WEB CONSOLE SECTION

Contents

1. Before using Web Console

Settings of JAVA and an IP address are required to use Web Console on SVP.
Also, JRE, Apache and Perl corresponding to the microprogram version of SVP should be installed.
When you have changed the microprogram code of SVP, be sure to check it.

Relation between the microprogram code of SVP and JRE, Apache and Perl

SVP Version	~ less than 60-02-00/00	60-02-00/00 ~ less than 60-02-40/00	60-02-40/00 ~
Apache	Apache 2.0.54 (products before shipment) or Open SA (Apache 1.3.27)	Apache 2.2.4 (products before shipment) (*1)	Apache 2.2.4 (products before shipment) (*1)
JRE	JRE 1.5.06	JRE 1.5.06	JRE 1.6.0 or JRE 1.5.06 (*2) (*3)
Perl	Perl 5.8.0	Perl 5.8.0	Perl 5.8.0

*1: When the WebConsole is started, the following warning dialog box appears.
Select (CL) [Yes] to start.
This screen will not be displayed from the next startup when you check the check box of
"Always trust content from this publisher." and select (CL) [Yes].
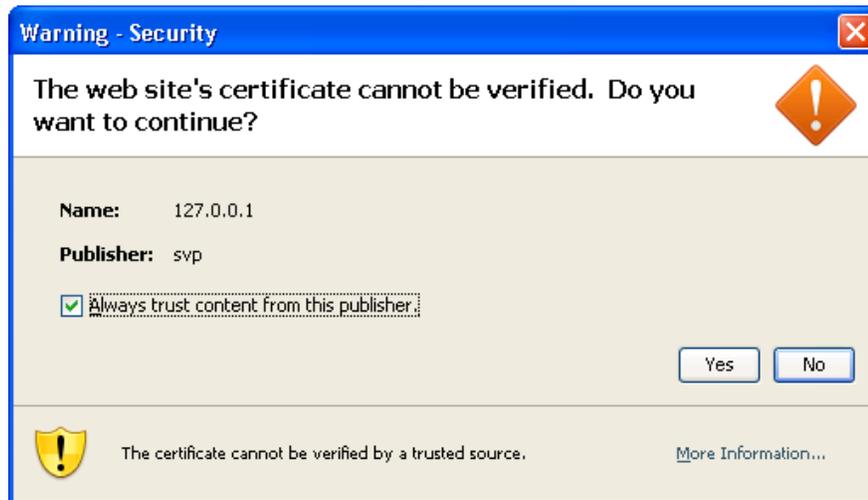
*2: It supports, only when OS of SVP is Windows XP.

*3: Only when upgrading from the version less than SVP Version 60-02-40/00.

If the version of Apache is different from the above table, you need to install a corresponding one
(See WEB08-10).
Please inquire of the Technical Support Division about JRE and Perl.

1.1 Setting IP Address and Network

When using Web Console from a remote personal computer or using the SNMP Agent function, a connection to an external LAN and a setting of a network is required (See LOC04-70).
Please setup according to the worksheet which the user's administrator indicated at the time of a new Installation.
Please setup the contents which took the duplicate from a set up on SVP before REPLACE.

Note: Don't change connection name.   If you do so, Web Console will not work.

When using IPv6, the IPv6 upgrade kit for the SVP (DKC-F610I-IPV6) should be installed.
Install the IPv6 upgrade kit for the SVP (DKC-F610I-IPV6) referring to INST03-19-10.

(1) <When OS of SVP is Windows XP>
    (a) <Opening the Control Panel window>
        Select (DR) [Control Panel] from the [Start] menu.

    (b) <Opening the Network Connections window>
        Select (CL) [Network Connections] in the 'Control Panel' window.
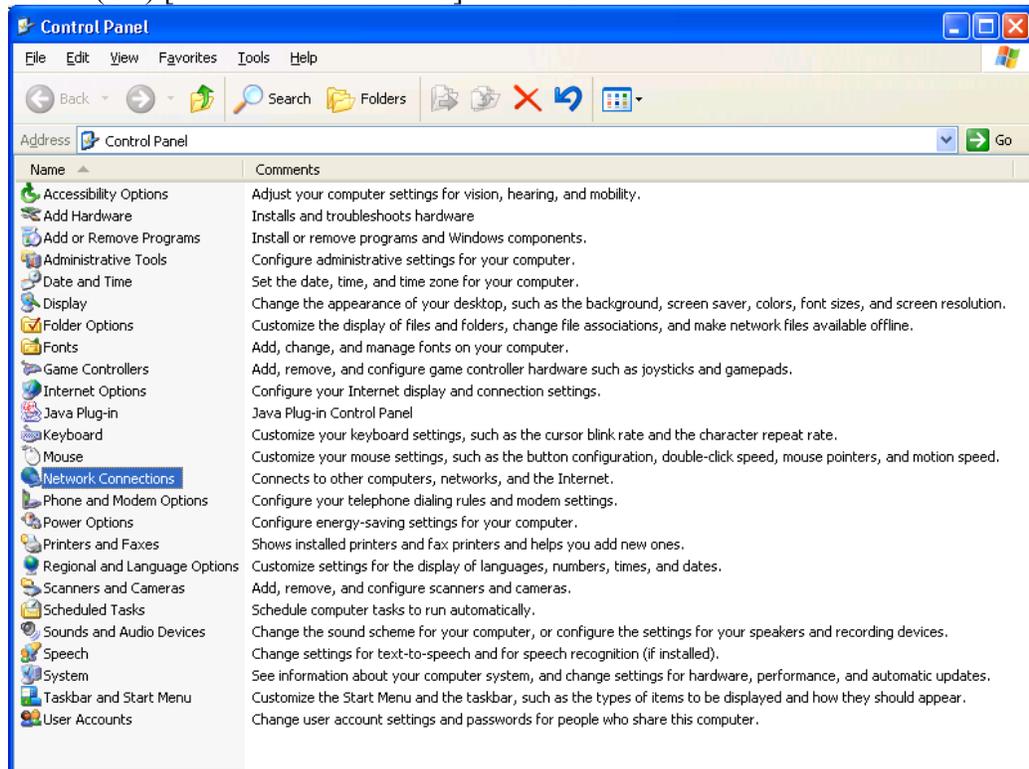
(c) <Opening the Local Area Connection Properties window>
Select (CL) [Local Area Connection Properties] in the 'Network Connections' window and select (CL) [Properties] by clicking the right mouse button.
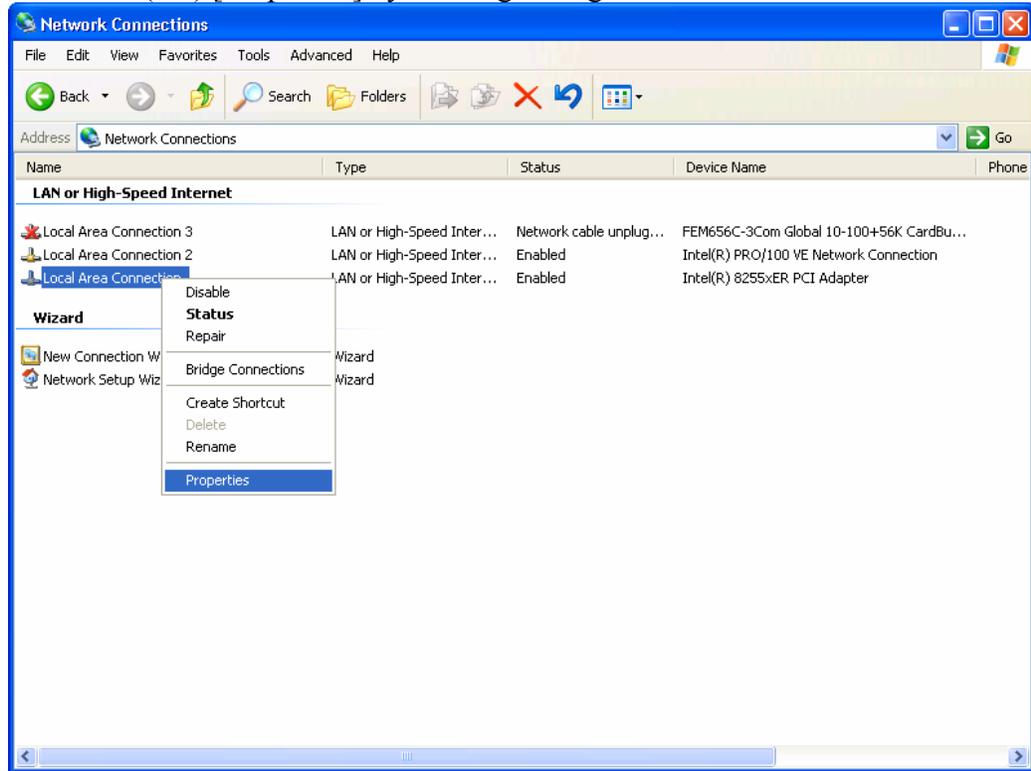
(d)
Select (CL) [Internet Protocol (TCP/IP)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.
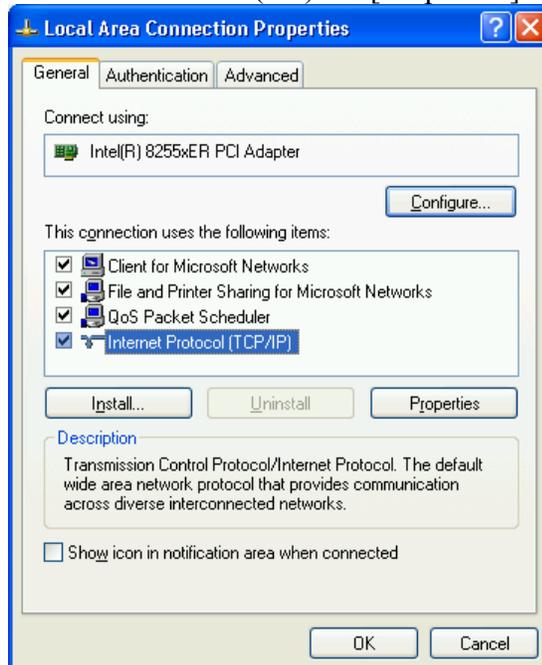
(e) <Setting the external IP address>
Set the "IP address" and "Subnet mask" and select (CL) the [OK] button.
After the setting is completed, select (CL) the [OK] button in the "Local Area Connection Properties" window.
Close the 'Network Connections' window.
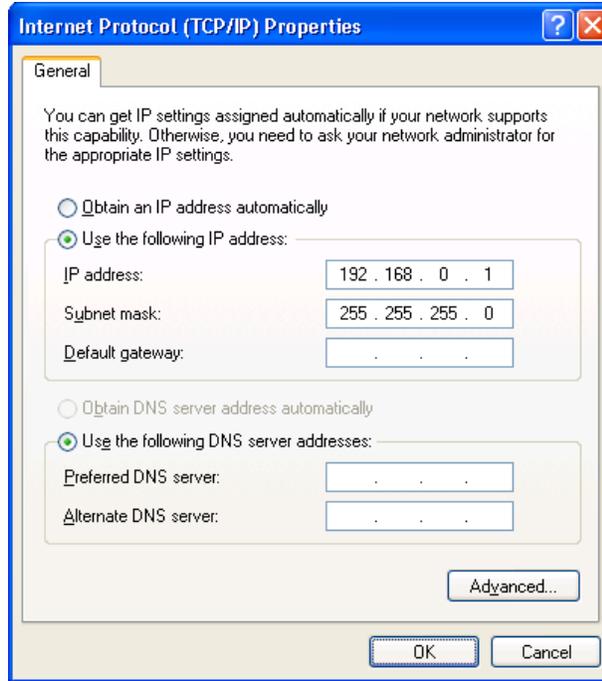
(2) <When OS of SVP is Windows Vista>
    (a) <Opening the Control Panel window>
       Select (DR) [Control Panel] from the [Start] menu.

    (b) <Opening the Network and Sharing Center window>
       Select (CL) [Network and Sharing Center] in the 'Control Panel' window.

(c) <Opening the Manage network connections window>
Select (CL) [Manage network connections] in the 'Network and Sharing Center'
window.
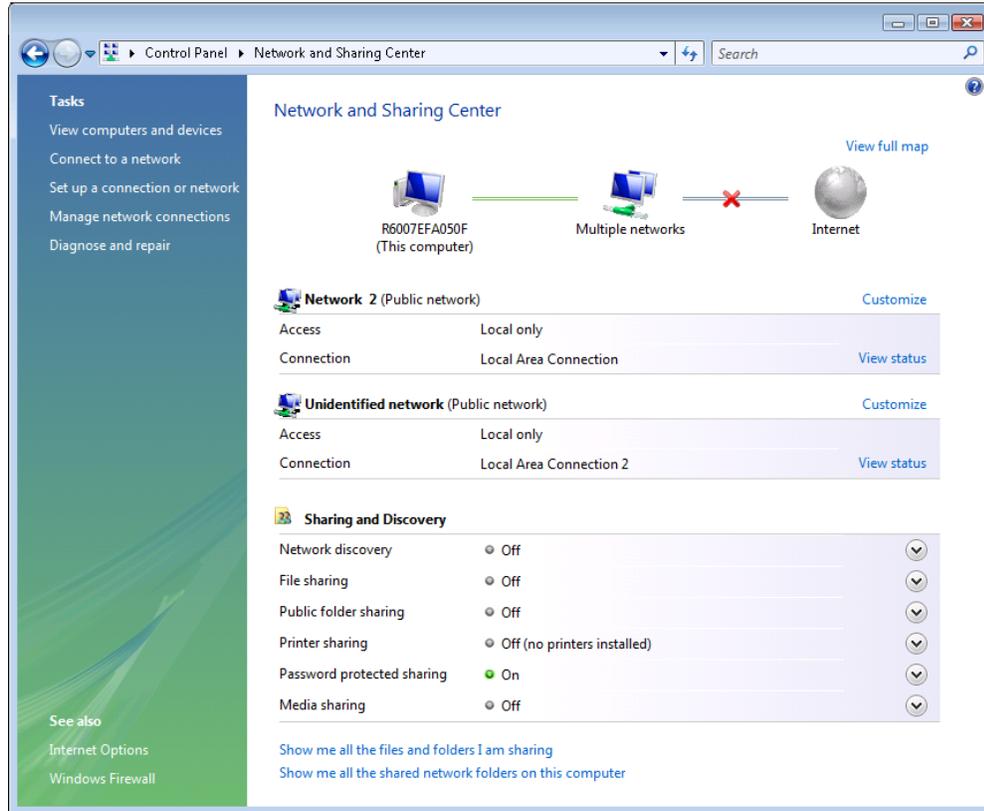
(d) <Opening the Local Area Connection Properties window>
Select (CL) [Local Area Connection Properties] in the 'Network Connections' window
and select (CL) [Properties] by clicking the right mouse button.
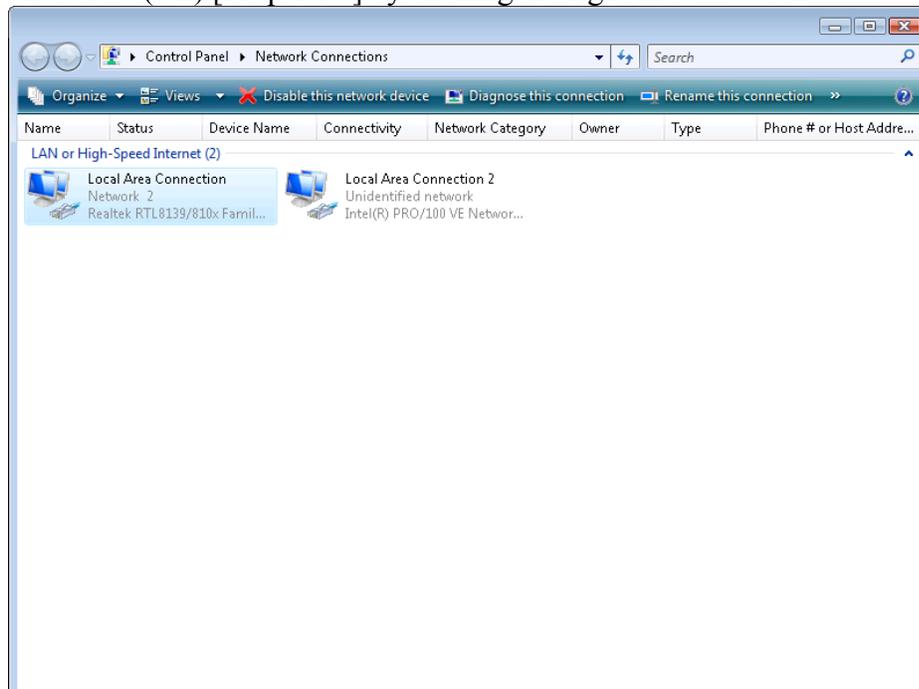
(e)

