. Right click the node to open the pop-up menu or click the [Node Deletion] button (2). Reconfirmation window ('Enter the password.') appears.
- 2. Enter the password and click the **[OK]** button. Then, the corresponding network node is deleted.



Figure 3.4 Network Information Window

Searching Network Node Information

- Select the target network node from the Map viewer. Right click the node to open the pop-up menu (1) or click the 'Node Information' icon (2) to display the 'Network Information' window.
- 2. Then, the corresponding network node information is displayed in the information table (3).

Changing Network Node Information

- Select the target network node from the Map viewer.
 Right click the node to open the pop-up menu (1) or click the 'Node Information' icon (2) to display the 'Network Information' window.
- 2. Change the information in the information table (3).
- **3.** Click the **[Set]** button (**4**). Then, the corresponding network node information is displayed in the information table.

NE Node Configuration

Network Element (NE) node is a network configuration element that includes a single IP. NE node can be created, deleted, searched, changed, and initialized in the Map viewer.

Map Viewer 2 Con.		0	NE Creation		
ffice_Lab/0S7200S	8 8 8 Y	300+-	In deblement	1	_
	NE Information		Nodervallie		_
	Nodeblame 097200		ocation		
	Location 1F				
	Type 087x		Type	OS7x	-
	Site Name Not-Ass	aned	1		
OS7070	Bystem Name Officette	ry 7200L	Duni State	OFF	1.00
OS7400 OS7000	System IP Address 1 10 254.1	75.215	Australia ID Antonio		
87300	Contains in Addition 2		system IP Address		
	Oet Community OfficeSe	rv	A REAL PROPERTY AND A REAL		_
ALL	Set Community		skinetti te voquaala		
Node Info.	SNMP Port 161		North American	NO 0 110 8	
COLUMN THE REAL PROPERTY OF TH	MP SW Version 10.05.03	V04.46d	present cover:	O ON	
Four P	Agent Version 10.05.01	V01.60	Control of the second second	OfficeReal	
Delete Node	System Country UK	100	Ser Community	OlliceSela	
Load NE Data	System Coding aLaw		and Community	******	
Louis III. Collin	Trap Server 10.254.1	99.209	par community		
Alarm Audit	Trap Port 11162		DUMD David	laca	_
Alarm Clear	Public IP1 0.0.0.0		DINIMP POIL	101	_
Non-second and a second and a second	Public Port 30000		PNIMP Marcian	SHMD-2	
	Public IP2 N/A		premi version	Similar vz	-
	Public IP3 N/A				
	Slave IP N/A				
	SNMP Version SNMPV				
	Security Level -1	1	-		_
	Auth Algorithm N/A				
	Privacy Algorithm N/A				

Figure 3.5 NE Creation Window

The parameters displayed in the window are described as follows:

Parameter	Description
Node Name	Node name
Location	Node location
Туре	Select a NE type (Os7x, GWIM, GPLIM, GSIM etc)
Dual State	Dual status
IP Address 1	1 st IP address of the node
IP Address 2	2 nd IP address of the node
Switch Over	Sets automatic switchover
Get Community	SNMP retrieval community
Set Community	SNMP setup community
SNMP Port	SNMP communication port of NE
SNMP Version	The version of SNMP Protocol

Creating NE Node

- When a NE node is displayed in the Map viewer, click the [Node Creation] button (). Then, the 'NE Creation' window that enables creating a NE node in the Map viewer appears.
- Enter the NE node information into the setup table (3).
 The parameters displayed in the window are described as follows:
- Click the [Create] button (④).
 Then, the corresponding NE node is created in the window.

Deleting a NE Node

- Select the target NE node from the Map viewer. Right click the node to open the pop-up menu or click the [Node Deletion] button (2). Reconfirmation window ('Enter the password.') appears.
- 2. Enter the password and click the **[OK]** button. Then, the corresponding network node is deleted.



Figure 3.6 NE Information Window

The parameters displayed in the window are described as follows:
--

Parameter	Description
Node Name	Node name
Location	Node location Information
Туре	Select a NE type (Os7x, GWIM, GPLIM, GSIM etc)
Site Name	Site name which is configured
System Name	System name
System IP Address 1	1 st IP address of the node
System IP Address 2	2 nd IP address of the node
Get Community	SNMP retrieval community
Set Community	SNMP setup community
SNMP Port	SNMP communication port of NE
MP SW Version	MP SW Version Information
Agent Version	Agent Version information in MP SW
System Country	Country Information which is configured
System Coding	It shows a-law or u-law for PBX System
Trap Server	Sets Trap Server IP Address for getting trap info

(Continued)

Parameter	Description
Trap Port	Sets Trap Port Number for getting trap info
Public IP1	1 st public IP Address for System
Public Port	1 st public Port for System
Public IP2	2 nd public IP Address for System
Public IP3	3 rd public IP Address for System
Slave IP	IP Address for Slave System (Only 7030 System)
SNMP Version	The version of SNMP Protocl
Security Level	Provide a security level (noAuthNoPriv, authNoPriv, authPriv)
Auth Algorithm	Provides MD5, SHA
Privacy Algorithm	Provides DES, AES

Searching NE Node Information

- Select the target NE node from the Network viewer.
 Click the right mouse button to open the node to open the pop-up menu
 (1) and execute the 'Node Info.' Menu. In other way, click the 'Node Information' icon (2) to display the 'NE Information' window.
- 2. Then, the corresponding NE node information is displayed in the information table (③).

Loading NE Node Information

- Select the target NE node from the Map viewer. Right click the node to open the pop-up menu (1) and execute the 'Load NE Data' menu. Reconfirmation window ('Do you want to load this NE data?') appears.
- 2. Click the **[Yes]** button. Then, the corresponding NE node information is loaded from the system.

Cabinet Viewer

If a user double clicks NE on the NE node map provided by the Map Viewer, the Cabinet Viewer to display cabinets and units is executed.

The Cabinet Viewer supports the following functions:

- Mounting status by cabinets and boards
- · Fault status by cabinets and boards
- · Current fault display by boards

of Con.		
S7100_MP1 /Cabinet_1/MP10_0		TOP P 2
inet		
Cabi	net Information	
Cabi Narr	net information ie Cabinet_1	
Cabi Narr Type Alarr	net Information e Cabinet_1 7100 m Count CR[0] MJ[0] MJ[0]	

Figure 3.7 Cabinet Viewer Window (7100)

_1/MP20_0		
Cabinet Informat	ion	
Cabinet Informat	ion Cabinet_1	
Cabinet Informal Name Type	Cabinet_1 7200	
Cabinet Informa Name Type Alarm Count	on Cabinet_1 7200 CR[0] MJ[0] MN[0]	

Figure 3.8 Cabinet Viewer Window (7200)

0			2	
🖞 Map Viewer 🛛 😽 Con.				
/SubNetwork/Office: vrv/Cabinet_1/TEPRI2_6				TOP UP
Cabinet			16DL1 TEPRI2 4HTFK MGI64	<u>e</u>
	Unit Information			
	Name Name Count	CD101 MU111 MU101		
	Nami Count	orcioj majij MNV(U)		
	Basic Information	Current Alarms		

Figure 3.9 Cabinet Viewer Window (7400)

	2	
🕆 Map Viewer 🛛 🚑 Con.		
/Office_Lab/OS7030.Cabinet_1MP03_0		10 01 O
Caland		
Cabinet Infi	mation	
Name	Cabinet_1	
Type	7030	
Alarm Court	K CR[0] MU[0] MN[0]	

Figure 3.10 Cabinet Viewer Window (7030)

Office_LabOS7078Cabinet_1MP07_0		100 T
Cabinet		
	CEI-LL 1 100 CEI-L	
	E05-5LI 4TEM 4DLM 4TE	
	89-79X 888-8LL 47P 47P	
	MP20 MISC MMP-0L1 PRM 49L2	
Cabinet inform	ton .	
Name	Cabinet_1	
Type	7070	
Alarm Count	CR101 MUT01 MNT01	
Provide Contraction of Contraction o		

Figure 3.11 Cabinet Viewer Window (7070)

The Cabinet Viewer (1) displays each cabinet registered in NE as follows:

Re	al Ca	abin	et	

If a user click a specific cabinet in the Cabinet Viewer, the status of the relevant unit is displayed in the Unit View (2).

Real Unit View	Virtual Unit View



CHAPTER 4. General Management

This chapter describes general management window and function of OfficeServ NMS.

General Management is used to monitor whether functions and resources operate properly in NMS server and client and to provide various additional functions required for setting and controlling operational environment by an operator.

L Troo Viewer 3 Sort Name ▼ S Scarch P ▼ 0 100 0 107 0 100 0 100	Map Viewer	a con.			<u>k</u> 1	n- n≥ 17 2	Ф III -
3 Sort Name ▼ Q Search P ▼ • 11 200 • 11 700 • 11 700 • 11 004		ß			<u>16.</u> 1	R & ¥ ¥	\$ III -
♥ (2015) ♥ (3) 7200 ♥ (1) 7200 ♥ (1) 7200 ♥ (1) Data		(h					
	740	Data	2500 F.500				
	A Event Viewer						2.4
	A Event Viewer	Condition	Loc:/ Type:ALL	10	Probable Cause		1 mi H
	A Event Viewer No. Severby 168 Cost	Condition Code 9012	Loc:/ Type:ALL Jroup Locati Gos /7400HewOS7400-teprifrunk	N TT	Probable Cause RUNK RESOURCE ALARM (usage=0.0	0%) 201	Time 08-06-04 16:
	A Event Viewer No. Severity 169 Color	Condition Code 9012 9012	Loc:/ Type:ALL Oroup Locab OoS //400New/OS7400-tepriTrunk OoS //1400New/OS7400-tepriTrunk	20) TT	Probable Cause RUNK RESOURCE ALARM (usage=0 C RUNK RESOURCE ALARM (usage=0 C	0%) 20 0%) 20	Time 08-06-04 16: 08-06-04 16:
	A Event Viewer No. Severby 168 Color 167 Chear 166 Chear	Condition Code 9012 9012 9012 9012	Loc:/ Type:ALL Group Locab 005 /7400NewOS7400HepTTunk 005 /7400NewOS7400HepTTunk 005 /7400NewOS7400-sportTunk 005 /7400NewOS7400-sportTunk	20 TF	Probable Cause RUNK RESOURCE ALARM (usagen 0 RUNK RESOURCE ALARM (usagen 0 RUNK RESOURCE ALARM (usagen 0	0%) 200 0%) 200 0%) 200 0%) 200	Time 08-06-04 16: 08-06-04 16: 08-06-04 16:
Node Infest MMC	A Event Viewer No. Severy 167 Creat 167 Creat 166 Constant 165 Creat	Condition Code 9012 9012 9012 9012 9012	Loc:/ Type:ALL 070yp 009 7/400Nevo037400-tperfrunk 005 7/400Nevo037400-tperfrunk 005 7/400Nevo037400-sperfrun 005 7/400Nev037400-sperfrun 005 7/400Nev037400-sperfrun 005 7/400Nev03100-surfruk	20	Probable Cause RUNK RESOURCE ALARM (usage=0 L RUNK RESOURCE ALARM (usage=0 L)	0%) 200 0%) 200 0%) 200 0%) 200 0%) 200	Time 08-06-04 16: 08-06-04 16: 08-06-04 16: 08-06-04 16:
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Node Infa : 1885 Child Count 3	A Evant Viewer No. Severty 168 Column 167 Court 165 Dear 164 Court 163 Court 163 Court 163 Court 163 Court	Condition Code 9012 9012 9012 9012 9012 9012 9012 9012	Loc// Type:ALL Drop //400Nexx027400-tpgrTmak GoS //400Nexx027400-tpgrTmak GoS //400Nexx027400-spgrTmak	20 TT K TF K TF K TF TT TT	Probate Cause RUNCRESCURCE ALAPM (stages) RUNCRESCURCE ALAPM (stages) RUNCRESCURCE ALAPM (stages) RUNCRESCURCE ALAPM (stages) RUNCRESCURCE ALAPM (stages) RUNCRESCURCE ALAPM (stages)	0%) 200 0%) 200 0%) 200 0%) 200 0%) 200 0%) 200 0%) 200 0%) 200	Time 08-06-04 16: 08-06-04 16: 08-06-04 16: 08-06-04 16: 08-06-04 16: 08-06-04 16:
Node Infe : 1885 Child Count 3 Alarm Level - CRITICAL	A Event Viewer No. Severy 169 Core 164 Core 165 Cese 164 Core 164 Core 165 Cese 162 Core 162 Core 165 Cese 165 Cese	Condition Code 9012 9012 9012 9012 9012 9012 9012 9012	100/17 Tyte: ALL Lore ab 006 7/4001eev057400-benfman Lore ab 007 7/4001eev057400-benfman Lore ab 008 7/4001eev05740-bengman Lore ab	90 TT TT K TT K TT TT TT TT TT TT TT TT	Probable Cause RIANE RESOURCE ALARM (using n.0. RIANE RESOURCE ALARM (using n.0.	20 20 20 0%) 200 0%) 200 0%	Time 06 06 04 16: 06 06 04 16: 06 06 04 16: 06 06 04 16: 08 06 04 16:
Node Izria : 1885 Child Count 3 Alarm Lavel CRITICAL	▲ Evant Viewart No. Severy 168 Octa 167 Octa 166 Octa 165 Octa 165 Octa 165 Octa 165 Octa 163 Octa 161 Octa 161 Octa	Condition 9012 9012 9012 9012 9012 9012 9012 9012 9012 9012 9012 9012 9012	Loc/ TyperALL Drop // 400Nex/05/400 ben/Tuni 006 // 7400Nex/05/400 ben/Tuni 007 // 7400Nex/05/400 ben/Tuni 008 // 7400Nex/05/400Nex/05/400 ben/Tuni 008 // 7400Nex/05/400Nex/05/400 ben/Tuni 008 // 7400Nex/05/400Ne	20. 17 K 17 K 17 K 17 K 17 T T T T T T	Probable Cause RNAP, RESOURCE ALAPM toragen 0 RNAP, RESOURCE ALAPM toragen 0	20 20 0%) 20 <	Time 06.06.04.16. 06.06.04.16. 08.06.04.16. 08.06.04.16. 08.06.04.16. 08.06.04.16. 08.06.04.16. 08.06.04.16. 08.06.04.16. 08.06.04.16.

Figure 4.1 General Management Window

Surveillance

Network Monitoring (Network Status)

'Network Monitoring' menu is used to monitor network line status through regular ping test and to monitor agent status through hello message through the information saved in database of OfficeServ NMS server.
This function is performed in order of [General Management] → [Surveillance] → [Network].



Figure 4.2 Network Window

Parameter	Description
Target	Target of Network monitoring
IP Address	IP address
NE Index	Index of NE
NE Type	Type of NE
Location	Location of Network monitoring
Master IP	Master IP address
Vice IP	Vice IP address
Ping Status	Status of Ping
SNMP Status	Status of SNMP agent

Searching Network Status

- Select a target network from the 'Target' field of the setup table (1). You can select a target by selecting from the Tree Viewer or by entering an IP address.
- 2. Click the [Search] button (2).
- **3.** Then, the search result is displayed in the result table (**3**).

Searching Network Status

To search the network status in real time, click the **[Get]** button (**4**). Select a NE list on the left and click the **[Get]** button. Then, the network connection status is searched in real time through a system device in NMS. (The retrieval result displayed in the window is a result searched regularly in NMS server.)

Process Monitoring

'Process Monitoring' menu is used to search the status information of each process that operates in OfficeServ NMS server and to restart a process. Process is restarted when a process that should operate in a server is abnormal.

When OfficeServ NMS client registers demon process in the server by using the demon process list search function, the process that should operate in the server restarts automatically.