Select (CL) [Internet Protocol Version 4 (TCP/IPv4)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.
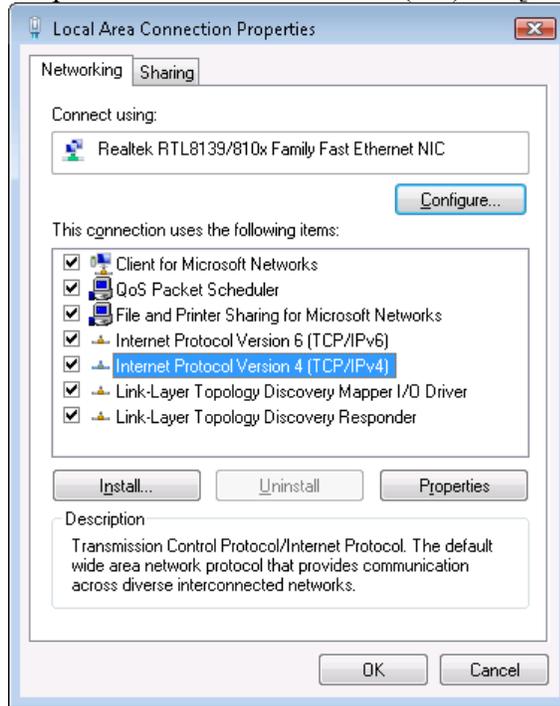
(f)　<Setting the external IP address>

Set the "IP address" and "Subnet mask" and select (CL) the [OK] button.

When you do not set IPv6, go to step (i).
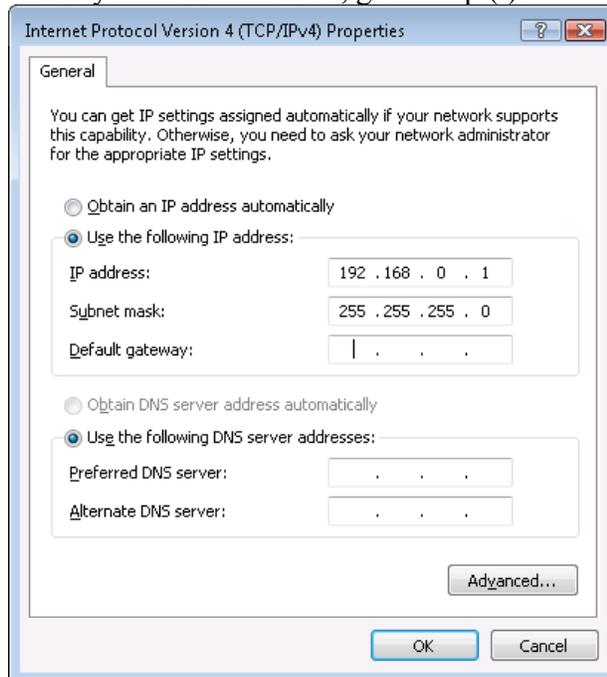
(g)

Select (CL) [Internet Protocol Version 6 (TCP/IPv6)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.

(h) <Setting the external IP address>

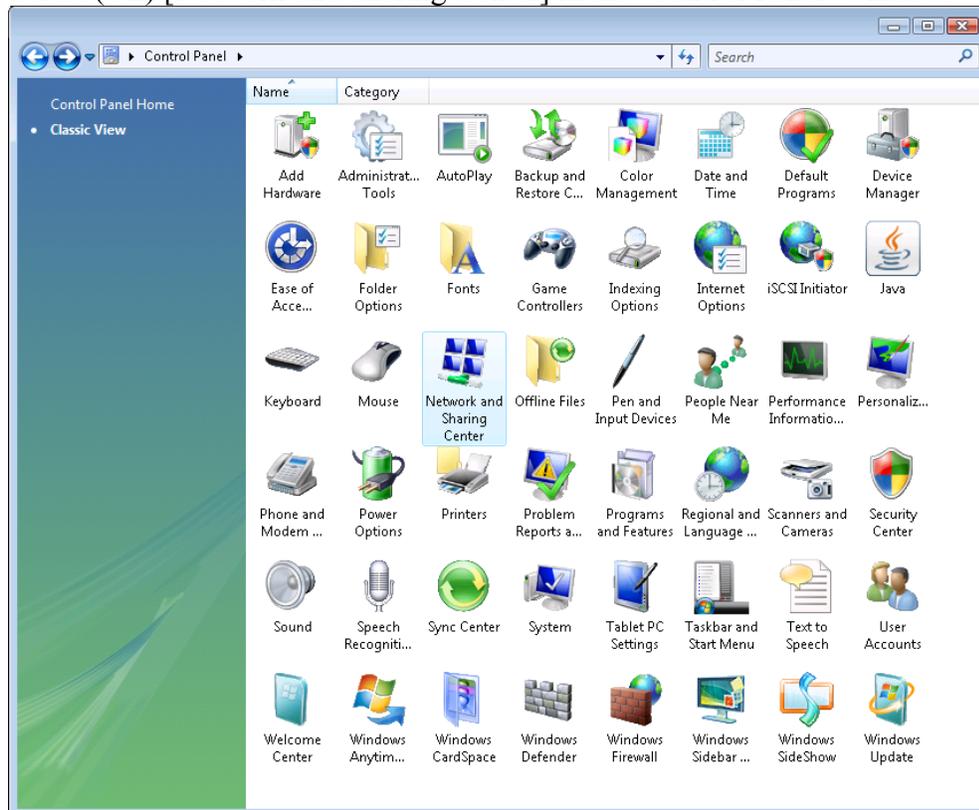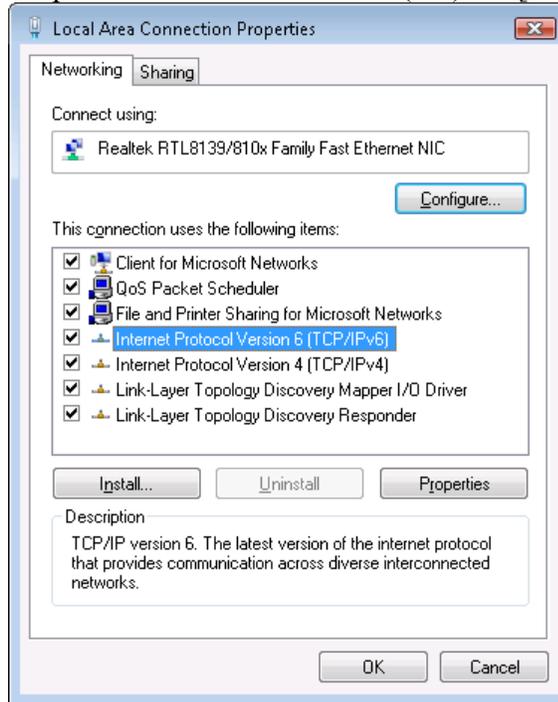Set the "IPv6 address" and "Subnet prefix length" and select (CL) the [OK] button.
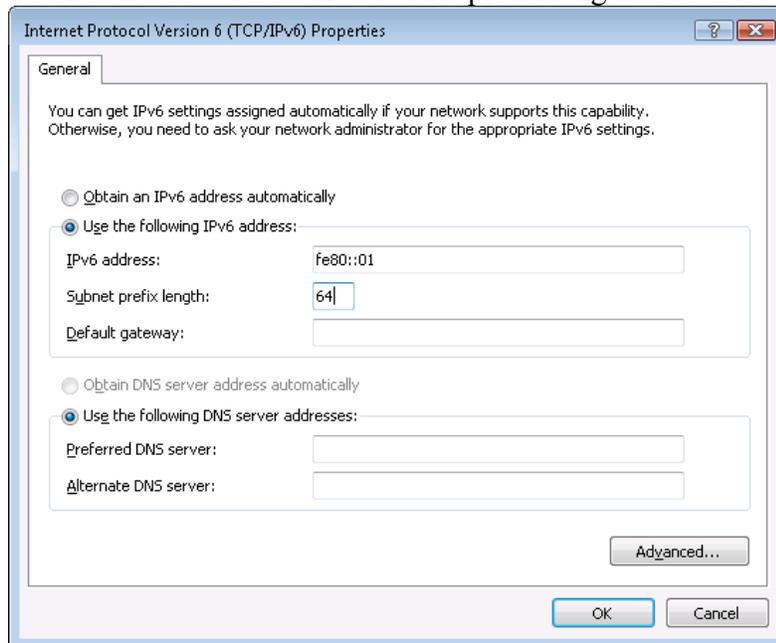
(i)

After the setting is completed, select (CL) the [OK] button in the "Local Area Connection Properties" window.

Close the 'Manage network connections' window.

(3) Checking whether the setting of the network (setting of Config) must be changed or not.
There is a case where the setting must be changed depending on the customer's environment.
The case where the change is required is as follows.
(Normally, no setting change is required.)
• When the switch (HUB), setting of which is fixed as '100M Full Duplex', is connected to the PC of the SVP

Note: The setting of the SVP made is "Auto Negotiation".
Ask the customer about the setting of the switch (HUB) connected to the SVP.
When the case is not the above, terminate the operation by selecting (CL) the [OK] button.

(4) Select (CL) the [Configure] button in the window for Step (1)(d), Step (2)(e), Step (2)(g).

(5) When the [Configure] button is pressed, the following window is displayed.
Select (CL) the 'Advanced' tab in the following window.

(6)   When the 'Advanced' tab is selected, the following window is displayed.
Select (CL) the [Speed] and change the setting of the 'Value' from 'Auto Detect' to '100 Mbps'.
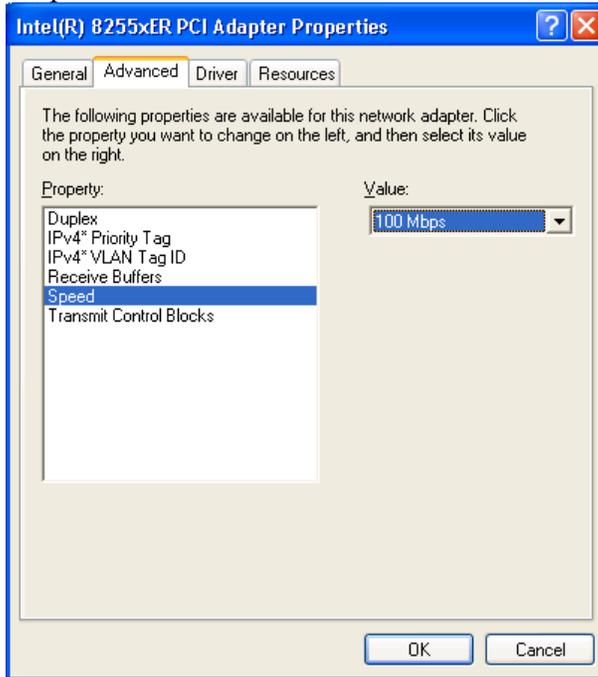
Select (CL) the 'Duplex' and change the setting of the 'Value' from 'Auto Detect' to 'Full Duplex'.
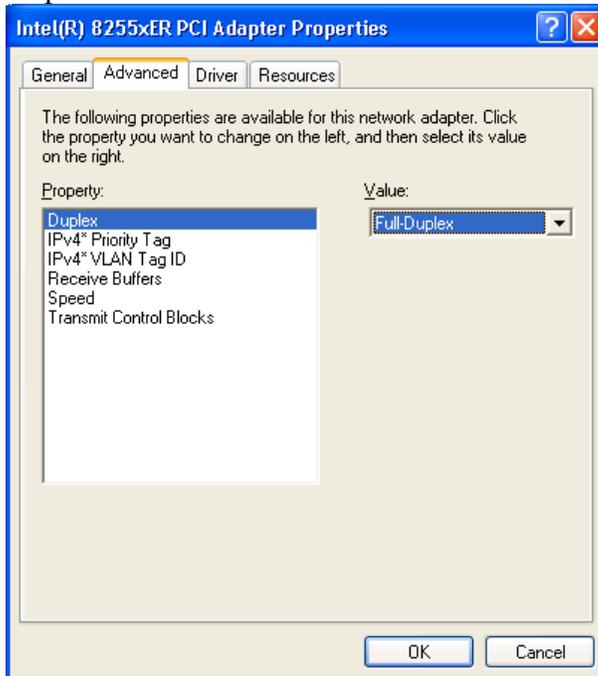
Return the window to 'Local Area Connection Properties' by pressing (CL) the [OK] button and close the window by pressing the [OK] button.

(7)　Press the Advanced Button. And set to "Interface metric" from the work sheet, if it is required.
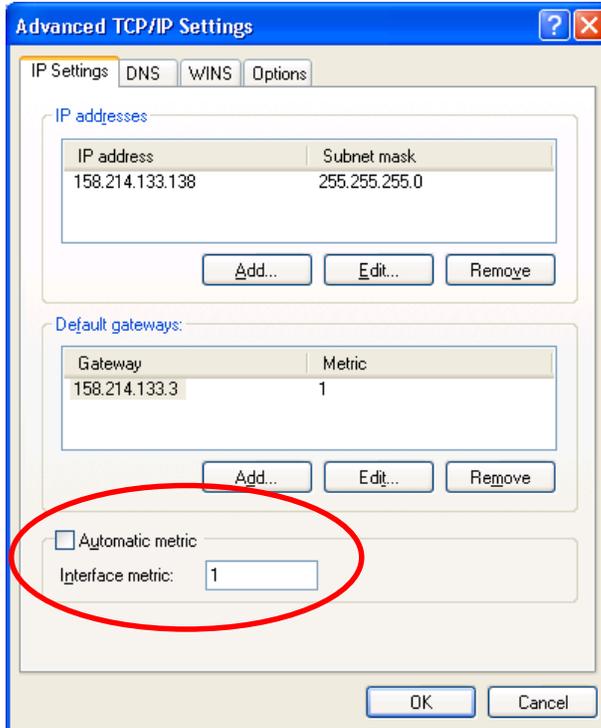
(8)　Press the DNS Tab. And set up a DNS server addresses according to the following procedure.
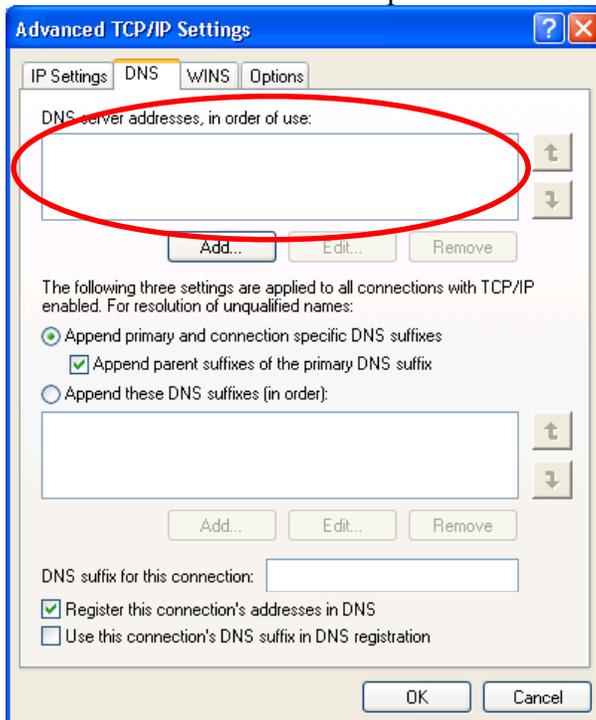
i)　Please choose the IP address which does not have a publication in a worksheet, and press the Remove button.

ii)　Although it is in a worksheet, if there is an IP address which is not displayed on the dialog, the Add button will be pressed and the TCP/IP DNS Server dialog will be displayed.

iii)　Set IP Address, and the Add button.

(9) Please check a radio button and check boxes like the worksheet.

(10) If there is checkmark in "Append these DNS suffixes [in order]:" radio Button, set up a DNS suffixes addresses according to the following procedure.
    i)   Please choose the IP address which does not have a publication in the worksheet, and press the [Remove] button.
    ii) Although it is in the worksheet, if there is an IP address which is not displayed on a dialog, the [Add...] button will be pressed and a TCP/IP Domain suffixes dialog will be displayed.
    iii) Set IP Address, and the [Add...] button.

(11) Set "DNS Suffix for this connection's from the worksheet.

(12) Press the WINS Tab. And set up the WINS addresses according to the following procedure.
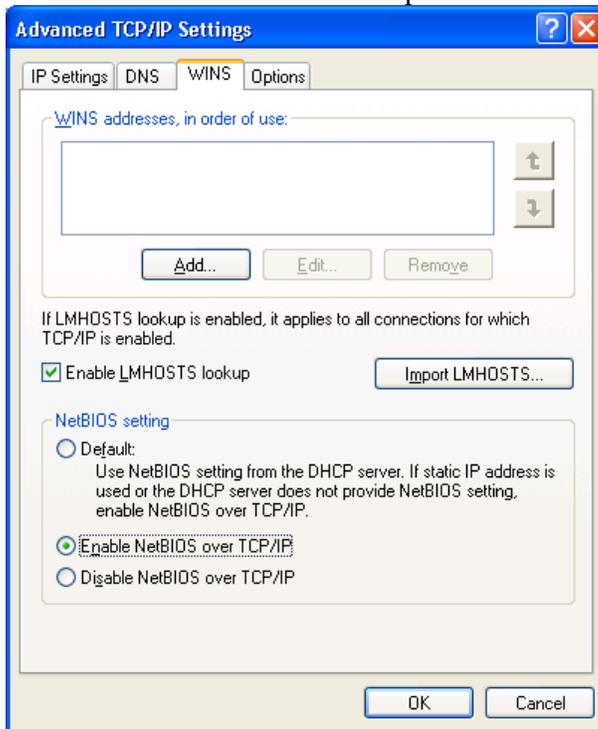
    i)   Please choose the IP address which does not have a publication in a worksheet, and push the [Remove] button.
    ii) Although it is in the worksheet, if there is an IP address which is not displayed on the dialog, the [Add...] button will be pressed and a TCP/IP WINS Server dialog will be displayed.
    iii) Set IP Address, and the [Add...] button.

Hitachi Proprietary

SC02540Z

WEB01-90
Rev.1 / Mar.2007, Feb.2008

DKC610I
Copyright © 2007, 2008, Hitachi, Ltd.

(13) Please check a radio button and a check box like the worksheet.

(14) Press the Option Tab.
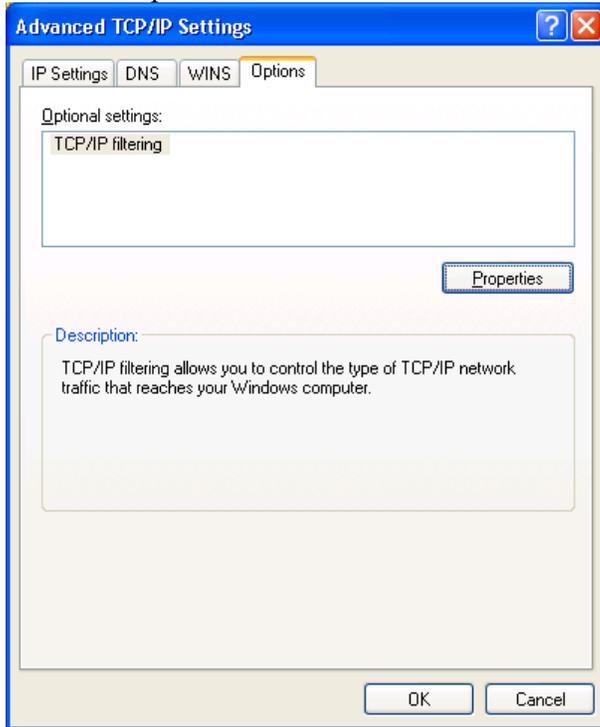
(15) Select TCP/IP filtering and press the [Property] button.
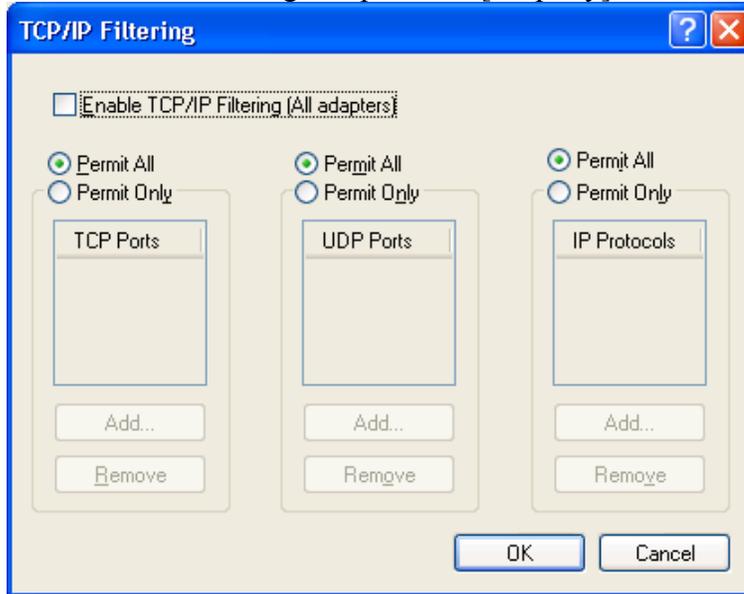
(16) Please check radio buttons and a check box like the worksheet.

(17) Add or Remove TCP ports like the worksheet.

(18) Add or Remove UDP ports like the worksheet.

(19) Add or Remove IP Protocols like the worksheet.

When using Web Console only with the IPv6 connection, set it referring to WEB09-10.

1.2 Version Check of JRE

Select [Start]–[All Programs]–[Accessories]–[Command Prompt] and start command prompt.
Type the following command and check the version.

>**Java –version**

1.3 Version Check of Perl

Select [Start]–[All Programs]–[Accessories]–[Command Prompt] and start command prompt.
Type the following command and check the version.

>**perl –v**

1.4 Version Check of Apache

This is same as the operation after SVP replacement in Post-Procedure t1 in the REPLACEMENT
section.
Refer to Apache Version check described in Post-Procedure t1 [5] SVP Step 2. <Installing the
Microprogram> in the REPLACEMENT section.

1.5 Check of Configuring WebConsole over a Firewall

When you connect WebConsole and the SVP over a firewall, make sure to connect them through
the following TCP/IP port numbers to configure the firewall:
• FTP: 21
• HTTP: 80
• SNMP: 161
• SNMP Trap: 162
• RMI: 1099
• RMI: 51099 (this is a port used by WebConsole for communication)
• For spare (for extension): 51100 (this is a port used by WebConsole for communication)

Notice: If the operating system of your WebConsole computer is Windows Vista, you must
configure a firewall so that WebConsole and the SVP can communicate through these
ports because Windows Vista uses a firewall by default.

2. Web Console

Some of the existing functions were replaced with Web Console in the RAID500 and the
subsequent subsystems.

①   Remote Console was replaced with Web Console.

②   Each function of the SVP launcher is realized through a pressing of the Web Console button
and a selection of one of the following functions.

RAID450 & RAID500

Name of button on former launcher	Selection to be done after pressing the Web Console button
IP Security	Information / Status — Information or License key / SNMP / Just in Time — SNMP Information
HIHSM/ PPC	Performance Monitor / Volume Migration / Server Priority Manager
HORC	TrueCopy
HOMRCF	ShadowImage
HRC	TrueCopy z/OS®
HMRCF	ShadowImage z/OS®
HPAV	Compatible PAV
On-Demand	License key / SNMP / Just in Time — Just in Time

RAID500

Name of button on former launcher	Selection to be done after pressing the Web Console button
Install — System Option — Option	License key / SNMP / Just in Time — License key

Hitachi Proprietary

SC02540Z

WEB02-20
Rev.0 / Mar.2007

DKC610I
Copyright © 2007, Hitachi, Ltd.

2.1 Specifications of Web Server Status

Activate RISMAN, that is a program for accepting requests of a client and for performing high-speed processing through having structures of the RMI server and RAID in the memory, in order to make Web Console operate.

The window was always displayed as RAID450. It does not usually displays as RAID500/RAID600. When the Web Server Status button of SVP launcher is pressed, the window as shown below displays.

Web Console cannot operate until all the statuses above become Ready(OK).
- Start Time: Time when RISMAN was activated.
- Status: Processing is displayed when RISMAN has the right of maintenance or Ready when it has not. (The mode can be changed to Modify even in the Processing status, however, a maintenance work cannot be done.)
- This window is started by pressing the "Web Server Status" button on the 'SVP' window.

• Function Name

	Name	Description	Part code
1	DKC	Displays whether the DKC is ready or not.	0002
2	Base	Displays the status of the management of configuration information.	0002/0003
3	HIC(DKC)	Displays the state of initialization of the common function.	8005
4	HIC(Monitor)	Displays the state of initialization of the Performance Monitor function.	5105
5	HIC(HIHSM)	Displays the state of initialization of the Volume Migration function.	5205
6	HIC(PPC)	Displays the state of initialization of the Server Priority Manager function.	5305
7	HIC(OnDemand)	Displays the state of initialization of the On-Demand function.	0505
8	HIC(SNMP IP)	Displays the state of initialization of the SNMP Information function.	0305
9	HIC(HORC)	Displays the state of initialization of the Remote Copy function.	6005/6105
10	HIC(HOMRCF)	Displays the state of initialization of the ShadowImage function.	7005/7105
11	HIC(Key Licence)	Displays the state of initialization of the Key License function.	0405
12	HIC(HPAV)	Displays the state of initialization of the Compatible PAV function.	9005
13	HIC(LDEV Security)	Displays the state of initialization of the Volume Security function.	9105
14	HIC(LDEV Guard)	Displays the state of initialization of the Volume Retention z/OS® / Data Retention function.	9205/9605
15	HIC(CFL)	Displays the state of initialization of Configuration File Loader function	8105
16	HIC(EXD)	Displays the state of initialization of Universal Volume Manager function.	0605
17	HIC(PRM)	Displays the state of initialization of Virtual Partition Manager function.	8505
18	HIC(HUR)	Displays the state of initialization of the Universal Replicator function.	6505/6605
19	HIC(VOL)	Displays the state of initialization of the Quick Shadow / Dynamic Provisioning function.	3005
20	HIC(XRC)	Displays the state of initialization of the XRC function.	6805
21	HIC(DCR)	Displays the state of initialization of the Cache Residency Manager function.	4005
22	HIC(LUNM)	Displays the state of initialization of the LUN Manager function.	1005
23	HIC(CVS)	Displays the state of initialization of the Volume Manager function.	3305
24	HIC(CLI)	Displays the state of initialization of the Storage Navigator CLI function.	1305
25	HIC(MAL)	Displays the state of initialization of the E-Mail information function.	8605

Hitachi Proprietary

WEB02-40
Rev.0 / Mar.2007

SC02540Z

DKC610I
Copyright © 2007, Hitachi, Ltd.

• Status

	Display	Color	Meaning
1	Not Initialize	Gray	Initialization is not started yet.
2	Initialize(Stat)	Yellow	Initialization is in progress.
3	Initialize(Retry)	Yellow	Initialization failed and it is being retried.
4	Ready(OK)	Blue	Ready for operation
5	Refresh(Start)	Green	Refreshment is in progress. The internal buffer is being initialized after a writing from the SVP/ SNMP/ Web Console has been completed.
6	Refresh(Retry)	Green	Refreshment failed and is being retried.
7	Initial(Error)	Red	Initialization failed. (It is retried every other minute) (*1)
8	Refresh(Error)	Red	Refreshment failed. (It is retried every other minute) (*1)
9	Initialize(Pause)	Yellow	Initialization temporarily stops. (*2)
10	Refresh(Pause)	Yellow	Refreshment temporarily stops. (*2)

Notes:

• Any of the statuses is Initialize (Stat)/ Refresh (Start)/ Initialize(Retry)/ Refresh (Retry), no maintenance work can be done from an SVP. The message "INS2268E" is displayed on the SVP.
However, it changes to the state of Initialize (Pause)/ Refresh (Pause) in about 10 seconds and the maintenance work on the SVP may be possible.

• When an initialization or refreshment operation fails, a retrial operation is performed. When you want to do a maintenance work, do it when the Status is Ready. (Otherwise, an SVP rebooting, which is done after executing Define Information Files or All Configuration Files for alteration of the Config, may fail.)

• While an SVP maintenance work is being done, an initialization or refreshment operation fails and the status becomes Retry. When the maintenance work is completed, close the SVP window immediately.

• Operation of Web Console for a part whose status is not Ready (OK) cannot be done.

*1: When xxxx (Error) status is displayed for more than 2 minutes without, there may be a problem just on display.
If you can reboot by pressing Web Console button and can press the each function button normally, there is no problem.

*2 Initialization/Refresh is restarted by changing the SVP to the View mode.

• Error Code
When an error occurs, its error cord is displayed.
Refer to errors which occur in each part shown in the list of Web Console messages.
(Part codes are listed in the item of Function Name.)