This function is performed in order of [General Management] \rightarrow [Surveillance] \rightarrow [Process].

E	No.	Process name	Status	Start time	Restart count	Process ID	Log lev
	1	launcher	Running	2008-07-31 14:59:59.0	0	32293	INF
E	2	mf.audit	Running	2008-07-31 15:00:07.0	0	32754	INF
1	3	mf.cm	Running	2008-07-31 15:00:02.0	0	32567	INF
	4	mf.dbld	Running	2008-07-31 15:00:04.0	0	32722	INF
F	5	mf.fm	Running	2008-07-31 15:00:02.0	0	32633	INF
	6	mf.gm	Running	2008-07-31 15:00:01.0	0	32525	INF
	7	mf.pm	Running	2008-07-31 15:00:03.0	0	4833	INF
	8	ni.snmp	Running	2008-07-31 15:00:00.0	0	32491	INF
()))	9	nmsif	Running	2008-07-31 15:00:09.0	0	426	IN
E	10	us	Running	2008-07-31 15:00:00.0	0	32441	IN

Figure 4.3 Process Window

Parameter	Description
Process name	name of process
Status	status of process
Start time	start time of process
Restart count	Count of restarting process
Process ID	ID of process
Log Level	Level that log is displayed

Parameter	Description
OFF	Not displayed in the log file.
ALL	All information is displayed.
SEVERE	The information required from program execution information is displayed When initial installation, 'SEVERE' is in default status.
WARNING	Lower level information is displayed from program execution information.
INFO	Most program's execution information is displayed.
CONFIG	Not used.

The Log Level parameters in the 'Process' menu are described as follows:

Searching Process Status

Click the **[Search]** button (2) displays process in the result table (1).

Stopping Process

Select the target check box from the '**Name**' item of the result table (1). Click the **[Stop]** button (2) stops the process.

Restarting Process

Select the target check box from the '**Name**' item of the result table (1). Click the **[Restart]** button (2) restarts the process.

Setting Log Level

- Select the checkbox of the target process name in the result table and the target level from the 'Log Level' item (1).
- 2. Click the [Modify] button (2).
- **3.** Log level modification is set. According to the log level, the log information size of the service is different. Thus, it is recommended that this function be used if necessary

Monitoring

Resource Monitoring (Monitoring)

'Resource Monitoring' menu is used to display the status value changes of CPU and memory, NMS resources, in a specific cycle. This function is performed in order of [General Management] → [Monitoring].



Figure 4.4 Resource Monitoring Window

Monitoring Resources

Click the **'Resource Monitoring'** menu displays the resource monitoring window. When selecting a search cycle from Interval and clicking the Start button, the statuses of CPU and memory, NMS resources, are searched from database. The CPU status is displayed in the result chart (1), and the memory status is displayed in the result chart (2). Click the Stop button stops the automatic cycle search.

Server Status

CPU

'CPU' menu is used to search the information on CPU usage and set CPU threshold.

In case of a server that has over two CPUs, CPU usage information is displayed of each CPU. Setting threshold is a function that generates an alarm when the CPU usage of OfficeServ NMS server exceeds a specific value. This function is performed in order of [General Management] \rightarrow [Server Status] \rightarrow [CPU].

COU 93 % 100 % 95 % Interval 100 sec. (It seeds more than 10 seconds.) 95 % Resource Usage (%) Usage (%) Usage (%) 2 10 E. Average 3 2 1 0	Resource	Critical	Major	Minor			Warning	
Interval User (%) Vari 10 (%) <th< th=""><th>CPU</th><th>98 %</th><th>95 %</th><th>90 %</th><th></th><th></th><th>85 %</th><th></th></th<>	CPU	98 %	95 %	90 %			85 %	
Resource Usage (%) Usage (%) Vor (%)	Interval		120 s	ec. (It needs more than 10 seconds.)				
Resource User (%) System (%) Wait (0 (%) 2 1 0 © Average 0 2 1 0 2 1 0			201 201					
Biverage 3	Resource		lisane (%)		liser (%)	System (%)	Walt 10 (%)	Idle (S
	T Augusta	. 3	orașe (n)		2	1	0	97
	a Average							
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Figure 4.5 CPU Window

Parameter	Description
Resource	Type of resource
Interval	Period checking resource
Usage (%)	Usage percent of CPU
User (%)	Usage percent of CPU in user area
System (%)	Usage percent of CPU in system area
Wait IO (%)	Usage percent of CPU in Wait IO
ldle (%)	Idle percent of CPU

Searching CPU Occupancy Rate

Click the **'CPU'** menu searches CPU status automatically and the retrieval result is displayed in the result table (③).

CPU status information is updated and displayed every 5 seconds. Click the **[Get]** button (2). Then, the status is retrieved immediately to display the result in the window.

Searching Threshold

- Click the 'CPU' menu searches CPU status automatically and the search result is displayed in the threshold table (1).
- 2. Click the [Get] button (2) Then, the threshold information is updated and displayed.

Setting Memory Threshold

- 1. Set the target threshold in the threshold table (1).
- 2. Click the [Set] button (2). Then, the threshold is set.

File System

'File System' menu is used to search the information on the usage of the file saved in OfficeServ NMS server and to set file threshold. The attribute and location of each file is displayed. Setting threshold is a function that generates an alarm when the file usage of OfficeServ NMS server exceeds a specific value. This function is performed in order of **[General Management]** \rightarrow **[Server Status]** \rightarrow **[File System]**.



Figure 4.6 File System Window

Parameter	Description
Resource	type of resource (memory)
Interval	Period for checking file usages
Current status (%)	current status
Total size (Kbytes)	Total memory size
Used size (Kbytes)	Used memory size
Free size (Kbytes)	Free memory size

Searching File Usage

Click the **'File System'** menu searches file system status automatically and the retrieval result is displayed in the result table (③). File system information is updated and displayed every 5 seconds.

Searching Threshold

- 1. Click the 'File System' menu searches CPU status automatically and the search result is displayed in the threshold table (1).
- 2. Click the [Get] button (2) updates and displays the setup threshold information.

Setting Threshold

- **1.** Set the target threshold in the threshold table (**1**).
- 2. Click the [Set] button (2) sets the threshold.

Memory

'Memory' menu is used to search the information on the usage of the memory of OfficeServ NMS server and set memory threshold.
Memory usage is displayed by dividing the total memory installed by the memory usage being used. Setting threshold is a function that generates an alarm when the memory usage of OfficeServ NMS server exceeds a specific value. This function is performed in order of [General Management] → [Server Status] → [Memory].



Figure 4.7 Memory Window

Parameter	Description
Resource	type of resource (memory)
Current status (%)	current status
Total size (Kbytes)	Total memory size
Used size (Kbytes)	Used memory size
Free size (Kbytes)	Free memory size

Searching Memory Usage

Click the '**Memory**' menu searches memory status automatically and the retrieval result is displayed in the result table (③). Memory usage information is updated and displayed every 5 seconds.

Searching Threshold

- 1. Clicking the '**Memory**' menu searches CPU status automatically and the search result is displayed in the threshold table.
- 2. Click the [Get] button (2) updates and displays the setup threshold information.

Setting Memory Threshold

- 1. Set the target threshold in the threshold table (1).
- 2. Click the [Set] button (2) sets the threshold.

Database

'Database' menu is used to search the information on database of OfficeServ NMS server and to set database threshold. Setting threshold is a function that generates an alarm when the database usage of OfficeServ NMS server exceeds a specific value. This function is performed in order of [General Management] \rightarrow [Server Status] \rightarrow [Database].



Figure 4.8 Database Window

Parameter	Description
Resource	type of resource (memory)
Current status (%)	current status
Total size (Kbytes)	Total memory size
Used size (Kbytes)	Used memory size
Free size (Kbytes)	Free memory size

Searching Database Usage

Click the 'Database' menu searches database status automatically and the retrieval result is displayed in the result table (3).

Database usage information is updated and displayed every 5 seconds.

Searching Threshold

- 1. Click the 'Database' menu searches database status automatically and the search result is displayed in the threshold table.
- 2. Click the [Get] button of window buttons (2) updates and displays the setup threshold information.

Setting Threshold

- 1. Set the target threshold in the threshold table (1).
- 2. Click the [Set] button (2) sets the threshold.

Resource Statistics

'Resource Statistics' menu is used to search and display the occupancy rate of resources (CPU, file system, memory, database) of OfficeServ NMS server. This function is performed in order of **[General Management]** \rightarrow **[Server Status]** \rightarrow **[Statistics]**.



Figure 4.9 Statistics Window

The parameters displayed in the 'Statistics' menu are described as follows:

ltem	Description
Resource	Resource type
Resource Name	Detailed item name of each resource type
Time Type	Hours, days, months
Period	Start time and end time

Searching Statistics on Resource

- 1. Select a target resource from the 'Resource' field of the setup table (1).
- 2. Select the target name from the 'Resource Name' field.
- **3.** Select the target statistics type from the **'Time Type'** field.
- **4.** Select the target time period from the **'Period'** field.
- 5. Click the [Search] button (2).
Database Management

Backup

'Backup' menu is used to back up database manually or automatically. For manual backup, an operator can set backup range, backup location, and backup file name. For automatic backup, an operator can register backup schedule on a daily, monthly, or weekly basis.

This function is performed in order of [General Management] \rightarrow [Database] \rightarrow [Backup].



Figure 4.10 Backup Window

The parameters in the 'DB Backup' menu are described as follows:

Parameter	Description
Туре	Backup range (Database, Group, Table)
Execution	Back execution mode (Auto, Manual)
Location	Back device (Hard Disk)
Path	Path where backup file is saved
File Name	Backup file name
Schedule	Auto backup schedule

Manual Backup

- 1. Assign backup range (Database, Group, Table), backup method (select Manual), backup location (Hard Disk, Tape), and backup file name (1).
- 2. Click the [Set] button (④) performs manual backup.

Automatic Backup

- 1. Assign backup range (Database, Group, Table), backup method (select Auto), backup location (Hard Disk, Tape), and backup file name (
- 2. Set backup schedule (Daily, Weekly, Monthly) (2).
- 3. Click the [Set] button (4) registers automatic backup schedule.

Schedule

'Schedule' menu is used to search backup schedule information and delete registered backup schedule information. This function is performed in order of **[General Management]** \rightarrow **[Database]** \rightarrow **[Schedule]**.

Ва	iewer ckup	슈 Map Schedule	• Self D Restore	i D Histo)atabase ry Log	Server Port Conf. Surveil DB Self Diagnostic	History 🔽
—	Type Perio	• •	All All	0	Database Monthly	O Group All O Table	
						Search Delete	
C	Backup 9	ichedule L	ist]				
	No.	Туре	Operator	Period	Time	Command	Register Time

Figure 4.11 Schedule Window

The parameters in the 'Schedule' menu are described as follows:

Parameter	Description
Туре	Backup schedule type
Operator	Backup schedule registration worker
Period	Backup schedule (Daily, Weekly, Monthly)
Time	Backup time
Command	Schedule backup script
Register Time	Backup schedule registration time

Searching Backup Schedule Information

- 1. Set the target backup range (All, Database, Group, Table) and backup cycle (All, Daily, Weekly, Monthly) (1).
- 2. Click the [Search] button (2) displays registered schedule information.

Deleting Backup Schedule Information

- Select the target backup schedule from the backup schedule list registered (3).
- 2. Click the [Delete] button (2) deletes automatic backup schedule.

Restore

'Restore' menu is used to search/delete database backup information and restore database through backup information.

This function is performed in order of [General Management] \rightarrow [Database] \rightarrow [Restore].



Figure 4.12 Restore Window

The parameters in the 'Restore' menu are described as follows:

Parameter	Description
Туре	Backup file type (All, Database, Group, Table)
File Location	Backup file storage location
File Name	Backup file name
Backup Time	Backup file creation time
Size	Backup file size

Searching Restore Information

- 1. Set the target backup range (All, Database, Group, Table) (1).
- 2. Click the [Search] button (2) displays backup file information (3).

Searching Detailed Restore Information

- **1.** Select the target backup information (**3**).
- 2. Click the [Detail] button (2) displays detailed backup information.

Deleting Restore Information

- 1. Select the target backup information (3).
- 2. Click the [Delete] button (2) deletes the backup information.

History

'History' menu is used to search backup and restore history information. This function is performed in order of **[General Management]** \rightarrow **[Database]** \rightarrow **[History]**.

_	Backup Co	Sch ummand Type perator	edule	Restore H	listory Log OBackup ODatabase	DB Self Diagno	I 2006-01-1	◯ Table		-
	[Hist	ory 1				Search				
No.	Туре	Mode	Ехес	Operator	File Lo	cation		File Name	Execut	e Time
1	Table	Backup	Manual	ssanaimandu	/db/mysql/back	up/manual/table	backuptest_t	able_20060104-202243.sql	2006-01-0	4 20:22:43
2	Database	Backup	Manual	ssanaimandu	/db/mysql/backu	up/manual/entire	backup_test_en	tireDB_20060104-202140.sql	2006-01-0	4 20:21:43

Figure 4.13 History Window

The parameters in the 'History' menu are described as follows:

Parameter	Description
Command	Backup/Restore
Туре	Backup/Restore type (All, Database, Group, and Table)
Operator	Backup/Restore worker
Period	Backup/Restore period
Mode	Backup/Restore
Exec	Manual/auto
File Location	Backup file location
File Name	Backup file name
Execute Time	Backup/Restore work time

Searching History Information

- **1.** Assign the information to search (All, Backup, and Store) the target backup range (All Database, Group, Table) and backup cycle (**1**).
- 2. Click the [Search] button (2) displays backup and restore history information (3).

Log Management

'Log Management' menu is used to set Raw Data, Hourly Data, Daily Data, and Monthly Data of PM, FM, and SM in server database and to delete data automatically according to the setup period.

This function is performed in order of [General Management] \rightarrow [Database] \rightarrow [Log Management].



Figure 4.14 DB Log Management Window

Searching and Modifying DB Log Information Storage Cycle

- After selecting the 'Log Management' menu, the current hold time information set in each FM, PM, and SM data is displayed (1, 2).
- Click the [Search] button (③).
 Then, the setting threshold information is updated and displayed.
- After changing the storage cycle of the target data, click the [Set] button (3).
- Click the selection box on the right of the storage cycle.
 The log is backed up (①, ②) in the /db/oracle/backup/history directory of the server before data is automatically deleted from database.

DB Self Diagnostic

'DB SelfDiagnostic' menu is used to test the DB status of NMS server related processes. This function is performed in order of **[General Management]** \rightarrow **[Database]** \rightarrow **[DB Self Diagnostic]**.



Figure 4.15 DB SelfDiagnostic Window

The parameters in the 'DB SelfDiagnostic' menu are described as follows:

Parameter	Description
DB Test Name	DB SelfDiagnosis item
Result	SelfDiagnosis result - NORMAL: Normal - FIXED: Problem is solved. - ABNORMAL: Abnormal
Reason	Detailed information on abnormal case

Perfoming DB Self-Diagnosis

- Select the 'DB SelfDiagnostic' menu to display the DB test result in the result table (1).
- **2.** If the DB test result is normal, Normal is displayed. If not, Abnormal is displayed.
- **3.** Click the **[Search]** button **(2)** to search event channel status again and display the search result in the window.

Self Diagnostic

'Self Diagnostic' menu is used to diagnose the current status of database automatically. The self-diagnosis result of database is displayed as Normal, Abnormal, or Fixed (an error is fixed).

Self Diagnostic

'Server Diagnostic' menu is used to search the RMI connection status, DB connection status, and event channel status of NMS server related processes. This function is performed in order of **[General Management]** \rightarrow **[Self Diagnostic]**.