2.2 Procedure for Activation Using SVP

(1) The Web Console button is effective only when the SVP is in the View mode. (The Web Console button is grayed in the Modify mode.)

(2) When the Web Console button is pressed, Information window is displayed.

Refer to Table 2.2-1 for the function that can start from the [Go] menu and the manual to refer to at the operation.

When security warning as shown in the following figure is displayed, push the [Run] button.

Note: Do not activate Web Console from the SVP by specifying the URL on Internet Explorer.
       Only the following functions of Web Console are valid on the SVP.
       When program product is nothing on the SVP, refer to Table 2.2-2.

Table 2.2-1   The function that can start from the menu and the manual to refer to

	Function	Reference	Button
1	System Information	Storage Navigator User's Guide (Base Volume)	
2	LUN Manager	LUN Manager User's Guide	
3	LUN Expansion / VLL	LUN Expansion (LUSE) User's Guide	
4	Performance Monitor	Performance Monitor User's Guide	
5	TrueCopy	TrueCopy User's Guide	
6	Universal Replicator	Universal Replicator User's Guide	
7	ShadowImage	ShadowImage User's Guide	
8	TrueCopy for Mainframe	TrueCopy for Mainframe User's Guide	
9	Universal Replicator for Mainframe	Universal Replicator for Mainframe User's Guide	
10	ShadowImage for Mainframe	ShadowImage for Mainframe User's Guide	
11	Compatible PAV	Compatible PAV User's Guide	
12	Volume Security	Volume Security User's Guide	
13	Volume Retention Manager	Volume Retention Manager User's Guide	
14	Data Retention Utility	Data Retention Utility User's Guide	
15	Universal Volume Manager	Universal Volume Manager User's Guide	
16	Configuration File Loader	Storage Navigator User's Guide (Base Volume)	
17	Environmental Setting	Storage Navigator User's Guide (Base Volume)	

Table 2.2-2   Operation of nothing P.P

LUN Expansion / VLL	Reference	〇
	Setup	×
Performance Monitor	Reference	〇
Volume Migration	Reference	〇
	Setup	×
	Cancellation	〇
TrueCopy / TrueCopy for Mainframe	Reference	〇
	Setup	×
	Cancellation	〇
Universal Replicator / Universal Replicator for Mainframe	Reference	〇
	Setup	×
	Cancellation	〇
ShadowImage / ShadowImage for Mainframe	Reference	〇
	Setup	×
	Cancellation	〇
Compatible PAV	Reference	〇
	Setup	×
	Cancellation	×
Volume Security	Reference	〇
	Setup	×
	Cancellation	〇
Volume Retention Manager / Data Retention Utility	Reference	〇
	Setup	×
	Cancellation	〇
Universal Volume Manager	Reference	〇
	Setup	〇 (*1)
	Cancellation	〇
Configuration File Loader	Reference	〇
	Setup	〇
	Cancellation	〇

(*1) Only the setting of Remote Command Device is possible.

Hitachi Proprietary
SC02540Z

WEB02-90
Rev.0 / Mar.2007

DKC610I
Copyright © 2007, Hitachi, Ltd.

2.3 Specifications Common to Functions of Web Console

	Name	Icon	
1	Status lamp	icon in the upper left part of the window	Indicates a status of the DKC with a color: Blue: Normal, Yellow: Warning, or Red: Abnormal. When it becomes red or yellow, see the Maintenance on the SVP.
2	Subsystem		Shows a nickname of the DKC.
3	Version		Shows a version of Web Console.
4	All Refresh button		Updates Web Console to the latest state. **Note:To acquire all information displayed with Web Console from the disk subsystem again. It takes the time of a lot of minutes. Moreover, other users are treated while updating the system meanwhile, and cannot operate the screen. Therefore, we will recommend the button of All Refresh not to be usually used excluding the recovery of the error.**
5	Exclusive Lock icon		Shows statuses of operation mode (View or Modify mode) of users who have logged in the SVP.Blue: All users make access in the View mode.Red: Some of users including you set the Modify mode. **Note:While performing a maintenance work using an SVP or using the SNMP in the Modify mode, contents displayed on Web Console may be old or incorrect.**

	Name	Icon	
6	Operation mode switching icon		Switches the operation mode between the View and Modify modes. When you move the mouse close to this icon, the current operation mode is displayed. To change the operation mode, press this button. The sunk button shows that the mode is set to Modify.
7	Quit button		Quits Web Console. Since the following message is displayed after the confirmation message is issued, press the Yes button.

⚠ CAUTION

Do not quit Web Console by pressing the × button of the browser or double clicking the small icon at the upper left position. In case you have quitted Web Console in this way, activate it again after the RMI time-out (one minute in default).

2.4 Before Using Web Console (You are requested to read this without fail.)

2.4.1 Notes on Using the Web Console PC

You must use the mouse to perform general Web Console operations.   You can select an object (item on a panel) by clicking the object using the mouse.   You can also display the command(s) by right clicking while selecting object(s) using the mouse.

Keep the following notes and restrictions in mind when you perform Web Console operations on the Web Console PC:

- You cannot use the mouse wheel for performing Web Console operations.
- You cannot use the **Home, End**, and **Delete** keys for Web Console operations.
- Please do not close Web Console panels by:
    - Clicking the ☒ button on the panel,
    - Using the commands such as **File** and **Exit** on the Web browser, or
    - Pressing the **Alt** and **F4** keys.

    Note: If you accidentally close the panels by the method above, wait for an RMI time-out
           (default is 1 min.), and then restart the Web Console.

- Please do not use the shortcut keys such as **F5**, **Ctrl+F**, **Esc**, and **Ctrl+A** for Web Console operations.   The **F5** key will exit and restart the Web Console.
- For Java applet security, you cannot copy and paste objects (text) from other applications during Web Console operations.
- The layout of a Web Console panel is reset when you click the **Apply** button or **Refresh** button (☒), or when you switch tabs.
- On the Web Console panels, you may hold multiple settings or operations before actually applying those settings or operations to the RAID450 subsystem by clicking the **Apply** button. However, if you apply too many settings at once, the server might become overloaded and an error might occur.   To avoid an error, do not apply more than 1,000 settings at a time.
- After dragging and dropping objects to another location or area, you might not be able to use the scroll bar on that location or area.   In this case, close all panels including the Storage Device List panel, and then log on to the Web Console again.
- You cannot drop an object to an area or location where no object exists.

    Note: Even if you try to drop an object to an invalid area or location, no warning icon is
           displayed.

■ To select, drag and drop objects that are adjacent to each other, you must continue to hold down the Shift key to select a group of objects that are adjacent to each other, and then hold down the Ctrl key when you select the last object in the group.   Continue to hold down the Ctrl key when you drag and drop the selected objects.

■ To select, drag and drop objects that are not adjacent to each other, you must continue to hold down the Ctrl key to select a group of objects that are not adjacent to each other.

The following examples illustrate the procedures above, using the objects shown in Fig. 2.4-1-1.

To drag and drop adjacent objects (No. 2 to No. 5) in Fig. 2.4-1-1 (left):
(1) While continuing to hold down the Shift key, click No. 2 Object B and No.4 Object D.
     The objects No. 2 to No. 4 are selected.
(2) Hold down the Ctrl key, click No. 5 Object E.
     The No. 5 object is also selected.   The objects No. 2 to No. 4 remain selected.
(3) Place the mouse pointer on the No. 5 object and hold down the Ctrl key and the left mouse button.   Next, drag the selected objects (No. 2 to No. 5) to the desired location.

To drag and drop non-adjacent objects (No. 2 and No. 5) in Fig. 2.4-1-1 (right):
(1) Hold down the Ctrl key, click No. 2 Object B and No. 5 Object E.
     The objects No. 2 and No. 5 are selected.
(2) Place the mouse pointer on the No. 5 object and hold down the Ctrl key and the left mouse button.   Next, drag the selected objects (No. 2 and No. 5) to the desired location.

No.	Object		No.	Object	
1	Object A		1	Object A	
2	Object B		2	Object B	
3	Object C		3	Object C	
4	Object D		4	Object D	
5	Object E		5	Object E	
6	Object F		6	Object F	
7			7		
8			8		

Fig. 2.4.1-1   Selecting Multiple Objects (Left: Adjacent, Right: Non-Adjacent)

See Chapter 5 of Web Console User's Guide for troubleshooting (errors and actions during operations on the Web Console PC).
■ If a Web Console user in modify mode is applying the settings by the Apply button, you must wait to log on to the Web Console until the settings are applied.   If you wait for five minutes, but still cannot log on to the Web Console, an abnormal end occurs.
■ When you try to drag and drop multiple objects, the drag status might continue to remain even after you release the mouse button.   In this case, hold down the same keys such as Shift and Ctrl keys that are used to select the multiple objects, and drop those objects.
■ Do not change the time of the SVP in the maintenance work.
     If you have changed it, restart Web Console.

2.5 Actions to Be Taken According to Result of Troubleshooting

	Failure	Recovery action	Remarks
1	Web Console cannot be connected.	Quit Internet Explorer and restart Web Console after the RMI time-out (default is 1 minute).If the trouble is not solved in spite of it, collect a dump.	
2	In case of start from the Web Console button on the SVP launcher, the Web Console cannot be started and network error (10,6027) occurred.	A LAN cable may fall out. Please confirm the LAN cable. If the LAN cable falls out, connect it and reboot SVP.	(Note)
		The versions of Apache and SVP may mismatch. Uninstall Apache and install it again. Refer to the installation procedure of Apache in the WEB CONSOLE section for the installation procedure.	
		Since the Web Console program different from the microprogram version may be started, you need to clear the cache of Java. Select [Start]–[Control Panel], open the control panel, start the control panel of Java, and clear the cache file.	
3	The Storage Navigator PC experiences an error (10,6027), when accessing the SVP from the Storage Navigator PC.	SVP (a Web server) cannot recognize an IP address of Storage Navigator PC or HUB, and please confirm an following item, and figure 1 is reference. (1) Took off an external LAN cable of SVP by installation work or maintenance work, and does not restart do SVP?. (2) Do not do restart of SVP by an Off state with a power supply of LAN machinery (HUB/router) connected to external LAN of SVP with installation work or maintenance work? In case of above, connect external LAN cable of SVP, and please turn a power supply of LAN machinery (HUB/router) into an On state as well, and restart SVP, and please access from Storage Navigator movement PC SVP (a Web server) from it once again.	
4	Web Console was quit by an operation of the Exit button of Internet Explorer.	Quit Internet Explorer and restart Web Console after the RMI time-out (default is 1 minute). If the trouble is not solved in spite of it, collect a dump.	

(To be continued)

(Continued from the preceding page)

	Failure	Recovery action	Remarks
5	After an error message was displayed, all the buttons other than the [Exit] and [All Refresh] buttons became ineffective.	Press the [Refresh] button and wait until the window becomes normal again. Still, if it is useless terminate the process once by pressing the [Exit] button. Make a recovery from the failure referring to the error code list and restart the client PC.	(Note)
6	After an error message was displayed, all the buttons other than the [Exit], [Refresh] and [All Refresh] buttons became ineffective.	Press the [Refresh] button after a while and wait until the window becomes normal again. Still, if it is useless press the [All Refresh] button.	(Note)
7	An application error occurred.	Collect a dump and restart Web Console.	
8	Keys in the Edit box were disabled. (Key entry became unable to be done.)	Quit Web Console by clicking the [Exit] button with a mouse, restart it, and then execute it.	
9	The browser was quit forcibly or an internet error occurred.	Restart Web Console. If the trouble is not solved in spite of it, reboot the SVP.	
10	The microprogram must be newly installed by means of SVP replacement, etc.	Back up the user list, storage list, and environment file beforehand (this can be done through a backup of the Config file) and install the microprogram using the Config file. Then, copy the following files which are subordinate to the c:\dkc200\config to files under the c:\DKC200\SAN\cgi-bin\Utility\CSV. • Env.csv • Strlist.csv • Userlist.csv	
11	In case of network obstacle Java GUI cannot sometimes load the item such as icon and the screen are not in good order.	If the phenomena occurred, Log off from the Web Console, and close all panels including the Storage Device List panel, and then log on to the Web Console again. If the same error occurs, restart the Web Console PC.	
12	The window is hung up at the time of the Web Console operation.	Reboot Web Console. If still not recovered, reboot SVP.	
13	It became an error (1 4011) during the Web Console operation.	The time of SVP may be changed. Restart Web Console.	

Note: If the trouble is not solved in spite of it, collect a dump and restart the Web Console PC.

When restart SVP by the state that LAN between SVP and WebConsole is not connected to justly, there is the case that gets impossible to start WebConsole ((10,6027) error occurred).
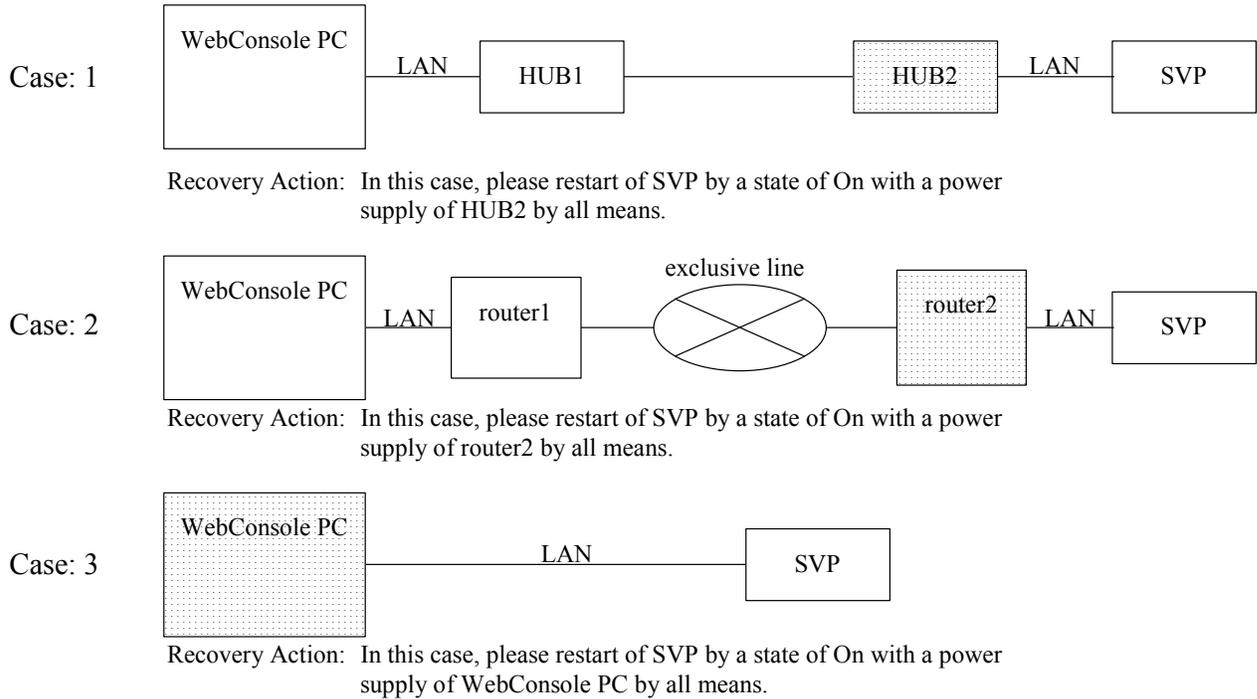
Case: 1

| WebConsole PC | —LAN— | HUB1 | ———— | HUB2 | —LAN— | SVP |

Recovery Action: In this case, please restart of SVP by a state of On with a power supply of HUB2 by all means.