No.	Process Name	DB Status	RMI Status
1	ni.snmp		۰
2	mf.cm	⊛—⊕	۰
3	mf.sm	۰	۰-۰
4	mf.audit	۰	۰
5	mf.pm	۰	۰
6	US	e-e	
7	db_Ln_D	0-0	0-0
8	nms.if	0-0	
9	mf.fm		
[LVC			o I - 1 (m)
		Link Status	Subscriber:{ID}
	Publisher		
_	ni.snmp.publisher		nms.if:1
	ni.snmp.publisher		nms.if:1 mf.fm:1
	ni.snmp.publisher ni.snmp.publisher us.gm.publisher		nms.if:1 mf.fm:1 165.213.118.107:1
	ruusiner ni.snmp.publisher ni.snmp.publisher us.gm.publisher us.gm.publisher		nms.if:1 mf.fm:1 165.213.118.107:1 165.213.118.104:1
	ni.snmp.publisher ni.snmp.publisher us.gm.publisher us.gm.publisher		nms.if:1 mf.fm:1 165.213.118.107:1 165.213.118.104:1 Normal: — → Abnormal: 💥

Figure 4.16 Self Diagnostic Window

The parameters displayed in the '**Self Diagnostic**' menu are described as follows:

Parameter	Description
Process Name	Process name
RMI Status	RMI connection status of a process. If normal, it is displayed as Normal, and if abnormal, it is displayed as Abnormal.
DB Status	Connection status between a process and database. If normal, it is displayed as Normal, and if abnormal, it is displayed as Abnormal.
Publisher	A process that distributes events
Link Status	Connection status between processes. If normal, it is displayed as Normal, and if abnormal, it is displayed as Abnormal.
Subscriber	A process that receives events

Searching IPC Status

- If 'Server Status' menu is selected, the self diagnosis function of the IPC status is performed automatically and the diagnosis result is displayed (1).
- 2. If the DB status and RMI status are normal, Normal is displayed. If not, Abnormal is displayed.
- 3. Click the **[Search]** button (③) performs the self diagnosis function of the IPC status again and displays the diagnosis result (④).

Searching Event Channel Status

- Select the 'Server Status' menu to display the event channel status in the result table (2).
- 2. If the event channel is normal, Up is displayed. If not, Down is displayed.
- 3. Click the **[Search]** button (③) to search event channel status again and display the search result in the window.



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CHAPTER 5. Inventory Management

This chapter describes the Inventory Management screen of the OfficeServ NMS.

The Inventory Management function allows the user to check and control the S/W configuration information for the OfficeServ system.



Figure 5.1 Inventory Management Screen



	NL Name									
-	OfficeLab/050									
1			OfficeLab/050_2							
		reset	off							
т	ype	Boot	FileName	Version	Size					
0	SP	v	cs30v440.pkg	09.04.22 V4.40	1478752					
N	ISP	2	ms302063.pkg	09.01.19 V2.06.3	1945164					
	D.1	v	rd30v441.pkg	08.07.19 V1.00	8978578					
Nar	1 Disk		rd30v440.pkg	08.07.19 V1.00	8978578					
A	uppi	1	ap30v441.pkg	08.07.19 V1.00	4723200					
D		v	dr30v441.pkg	08.07.19 V1.00	2019840					
5	iver		dr30v440.pkg	08.07.19 V1.00	2019840					
	Val		ws30v440.pkg	08.07.19 V1.00	963995					
	veo		ws30v441.pkg	08.07.19 V1.00	963995					
Ram T	Ned-Theil		rt30v440.pkg	08.07.19 V1.00	1393715					
roann 1	hist oth.	~	rt30v441.pkg	08.07.19 V1.00	1393715					

Figure 5.2 Screen for Changing Inventory Management Options

Since the Inventory function is only provided in the OfficeServ 7030 system, the following descriptions are only applicable to the OfficeServ 7030 system.

Parameter	Description
NE Name	A list of the registered NEs that can be the target systems
reset	After configuring a boot file, select whether to restart the system.
Туре	The type of software package
Boot	Denotes whether the file is a boot file
File Name	The file name of the software package
Version	The version information for the software package
Size	The size of the software package

Software

Package Information Management Function

The Package Information Management function allows the user to view and change the memory information, package version, and software list parameters.

Select [Inventory] \rightarrow [Software] \rightarrow [Package Info.] to carry out the Package Information Management function.

Target	/Office_Lab/057030				
	System Type		[7030_M		
lersion : 10.03.29 ¥04.46] List Total [\$22,391,552]byb	es / Used [<mark>203,709,440</mark>]bytes / Usabi	e [238,602,112]bytes]	Det		
Туре	Boot	FileName	Version	Size	Delete
CSP	1	cs30v440.pkg		0	П
MSP	R	ms30+720.pkg	10.02.11 V7.20.0	1152492	П
Ram Disk	R	rd30v001.pkg	08.07.19 V1.00	8535537	
Appl	R	ap30v001.pkg	08.07.19 V1.00	4878848	11
	R	dr30v001.pkg	08.07.19 VI.00	2019840	10
Driver	E	dr30v440.pkg	08.07.19 V1.00	2019840	
Web	R	ws30v001.pkg	08.07.19 V1.00	971085	
Ram Disk Util.	R	rt30v001.pkg	08.07.19 V1.00	13937152	E
	E	VM_L_UK.tgz		6655136	E .
	6	VM_L_DAN.tgz		6564550	
	E	VM_L_DUT.tgz		6611353	5
	6	VM_L_FIN.tgz		6204141	5
		VM_L_GRE.tgz		7056453	Г
VM_Language		VM_L_POR.tgz		7074638	5
	F	VM_L_SEI.tgz		6374091	C
	m	VM_L_SPA.tgz		7297399	C
	m	VM_L_SWE.tgz		6861683	C
	E	VM L USF.toz		6622018	

Figure 5.3 Package Information Management Screen

	group		INMS			
1	Ne Nan	ne	Ne Type		S	nmp IP
	OfficeServ	7100	OS7x 10.2		54.198.146	
5	OfficeServ	7200	0\$7x 10.25		54.198.147	
	OfficeServ7400		0\$7x 10.25		54.198.149	
1	0\$703	0	OS7x		10.2	54.169.160
7	OS7030	_2	OS7x		165.2	13.117.245
1	O\$707	0	OS7x		10.2	54.169.155
5	O\$7070	_2	OS7x		10.2	54.169.148
3	O\$710	Da	OS7x		165.2	13.110.129
1	0\$7100	_2	O\$7×		10.2	54.175.217
	O\$72005			057× 10.2		CA 175 216
	OS7200)S	05/x		10.2	J4-11-2-610
	OS7200 OS740	0	057x 057x		10.2	54.169.145
	057200 057400 057400	0 2	057x 057x 057x		10.2	54.169.145 54.175.215
7	057200 05740 057400	25 0 2 reset	OS7x OS7x OS7x		10.2	54.175.215
Тур	0\$720 0\$740 0\$7400	25 0 _2 reset 800t	057x 057x 057x fileName	Versio	10.2 10.2 10.2	54.169.145 54.175.215 Size
Typ	057204 057400 057400	25 0 _2 reset Boot	OS7x OS7x OS7x FileName cs30v440.pkg	Versio	10.2' 10.2' 10.2'	54.169.145 54.175.215 Size 0
Typ CSF MSF	057204 057400 057400	15 0 _2 reset Boot F	05/x 057x 057x 057x 0ff FileName es30v440.pkg ms30v720.pkg	Versio 10.02.11 V7	10.2' 10.2' 10.2'	54.169.145 54.175.215 5ize 0 1152492
Typ CSP MSP Ram D	057201 057400 057400	15 0 _2 reset Boot F F	05/X 057x 057x 057x FileName ex30x440.pkg mc30x720.pkg rd30x720.pkg	Versio 10.02.11 V3 08.07.19 V	10.2 10.2 10.2 10.2	54.169.145 54.175.215 54.175.215 54.175.215 0 1152492 8535537
Typ CSF MSF Ram D App	057201 057400 057400	15 0 _2 reset 1000t 17 17 17	05/X 057x 057x 057x eff FileName es30v40.pkg ms30v720.pkg ms30v720.pkg ap30v001.pkg	Versio 10.02.11 V3 08.07.19 V 08.07.19 V	10.2 10.2 10.2 10.2 10.2 10.2	54.169.145 54.175.215 54.175.215 0 1152492 8535537 4878848
Typ CSF MSF Ram D App	057201 057400 057400	IS 0 2 reset Boot F F F F F	05/X 057x 057x 057x fileName es30v440.pkg ms30v720.pkg ap30v001.pkg dr30v001.pkg	Versio 10.02.11 V7 08.07.19 V 08.07.19 V 08.07.19 V	10.2 10.2 10.2 10.2 10.2 10.2 10.2 10.2	54.169.145 54.175.215 54.175.215 54.175.215 0 1152492 0535537 4870848 2019840
Typ CSP Ram D App Drive	057200 057400 057400 057400	IS 0 2 reset Boot F F F F F	05/x 057x 057x 057x 057x 057x 057x 057x 057	Versio 10.02.11 V7 08.07.19 V 08.07.19 V 08.07.19 V 08.07.19 V	10.2 10.2 10.2 10.2 10.2 10.2 10.2 10.2	Size 0 1152492 0535537 4878848 2019840 2019840
Typ CSF MSP Ram D App Drive	057200 057400 057400 • • • • • • • •	15 0 _22 1800t 17 17 17 17 17 17 17 17 17	05/X 057x 057x 705	Versio 10.02.11 V3 08.07.19 V 08.07.19 V 08.07.19 V 08.07.19 V 08.07.19 V	10.2 10.2 10.2 10.2 10.2 10.2 10.2 10.2	Size 0 1152492 0535537 4878848 2019840 2019840 971085

Figure 5.4 Package Information Management Window for Changing the Boot File Option for Multiple Files

	group	NMS	
-	Ne Name	Ne Type	Somp IP
5	OfficeServ7100	OS7x	10.254.198.146
5	OfficeServ7200	OS7x	10.254.198.147
1	OfficeServ7400	OS7x	10.254.198.149
1	O\$7030	OS7x	10.254.169.160
1	O\$7030_2	OS7x	165.213.117.24
-	057070	O\$7x	10.254.169.155
	O\$7070_2	OS7x	10.254.169.148
5	OS7100a	QS7x	165.213.110.12
3	OS7100_2	OS7x	10.254.175.217
-	O\$7200S	OS7x	10.254.175.216
2	0\$7400	OS7x	10.254.169.145
	0\$7400_2	O\$7x	10.254.175.215
	FileName	Version	Size
	cs30v440.pkg		0
	cs30v440.pkg dr30v440.pkg	08.07.19 V1.00	0 2019840
	cs30v440.pkg dr30v440.pkg VM_L_UK.tgz	08.07.19 V1.00	0 2019840 6655136

Figure 5.5 Package Information Management Window for Deleting Files from NEs

The table below describes the parameters shown in the Package Information Management screen, which is displayed when you select the 'Package Info.' menu item.

Parameter	Description
Target	The registered NE that can be the target system
System Type	The system type of the selected NE
Туре	The type of software package
Boot	Denotes whether the file is a boot file
File Name	The file name of the software package
Version	The version information for the software package
Delete	Select the checkboxes of the files you want to delete

Viewing Package Information

- In the Tree view, select the target for which you want to carry out the function. The selected target is displayed in the 'Target' field (1) of the screen.
- 2. Click the [Get] button (2) to retrieve the information.
- **3.** The results are displayed in the Results table (**3**) of the screen.

Changing the Boot File Option for Multiple Files

- 1. Click the [MultiSet] button (4).
- The window for changing the boot file option for multiple files is displayed. In this window, select the target NEs and the parameter values ((5) you want to apply and then click the [MultiSet] button ((6).
- **3.** The Password Confirmation dialog box is displayed. Enter your password and click the **[OK]** button **(6)**.
- 4. The results of the change operation are displayed in the Results table(③) of the screen.

Deleting Files from NEs

- Select the Delete checkbox for the files you want to delete from their NEs and then click the [Delete] button (4).
- The window for deleting files from NEs is displayed. In this window, select the NEs ((G) from which you want to delete the selected files and then click the [Delete] button ((G)).
- The Password Confirmation dialog box is displayed. Enter your password and click the [OK] button (6).
- 4. The results of the deletion operation are displayed in the Results table(③) of the screen.

Software Update

The Software Update Management function updates the software of the OfficeServ system.

Select [Inventory] \rightarrow [Software] \rightarrow [S/W Update] to carry out the Software Update Management function.

User ID Deck // Save Disk // Control User ID jpmm Passand/ jmm Idea // Save // Save // Sa	low/2030-skow001	File Path (~/)			10.264.126.218	IP Address 10.254.175.218	
Out to parts rest Implies	prins/030-pkg-volat	File Path (~/) pms/rose-pio			10.234.175.210	likes ID	
Yer Downsol File Name CSP	100000		Passmort		and the family		
NP Domised Pfe Name CSP							
Type Double of CBP C1000000000000000000000000000000000000							ist]
COP C C000000000000000000000000000000000000		File Name			d	Download	Туре
MP Image: I		cs30v440.pkg				D	CSP
Rum Orki Implementation reference Appl Implementation applementation Driver Implementation applementation Driver Implementation applementation Web Implementation applementation Web Implementation applementation WebLang Implementation applementation Implementation WebLang Implementation		ms30+720.pkg					MSP
Appl C appl Orier C appl Web C appl Web C appl WebLang C WebLang C C WebLang C WebLang C WebLang WebLang WebLang C WebLang		rd30v001.pkg				C	Ram Disk
Driver Implementation displayed Web Implementation mission		ap30v001.pkg				C	Appl
Web C antifactorial UNI C antifactorial Weblang C Weblang C Weblang C C Weblang Weblang C Weblang Weblang <td></td> <td>dr30v001.pkg</td> <td></td> <td></td> <td></td> <td></td> <td>Driver</td>		dr30v001.pkg					Driver
UNI C C C WebLang C WubLang C WubLang C WubLang WubLang C C WubLang WubLang C C WubLang WubLang C C WubLang WubLang C C VubLang C WubLang C C C VubLang C WubLang C C C C		ws30v001.pkg				E	Web
Image: Provide and the second secon		rt30v001.pkg				E	Util
Image: Constraint of the second sec		WL30_ITA.PKG				E	Webl and
Image: Constraint of the second sec		WL30_KOR.PKG				E	100000
Г УКЦСУПИР		VM_L_DAN.tgz					
Image: Constraint of the second of		VM_L_DUT.tgz					
Г УН1_СКОК ФР		VM_L_FIN.tgz				- C	
Image: Constraint of the second sec		VM_L_GRE.tgz					
□ Wit_Lips Apr		VM_L_KOR.tgz					
Г 010/LUS бар Г 010/LUS бар VILLAND 010/LUS бар Г 010/LUS бар Г 010/LUS бар		VM_L_LSP.tgz				C	
Image: Constraint of the second sec		VM_L_POR.tgz				E	
VmLang VMLLSB0.Apz		VM_L_RUS.tgz				E	
Contract Con		VM_L_SEG.tgz				E	vmLang
		UM I CEI MAT					
List]							List]
System List							System List

Figure 5.6 Software Update Management Screen

	group	group NMS	
Г	Ne Name	Ne Туре	Snmp IP
Г	OfficeServ7100	OS7x	10.254.198.146
Г	OfficeServ7200	OS7x	10.254.198.147
Г	OfficeServ7400	OS7x	10.254.198.149
Γ	OS7030	OS7×	10.254.169.160
Г	OS7030_2	OS7x	165.213.117.24
Г	O\$7070	OS7x	10.254.169.155
Г	OS7070_2	OS7x	10.254.169.148
Г	OS7100a	OS7x	165.213.110.12
Г	O\$7100_2	OS7x	10.254.175.217
Г	O\$7200\$	OS7x	10.254.175.216
Г	OS7400	OS7x	10.254.169.145
	O\$7400_2	OS7x	10.254.175.215
	Set	C100	•



The table below describes the parameters shown in the Software Update Management screen, which is displayed when you select the '**S/W Update'** menu item.

Parameter	Description
IP Address	The IP address of the FTP from which the software package can be downloaded
File Path	The location of the software package in the FTP server
User ID	The user account used to connect to the FTP server
Password	The password used to connected to the FTP server
Туре	The type of software package
Download	Select the checkboxes of the files you want to download to the system. For the files used as boot files, only one file can be selected.
FileName	The file name of the software package
System Type	The system type of the selected NE
System List	A list of the systems registered as NEs
Cabinet	For 7030, Select whether to update only the master (Master Only) or both of the master and slave (Master/Slave). In the other systems except 7030, if Mater/Slave is selected, the slave is ignored.
Boot File	Select whether to use the package you want to update as the boot file. This option is available only when all the files used as boot files are selected.
Reset	Select whether to restart the system when the operation is finished. This option is available only when a boot file is selected to be modified.

Executing Software Update

- Enter the information (IP Address, File Path, UserId, Password) for the server where the software package is stored, and then click the [Get] button (2) in the screen to retrieve the information.
- 2. The results are displayed in the Results table (3) of the screen.
- 3. Select the file you want to update in the File List section.
- 4. Select the system type in the Target List section and then click the button to the right of the System List item. The window for selecting the target NEs for which the software update will be performed is displayed. In this window, select the target NEs and then click the [Set] button (④). Set a value in the Cabinet, BootFile, and Reset items.
- 5. Click the [Download] button (4) to start downloading.

ReStart

The ReStart Management function restarts the system. Select [Software] \rightarrow [Software] \rightarrow [ReStart] to carry out the ReStart Management function.

[Target List]		
System List	OfficeServ7100;OfficeServ7200;OfficeServ7400;OS7030;OS7030_2;OS7070;OS7070_2;OS7100a;OS7100_2;OS7200S;OS7400;OS7400_2	
	Sec.	
	Password confirm dialog	
	? confirmmsg	
	Please enter your login password.	

Figure 5.8 ReStart Management Screen

	group			
e Ne Type Snmp IP	Ne Name	Г		
7100 OS7x 10.254.198.146	OfficeServ7100	Г		
7200 OS7x 10.254.198.147	OfficeServ7200	Г		
7400 OS7x 10.254.198.149	OfficeServ7400	Г		
OS7x 10.254.169.160	OS7030	Π		
2 OS7x 165.213.117.24	OS7030_2	Г		
0 OS7x 10.254.169.155	O\$7070			
_2 OS7x 10.254.169.148	OS7070_2	П		
a 057x 165.213.110.12	OS7100a	П		
_2 OS7x 10.254.175.217	OS7100_2	Г		
S OS7x 10.254.175.216	O\$72005	Г		
0 OS7x 10.254.169.145	OS7400	Г		
2 OS7x 10.254.175.215	O\$7400_2			

Figure 5.9 ReStart NE Selection Management Screen

The table below describes the parameters shown in the Reset Management screen, which is displayed when you select the **'Restart'** menu item.

Parameter	Description
System Type	The system type of the selected NE
System List	A list of the systems registered as NEs

Restartting NEs

- Select the system type in the Target List section and then click the button to the right of the System List item. The window for selecting the target NEs for which the software update will be performed is displayed. In this window, select the target NEs and then click the [Set] button (4).
- 2. Click the [ReStart] button (2) in the screen.
- The Password Confirmation dialog box is displayed. Enter your password and click the [OK] button (6).

Viewing the Optional Ports

- In the Tree view, select the target for which you want to carry out the function. The selected target is displayed in the 'Target' field (1) of the screen.
- 2. When you want to retrieve the information for a specific port, enter its port number too. If a specific port number is not entered, the information for all ports of the selected cabinet is retrieved.
- **3.** Click the **[View]** button **(2)** to retrieve the information for the optional port (s).
- 4. The results are displayed in the Results table (3) of the screen.

System Update History

The System Update History Management function shows the system update command history.

Select [Software] \rightarrow [Software] \rightarrow [System Update History] to carry out the Software Update History Management function.

	Target	/office	_Lab/057030					
	User	ID	Jeongwon		Period	2010-05-09	~ 2010-05-11	
Status				Result				
							Total Count 111	
				10.4 × 10.00				
Name	User ID	Update Time	Update Compl Time	Update Type	Update Files	Update Status	Update Result	Fail Reason
Name	User ID	2010-05-09	Update Compl Time	Update Type SLAVE	Update Files ms30v720.pkg.rd30v001.pkg	Update Status RUNNING	Update Result	Fail Reason
Name 57030 57030	User ID jeongwon	2010-05-09 2010-05-09	Update Compl Time	SLAVE MASTER	Update Files ms30v720.pkg,rd30v001.pkg ms30v720.okg,dr30v001.pkg	RUNNING RUNNING	Update Result -1 -1	Fail Reason
Name 57030 57030 57030	User ID jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09	Update Compi Time	Update Type SLAVE MASTER MASTER	Update Files ms30v720.pkg,rd30v001.pkg ms30v720.pkg,rd30v001.pkg cs30v440.pkg.ms30v720.pkg.rd30v001.pkg	RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1	Fail Reason
Name 57030 57030 57030 57030	User ID jeongwon jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09 2010-05-09	Update Compl Time	Update Type SLAVE MASTER MASTER MASTER	Update Files ms30v720.pkg,rd30v001.pkg ms30v720.pkg,rd30v001.pkg,ms30v001.pkg os30v400.pkg,rms30v720.pkg,rd30v001.pkg ms30v720.pkg,rd30v001.pkg	Update Status RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1 -1 -1	Fail Reason
Name 157030 157030 157030 157030 157030 157030	User ID jeongwon jeongwon jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09	Update Compi Time	Update Type SLAVE MASTER MASTER MASTER MASTER	Update Fries ms30v720.pkg/sd30v001.pkg ms30v720.pkg/sd30v001.pkg cs30v420.pkg/sd30v001.pkg ms30v720.pkg/sd30v001.pkg cs30v440.pkg/sd30v001.pkg	Update Status RUNNING RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1 -1 -1 -1	Fail Reason
Name (\$7030 (\$7030 (\$7030 (\$7030 (\$7030 (\$7030 (\$7030	User ID jeongwon jeongwon jeongwon jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09	Update Compi Time	Update Type SLAVE MASTER MASTER MASTER MASTER MASTER	Update Fries ms30v720, pkg/d3v001, pkg ms30v720, pkg/d3v001, pkg cs30v420, pkg,ms30v720, pkg/d3v001, pkg ms30v720, pkg/d3v001, pkg cs30v440, pkg/d3v001, pkg cs30v440, pkg/d3v001, pkg	Update Status RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1 -1 -1 -1 -1 -1	Fail Reason
Name \$7030 \$7030 \$7030 \$7030 \$7030 \$7030 \$7030 \$7030	User ID jeongwon jeongwon jeongwon jeongwon jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09	Update Compl Time	Update Type SLAVE MASTER MASTER MASTER MASTER MASTER MASTER	Update Files m:530-720, pkg, r430-900, pkg m:530-720, pkg, r430-900, pkg e:530-440, pkg, rr530-720, pkg, r430-900, pkg m:530-720, pkg, r430-900, pkg e:530-440, pkg, r430-900, pkg e:530-440, pkg, r430-900, pkg m:530-720, pkg, r430, mkg, r420, LUK-8g	Update Status RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	Fail Reason
Name \$7030 \$7030 \$7030 \$7030 \$7030 \$7030 \$7030 \$7030 \$7030	User ID jeongwon jeongwon jeongwon jeongwon jeongwon jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09	Update Compi Time	Update Type SLAVE MASTER MASTER MASTER MASTER MASTER MASTER MASTER	Update Files m597/25.pi4,pd59001.pi4 m597/25.pi4,pd59001.pi4 m597/25.pi4,pd59001.pi4 m597/25.pi4,pd59001.pi4 cs39440.pi4,pd59001.pi4 cs39440.pi4,pd59001.pi4 m597/25.pi4,pd59001.pi4 m597/25.pi4,pd5001.pi4 m597/25.pi4,pd5001.pi4 m597/25.pi4,pd1200101.pi4 m597/25.pi4 m597/2	Update Status RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	Fail Reason
E Name DS7030 DS7030 DS7030 DS7030 DS7030 DS7030 DS7030 DS7030 DS7030 DS7030 DS7030 DS7030	User ID jeongwon jeongwon jeongwon jeongwon jeongwon jeongwon jeongwon jeongwon	Update Time 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09 2010-05-09	Update Compi Time	Update Type SLAVE MASTER MASTER MASTER MASTER MASTER MASTER MASTER	Update Flair m59/726.pi4,pd39/001.pi4 m59/726.pi4,pd39/001.pi4 m59/726.pi4,pd39/001.pi4 m59/726.pi4,pd39/001.pi4 cs39/c440.pi4,pd39/001.pi4 cs39/c440.pi4,pd39001.pi4 m59/726.pi4,pd12001.pi4 m59/726.pi4,pd12001.pi4 m59/726.pi4,pd12001.pi4 m59/726.pi4,pi4,pd5001.pi6	Update Status RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING RUNNING	Update Result -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	Fail Reason



The table below describes the parameters shown in the System Update History Management screen, which is displayed when you select the **'System Update History'** menu item.

Parameter	Description
Target/NE Name	NE Name which is requested this functions
User ID	User ID who's requested this functions
Period	Select Period which is queried
Update Time	Update Time which is requested this functions This is the Server Time
Update Compl Time	Update Complete Time which is completed this functions, This is the Server Time that is reached a completed notification from a NE
Update Type	Update Type which's requested
Update Files	Files List which's requested
Update Status	Update Status Information
Update Result	The Result after finishing this function
Fail Reason	Detailed Fail Reason

Searching Update History

- 1. In the Tree view, select the target for which you want to carry out the function. The selected target is displayed in the 'Target' field (1) of the screen.
- 2. Click the [Get] button (2) to retrieve the information.
- 3. The results are displayed in the Results table (③) of the screen.



CHAPTER 6. Fault Management

This chapter describes fault management window and function of OfficeServ NMS.

The **'Fault Management'** menu provides various additional functions to manage faults generated in the system.



Figure 6.1 Fault Management Window

Event Viewer

This function allows a client to display faults and events of the OfficeServ, which are received from a server.



Figure 6.2 Event Viewer Window

Parameters displayed on the '**Event Viewer**' window are described as follows:

Parameter	Description
Severity	Displays the level of an event. - Critical: Critical Faults - Major: Major Faults - Minor: Minor Faults - Warning: Fault Information - Indeterminate: Fault not defined in the level - Status: General Information
Code	Displays the code of an alarm.

Parameter	Description
Group	 Displays the event group where an event is included. The types of event groups are as follows: Communication: Communication Process/Procedure Processing: Software/Processing Environmental: Equipment External Environment QoS: Service Quality Deterioration Equipment: Equipment Fault etc: Others (Fault and Status) except faults are included in here.
Location	Displays the location where an event occurs.
Probable Cause	Displays the cause that an event occurs.

Displays the time when an event occurs.

(Continued)

Receiving Specific Event

Time

The user can set up to only display specific events on the event viewer. If clicking 'Filter Icon' (ref) located on the top of the Event Viewer window, select the event condition to display from the following window.

[Event Viewer] Filter	Dialog	— X
QP MMS Φ 17200 Φ 17400 Φ 11000 Φ 11000		
Event Type		
ALL		
Status		
🗌 Fault		
Alarm		
Severity		
ALL Minor	Critical	Major Clear
Common Common		
ALL Environment	Communications	Processing Equipment
		OK Close
lava Applet Window		

Figure 6.3 Specific Event Reception Selection Window

Stopping/Receiving Event

If clicking the 'Pause Icon' () on the top of the Event Viewer, the pause button changes to the Resume button (). The subsequent event is not displayed. If clicking the **[Resume]** button again, the **[Resume]** button changes to the **[Pause]** button. The event that was not displayed during the pausing time is displayed.

Deleting an Displayed Event

If clicking the **[Clear]** button () on the top of Event Viewer, the event displayed on the current Event Viewer is deleted. However, the event history stored in the database is not deleted.

Displaying Event

If clicking the **[Print]** button (**a**) on the top of the event viewer, the event displayed on the current Event Viewer is displayed.

Saving Event

If clicking the **[Save]** button (**a**) on the top of the event viewer, the event displayed on the current Event Viewer is saved in an excel file format.

Alarm Control

'Alarm Control' menu is used to retrieve and change alarm grades and to control and allow a specific alarm occurrence.

This function is performed in order of [Alarm Management] \rightarrow [Alarm Control].

L Alarma Ca	-411			Total count : 90 1 / 9
L Alarm Co	ntrol j	0	Ch-t-	
0	Alarm ID	Severity	state	Description
0	0001	Critical	on	CPO OVERLOAD
	0004	Major	on	TODO FINDON
0	0102	Warning	00	HDLC COMM ERBOR
0	M007	Minor	00	OFE HOOK ALARM
0	M007	Minor	011	DHONE DISCONNECT
0	MOUS	Minor	on	SID SERVED LINK EDDOD
0	MOII	Minor	on	CATEKEEPED LINK ERROR
0	M012	Minor	on	CTL SERVER LINK ERROR
0	M101	Warning	00	CIT SERVER LINK ERROR
· ·	14101	warning	011	STOTEM RESTART
		44 4 1	[2][3][4][5][6][7][8]	44 4

Figure 6.4 Alarm Control Window Window

Parameters displayed on the '**Alarm Control**' window are described as follows:

Parameter	Description
Alarm ID	ID of alarm
Severity	Displays the level of alarm
State	State
Description	Description of alarm

Retrieving Alarm Information

- Select the target alarm from the Tree viewer. The alarm is displayed in the 'Target' field (1).
- 2. Clicking the [Get] button (2) retrieves the alarm information.
- 3. The retrieval result is displayed in the result table (3).

Changing Alarm Grade

- Select the target alarm from 'Alarm Information' displayed in the result table (3).
- 2. Set Severity to the target grade. (4)
- 3. Click the [Set] button (6).
- Check if the selected alarm information is properly changed in the result table (3).

EMS History

'Alarm History' menu is used to retrieve alarm occurrence history, which is saved in the system, of each search condition. This function is performed in order of [Alarm Management] → [Alarm History].



Figure 6.5 Alarm History Window

Parameters displayed on the '**Alarm History**' menu are described in the table below:

Parameter	Description
Severity	Displays the level of an event.
	- Critical: Critical Failures
	- Major: Major Failures
	- Minor: Minor Failures
	- Warning: Failure Information
	- Indeterminate: Fault not defined in the level
	- Status: General Information
Clear Type	Displays the 'Clear Type' when clearing alarms [Auto/Manual]
Location	Displays the location where an event occurs.

(Continued)

Parameter	Description
Group	Displays the event group where an event is included.
	The types of event groups are as follows:
	- Communication: Communication Process/Procedure
	- Processing: Software/Processing
	- Environmental: Equipment External Environment
	- QoS: Service Quality Deterioration
	- Equipment: Equipment Fault
	- etc: Others (Fault and Status) except faults are included in
	here.
Code	Displays the code of an alarm.
Probable Cause	Displays the cause that an event occurs.
Alarm Time	Displays the time when an event occurs.
Clear Time	Display the time when an alarm is cleared.
Alarm Duration	Display the time until the alarms ends from the alarm
	occurrence.