Case: 2

exclusive line

| WebConsole PC | —LAN— | router1 | ⊗ | router2 | —LAN— | SVP |

Recovery Action: In this case, please restart of SVP by a state of On with a power supply of router2 by all means.

Case: 3

| WebConsole PC | ————LAN———— | SVP |

Recovery Action: In this case, please restart of SVP by a state of On with a power supply of WebConsole PC by all means.

Fig. 2.5-1

• Procedure of clearing the cache of Java

(1) Select [All Programs]-[Control Panel], and display the control panel.

(2) Start Java (TM) Control Panel.
     Select (CL) the [Settings…] in "Temporary Internet Files".
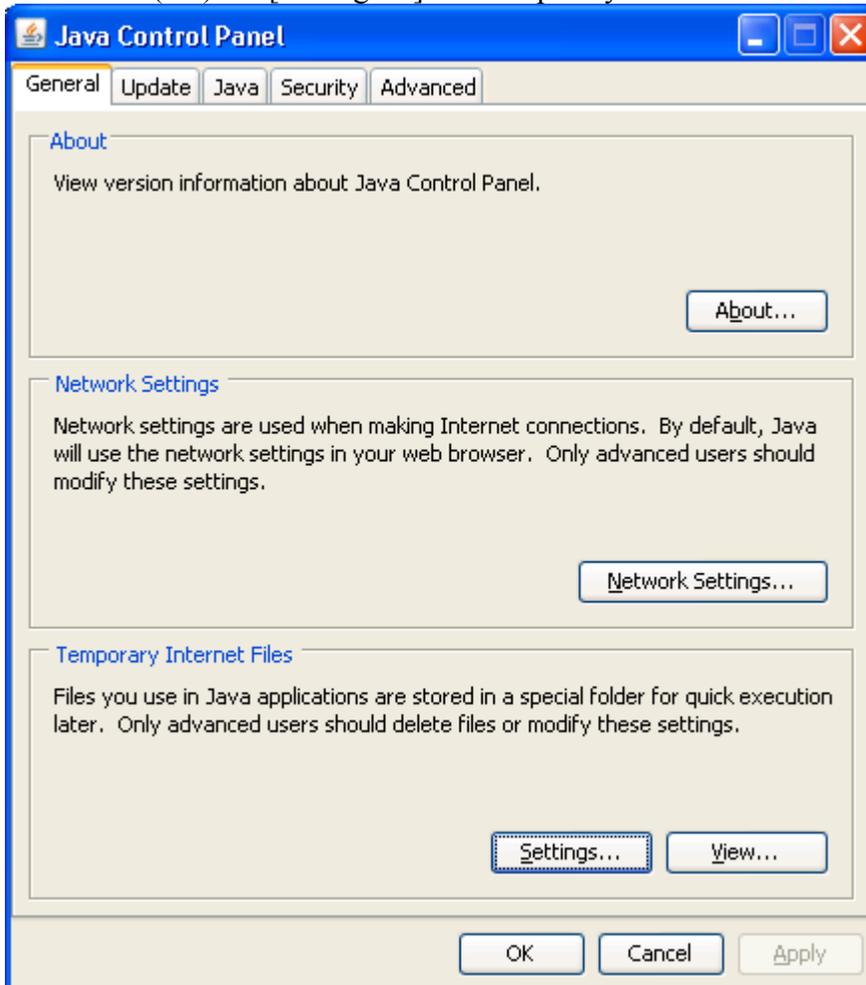
(3)   Select (CL) the [Delete Files…].
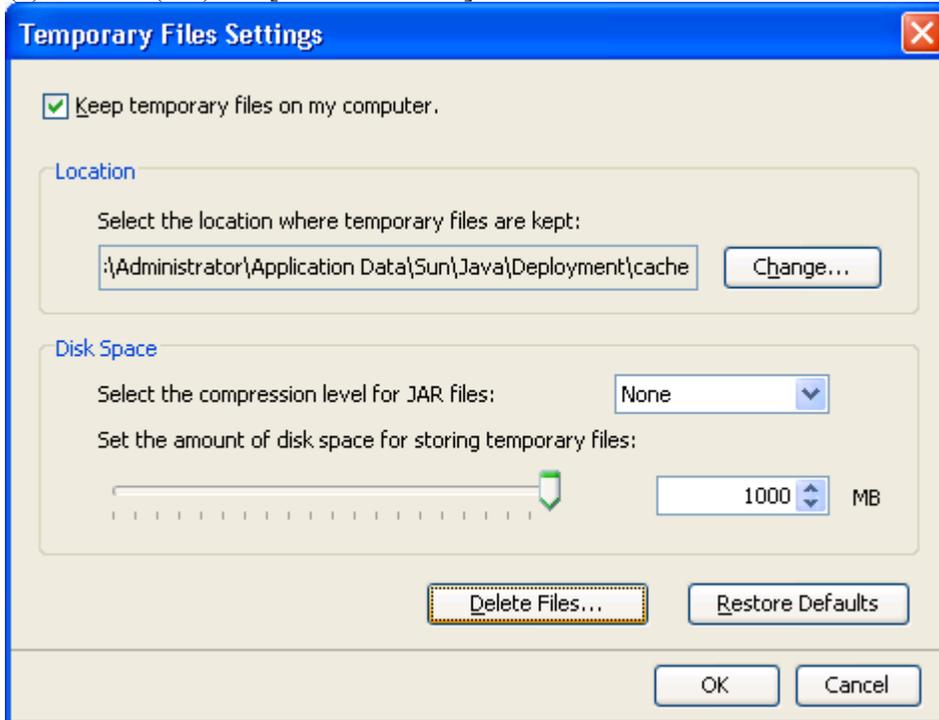
(4)   Check all the checkboxes, and select (CL) the [OK].
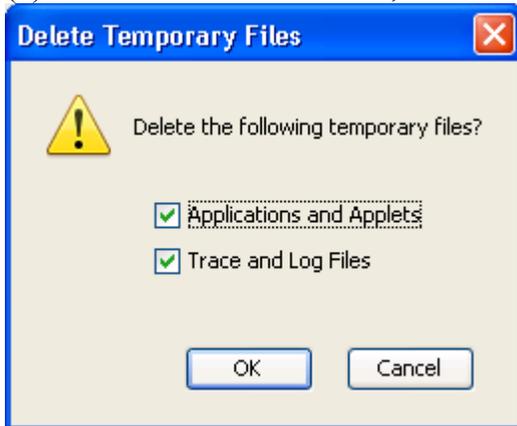
(5)   The cache is cleared.

3. Difference from the P.P Manual

3.1 ShadowImage
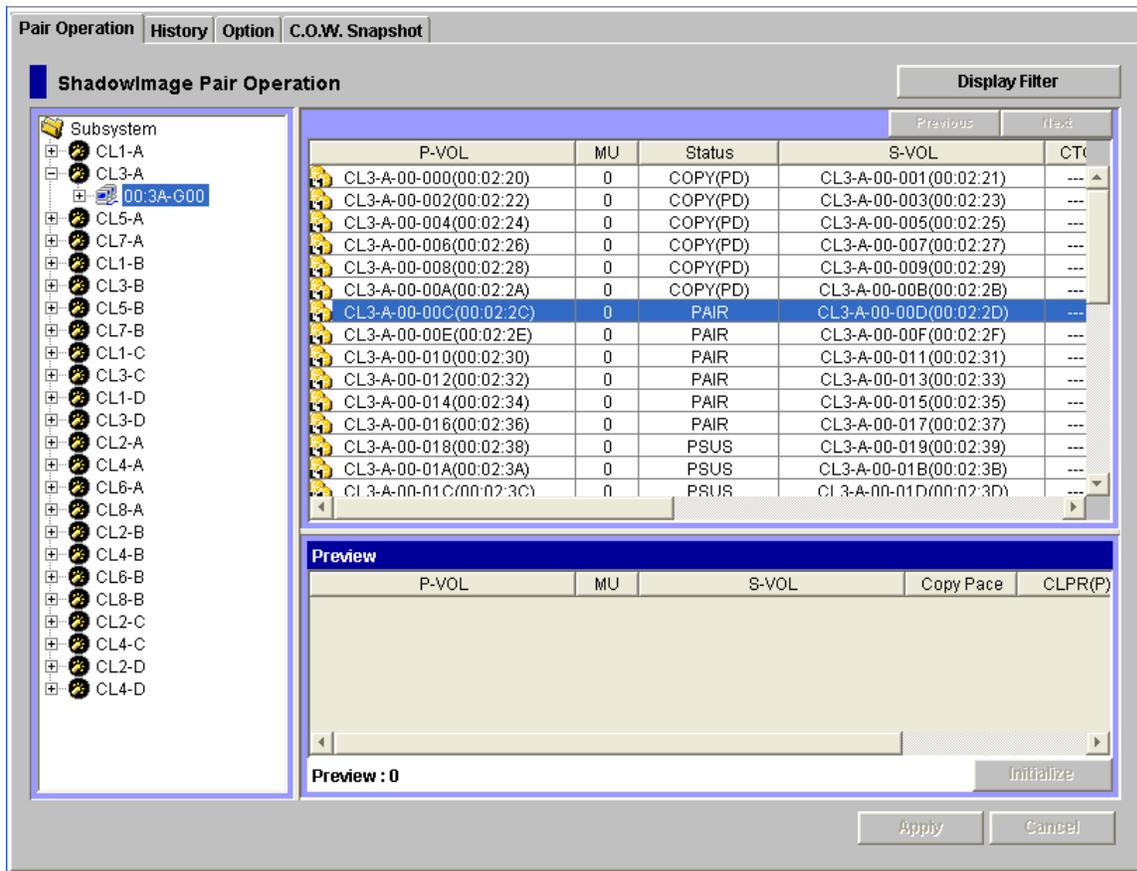
(1) Preview box
    When the ShadowImage window is opened by WebConsole on the SVP, the [Initialize] button
    is displayed in the Preview box.

    - Initialize
        It deletes all the pairs that have been formed by ShadowImage / ShadowImage z/OS® /
        Volume Migration / Flash Copy® Mirror version 1 / Flash Copy® Mirror version 2 /
        Copy-on-Write Snapshot and sets the pair status of the volume to SMPL (to Simplex, in
        the case of ShadowImage z/OS®). In Addition, the Virtual Volumes of Dynamic
        Provisioning (DP-VOL) is blockaded. And the pool of Dynamic Provisioning / Copy-on-
        Write Snapshot is blockaded.
        Refer to the TROUBLE SHOOTING SECTION "8.7 ShadowImage Initialize procedure"
        for the Initialize procedure and notes.
        To operate the [Initialize] button, an entry of a password is required. For the password,
        refer to the Technical Service Division.

Note 1: When the [Initialize] button is pressed, not only pairs formed by ShadowImage, but also pairs formed by ShadowImage z/OS® / Volume Migration / Flash Copy® Mirror version 1 / Flash Copy® Mirror version 2 / Copy-on-Write Snapshot are deleted. And the pool of Dynamic Provisioning / Copy-on-Write Snapshot is blockaded.

Note 2: In the case TrueCopy and Universal Replicator use virtual volumes of Dynamic Provisioning, delete all TrueCopy and Universal Replicator pairs that use the virtual volumes before performing Initialize.
After Initialize completes, create TrueCopy and Universal Replicator pairs again.

Note 3: Procedure to recover DP-VOL:
Please recover the pool of Dynamic Provisioning referring to Dynamic Provisioning User's Guide (MK-96RD641).
DP-VOL recovers by recovering the pool of Dynamic Provisioning.
Please confirm all the pool of Dynamic Provisioning has recovered when DP-VOL is not recovered.
Please execute LDEV format or execute force LDEV recovery from SVP after all the pool of Dynamic Provisioning has recovered.

Note 4: Perform the operation only when it is directed by the Technical Service Division.

3.2 ShadowImage z/OS®

```
Pair Operation | History | Option | CTG | FCv2 |

■ ShadowImage for z/OS(R) Pair Operation          [ Display Filter ]

                                                  [ Previous ]  [ Next ]

 Subsystem        | S-VOL    | Status  | T-VOL    | Copy Pace | Sync. | Emulation | C |
 LDKC : 00        | 00:20:82 | Duplex  | 00:20:A0 | ---       | 100%  | 3390-2    |   |
   CU Gr.(20)     | 00:20:82 | Duplex  | 00:20:A1 | ---       | 100%  | 3390-2    |   |
     20           | 00:20:82 | Duplex  | 00:20:A2 | ---       | 100%  | 3390-2    |   |
                  | 00:20:83 | Duplex  | 00:20:A3 | ---       | 100%  | 3390-2    |   |
                  | 00:20:84 | Duplex  | 00:20:A4 | ---       | 100%  | 3390-2    |   |
                  | 00:20:85 | Duplex  | 00:20:A5 | ---       | 100%  | 3390-2    |   |
                  | 00:20:86 | Duplex  | 00:20:A6 | ---       | 100%  | 3390-2    |   |
                  | 00:20:87 | Duplex  | 00:20:A7 | ---       | 100%  | 3390-2    |   |
                  | 00:20:88 | Duplex  | 00:20:A8 | ---       | 100%  | 3390-2    |   |
                  | 00:20:89 | Duplex  | 00:20:A9 | ---       | 100%  | 3390-2    |   |
                  | 00:20:8A | Duplex  | 00:20:AA | ---       | 100%  | 3390-2    |   |
                  | 00:20:8B | Duplex  | 00:20:AB | ---       | 100%  | 3390-2    |   |
                  | 00:20:8C | Duplex  | 00:20:AC | ---       | 100%  | 3390-2    |   |
                  | 00:20:8D | Duplex  | 00:20:AD | ---       | 100%  | 3390-2    |   |
                  | 00:20:8E | Duplex  | 00:20:AE | ---       | 100%  | 3390-2    |   |

 Preview
   | S-VOL    | T-VOL    | Copy Pace | CLPR(S)   | CLPR(T)   | Error Code |
   | 00:20:82 | 00:20:A0 | ---       | 00:CLPR0  | 00:CLPR0  | ---        |

 Preview : 1 (Delete Pair)                                          [ Initialize ]

                                                       [ Apply ]  [ Cancel ]
```

(1) Preview box
     When the ShadowImage z/OS® window is opened by WebConsole on the SVP, the [Initialize]
     button is displayed in the Preview box.

   - Initialize
         It deletes all the pairs that have been formed by ShadowImage / ShadowImage z/OS® /
         Volume Migration / Flash Copy® Mirror version 1 / Flash Copy® Mirror version 2 /
         Copy-on-Write Snapshot and sets the pair status of the volume to Simplex (to SMPL, in
         the case of ShadowImage). In Addition, the Virtual Volumes of Dynamic
         Provisioning(DP-VOL) is blockaded. And the pool of Dynamic Provisioning / Copy-on-
         Write Snapshot is blockaded.
         Refer to the TROUBLE SHOOTING SECTION "8.7 ShadowImage Initialize procedure"
         for the Initialize procedure and notes.
         To operate the [Initialize] button, an entry of a password is required. For the password,
         refer to the Technical Service Division.