Retrieving Alarm History

- Select an NE to retrieve in Tree Viewer of the main window. The selected NE is displayed on the 'Target' field (1) of the main window. When the root ('/') of Tree is selected, the alarms including EMS alarm in all of the locations are retrieved. Select the [EMS] button (3) to retrieve the EMS occurrence alarm only.
- 2. Select 'Alarm, Status, and Fault' in the Event Type of the window (2). When 'Alarm' is selected, the items of 'Severity, Group, Ack, Clear, and Code' in the field can be selected and retrieved. The values of items in the field of 'Severity, Group, Ack, Clear, and Code' are not applied when 'Alarm' is not selected.
- **3.** Click the **[Search]** button (③) among the window buttons.
- 4. Click the [Save] button among the window buttons to save a result (4).
- Check if clicking the Alarm Code pops up the help page for the corresponding alarm code.

If you want to print the result, click the [Print] icon.
 Then, the 'Print Friendly' page is displayed and the page can be printed.

Setting/Releasing Alarm Recognition

- Select an alarm to indicate the Ack (Acknowledgement) in the result table ((4)).
- 2. Click the [Ack] button (③) among the window buttons.
- **3.** Check in the 'No.' column of the result table if the selected alarm information is normally acknowledged and displayed (**4**).
- Click the [Unack] button (③) among the window buttons to acknowledge and clear an alarm after selecting an alarm from the result table.

Clearing Alarm

- 1. Select an alarm to clear in the result table (4).
- 2. Click the [Clear] button (③) among the window buttons.
- Check in the 'Severity' column background color and 'Clear Time' column of the result table if the selected alarm information is normally acknowledged and displayed (4).

Alarm Statistics

'Alarm Statistics' is used to search alarm statistics saved in the database of EMS through various setup cases.

This function is performed in order of [Alarm Management] \rightarrow [Alarm Statistics].



Figure 6.6 Alarm Statistics Window

Retrieving Alarm Statistics

- Select an NE to retrieve in Tree Viewer of the main window. The selected NE is displayed on the 'Target' field (1) of the window. When the root ('/') of Tree is selected, the alarm statistics including the EMS alarm in all of the locations are retrieved. Select the [EMS] button (1), only to retrieve the EMS occurrence alarm.
- 2. Select and retrieve a specific group from the Group field.
- It is possible to select in the Series field (2) whether the statistics are 'Severity' or 'Code' Then, the results allow the series of the result chart and the column name of the result table to be modified.
- 4. It is possible to select a summary (Hourly Sum, Daily Sum, Monthly Sum) by each time unit, only when you select Severity as Series, and Time as Item.
- Set a type of statistics (Hourly, Daily, Monthly, Hourly Sum, Daily Sum, Monthly Sum.) in the Time Type field (2). The result enables to modify the initial value of a period.
- 6. Click the [Search] button on the window (③).
- 7. Check if the information on the alarm statistics to meet a selected condition is displayed in the result table and the chart (④). Drag the Chart by the mouse to enlarge the selected parts, and the scroll bar is activated. Deactivate the scroll bar to click the [Zoom Out] button. Then, the chart is modified into the original size.
- 8. Click the [Print] button for the result to be printed out (3)
- 9. Click the **[Save]** button (③). Then, you can save the result table as the EXCEL file, and the result chart as the PDF file.

Audible Alarm

'Audible Alarm' menu enables to provide a function of letting a user know the alarm. The method of the user's acknowledgement is to make an audible sound. This function is performed in order of **[Alarm Management]** \rightarrow **[Audible Alarm]**.



Figure 6.7 Audible Alarm Window

	NE Typ	e OS7x	NE Version v1 Event Type Alarm	6
)			Search	
		Code	Probable Cause	٦
		0001	CPU OVERLOAD	
		0004	IPC MSGQ OVERFLOW	
		0101	TODC ERROR	
		0102	HDLC COMM ERROR	
		M001	FAN OUT OF ORDER	
)		M007	OFF HOOK ALARM	
		M008	PHONE DISCONNECT	_
		M011	SIP SERVER LINK ERROR	
	[11]	M012	GATEKEEPER LINK ERROR	

Figure 6.8 Audible Alarm Codes Window

Setting Audible Alarm

- 1. The audible alarm-setting window is popped up when you select the 'Audible' of the 'fault' menu.
- 2. Set 'Sound on/off' with the 'Mute' button (
- 3. Set whether the audible alarm type 'by Grade' or 'by Alarm Code'.
- 4. Set whether the audible alarm is produced once or repeatedly according to the check status of the 'Repeat' button. You can select a number of times of repetition when you select the 'Repeat' button (1).
- If the 'No Interception' button (1) is checked, the next alarm will be replayed after the first alarm is all replayed even if other audible alarms occur during the first audible alarm replayed.
- **6.** Set a severity to produce an audible alarm in the 'Grade' checkbox.
- **7.** The 'Policy' is a check box for the selection of the policy concerned with producing an audible alarm. It can be selected from either 'Max-severity alarm' or 'Latest alarm'.
- 8. You can select the 'Audible Sound Inhibit Codes' when you select the 'Latest alarm'. If clicking the [Add] button (1) on the window, 'Search Codes' window is displayed. You can select the alarm code to inhibit sound on 'Search Codes' window. If you want to delete the inhibit code, select the code and click the [Delete] button (1).
- 9. Complete the setting by clicking the [Set] button (2) of the window.
- **10.** The audible alarm is stopped by clicking the **[Pause]** (**2**) button.
- **11.** If Select **[LatestAlarm]**. Click the **[Add]** (**2**).
- Select [NE Type], [NE Version], [Event Type] (③).
 Click the [Search] button (④).

- **13.** Then, the detailed information on the codes is display (**5**).
- 14. Check the Checkbox (5). Click the [Add] button (6).
- **15.** Then, Click the **[Set]** button **(2)** to complete the setup.
- **16.** Click the **[Pause]** button **(2)** to stop the audible alarm currently being generated.

E-mail

E-mail Management

Email Management is used to retrieve, register, and delete e-mail addresses.

This function is performed in order of [Alarm Management] \rightarrow [E-mail] \rightarrow [E-mail Manager].



Figure 6.9 E-mail Management Window

Retrieving E-mail Information

- **1.** The **[Get]** button **(③)** retrieves the e-mail information.
- 2. The retrieval result is displayed in the result table (1).

Registering E-mail Information

- 1. Enter the target e-mail address, name, and description into the input fields on the lower part of the window (2).
- 2. Clicking the [Add] button (③) registers an e-mail information.
- **3.** The registration result is displayed in the result table (1).

Deleting E-mail Information

- **1.** Select the target e-mail from 'E-mail Information' displayed in the result table (1).
- 2. Click the [Delete] button (③).
- Check if the selected e-mail information is properly deleted in the result table (1).

E-Mail Config

E-Mail Config is used to set e-mail sending of each alarm to send an e-mail when a specific alarm occurs.

This function is performed in order of [Alarm Management] \rightarrow [E-mail] \rightarrow [E-mail Config].

E-mail M	lanager F arget	E-mail Co /PA/B sys	nfig E-mail H	Get		
[E-ma	ail Conf	ig]			Total co	unt : 27 1 / 3 🜀
No.		Location	Alarm ID	E-Mail Address	Subject	Set Time
1	0	/PA/B sys	2006	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
2	0	/PA/B sys	2007	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
3	0	/PA/B sys	9011	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
 4	0	/PA/B sys	9012	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
5	0	/PA/B sys	B001	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
6	С	/PA/B sys	B002	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
7	0	/PA/B sys	B003	kj0221.cho@samsung.com	test	2006-01-06 22:37:22
8	0	/PA/B svs	G001	ki0221.cho@samsunn.com	test	2006-01-06-22:37:22
		A II A	larm List		Selected	Alarm List
[P005 [P005 [B005	5] TEPR] 3] E1/T1 1] BRI C 2] BRI S	I BLUE ALARM OUT OF SERVIO ATA LINK ERRO RID INIT ERROR	DE IR	[0004] IPC M [B002] BRI S [9011] CPU F	ISGQ OVERFLOW PID INIT ERROR ESOURCE ALARN	۱ ۲
		All E	-Mail List	Selected	E-Mail List	
jwbur kj022	n@sam: 1.cho@	sung.com samsung.com		kj0221.cho@:	samsung.com	
	6	ubject	OfficeServ Al	a.r.o.		

Figure 6.10 E-Mail Config Window

Retrieving E-mail Setup

- Select the target e-mail from the Tree viewer. The e-mail is displayed in the 'Target' field (1).
- 2. Clicking the [Get] button (2) retrieves the e-mail information.
- 3. The retrieval result is displayed in the result table (3).

Registering E-mail Setup

- Select the target e-mail from the Tree viewer. The e-mail is displayed in the 'Target' field (1).
- Select the target alarms from All Alarm List on the lower part of the window.
- Select the target e-mail addresses from All E-Mail List on the lower part of the window.
- **4.** Enter the title of the e-mail sent into Subject.
- 5. Click the [Add] button (6).
- 6. The registration result is displayed in the result table (3).

Deleting E-mail Setup

- **1.** Select the target e-mail from 'E-mail Information' displayed in the result table (③).
- 2. Click the [Delete] button (6).
- Check if the selected e-mail information is properly deleted in the result table (3).

E-Mail History

E-Mail History is used to check if an e-mail is properly sent when an alarm occurs. This function is performed in order of [Alarm Management] \rightarrow [E-mail] \rightarrow [E-mail History].

Get Total court : 10 1 / 2 02 No. Location Alarm ID E-Mail Address Subject Send Time Result 1 /PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-09 09:20:55 Feil 2 /PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Feil 3 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Feil 4 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Feil 5 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Feil 6 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-12 11:16:38 Fail 7 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-19 15:39:02 Fail 8 /PA/B sys G002 kj0221.cho@samsung.c		Alarm ID Result	All All	C Success C Fail	E-Mail Address Period	All 2006-01-01 🖾 ~ 20	06-01-16
No. Location Alarm ID E-Mail Address Subject Send Time Result 1 //RA/B sys 2006 kj0221.cho@samsung.com 2006-01-09 09:20:55 Fail 2 //PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Fail 3 //PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Fail 4 //PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Fail 5 //PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-12 11:16:38 Fail 6 //PA/B sys G002 kj0221.cho@samsung.com test 2006-01-12 11:16:48 Fail 7 //PA/B sys G002 kj0221.cho@samsung.com test 2006-01-19 16:46:46 Fail 8 //PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail 9 //PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail<	[E-ma	il History]		Get]	Total count : 19	1 / 2 😡
1 /PA/B sys 2006 kj0221.cho@samsung.com 2006-01-09 09:20:55 Fail 2 /PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-09 09:20:55 Fail 3 /PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Fail 4 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-12 11:16:38 Fail 5 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-12 11:16:38 Fail 6 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-12 11:16:46 Fail 7 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 15:39:02 Fail 8 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 15:49:02 Fail 9 /PA/B sys 60002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 9 /PA/B sys 60002 kj0221.cho@samsung.com test 2006-01-09 16:41:46:47 F	No.	Location	Alarm ID	E-Mail Address	Subject	Send Time	Result
2 /PA/B sys 2006 kj0221.cho@samsung.com test 22006-011115.43112 Fail 3 /PA/B sys 2006 kj0221.cho@samsung.com test 22006-011215.43112 Fail 4 /PA/B sys 2007 kj0221.cho@samsung.com test 22006-01115.43112 Fail 5 /PA/B sys 2007 kj0221.cho@samsung.com test 22006-01.12.1116.38 Fail 6 /PA/B sys G002 kj0221.cho@samsung.com test 22006-01.09.114.6448 Fail 7 /PA/B sys G002 kj0221.cho@samsung.com test 22006-01.09.114.6448 Fail 8 /PA/B sys G002 kj0221.cho@samsung.com test 22006-01.09.15.39.02 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 22006-01.09.15.39.02 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 22006-01.09.16.4647 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2206-01.09.06.46.472	1	/PA/B sys	2006	kj0221.cho@samsung.com		2006-01-09 09:20:55	Fail
3 /PA/B sys 2006 kj0221.cho@samsung.com test 2006-01-12 11:16:38 Fail 4 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Fail 5 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-12 11:16:38 Fail 6 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-01 11:46:48 Fail 7 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-01 51:39:02 Fail 8 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:42:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:42:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:42:46 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail	2	/PA/B sys	2006	kj0221.cho@samsung.com	test	2006-01-11 15:41:12	Fail
4 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-11 15:41:12 Fail 5 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-12 11:6:38 Fail 6 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-02 11:16:48 Fail 7 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 11:46:48 Fail 8 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 9 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 9 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 9 /PA/B sys 6002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 06:52:12 Fail	3	/PA/B sys	2006	kj0221.cho@samsung.com	test	2006-01-12 11:16:38	Fail
5 /PA/B sys 2007 kj0221.cho@samsung.com test 2006-01-12 11.16:38 Fail 6 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 11:46:48 Fail 7 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:39:02 Fail 8 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:39:02 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:43:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail	4	/PA/B sys	2007	kj0221.cho@samsung.com	test	2006-01-11 15:41:12	Fail
6 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 11:46:48 Fail 7 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:39:02 Fail 8 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:41:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail	5	/PA/B sys	2007	kj0221.cho@samsung.com	test	2006-01-12 11:16:38	Fail
7 //PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:39:02 Fail 8 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:41:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-10 06:52:12 Fail	6	/PA/B sys	G002	kj0221.cho@samsung.com	test	2006-01-09 11:46:48	Fail
8 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:41:46 Fail 9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:46:47 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 15:46:47 Fail	7	/PA/B sys	G002	kj0221.cho@samsung.com	test	2006-01-09 15:39:02	Fail
9 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-09 16:46:47 Fail 10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-10 00:52:12 Fail	8	/PA/B sys	G002	kj0221.cho@samsung.com	test	2006-01-09 16:41:46	Fail
10 /PA/B sys G002 kj0221.cho@samsung.com test 2006-01-10 08:52:12 Fail	9	/PA/B sys	G002	kj0221.cho@samsung.com	test	2006-01-09 16:46:47	Fail
	10	/PA/B sys	G002	kj0221.cho@samsung.com	test	2006-01-10 08:52:12	Fail
≪					• •		

Figure 6.11 E-Mail History Window

Retrieving E-mail History

- 1. Select the target NE from the Tree viewer. The NE is displayed in the **'Target'** field (**()**).
- An alarm ID and e-mail address can be selected from 'Alarm ID' (2) and 'E-Mail Address' (2). In addition, e-mail transmission result can be retrieved in 'Result'.
- **3.** Enter the target period from Period.
- **4.** Clicking the **[Get]** button **(3)** retrieves e-mail history information.
- 5. The retrieval result is displayed in the result table (4).



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CHAPTER 7. Performance Management

This chapter describes performance management window and function of OfficeServ NMS.

Performance Management is used to manage the items related with the performance of each network resource.

Through this function, performance related information created in SSX5000 system is regularly collected.

The information is collected on an hourly, daily, and monthly basis for analyzing the performance of network resources. The collected information is saved and managed in database and is provided to an operator.



Figure 7.1 Performance Management Window

Status Mon.

Real Port Status Management

Real Port Status Monitoring is used to monitor the real port status of each card and the port status of each Telno. The information on a specific port can be searched in detail while the port status of each card is being monitored.

This function is performed in order of [Mon & Perf] \rightarrow [Status Mon.] \rightarrow [Real Port Status].