Hitachi Proprietary

SC02540Z

WEB03-21
Rev.1 / Feb.2008, Jan.2009

DKC610I
Copyright © 2008, 2009, Hitachi, Ltd.

Note 1: When the [Initialize] button is pressed, not only pairs formed by ShadowImage z/OS®, but also pairs formed by ShadowImage / Volume Migration / Flash Copy® Mirror version 1 / Flash Copy® Mirror version 2 / Copy-on-Write Snapshot are deleted. And the pool of Dynamic Provisioning / Copy-on-Write Snapshot is blockaded.

Note 2: In the case TrueCopy and Universal Replicator use virtual volumes of Dynamic Provisioning, delete all TrueCopy and Universal Replicator pairs that use the virtual volumes before performing Initialize.
After Initialize completes, create TrueCopy and Universal Replicator pairs again.

Note 3: Procedure to recover DP-VOL:
Please recover the pool of Dynamic Provisioning referring to Dynamic Provisioning User's Guide (MK-96RD641).
DP-VOL recovers by recovering the pool of Dynamic Provisioning.
Please confirm all the pool of Dynamic Provisioning has recovered when DP-VOL is not recovered.
Please execute LDEV format or execute force LDEV recovery from SVP after all the pool of Dynamic Provisioning has recovered.

Note 4: Perform the operation only when it is directed by the Technical Service Division.

3.2.1 Split Volume Pair window

```
Split Volume Pair

 S-VOL        Status      T-VOL      Emulation   Capacity(Cyl)   CLPR(S)     CLPR(T)
 00:80:07 M   Simplex     ---        3390-3      3339            00:CLPR0    ---
 00:80:07 M   ---         00:00:00   3390-3      3339            00:CLPR0    00:CLPR0
 00:80:08 M   Simplex     ---        3390-3      3339            00:CLPR0    ---


 Copy Pace            Select Split Type
 Medium    ▼          Migration    ▼

 Select T-VOL
 LDKC     LDKC : 00     ▼                                          Previous    Next
 CU       00            ▼       Volume      Emulation  Capacity(Cyl)     CLPR
                                00:00:01    3390-3     3339        00:CLPR0
 Volume Type                    00:00:02    3390-3     3339        00:CLPR0
 ☑ Internal VOL                 00:00:03    3390-3     3339        00:CLPR0
                                00:00:04    3390-3     3339        00:CLPR0
 ☐ External VOL                 00:00:05    3390-3     3339        00:CLPR0
                                00:00:06    3390-3     3339        00:CLPR0
 Attribute                      00:00:07    3390-3     3339        00:CLPR0
 ☑ Reserved                     00:00:08    3390-3     3339        00:CLPR0
 ☑ Not Reserved                 00:00:09    3390-3     3339        00:CLPR0
                                00:00:0A    3390-3     3339        00:CLPR0

            Set        Change        OK        Cancel
```

(1) [Select Split Type] drop-down list
   In the 'ShadowImage z/OS(R)' window is opened by WebConsole on the SVP.
   Select migration VOL and open the 'Split Volume Pair' window.
   The [Select Split Type] drop-down list is fixed in [Migration].

   - Migration (split type)
      Split pair operation by Migration is split type for exclusive use of Migration VOL.
      It execute data migration by the migration VOL.

(2) [Volume Type] box
   When [Migration] of the [Select Split Type] drop-down list is selected, you don't select the
   [External VOL] check box.

3.2.2 Resynchronize Volume Pair window

(1) [Resync Type] drop-down list
In the 'ShadowImage z/OS(R)' window is opened by WebConsole on the SVP.
Select Migration VOL and open the 'Resynchronize Volume Pair' window.
The [Resync Type] drop-down list is fixed in [Migration(S->T)].

- Migration(S->T)
Resynchronize pair operation by Migration is Resynchronize Type for exclusive use of
Migration VOL. The copy direction for a normal resync operation is S-VOL to T-VOL,
with data migration by the migration VOL.

3.2.3 Option window
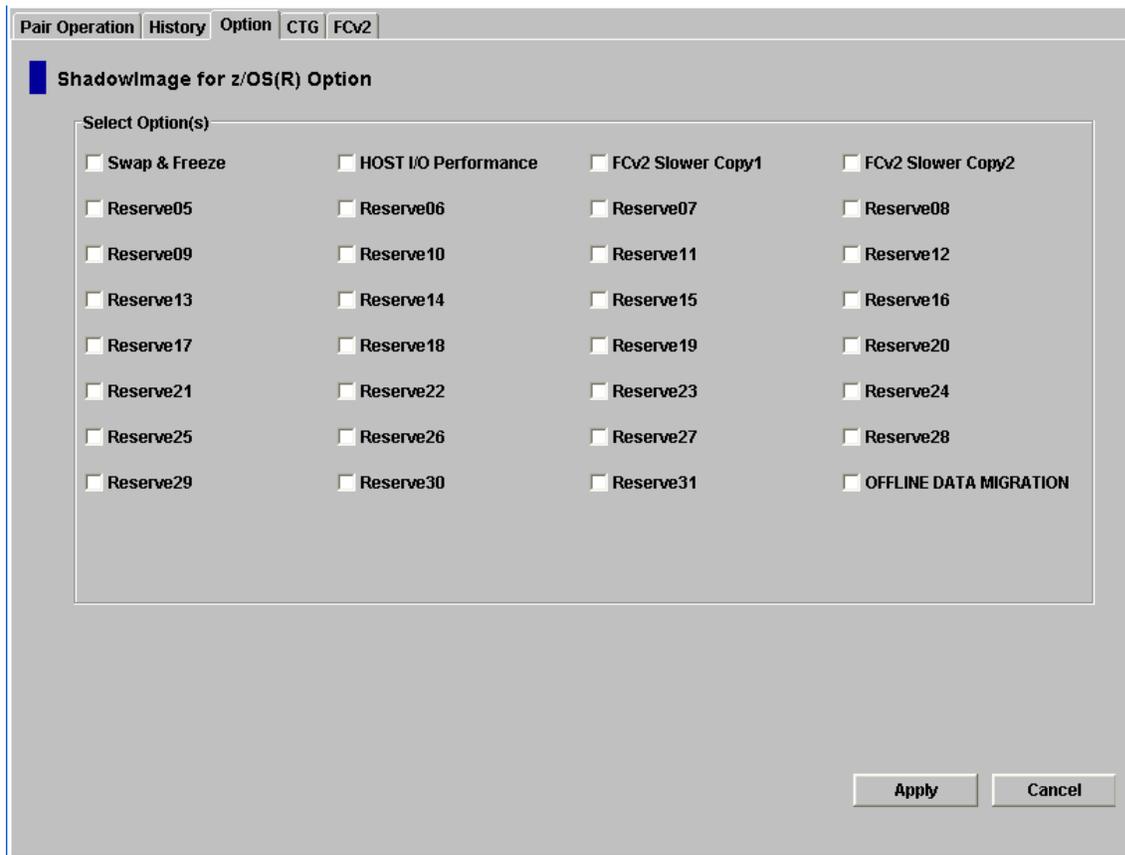
(1) [OFFLINE DATA MIGRATION] check box
When FICON® data Migration program product has been installed in WebConsole on the SVP, [OFFLINE DATA MIGRATION] check box is displayed on [Select Option(s)] box.

3.3 Data Retention

(1) Canceling the mode attribute

When the Data Retention window of Web Console is opened and the operation for changing the access attribute is performed, [Mode Clear] is displayed in a pop-up menu.

Use the menu when you want to cancel the attribute, Zer and Inv.

Note: For the attributes, Zer and Inv, refer to Data Retention User's Manual.

Hitachi Proprietary

SC02540Z

WEB03-40
Rev.0 / Mar.2007

DKC610I
Copyright © 2007, Hitachi, Ltd.

3.4 Volume Security

Error Detail

One or more hosts are performing I/O operations on the LDEV(s), or port security settings are changed.

Vary the LDEVs offline from the hosts, or

check the port security settings of Volume Port Security.

Host

One or more hosts are connected to the LDEVs. ▼

LDKC : 00

CU 00 ▼

LDEV	Emulation
00	3390-3

OK   Apply(Force)

(1) Apply (Force) button
When the Volume Security Error Detail window is opened by Web Console on the SVP, [Apply (Force)] button is displayed.

- Apply (Force)
The setting of Volume Security is forcibly reflected.   Without checking the host job.

Note 1: When the [Apply (Force)] button is pressed, the setting of Volume Security is forcibly reflected.   Without checking the host job.   If the Volumes on which any job is running exist, the job will possibly end abnormally.

Note 2: Perform the operation only when it is directed by the Technical Service Division.

3.5 Universal Volume Manager

Provided that the External Volume is its own volume, it allows to be mapped as an external storage device. But every LDEV of the external group must be allocated to another CLPR that is different from one which is allocated to some internal LDEVs.

It is shown for example when mapping between own LU and own external group as following.

For example when mapping between own external group

CLPER 01

External Volume group

External Port

mapping between own devices.

Parity Group (Internal device)

Target Port

LU

CLPER 02

LDEV
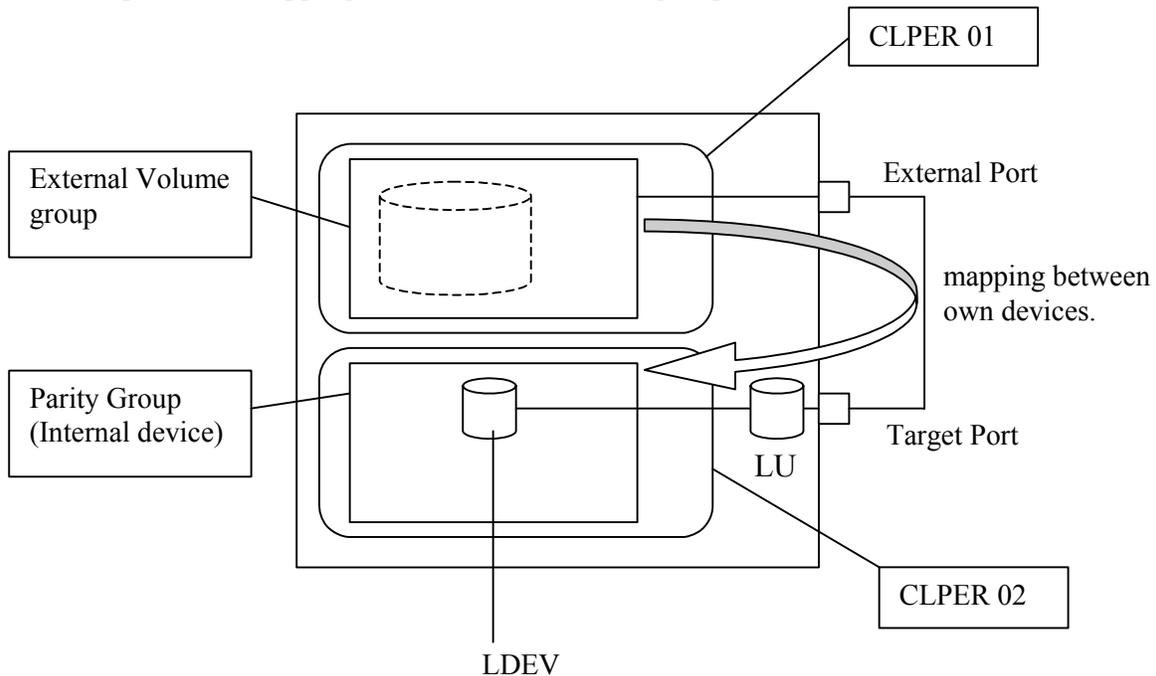
3.6 Copy-on-Write Snapshot, Dynamic Provisioning

3.6.1 V-VOL Window
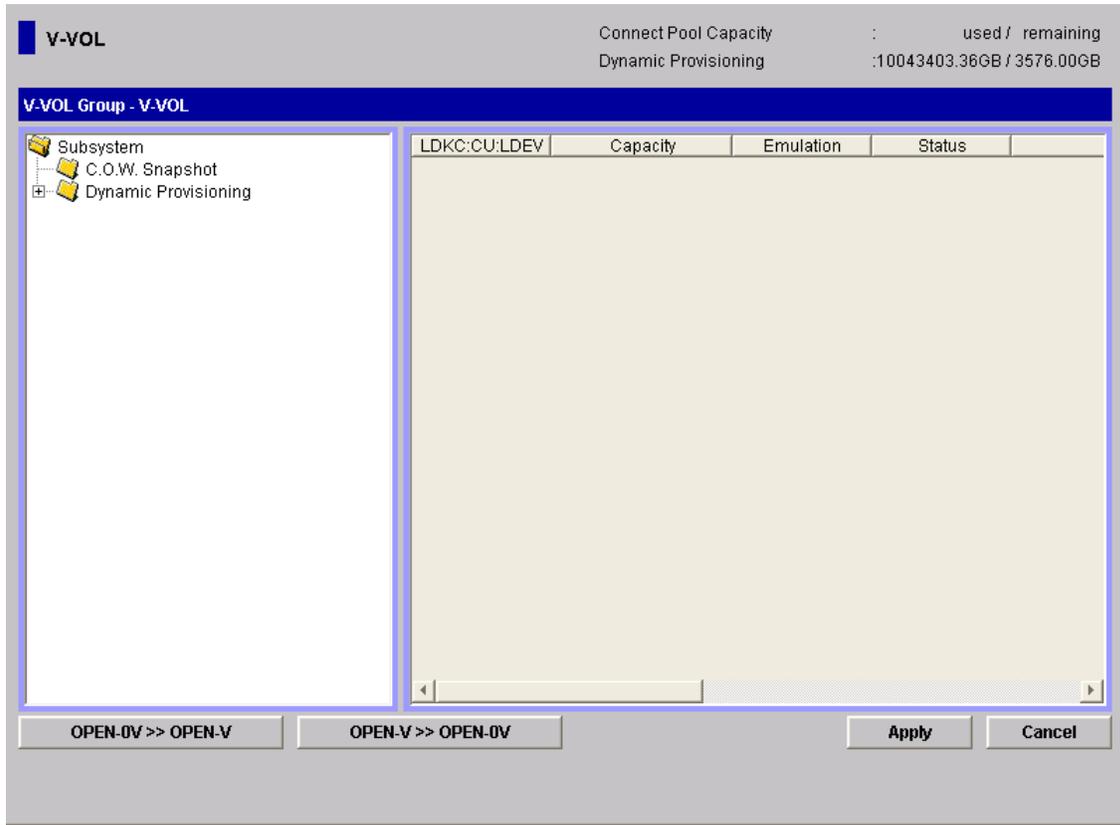
(1) [OPEN-0V >> OPEN-V] button
Change the virtual VOLs of Dynamic Provisioning whose emulation type is OPEN-0V to OPEN-VOLs.
With this change, the contents displayed in blue Italic are all cancelled.

(2) [OPEN-V >> OPEN-0V] button
Change the virtual VOLs of Dynamic Provisioning whose emulation type is OPEN-VOLs to OPEN-0V.
With this change, the contents displayed in blue Italic are all cancelled.