Figure 7.2 Real Port Status Management Window

The parameters displayed in the '**Real Port Status'** window are described as follows:

Parameter	Description
Target	Location of Monitoring Target
Monitor Type	Monitoring Target Type (Card/Tel No)
Card Type	Monitoring Port Type (Extension/Trunk/Mgich)
Tel Number	Tel Number
Period	Monitor Cycle

Monitoring Real Port Status

- Select the target IP from the Tree viewer. The selected IP is displayed in the 'Target' field (1).
- 2. Select the target real port from the parameter window (2) and click the [Get] button (3).
- **3.** Then, the port status is displayed in the result table (**5**).
- **4.** In the port status monitoring result (**6**) of each card, double click a port. Then, the detailed information on the port is displayed (**4**).
- If you selected the telNo, write the tel Number from the parameter window (2).
- 6. Then, the port status is displayed in the result table (6).

Virtual Port Status Management

Virtual Port Status Monitoring is used to monitor the virtual port status of each card and the port status of each Telno. The information on a specific port can be searched in detail while the port status of each card is being monitored.

This function is performed in order of [Mon & Perf] \rightarrow [Status Mon.] \rightarrow [Virtual Port Status].



Figure 7.3 Virtual Port Status Management Window

The parameters displayed in the 'Virtual Port Status' window are described as follows:

Parameter	Description
Target	Location of Monitoring Target
Monitor Type	Type of Monitoring Target (Card/Tel No)
Card Type	Monitoring Port Type (Extension/IpPhone/SipPhone/WipPhone/SpNet/Sip/H323)
Tel Number	Tel Number
Period	Monitor Cycle

Monitoring Virtual Port Status

- Select the target IP from the Tree viewer. The selected IP is displayed in the 'Target' field (1).
- 2. Select the target virtual port from the parameter window (2) and click the [Get] button (3).
- **3.** Then, the port status is displayed in the result table (**6**).
- **4.** In the port status monitoring result (**6**) of each card, double click a port. Then, the detailed information on the port is displayed (**4**).

IP Phone Status Management

Phone Status Management is used to monitor phone subscriber status.

This function is performed in order of [Mon & Perf] \rightarrow [Status Mon.] \rightarrow [IP Phone Status].



Figure 7.4 IP Phone Status Management Window

The parameters displayed in the '**Phone Status**' window are described as follows:

Parameter	Description
Target	Location of Monitoring Target
Phone Type	Monitor's Phone type (IpPhone/SipPhone/WipPhone)
User Id	User ID to Monitor a Specific User
Period	Monitor Cycle

Monitoring Phone Status

- Select the target IP from the Tree viewer. The selected IP is displayed in the 'Target' field (1).
- 2. Select the target virtual port from the parameter window (2) and click the [Get] button (3).
- **3.** Then, the subscriber ID status is displayed in the result table (**4**).

WBS Status Management

WBS Status Management is used to monitor WLI card status.

This function is performed in order of [Mon & Perf] \rightarrow [Status Mon.] \rightarrow [WBS Status].

WBS Type	O None		Combo		DualAP
IpAddress				Period 60	
			Get		
	TYPE	INDEX	IPAddress	Total Count : Nacâddress	57 1 / 6 Go
	DualAP	25	0.0.0.0	fiffifififif	None
	DualAP	26	0.0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	27	0.0.0.0	ff:ff:rf:ff:ff	None
	DualAP	28	0.0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	29	0.0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	30	0.0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	31	0.0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	32	0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	33	0.0.0.0	ff:ff:ff:ff:ff:ff	None
	DualAP	34	0.0.0.0	ff:ff:ff:ff:ff:ff	None
			ee e 1 [2][3][4][5][6]		

Figure 7.5 WBS Status Management Window

The parameters displayed in the 'WBS Status' window are described as follows:

Parameter	Description
Target	Location of Monitoring Target
WBS Type	WBS Type (Combo/Basic Type)
Index	Index
IpAddress	Monitor of IP addresses configured by ports
MacAddress	MacAddress
Status	Status

Monitoring WBS Status.

- Select the target IP from the Tree viewer. The selected IP is displayed in the 'Target' field (1).
- 2. Select the target virtual port from the parameter window (2) and click the [Get] button (3).
- **3.** Then, the WBS status is displayed in the result table (**4**).

Performance Statistics

Real Card

'Performance Statistics' is used to search alarm statistics saved in the database of OfficeServ NMS server through various setup cases.

This function is performed in order of [Mon & Perf] \rightarrow [Statistics] \rightarrow [Real Card].



Figure 7.6 Performance Statistics RealCard Window

🛃 Statistic Graph			×
Selected Target /pa/patest(1.25.115) [Drag to zoo	n along X axis; Type 't' to reset zoom]	
Service Type		nerfStatTotPortCot	
TRUNK_CARDTYPE	0	Perioda nor origin	-
Card Type	Ĩ		
		perfStatUsablePortCnt	1
Ne Type		<u></u>	E
057x		and Statis Calification	
Select Statistic Item	-	pertstaurcantorcan	10
perfStatTotPortCnt	1.0		*
✓ perfStatUsablePortCnt		perfStatinCallSuccessCnt	-
Report Station Call Tot Cot	1.0 T		
		and the Direction of the second	
■ pertstatincalsuccessunt		pensidunrungi ime	10
perfStatinRingTime	1.0		*
perfStatinSeizureTime		perfStatinSeizureTime	1
perfStatOutSeizureTryCnt	1.0 T		
perfStatOutSeizureSuccessCnt			
✓ perfStat0utWaitTime		pensiatourseizure hychi	a la
and Platford Painson Times	1.0		×
per statou seizu ernne		perfStatOutSeizureSuccessCnt	1
	1.0 _T		
			-
		peristatoutwaltime	1
	1.0		
* Selected Rem/May New: 10/100		perfStatOutSeizureTime	-
	1.0 T		
GRAPH			

Figure 7.7 Performance Statistics RealCard Graph Window

The parameters displayed in the '**Performance Statistics RealCard**' window are described as follows:

Parameter	Description
Target	Location of Monitoring Target
Туре	Type (Hourly Summary, Daily Summary, Monthly Summary, Hourly, Daily, Monthly, 5 Min)
Service Type	Service Type (Trunk Statistics/CardType/Trunk Statistics)
CardType	Card Type (briTrunk/hTrunk/loopTrunk/mgiTrunk/tepriTrunk)
Period	Period

Searching Performance Statistics

- 1. Select the target NE from the Tree viewer. The NE is displayed in the **'Target'** field ().
- 2. Select the target statistics from 'Service Type, Card Type' in the setup table (1).
- 3. Select the target period from '**Period**' in the setup table (1).
- 4. Click the [Search] button (2) to search performance statistics.
- **5.** The performance statistics result is displayed in the result table (③).

Virtual Card

'Performance Statistics' is used to search alarm statistics saved in the database of OfficeServ NMS server through various setup cases. This function is performed in order of [Mon & Perf] \rightarrow [Statistics] \rightarrow [Virtual Card].









Parameter	Description
Target	Location of Monitoring Target
Туре	Type (Hourly Summary, Daily Summary, Monthly Summary, Hourly, Daily, Monthly, 5 Min)
Service Type	Service Type (Trunk Statistics/CardType/Trunk Statistics)
CardType	Card Type (spnetTrunk/sipTrunk/h323Trunk)
Period	Period

The parameters displayed in the '**Performance Statistics VirtualCard**' window are described as follows:

Searching Performance Statistics

- **1.** Select the target NE from the Tree viewer. The NE is displayed in the **'Target'** field (**()**).
- 2. Select the target statistics from 'Service Type, Card Type' in the setup table (1).
- 3. Select the target period from '**Period**' in the setup table (1).
- **4.** Click the **[Search]** button **(2)** to search performance statistics.
- **5.** The performance statistics result is displayed in the result table (③).

Threshold Management

Threshold Set

'Threshold Set' menu is used to set the overload threshold of an OfficeServ system. CPU threshold and trunk usage ratio threshold of each node can be set. Categorize the threshold range into Critical, Major, Minor, and Normal and report the current status to an operator regularly.

This function is performed in order of [Mon & Perf] \rightarrow [Threshold Set].

Na. Select Location CardType ServiceType Staus Value Critical Najor Ninor Direction 1 0 //400/New057400 bhTruk Truk/SeluveReito Critical 6.0 6.0 6.0 0.0 0.0 UP 3 0 //400/New057400 bhTruk Truk/SeluveReito Critical 6.0 6.0 0.0 0.0 0.0 UP 4 0 //400/New057400 Itorative Reito Critical 8.0 0.0 0.0 0.0 0.0 UP 4 0 //400/New057400 Itorative Reito Critical 8.0 0.0	Ne. Select Lacation CardType ServiceType Staus Value Critical Najor Nimer Direction 1 0 //440/New057400 birTrunk Trunk/SeizureReito Critical 0.0 <td< th=""><th>уре</th><th>All</th><th>0.0</th><th>critical</th><th>C Major</th><th></th><th></th><th>Minor</th><th></th><th></th><th>Normal</th></td<>	уре	All	0.0	critical	C Major			Minor			Normal
1 0 //400/New057400 bhTrunk Trunk/SecureRedo Cricol 0.8 0.0	1 0 //400/New057400 beTruik TruikSeiserkeide Criscil 0.8 0.0	No.	Select	Location	CardType	ServiceType	Staus	Value	Critical	Major	Minor	Direction
2 0 //480/New05140 h3217uuk Truek/SecureReio Crinical 8.0 0.0 0.0 0.0 UP 3 0 //460/New051400 Nirrok Truek/SecureReio Crinical 8.0 0.0 0.0 0.0 UP 4 0 //460/New051400 IsogTouk Truek/SecureReio Crinical 8.0 0.0 0.0 0.0 UP 5 0 //460/New051400 IsogTouk Truek/SecureReio Crinical 8.0 0.0 0.0 0.0 UP 6 0 //480/New051400 sportrunk Truek/SecureReio Crinical 8.0 0.0 8.0 0.0 UP 7 0 //480/New051400 sportrunk Truek/SecureReio Crinical 8.0 0.0 8.0 0.0 UP 8 0 //480/New051400 tepritrunk Truek/SecureReio Crinical 6.0 6.0 8.0 0.0 UP	2 0 //400/tem/05/400 h327muk Trank/SecureReio Crinical 0.0 <	1	0	/7400/New0S7400	briTrunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
3 ○ //400/New057400 NTrunk Trunk/SecureRelo Critical 8.8 0.0 <t< td=""><td>3 ① //440/New057400 NTrunk Trunk/SecureRelo Critical 8.8 0.0</td><td>2</td><td>0</td><td>/7400/New0S7400</td><td>h323Trunk</td><td>TrunkSeizureRatio</td><td>Critical</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>UP</td></t<>	3 ① //440/New057400 NTrunk Trunk/SecureRelo Critical 8.8 0.0	2	0	/7400/New0S7400	h323Trunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
4 ○ /7480/New027400 IsosTouxik Trusk/SelourRadeo Crinical 0.0 0.0 0.0 0.0 UP 5 ○ /7480/New027400 regrand Trusk/SelourRadeo Crinical 0.0 0.0 0.0 0.0 UP 6 ○ /7480/New027400 spintrak Trusk/SelourRadeo Crinical 0.0 0.0 0.0 UP 7 ○ /7480/New027400 spintrak Trusk/SelourRadeo Crinical 0.0 0.0 0.0 UP 7 ○ /7480/New027400 spintrak Trusk/SelourRadeo Crinical 0.0 0.0 0.0 UP 8 ○ /7480/New027400 tepintrusk Trusk/SelourRadeo Crinical 0.0 0.0 0.0 UP 8 ○ /7480/New027400 tepintrusk Trusk/SelourRadeo Crinical 0.0 0.0 0.0 UP	4 O 1/440/New057400 lostTrunk Trunk/SeloureRelo Critical 0.0 0.0 0.0 0.0 UP 5 O 1/440/New057400 soTrunk Trunk/SeloureRelo Critical 0.0 0.0 0.0 0.0 UP 6 O 1/440/New057400 soTrunk Trunk/SeloureRelo Critical 0.0 0.0 0.0 UP 7 O 1/440/New057400 spertTrunk Trunk/SeloureRelo Critical 0.0 0.0 0.0 UP 8 O 1/440/New057400 tepitTrunk Trunk/SeloureRelo Critical 0.0 0.0 0.0 0.0 UP 8 O 1/440/New057400 tepitTrunk Trunk/SeloureRelo Critical 0.0 0.0 0.0 0.0 UP	3	0	/7400/New0S7400	hTrunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
S O //400/Nev/057400 mg/Card Trulk/SecureAxio Crifical 0.0 <	S O //440/New057400 mgCard Truik/SelsureRelio Critical 0.0 0.0 0.0 0.0 0.0 6 0 /7400/New057400 sportrait Truik/SelsureRelio Critical 0.0	4	0	/7400/New0S7400	loopTrunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
6 ○ //400/New057400 spTrunk Trunk/SecureRedo Critical 0.0 0.0 0.0 0.0 0.0 UP 7 ○ //400/New057400 cpcettrunk Trunk/SecureRedo Critical 0.0 0.0 0.0 0.0 0.0 UP 8 ○ //400/New057400 topriTrunk Trunk/SecureRedo Critical 0.0 0.0 0.0 0.0 UP	6 O //400/New052400 spTrmik Trunk/SeloursRebio Critical 0.0 0.0 0.0 0.0 UP 7 0 //400/New052400 spTrmik Trunk/SeloursRebio Critical 0.0 0.0 0.0 0.0 UP 8 0 //400/New057400 tepritrunk Trunk/SeloursRebio Critical 0.0 0.0 0.0 UP 8 0 //400/New057400 tepritrunk Trunk/SeloursRebio Critical 0.0 0.0 0.0 UP	5	0	/7400/New0S7400	mgiCard	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
7 ○ //400/New05/400 sportfrunk TruekSepureRatio Critical 0.0 0.0 0.0 0.0 UP 8 ○ //400/New05/400 teportfrunk TruekSepureRatio Critical 0.0 0.0 0.0 0.0 UP	7 0 //400/New052490 spectTrunk Trunk/SeloveRatio Critical 0.0 0.0 0.0 UP 8 0 //400/New052490 teporTrunk Trunk/SeloveRatio Critical 0.0 0.0 0.0 UP ServiceType Trunk/SeloveRatio CardType It CardType It	6	0	/7408/New0S7400	sipTrunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
8 O 77460/New057499 teprifrank TrunkSecuratizes Critical 0.0 0.0 0.0 0.0 UP	8 //460/tem05/449 tep0fframk TrunkSecurptatio Critical 8.9 8.0 9.8 8.9 0.9 ServiceType TrunkSecurptatio Image: CardType Image: CardTy	7	0	/7400/New0S7400	spnetTrunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
	ServiceType TruskSeizursRadio CardType all	8	0	/7400/New0S7400	tepriTrunk	TrunkSeizureRatio	Critical	0.0	0.0	0.0	0.0	UP
ServiceType TrunkSeizureRatio CardType all								CardType	ç.	all a		

Figure 7.10 Threshold Set Window

The parameters displayed in the '**Threshold Set**' menu are described as follows:

Parameter	Description
Target	Location of Monitoring Target
Status Type	All/Critical/Magor/Miner/Normal
Location	Location
Service Type	Performance parameter type that can set threshold (TrunkSeizueRatio/Cpu Load)
Card Type	Card type for data of each card if Service is set to TrunkSeizrueRatio

(Continued)

Parameter	Description
Status	Status
Value	Value
Critical	Threshold of Critical
Major	Threshold of Major
Minor	Threshold of Minor
Direction	Threshold violation direction (Up/Down)



Retrieving, Add Threshold

When retrieving, retrieving to whole managing in EMS without Target division. When add, use Target value.

Retrieving Threshold

- Select the target threshold from the Tree viewer. The threshold is displayed in the 'Target' field (1).
- 2. Select the target resource type from resource selection area (2).
- 3. Click the [Get] button (3).
- **4.** The retrieval result is displayed in the result table (**4**).

Adding Threshold

- **1.** Retrieve the threshold currently being set.
- 2. Mark the check box of the target node from the result displayed in the result table (4).
- **3.** Select the parameter in the setup table (**5**).
- Click the [Add] button (6). The threshold is displayed in the result table
 (4) and printed

Setting Threshold

- **1.** Retrieve the threshold currently being set.
- 2. Mark the check box of the target node from the result displayed in the result table (4).
- 3. Select the parameter in the setup table (6).
- Click the [Modify] button (6). The threshold is displayed in the result table (4) and printed.

Deleting Threshold

- **1.** Retrieve the threshold currently being set.
- 2. Mark the check box of the target node from the result displayed in the result table (4).
- 3. Click the **[Delete]** button (**6**). The threshold is displayed in the result table (**4**) and printed.

Performance Monitoring

RealCard

'Perf Mon.' menu is used to monitor the current value of Performance Indicator (PI) set in Threshold Management.

This function is performed in order of [Mon&Perf] \rightarrow [Perf Mon.] \rightarrow [Real Card].



Figure 7.11 Perf Mon. RealCard Window



Figure 7.12 Perf Mon. RealCard Graph Window

The parameters displayed in the '**Perf Mon. RealCard**' menu are described as follows:

Parameter	Description
Target	Location that threshold can set
Service Type	Performance parameter type that can set threshold (Trunk Statisticd/Card Type Trunk Statistics)
Card Type	Card type for data of each card if Service is set to Trunk (loopTrunk/hTrunk/briTrunk/tepriTrunk/mgiCard)
5 Min. Data	Value = ((IN_SEIZURE_TIME + OUT_SEIZURE_TIME)/ 60*5)/TOTAL_PORT*100 = Port average use pulse duration factor
1 Hour Data	Value = ((IN_SEIZURE_TIME + OUT_SEIZURE_TIME)/ 60*60)/TOTAL_PORT*100 = Port average use pulse duration factor

Monitoring Performance

- 1. Select the target NE from the Tree viewer. The NE is displayed in the **'Target'** field (**()**).
- 2. Select the target resource 'Service Type' from monitoring area (2).
- **3.** Click the **[Search]** button **(3)**.
- **4.** 3-hour history of 5-minute data and 24-hour history of 1-hour data are displayed in the result table (**4**) in a graphical format and as a chart.
- **5.** The current value is displayed in the table (④) and in a graphical format every period.

VirtualCard

'Perf Mon.' menu is used to monitor the current value of Performance Indicator (PI) set in Threshold Management.

This function is performed in order of [Mon & Perf] \rightarrow [Perf Mon.] \rightarrow [Real Card].







Figure 7.14 Perf Mon. VirtualCard Graph Window

Parameter	Description
Target	Location that threshold can set
Service Type	Performance parameter type that can set threshold (Trunk Statisticd/Card Type Trunk Statistics)
Card Type	Card type for data of each card if Service is set to Trunk (spnetTrunk/sipTrunk/h323Trunk)
5 Min. Data	Value = ((IN_SEIZURE_TIME + OUT_SEIZURE_TIME)/ 60*5)/TOTAL_PORT*100 = Port average use pulse duration factor
1 Hour Data	Value = ((IN_SEIZURE_TIME + OUT_SEIZURE_TIME)/ 60*60)/TOTAL_PORT*100 = Port average use pulse duration factor

The parameters displayed in the '**Perf Mon. VirtualCard**' menu are described as follows:

Monitoring Performance

- **1.** Select the target NE from the Tree viewer. The NE is displayed in the 'Target' field (1).
- 2. Select the target resource 'Service Type' from monitoring area (2).
- 3. Click the [Search] button (3).
- **4.** 3-hour history of 5-minute data and 24-hour history of 1-hour data are displayed in the result table (**4**) in a graphical format and as a chart.
- **5.** The current value is displayed in the table (**4**) and in a graphical format every period.

Auto Report Management

'Report Set' menu is used to display the target data information regularly at the corresponding display time when an operator registers the report display information and display time.

This function is performed in order of [Mon & Perf] \rightarrow [Report Set].



Figure 7.15 Report Set Window

The parameters displayed in the 'Auto Report' menu are described as follows:

Parameter	Description
Target	Auto report target location
Location	Location
Service Type	Performance data type of auto report target (TrunkSeizueRatio/CardTrunkSeizueRatio)
Report Type	Display report type of auto report (5 minute/hour/day/month)
Query Start Time	Search start time
Query End Time	Search end time
Interval	Auto report cycle (hourly/daily/monthly)
Report Time	Auto report display time
Last Report Time	Auto report display Last time



Report Type

5 Min \rightarrow Interval is valid hourly and daily only. Hourly \rightarrow Interval is valid daily and monthly only. Daily \rightarrow Interval is valid Monthly and yearly only. Monthly \rightarrow Interval is valid yearly only.

Searching Report Set

- Select the target value from the Tree viewer. The selected target is displayed in the 'Target' field ().
- 2. Select the auto report information from auto report selection area (2).

Refreshing Report Set

- Select the target value from the Tree viewer. The selected target is displayed in the 'Target' field ().
- 2. Click the [Refresh] button (3).
- **3.** The setup result is displayed in the result table (**4**).

Adding Report Set

- Select the target value from the Tree viewer. The selected target is displayed in the 'Target' field ().
- 2. Select the parameter in the setup table (6).
- 3. Click the [Add] button (3).
- **4.** The setup result is displayed in the result table (**4**).

Setting Report Set

- 1. Select the target value from the Tree viewer. The selected target is displayed in the 'Target' field (1).
- 2. Select the auto report information from auto report selection area (2).
- 3. Select the parameter in the setup table (6).
- 4. Click the [Modify] button (③).
- 5. The setup result is displayed in the result table (4).

Deleting Report Set

- 1. Select the target value from the Tree viewer. The selected target is displayed in the 'Target' field (1).
- 2. Select the auto report information from auto report selection area (2).
- 3. Click the [Delete] button (3).
- **4.** The setup result is displayed in the result table (**4**).



CHAPTER 8. Security Management

This chapter describes user security management window and function of OfficeServ NMS.

'Security Management' menu enables to register, change, search, and delete a user to make it possible for a user who can only access to the system for security in the security management. In addition, this menu enables to set to limit a usage authorization of a user's, and retrieve various histories of the user.



Figure 8.1 Security Management Window

User Management

User Manager

The User Manager function allows you to set, view, modify, and delete the operator ID, operator information, privilege, and command range for each operator.

This function is performed in order of [Security Management] \rightarrow [User Management] \rightarrow [User Manager].



Figure 8.2 User Manager Window



Enter user ID and password

The user ID can be entered up to five to twenty letters, and the passwords can be entered up to eight to twelve letters with a combination of letter (English as Standard) and number.



Password alteration restriction item

Password can be change once a day and recently used password can not be reusable.
Searching User Information

- If clicking the 'User Manager' menu, the whole user information (1) and detailed information of the user who logged (3) in can be searched and displayed.
- If clicking the [Search] button (2) among the window buttons, the user information can be changed into the updated information and be displayed.

G Contents Viewer H Map. Operati... Login H... IP Mgmt Network... User Mgmt History 🔽 Total count : 12 1 / 2 😡 [User Mgmt] [Register User] 🔺 Privilege User ID No. Select 🔺 User ID 🔺 Status 🔺 Group 1 Administrator Enable group01 Password agent group01 Alexander Administrator Enable Re-Password 3 bkchoi Administrator Enable group01 Privilege Administrator 4 eslee Administrator Enable group01 Default group 5 jkpark Administrator Enable group01 Choose specific group 6 Õ Enable jwbum Administrator group01 Group group01 Administrator Enable kwonjy 8 0 minky Administrator Enable group01 sclee Administrator Enable group01 Single 10 () group01 Enable semun Administrator Login Type O Multiple € € 1 [2] ► ► E-mail Search Add Modify Delete Add 2

Registering a User

Figure 8.3 User Registration Window

Parameter	Description
User ID	User ID
Password	User password
Re-Password	Confirms the user password
Privilege	As a user level, it is classified into Administrator, Operator, and Guest
Group	Sets NE group that can be managed by a user. The highest level user should select default group.
Login Type	Set if it is possible to connect simultaneously with a same ID, and enter the connectable session counts that are when possible to connect simultaneously.
E-mail	E-mail address

- 1. If clicking the **[Add]** button (1) on the window, the user registration window is displayed on the setting table (2).
- Click the [Add] button (2) in the Register User window to display a message that confirms the registration.
- **3.** If clicking the **[OK]** button, the execution result is reflected and displayed on the result table.



Changing User Information

Figure 8.4 User Information Modification Window

- Click the target user name from the result table (1) of the User Manager window.
- Click the [Modify] button (2) in the window to display the user information previously set in the setup table (3).
- 3. Chang the user information and click the [Modify] button (③).
- **4.** The changed user information is displayed in the result table (**1**).

User Password Information



Figure 8.5 User Password Window

- Click the target user name from the result table (1) of the User Manager window.
- 2. Click the [Password] button (2) to display the password input window (3).
- **3.** Write the old password, Password, Re-Password and click the **[OK]** button. Then, the execution result is displayed in the result table **(1)**.



Deleting User Information

Figure 8.6 User Deletion Window

- Click the target user name from the result table (1) of the User Mgmt. window.
- 2. Click the [Delete] button (2) to display the password input window (3).
- Enter the user password and click the [OK] button.
 Then, the execution result is displayed in the result table (1).

Change Password

'Change Password' menu is used to change the user password. This function is performed in order of [Security Management] \rightarrow [User Management] \rightarrow [Change Password].

Liver Haspe Passard Induler Passard Induler Passard Labor Passard Charge Passard Induler Passard Charge Passar	े Contents Viewer हे Map. User Manager		History
Changing Password Changing Password Changing Password Password Password Comment Commen	User Manager Change Password Initialize Password	ietwork Group Command Manager	
Change passend for jeograph.	d Changing Password		
Bid Passerd Re-Fasserd Construction of and 5 decators: - Passerd multiple as functions: - Passerd multiple as functions: - Passerd multiple as functions: - Re-section more than there consolve repeding characters: - Octation for than there consolve repeding characters: - Control rece of passerd.	Change password for jeongwon.		
Passerd	Old Password		
	Password		
Catalans for esting password Catalans for esting password Passwords must consid #-0.5 charaters: Be anoppeed of sumhators of Hemra and numbers: Bits contain more than these consocuble repeating characters: Catalan interview of password. Catalans of the sum of	Pa. Passmord		
	Passwords must consist of 8-15 characters. Be composed of a cambination of letters and numbers. Not contain the user ID. Mot contain more than three consecutive repeating character Consortiums of discourse)		
	Can not reuse old password.		

Figure 8.7 Change Password Manager Window



Enter user ID and password

The user ID can be entered up to five to twenty letters, and the passwords can be entered up to eight to twelve letters with a combination of letter (English as Standard) and number.



Password alteration restriction item

Password can be change once a day and recently used password can not be reusable.

Changing Change Password

- 1. Type the current password and a new password on the text fields (1) of the window.
- 2. Click the **[OK]** button (**2**). Then, the password will be changed.

Initialize Password

'Initialize Password' menu provides Security Administrator can initialize a user password.

When a user logged in with initialized password, the password must be changed after login.

This function is performed in order of [Security Management] \rightarrow [User Management] \rightarrow [Initialize Password].

of Initializing Password		
User ID	chikang	
Password		
Re-Password		
-0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.		
A user is provided an initial password, this password mu	st be changed the first time the user logs into a EMS.	
	OK Class	
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	K Car	
	Cor	
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Password Changing Restriction

Password can be change once a day and recently used password can not be reusable.

Initializing Password

- 1. Choose User ID and type the new password on the text fields (1) of the window.
- 2. Click the **[OK]** button (**2**). Then, the password will be initialized.

Network Group Management

'Network Group' menu is used to allow or inhibit login of each client IP. This function is performed in order of **[Security Management]** \rightarrow **[User Management]** \rightarrow **[Network Group]**.



Figure 8.9 Network Group Management Window

The parameters displayed in the '**Network Group**' menu are described as follows:

ltem	Description
Group Name	Network Group Name
Configuration Info	Configuration Info
All Items	Network components list of the NE, to be possible for registering
Selected Items	Network components list of the NE, which is registered already
Comment	Comment

Retrieving Network Group

- 1. Clicking the 'Network Group' menu retrieves network information and displays the information in the result table (
- 2. Click the **[Search]** button (③) to update the network group information and display the updated network group information.

Group Name		
Available Elements		Selected Elements
⊞ 🚮 NMS		
	•	
	ок	
C	omme	nt
If the group is configur associated user can m If the group is configur	red wit anage red wit	h subnetworks, the subnetworks' all NEs. h specific NEs, the

Adding a Network Group

Figure 8.10 Network Group Add Management Window

1. If clicking the **[Add]** button (2) on the window, the network group registration window is displayed on the setting table (3).

The information to enter is described as follows:

Input Item	Description
Group Name	Network group name
Available Elements	The network configuration elements that can be registered are displayed as tree format.
Selected Elements	Configuration item allocated to the network group among all items.

- 2. If clicking the **[OK]** button (③) on 'Register Group' of the window, the message to confirm registration is displayed.
- **3.** If clicking the **[OK]** button (③), the execution result is reflected and displayed on the result table (**①**).

Group Name	group02			
Available Element	s Selected Elements			
⊞ 驫 NMS	 //200/ss7200 //Data/glimp //Data/gsim ·/Data/gsimt ·/Data/gsimt ·/Data/gsimt ·/Data/gwimt ·/T400/NewOS7400 //7400/OS7400 			
If the group is config associated user can If the group is config associated user can	OK Comment ured with subnetworks, the manage subnetworks' all NEs. ured with specific NEs, the manage only the selected NEs			

Changing a Network Group

Figure 8.11 Network Group Change Management Window

- 1. Click a group name to change the information from the result table of the Network group window (1).
- 2. If clicking the [Modify] button (2) among the window buttons, the group information that is originally set in the setting table is displayed.
- 3. Change the group information on the setting window and click the **[OK]** button (③).
- **4.** The changed group information is reflected and displayed on the result table (1).

Deleting a Network Group



Figure 8.12 Network Group Deletion Management Window

- Click a group name to delete the information from the result table (1) of the Network group window.
- 2. The confirm window will be displayed if clicking the [Delete] button (2) among the buttons in Network group window.
- **3.** Click the **[OK]** button (③), the execution result is reflected and displayed on the result table (**1**).

Command Manger

The Command Manager function allows you to view a list of the commands that an EMS operator can perform and set the privilege to access to menu and command for each operator.

This function is performed in order of [Security Management] \rightarrow [User Management] \rightarrow [Command Manager].



Figure 8.13 Command Manager Window

Viewing the Command List

- If you click the Command Manager menu, a list of the commands which are configured for each operator is displayed on the Command Manager window (3).
- 2. You can view the commands allowed to each operator using the User ID combo box (1).

Saving the Command List

- 1. From the User ID combo box (1), select the ID of the operator for which you want to change the commands he can execute.
- 2. Click Search (2) on Command Manager window.
- 3. Change the commands that the selected operator can execute and then click **[Save]** button to save the changes.

IP Management

'IP Manager' menu is used to allow or inhibit login of each client IP. This function is performed in order of [Security Management] → [IP Manager].



Figure 8.14 IP Manager Window

The parameters displayed in the '**IP Manager**' menu are described as follows:

Item	Description
IP Address	Client IP information
Login Allowance	Login Allowance
Description	Description of the IP to be registered
Туре	Sets whether to allow login. If Allowed is selected, login is possible with the registered IP. If Denied, login is not possible.
Sessions	The number of sessions that simultaneous login is possible if login is allowed.