Immediately after select (CL) the [OPEN-0V >> OPEN-V] button/[OPEN-V >> OPEN0V] button, a window is displayed on which Normal mode and Force mode are selectable, as shown next:
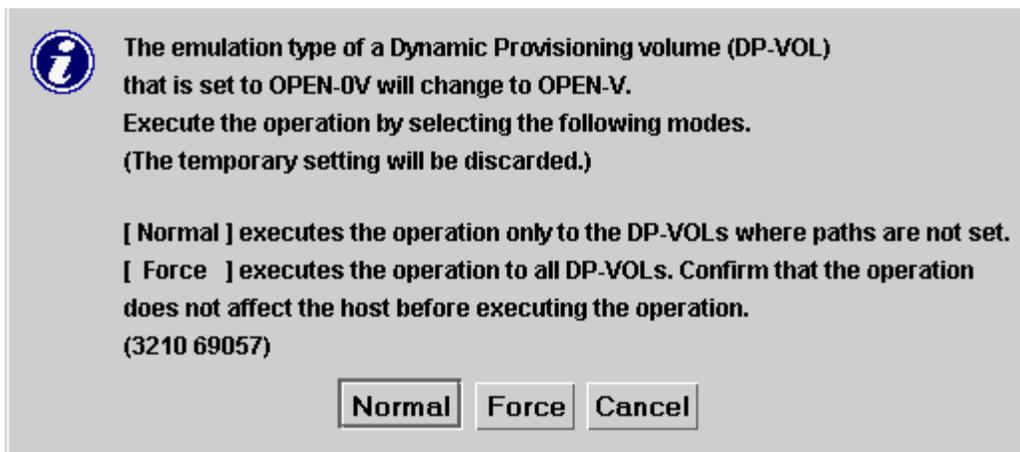
These two options (Normal and Force) further restrict which DP-VOLs will be changed. Selecting Normal mode or Force mode will determine the scope of the emulation change process, as shown next:

- Normal mode: In Normal mode, Dynamic Provisioning V-VOLs that do not have a defined LU path are changed. All OPEN-0V or OPEN-V DP-VOLs without a path assigned are changed to OPEN-V or OPEN-0V.
- Force mode: In Force mode, all Dynamic Provisioning V-VOLs, regardless of whether an LU path is defined, are changed. All OPEN-0V or OPEN-V DP-VOLs are changed to OPEN-V or OPEN-0V.

  Note: Since the Force mode also changes Dynamic Provisioning V-VOLs on which a LU path is defined, the emulation type recognized by the server will change suddenly for these volumes. Therefore it remains possible that LU cannot be recognized by the host and that I/O stops. While the host is online and I/O occurs, it is strongly recommended you avoid using the Force mode.
  Ask the customer SE or the customer whether the server has a problem due an emulation change.

  Note: If you use the Force mode and change the emulation type already recognized by the host, reconfigure the LU from the host so that the LU should be recognized by the host.

3.6.2 Pool Window

(1) Pool Information

Shows whether the pool can be rebalanced.
- Rebalance Type   : Pool can be rebalanced.
- Non-Rebalance Type : Pool can not be rebalanced.
                            * The pool type is changed to Rebalance (The pool can be
                              rebalanced) by performing Add Pool or Discard Zero Data.
- Blank   : Pool for C.O.W. Snapshot.

3.7 Storage Navigator CLI

When using Storage Navigator CLI, open the command prompt window to operate as follows.
[Start]-[All Programs]-[Accessories]-[Command Prompt]

Move the current directory to c:\dkc200\CFLCLITool as follows.
cd c:\dkc200\CFLCLITool

Syntax for each command is as following.

- In case of CFLSET
  cfl CFLSET input-file-name output-file-name

- In case of CFLCHK
  cfl CFLCHK input-file-name output-file-name

- In case of CFLGET
  cfl CFLGET input-file-name output-file-directory

Refer the Storage Navigator User's Guide regarding the way to use CFLSET/ CFLCHK/ CFLGET command in detail.

3.8 TrueCopy for z/OS®
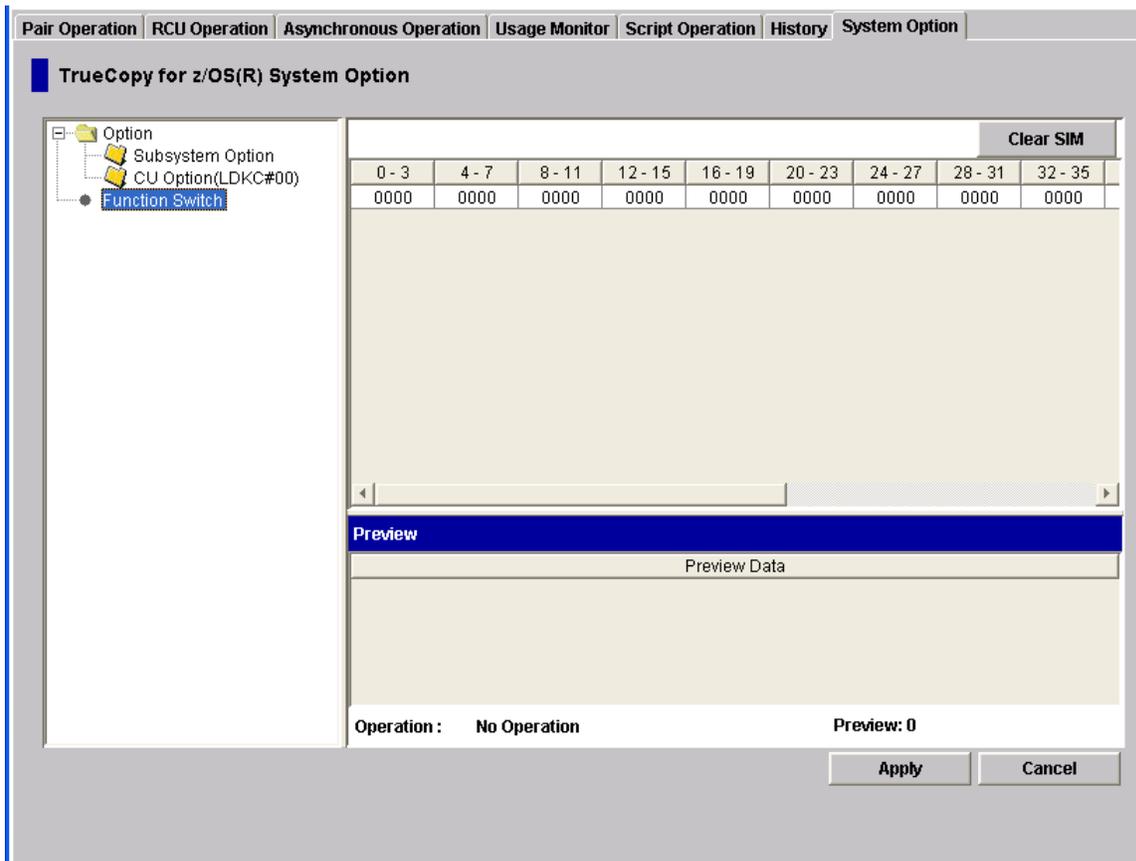
(1) System Option
When the 'TrueCopy for z/OS®' window is opened by WebConsole on the SVP, the [Function Switch] node appears in the tree of the System Option tab.

- Function Switch
The display of the list changes as shown in the above figure when the [Function Switch] node is selected.
Select the list and click the right mouse button, then [Function Switch] menu is displayed.
Select the [Function Switch] menu, then [Remote Copy Function Switch] dialog appears.

Storage Navigator

Remote Copy Function Switch

The Object to set up :   Subsystem

☐ 00	☐ 01	☐ 02	☐ 03	☐ 04	☐ 05	☐ 06	☐ 07
☐ 08	☐ 09	☐ 10	☐ 11	☐ 12	☐ 13	☐ 14	☐ 15
☐ 16	☐ 17	☐ 18	☐ 19	☐ 20	☐ 21	☐ 22	☐ 23
☐ 24	☐ 25	☐ 26	☐ 27	☐ 28	☐ 29	☐ 30	☐ 31
☐ 32	☐ 33	☐ 34	☐ 35	☐ 36	☐ 37	☐ 38	☐ 39
☐ 40	☐ 41	☐ 42	☐ 43	☐ 44	☐ 45	☐ 46	☐ 47
☐ 48	☐ 49	☐ 50	☐ 51	☐ 52	☐ 53	☐ 54	☐ 55
☐ 56	☐ 57	☐ 58	☐ 59	☐ 60	☐ 61	☐ 62	☐ 63

Set	Cancel

Make the check box turn on or turn off, and select [Set] button.
Confirm the content of the Preview box, and select the [Apply] button.

Note: Perform the operation only when it is directed by the Technical Service Division.

Note: Please refer to "3.10 Remote Copy Function Switch" for the function allocated in each switch.

(2) Pair Operations
     When the 'TrueCopy z/OS®' window is opened by WebConsole on the SVP, the [Delete
     Command Device] button is appeared in this window.

     - Delete Command Device
          The command device for Business Continuity Manager is deleted in the lump.
          Use the button when you want to delete command device for Business Continuity Manager
          after removed the Business Continuity Manager.

     Note1: Command devices for Business Continuity Manager are deleted by this operation.
              But when external volumes used by Universal Volume Manager are defined as
              command devices, they are not deleted.

     Note2: No information is displayed in the Preview box when click the [Delete Command
              Device] button. Click the [Apply] button if "Delete Command Device" is displayed in
              the "Operation:".

     Note3: To find the command device for Business Continuity Manager, use the Basic
              Information Display. The 'TrueCopy z/OS®' window cannot find the command
              device for Business Continuity Manager. For more information about the Basic
              Information Display, see the *Hitachi Storage Navigator User's Guide*.

Hitachi Proprietary

SC02540Z

WEB03-110
Rev.0 / Jan.2009

DKC610I
Copyright © 2009, Hitachi, Ltd.

3.9 TrueCopy

| | Pair Operation | RCU Operation | Asynchronous Operation | Usage Monitor | History | **System Option** |

TrueCopy System Option

```
Option
  Subsystem Option
  CU Option(LDKC#00)
  Function Switch
```

0 - 3	4 - 7	8 - 11	12 - 15	16 - 19	20 - 23	24 - 27	28 - 31	32 - 35
0000	0000	0000	0000	0000	0000	0000	0000	0000

Preview

Preview Data

Operation :   No Operation   Preview: 0

| Apply | Cancel |

(1) System Option
When the 'TrueCopy' window is opened by WebConsole on the SVP, the [Function Switch]
node appears in the tree of the System Option tab.

- Function Switch
    The display of the list changes as shown in the above figure when the [Function Switch]
    node is selected.
    Select the list and click the right mouse button, then [Function Switch] menu is displayed.
    Select the [Function Switch] menu, then [Remote Copy Function Switch] dialog appears.

Storage Navigator

■ Remote Copy Function Switch

The Object to set up :   Subsystem

☐ 00 ☐ 01 ☐ 02 ☐ 03 ☐ 04 ☐ 05 ☐ 06 ☐ 07
☐ 08 ☐ 09 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15
☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23
☐ 24 ☐ 25 ☐ 26 ☐ 27 ☐ 28 ☐ 29 ☐ 30 ☐ 31
☐ 32 ☐ 33 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐ 39
☐ 40 ☐ 41 ☐ 42 ☐ 43 ☐ 44 ☐ 45 ☐ 46 ☐ 47
☐ 48 ☐ 49 ☐ 50 ☐ 51 ☐ 52 ☐ 53 ☐ 54 ☐ 55
☐ 56 ☐ 57 ☐ 58 ☐ 59 ☐ 60 ☐ 61 ☐ 62 ☐ 63

          Set   **Cancel**

Make the check box turn on or turn off, and select [Set] button.
Confirm the content of the Preview box, and select the [Apply] button.

Note: Perform the operation only when it is directed by the Technical Service Division.

Note: Please refer to "3.10 Remote Copy Function Switch" for the function allocated in each switch.

3.10 Remote Copy Function Switch

The function allocated in each switch is as follows.

Switch#	Contents
7	F/M = SSB of FB is not reported to HOST.
11	A copy pace is made a maximum 32 Tracks, when "15 Tracks" is selected in the Remote Copy option parameter and "Track" is selected in the Difference Management. But this function is not applied for OPEN-V, and a copy pace is set "4 Tracks" for OPEN-V.
12	When Add Pair or Resume Pair is operated with the Host command, Only M-VOL is set up in the CFW Data option.
15	The path failure threshold when switch #17 and switch #15 are turned on is lowered to a usual half. <Path failure threshold> <table><tr><td>Switch#15</td><td>Switch#17</td><td>LIP</td><td>RSCN</td><td>TOV</td></tr><tr><td>OFF</td><td>ON</td><td>15 times</td><td>15 times</td><td>5 times</td></tr><tr><td>ON</td><td>ON</td><td>7 times</td><td>7 times</td><td>3 times</td></tr></table>
17	The frequency of the path failure is counted to the path where a temporary path failure occurs repeatedly. When the frequency of the path failure exceeds the threshold within a certain period, the path concerned is blockaded. The remote copy lower performance by the path failure use is controlled by blockading the path concerned.
18	The path is blocked when the number of link failures reaches the threshold within a certain period
21	When Add Pair or Resume Pair is operated with the PPRC command for DKC Emulation = 2105/2107, 3 Tracks is set up in the Initial Copy Pace option.
30	The following functions are supported. • When the pair from Storage Navigator is formed, the pair is formed with SyncCTG#7F. • When all the connections from MCU-RCU PATH cut, S-VOL that belongs to SyncCTG#7F is suspended.
33	In the cases that a PDCM function of McData ES3232 is being used on MCU-RCU path, when response of LOGIN response is late, path status of MCU is changed to non-normal.
36	This bit specifies "Enable" in Timestamp option at Add pair from GDPS. TC-MF/UR-MF cascade form makes Timestamp option of TC-MF "Enable", and keeps Consistency of UR-MF. But, the TC-MF pair formation with GDPS uses an optional time stamp and because "Effective" cannot be directed, this bit is used.
37	The compensation of the amount of use is carried out when the amount of use of a license of TC/TCA/UR becomes illegal. This function switch is turned off automatically after the compensation of the amount of use is carried out. The following SSB is outputted when this function switch is used. Compensation management start. SSB: C2C1 Compensation management end. SSB: C2C2

4. Installing SNMP Agent

4.1 Installation Procedure

Make sure that the P.P. of the SNMP API has been installed beforehand.
For the details of the setting, refer to the RAID600 Web Console User's Guide (Basic Version). In this section, a procedure for setting the SNMP is explained simply.

1. Activate WebConsole by pressing the WebConsole button on the SVP.
2. Select the icon from the start menu of Web Console, and move to the SNMP tab.
3. Lock the mode selection by pressing the icon in the WebConsole window.
4. Check off the Extension SNMP.
5. Select the addition of the community by clicking the Community folder with the right mouse button.
6. Since a window for adding a community name is displayed, add a community name.
7. Select Add IP Address by clicking the community name, which is to be entrapped, with the right mouse button.
8. Since the Add IP Address window is displayed, add an IP address.
9. Repeat the above operations as occasion demands.
10. Make entries in the Name, Contact, and Location boxes of System Group.
11. When the entries are completed, register the setting by pressing the Apply button.
12. Unlock the mode selection by pressing the icon in the WebConsole window.