Retrieving IP Address

- If clicking the 'IP Manager' menu, the whole IP address information and detailed information of the first item can be searched and displayed (1).
- Set the 'Login Allowance' field () of the setting table. If choosing 'All', all the IP address information can be retrieved. If choosing 'Allow', allowed IP address information can be retrieved. If choosing 'Deny', denied IP address information can be retrieved.
- 3. Enter the IP address on the 'IP address' field of the setting table.
- 4. If clicking the **[Search]** button (2) among the window buttons, the IP address information can be changed into the updated information and be displayed (3).

Adding an IP Address



Figure 8.15 IP Manager Add Window

Input Item	Description
IP Address	Client IP address
Login Allowance	Sets whether to allow the login. If allow, the login through the registered IP is available. If deny, the login through the registered IP is not available.
Sessions	The number of simultaneously sessions.
Description	IP description.

- If clicking the [Add] button (④) on the window, the IP address registration window is displayed on the setting table (⑤).
 The information to enter is described as follows:
- 2. If clicking the **[OK]** button (**5**) on 'Add IP Address' of the window, the message to confirm registration is displayed.
- **3.** If clicking the **[OK]** button **(b)**, the execution result is reflected and displayed on the result table (**(3)**.

IP Address	10.254.163.*
Login Allowance	Allow O Deny
Sessions	99
Description	YesCNC
	Comment
LODIE LE EOCCUELO IE.	rough a registered ID If the
login is possible th login is denied, the a registered IP. Sessions: If the lo the number of the	rough a registered IP. If the login is not possible through ogin is allowed, this indicates sessions that can be logged ir
login is possible th login is denied, the a registered IP. Sessions: If the lo the number of the simultaneously.	rough a registered IP. If the login is not possible through ogin is allowed, this indicates sessions that can be logged in
login is possible the login is denied, the a registered IP. Sessions: If the lu the number of the simultaneously.	rough a registered IP. If the login is not possible through ogin is allowed, this indicates sessions that can be logged ir
login is possible the login is denied, the a registered IP. Sessions: If the k the number of the simultaneously.	rough a registered IP. If the login is not possible through ogin is allowed, this indicates sessions that can be logged in
login is possible the login is denied, the a registered IP. Sessions: If the lu the number of the simultaneously.	rough a registered IP. If the login is not possible through agin is allowed, this indicates sessions that can be logged in
login is possible the login is denied, the a registered IP. Sessions: If the k the number of the simultaneously.	rough a registered IP. If the login is not possible through ogin is allowed, this indicates sessions that can be logged in
login is possible the login is denied, the a registered IP. Sessions: If the la the number of the simultaneously.	rough a registered IP. If the login is not possible through ogin is allowed, this indicates sessions that can be logged in

Changing an IP Address

Figure 8.16 IP Manager Change Window

- 1. Click a IP address to change the information from the result table (③) of the IP address window.
- If clicking the [Modify] button (4) among the window buttons, the IP address information that is originally set in the setting table is displayed (5).
- 3. Change the group information on the setting window and click the **[OK]** button (**5**).
- **4.** The changed group information is reflected and displayed on the result table (③).

Deleting an IP Address



Figure 8.17 IP Manager Deletion Window

- Click a group name to delete the information from the result table (③) of the Network group window.
- 2. The confirm window will be displayed if clicking the **[Delete]** button (**4**) among the buttons in Network group window.
- **3.** Click the **[OK]** button, the execution result is reflected and displayed on the result table (③).

Login History

History

The 'History' menu allows searching information on an operator who accesses to the system and operates the system on database of the OfficeServ NMS server, and information on an operator to whom the current session is set up. This function is performed in the order of [Security Management] \rightarrow [Login History] \rightarrow [History].

t		User ID Period	All 2006-01-01 🔟 0	IP Address ~ 2006-01-16 13	-	Res	sult 💿 All 🔘 Succe	ss 🔘 Fail
+					Search			
	[Logi	in History]					Total count : 162	1 / 17 🤇
L	No.	🔺 User ID	A IP Address	🔻 Login Time	🔺 Logout Time	Result	Login Fail Reason	Logout State
L	1	bkchoi	165.213.118.112	2006-01-16 11:29:16		Success		
L	2	bkchoi	165.213.118.112	2006-01-16 11:29:05	2006-01-16 11:29:05	Fail	Password is not correct.	
L	3	sclee	165.213.118.104	2006-01-16 09:56:05		Success		
÷	4	sclee	165.213.118.104	2006-01-16 09:44:02	2006-01-16 09:50:19	Success		User Logout
L	5	jwbum	165.213.118.107	2006-01-16 08:56:26		Success		
L	6	jwbum	165.213.118.107	2006-01-16 08:56:21	2006-01-16 08:56:21	Fail	This user ID is already used.	
L	7	Alexander	165.213.118.106	2006-01-16 08:29:09	2006-01-16 10:48:19	Success		User Logout
L	8	sclee	165.213.118.104	2006-01-14 15:45:41	2006-01-14 16:31:50	Success		User Logout
L	9	eslee	165.213.87.35	2006-01-13 19:31:41	2006-01-13 21:00:58	Success		User Logout
L	10	sclee	165.213.119.172	2006-01-13 16:28:04	2006-01-13 18:04:53	Success		User Logout
				I [2][3][4][5][6][7][8][9][10]	b bb		

Figure 8.18 History Window

Parameters displayed on the 'History' menu are described as follows:

ltem	Description
User ID	User Account logged in
Period	Period
IP Address	Client IP Information
Login Time	Time when an operator logged in
Logout Time	Time when an operator logged out
Result	Result for Operator's Access
Login Fail Reason	Reason for Login Failure
Logout Status	Logout Status

Searching History

- Set whether to retrieve only the specific user information or all the users' information in the 'User ID' field of the setting table (1).
- Enter the IP address of the client that logged in on the 'IP address' field (1). of the setting table.
- 3. Set the mode of the access result history in the 'Result' field (1) of the setting table. If choosing 'All', all the history that was logged in can be retrieved. If choosing 'Success', the login success history can be retrieved. If choosing 'Fail', the login failure history can be retrieved.
- **4.** Set the time duration to retrieve from the 'Period' field (**1**) of the setting table.
- 5. If clicking the [Search] button (2) among the window buttons, a user can retrieve the login history.
- 6. The retrieval result of the login history is displayed on the result table (③).

Saving/Printing

- 1. Search the login history on the Login History window (③).
- 2. Click Search (2) on the Login History window. The displayed data is saved as an Excel file.
- **3.** If you want to print the displayed data, first save it as an Excel file and then print that Excel file using the printing function of Excel.

Logon Session

The 'Logon Session' menu enables to provide the functions of retrieving the user information that is being logged on in the OfficeServ NMS server, and stopping it compulsorily if necessary. This function is performed in the order of [Security Management] \rightarrow [Login History] \rightarrow [Logon Session].





Item	Description	
User ID	User Account logged in	
Privilege	Privilege	
IP Address	Client IP Information	
Login Time	Time when an operator logged in	

Searching Login Session

- 1. If you click the Logon Session menu item, the currently logged-in sessions are displayed in the Results table.
- 2. If you click Search on the Logon Session window, the currently logged-in sessions are searched and displayed again.

Ending Login Session Compulsorily

- **1.** The session that is currently being logged in is displayed on the result table (**1**).
- 2. Select the checkbox corresponding to the user ID that is compulsorily stopped in the 'User ID' field of the result table (
- **3.** If clicking the **[Delete]** button (**2**) among the window buttons, the session of the corresponding user is ended.

Operation History

The **'Operation History'** enables to provide a function of retrieving various operation histories in the database of the OfficeServ NMS server.

A user can enter the user ID, function, message, command, and retrieval duration with the retrieval condition.

This function is performed in the order of [Security Management] \rightarrow [Operation History].



Figure 8.20 Operation History Window

Parameters displayed on the '**Operation History**' menu are described as follows:

ltem	Description			
User ID	The logged-in user account			
Target	Target that performed the command			
Function	Division of EMS block that used the corresponding command			
Message	Division of the command type			
Request Time	Time that requested the command			
Response Time	Time that completed the command execution			
IP Address	The client IP address that performed the command			
Command	Performed commands			

(Continued)

ltem	Description
Result	Results that performed the commands
Fail Reason	Failing reason when the command fails
Additional Info	The parameter information that is used when the command is executed

Retrieving Operation History

- Select the system to retrieve the operation history from Tree Viewer. The selected system is displayed on the 'Target' field of the setting table (1).
- 2. Enter the time duration, user ID, function, message, and command that a user wants to retrieve in the setting table (1).
- 3. If clicking the **[Search]** button (2) among the window buttons, the operation history is retrieved.
- The retrieval result of the operation history is displayed on the result table (3).

Saving/Printing

- **1.** Search the login history on the Login History window (③).
- 2. Click Search (2) on the Login History window. The displayed data is saved as an Excel file.
- **3.** If you want to print the displayed data, first save it as an Excel file and then print that Excel file using the printing function of Excel.



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ANNEX A. OfficeServ NMS Q & A

How many clients can be accessed simultaneously to the OfficeServ NMS server in order to operate the server?

The number of the accessible clients is theoretically limitless because the OfficeServ NMS is made of Web structure. However, in case of the simultaneous operation of the several clients, there can occur the delay of the working processing in the OfficeServ NMS.

Therefore, it is desirable that the number of clients be limited into about 10.

Can be the access to the server made in spite that the IP network groups of the server and the client are different from each other?

The client can access the server in spite that the IP Address network group between two are different from each other. The easiest way to know whether to be the access available or not is to perform the ping test from the client into the server. If the ping test result is shown as normal, the access to the server can be made. (It is because the client and the server perform their communication between themselves by using the TCP-based HTTP protocol.)

Can the client access the server by using DSU?

As explained before, DSU interface function is not currently supported because the server and the client perform the TCP/IP communication. The access to the server in the DSU mode cannot be made because the application program has no function to process the X.25 protocol in spite that the LAN card installed at the client server and the workstation for the server is removed and the X.25-supporting card is installed.

What is the SNMP protocol?

The Simple Network Management Protocol (SNMP) has become the industrial standard in the network management since it had developed in 1988. SNMP has many strong points. SNMP has relatively little number of codes necessary for its execution. Therefore, it makes the SNMP agent fast commercialized. And it has a excellent extensibility by which the network management functions can be easily added. Furthermore, SNMP has separated the management system from the hardware device system, and therefore it has the wider supporting range for several companies. The most important thing to be mattered is that the SNMP, unlike other standards, is the widely usable protocol today, not the simple specification of the document.

The features of SNMP can be described as follows:

- UDP/IP-based network management protocol
- Communication protocol between the manager and the agent (Between server and client).
- Description into ASN 1 (Abstract Syntax Notation 1).
- The interface between the manager and the agent is configured with MIB-I and MIB-II.
- General messages: #161 port used.
- Trap message: #162 port used.
- Defined firstly at the RFC 1067.
- Complemented at RFC 1098.
- The overall standards are regulated at RFC 1157.
- The overall standards of MIB-I are regulated into RFC 1066 \rightarrow RFC 1156
- The standard of MIB-II is regulated into RFC 1158 → RFC 1231.

The SNMP protocol is composed of five simple commands.

- Get-Request: Collects the information on NE.
- Get-Next-Request: Repeats the collection of NE. (Collects many messages in a lump.)
- Set-Request: Modifies the information on NE.
- · Get-Response: Produces the result message for the command of Get or Set
- Trap: Used in case that the NE reports urgently the information, such as the failure information, to the OfficeServ NMS.

What should be done if the database contents are to be backuped into the external media?

OfficeServ NMS client window does not support the backup function into the external storage device.

Only the backup data saved at the specific directory of the OfficeServ NMS server can be saved into the external storage media using the Unix command or the FTP.

If trying to recover the file saved at the external media, move the backuped file to a specific directory by using the UNIX command or the FPT, and recover the database contents into the external media by using the 'database management' function on the 'general management' menu. The data recovery should be performed only after the existing data should be moved to a specific directory in the server. If the backuped data is recovered, the data used in the previous is all cleared. Therefore, if the backuped data is not perfect, the existing data can be deleted.

We have many unnecessary failure messages received. We want those messages not produced on the window because we know well about the messages. What should we do for the problem?

OfficeServ NMS provides the failure-filtering function by the unit. The use of the failure-filtering function can make the failure messages not produced although a failure message occurs. In addition, the TCA information can be filtered by setting the parameter at the alarm profile as '0'.

The OfficeServ is installed, but is not displayed on the OfficeServ NMS window.

OfficeServ NMS automatically searches for the newly installed OfficeServ to display its result on the window. For this process, if the power is supplied after the OfficeServ is installed, the message about it is notified to the OfficeServ NMS. If the IP address of OfficeServ NMS is not set at the OfficeServ, or if there occurs a trouble in the network when the message is transmitted, the OfficeServ NMS cannot recognize whether to occur or not the new OfficeServ.

The OfficeServ NMS does not operate properly after the java plugin is installed.

If the java plug-in is not installed to the client PC that is to access the OfficeServ NMS server, the window requesting the plug-in installation is executed. In general, it is enough to execute the OfficeServ NMS right after the java plug-in is installed. But there are the case sometimes that the OfficeServ NMS does not operate properly because the system resources run short, or the Java Virtual Machine (JVM) cannot recognize the plug-in. In such a case, it is desirable for the stable execution to terminate the browser after the plug-in installation, and to access the OfficeServ NMS by executing the browser again.

OfficeServ NMS Web pages are not properly viewed.

OfficeServ NMS can be optimized in the mode of the browser of the internet explorer 5.0+, the resolution of 1280*1024. If a browser other than the internet explorer 5.0+ is used or if its resolution is not set as 1280*1024 mode, some GUI window of the OfficeServ NMS cannot be properly displayed.

In such a case, the trouble can be settled by the use of the internet explorer 5.0+ and the set of its resolution as the 1280*1024 mode.

The download of the Jar file stops during its execution when logging in the OfficeServ NMS.

The downloading of the Jar files necessary for the execution of the server can stop if the usable resources in the client PC run short. In this case, terminate the program by force, and then execute it again, If the same trouble occur again, reboot the PC to initialize the resources, and execute the program again.

RMI server is blocked out by the firewall, and does not perform its operation.

RMI operates in the TCP/IP protocol. Therefore, if the TCP/IP communication cannot be performed because the RMI server is blocked out by the firewall, the proper service by the OfficeServ NMS cannot be executed. The 1099 port, which is the RMI port in the server's side, should be set so that the communication can be performed outside as well. Request the external access permission for the 1099 port in the RMI server equipment.





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ABBREVIATION



Н		
	HTTP	Hypertext Transfer Protocol
I.		
	ID IMS IP ISDN ITU-T	IDentifier Internet Multimedia Subsystem Internet Protocol Integrated Services Digital Network International Telecommunications Union-Telecommunication Standardization Sector
L		
	LAN LCR	Local Area Network Least Cost Routing
Μ		
	MB MGI MIB MSN	Mega Bytes Media gateway Interface module Management Information base Multiple Subscriber Number
Ν		
	NE NMS	Network Element Network Management System
Ο		
_	ODD	Optical Disc Drive
Q	005	Quality of Service
_		
S	SIP SNMP SPNet	Session Initiation Protocol Simple Network Management Protocol Samsung Private Network

Т		
	TCP TEPRI	Transmission Control Protocol T1, E1 and PRI
U	UDP	User Datagram Protocol
V	021	
	VLAN	Virtual LAN
	VoIP	Voice over Internet Protocol
	VoWLAN	Voice over Wireless LAN

W

WAN	Wide Area Network
WBS	Wireless Base Station
WLI	Wireless LAN Interface module



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