Hitachi Proprietary

SC02540Z

WEB04-20
Rev.1 / Mar.2007, Apr.2008

DKC610I
Copyright © 2007, 2008, Hitachi, Ltd.

4.2 Operations on SNMP Screen

■ Checking setup

(1) Checking the initiation of the SNMP Agent
Check that a node of the subsystem has been added to the SNMP manager side. If a node of the subsystem is not yet added, check that the Microsoft's SNMP Agent has been installed correctly.

Notice: When the firewall is set in the SNMP manager, SNMP does not work properly. See "1.5 Check of Configuring WebConsole over a Firewall" (WEB01-110) and confirm the firewall setting.

(2) Checking the support for MIB extensions
Perform GET/GETNEXT operations of subsystem MIB extensions from the SNMP manager side to a node of the subsystem. If operations cannot do well, set up once again.

(3) Checking MIB extension report destinations
The SVP PC has two LAN cards (boards) mounted. Therefore, check if a correct agent address is reported when issuing a trap, in the following way:

<Confirm method by ColdStart>
(a) Select menus [Administrative Tools]-[Services].
(b) Select "SNMP Service," and then select the Action menu or the Restart menu by clicking with the right mouse button
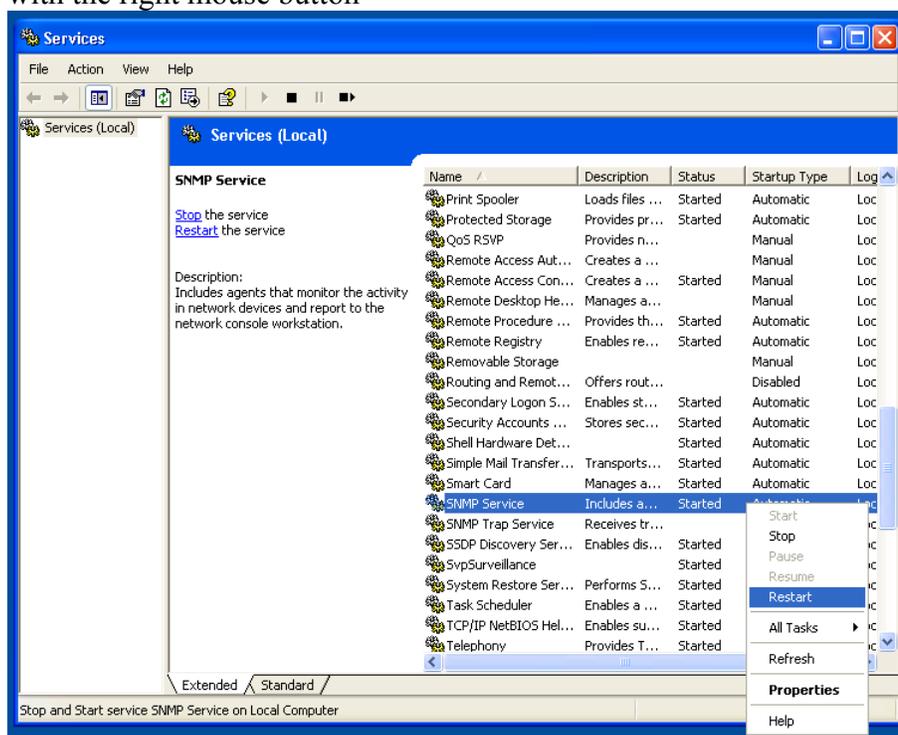
(c) Check a trap log of SVP ColdStart(0) on the SNMP manager side to see if the agent address has been set to the IP address of the customer's LAN.

<Confirm method by WebConsole>
(a) Activate WebConsole by pressing the [Web Console] button on the SVP.
(b) Click [Go]–[Environmental Settings]–[SNMP Information] in the menu bar of
    WebConsole Main window. The 'SNMP Information' window appears.
(c) Select the [Trap Test] button.
(d) A confirmation message displays. Select [OK] or [Cancel].
(e) Check the SNMP Trap report (Reference Code 7FFFFF) is received by SNMP Manager.

⚠ **CAUTION**

If the IP address has been set to the IP address of the LAN only for a DKC, exchange the
IP address setting of the LAN board (Card) between the customer's and the DKC's.
(IP address of the customer's LAN ® IP address of the LAN only for a DKC,
IP address of the LAN only for a DKC ® IP address of the customer's LAN)

■ Uninstalling the SNMP Agent

The following describes a procedure for uninstalling the SNMP Agent.

```
┌─────────────────────────────────────────────────┐
│ Delete set-up data on the SNMP setup screen.     │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│ Uninstall the SNMP Agent on the SVP screen.      │
│ Refer to the user's manual.                      │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│ Uninstall the SNMP Extensible Agent of Microsoft-make. │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│ Reboot the PC.                                   │
└─────────────────────────────────────────────────┘
```
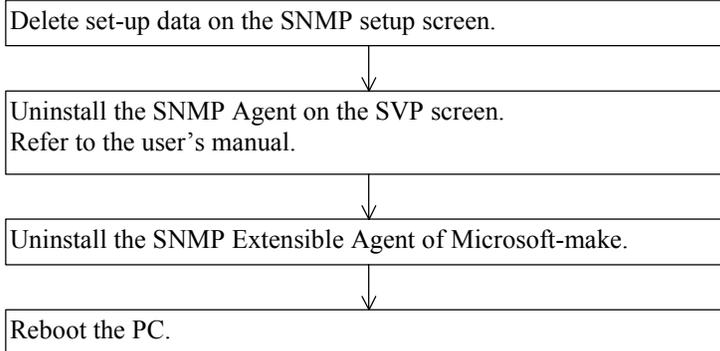
5. The On-Demand Storage Functions release procedure

When the additional Cache memory installation is abnormally terminated, the subsystem may be in the status that it cannot be used (On-Demand status) even though the additional Cache memory is installed.

Perform the following operation to release this status (Cache memory extension).

- 'On-Demand' window (Refer to Fig. 5.1-1)
- Extending cache memory using the On-Demand Storage Cache function (see section 5.2).

5.1 The On-Demand Window
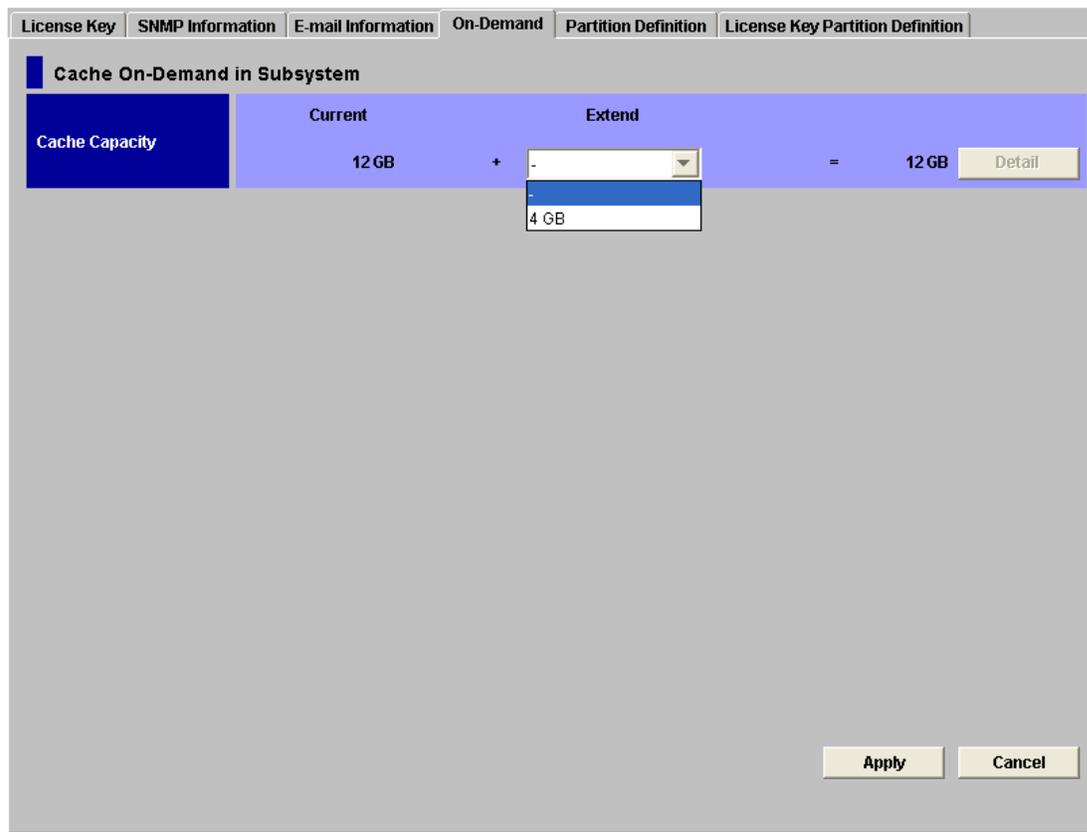
Fig. 5.1-1   The On-Demand Window

The 'On-Demand' window of the Web Console main window has the following features:

- The Cache Capacity displays the Extend box and fields that shows the current and total cache capacity for the whole subsystem in gigabytes.
  - The Extend box allows you to select the incremental cache capacity in gigabytes.
  - The Detail button allows you to display the 'Cache Detail' window. If you have logically partitioned the cache memory using Virtual Partition Manager, you can allocate the extended cache memory to each CLPR (Cache Logical Partition) using the 'Cache Detail' window.

- The [Apply] button makes all the changes or settings made on the 'On-Demand' window effective.

  Note: This button is active only when you select the modify mode.

  Note: When you click the [Apply] button, a confirmation message (see Fig. 5.1-2) appears, asking you to confirm that you want to apply the setting. Click the [OK] button to apply, or click the [Cancel] button to cancel your request.

- The [Cancel] button cancels all the changes or settings made on the 'On-Demand' window.

  Note: This button is active only when you select the modify mode.

Fig. 5.1-2   The Confirmation Message

5.2 Extending Cache Memory Using On-Demand Storage Cache Function

You can extend the cache memory using the On-Demand function for cache memory.
If you have partitioned the cache memory using Virtual Partition Manager, you can also allocate the cache memory to each CLPR as you extend the cache memory (see section 5.2.1). For detailed information on partitioning the cache memory, please refer to the Virtual Partition Manager User's Guide.

To extend the cache memory on the subsystem:
1. Change the operation mode of SVP to the View mode.
2. Press the [Web Console] button and open the main window.
3. Change to Modify mode.
4. Click Go, Environmental Settings and On-Demand on the menu bar on the Web Console main window to open the 'On-Demand' window.
5. Select a desired incremental value (cache capacity) from the Extend drop-down list.
6. If you want to allocate the extended cache memory to CLPRs, perform the allocating operation here, and then go to the next step (See section 5.2.1).
    If you do not need to allocate the cache memory, go to the next step.
7. Confirm that the total capacity (current cache + extended cache) is displayed on the right side of the drop-down list correctly.
8. On the Web Console main window, click the [Apply] button to apply the setting, or click the [Cancel] button to exit without applying the setting.
9. When a confirmation message appears, asking you to confirm that you want to add access to the additional capacity, select [OK] to implement the change, or select [Cancel] to cancel your request.

    WARNING: Once you select the [OK] button, you cannot cancel or undo your request.

5.2.1 Allocating Extended Cache Memory to CLPRs

If you have partitioned the cache memory using Virtual Partition Manager, you can also allocate the cache memory to each CLPR as you extend the cache memory. To allocate the extended cache memory to each CLPR, you will use the 'Cache Detail' window (see Fig. 5.2.1-1) that can be displayed as you select the [Detail] button on the Cache Capacity.
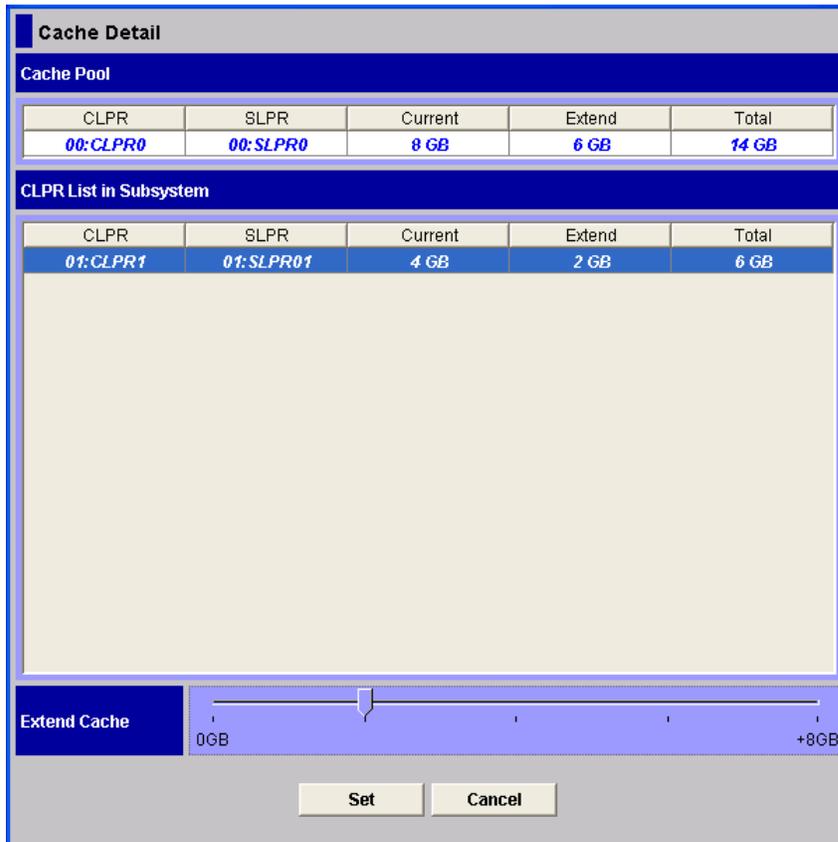
Fig. 5.2.1-1   The Cache Detail Window

The 'Cache Detail' window has the following features:
- Cache Pool - displays the following information on the CLPR of CLPR number 00:
    - CLPR: displays the CLPR number (which is 00) and CLPR name.
    - SLPR: displays the SLPR number (which is 00) and SLPR name.
    - Current: displays the capacity of CLPR number 00 among the currently equipped cache memory.
    - Extend: displays the capacity of cache memory that is allocated to the CLPR number 00 out of the extended cache memory. The capacity that is specified in the Extend box on the Cache Capacity is displayed until you set the allocating capacity to other CLPRs.
    - Total: displays the total of current capacity and the extended capacity of the cache memory for CLPR number 00.

■ CLPR List in Subsystem - displays the following information on the partitioned cache memory (CLPR):
- CLPR: displays the CLPR number and CLPR name.
- SLPR: displays the SLPR number and SLPR name.
- Current: displays the current capacity of CLPR.
- Extend: displays the capacity of the extended cache memory that is set by the knob on the Extend Cache slider displayed on the lower part of the 'Cache Detail' window.
- Total: displays the total of the current capacity of CLPR and the extended capacity of cache memory that is set by Extend Cache slider.

■ Extend Cache slider - allows you to decide the capacity of cache memory to be allocated to each CLPR among the extended cache memory by dragging the knob.
When you select one or more CLPRs in CLPR List in Subsystem, the scale is displayed and the knob becomes available. The displayed scale is variable according to the capacity of the extended cache memory and the number of CLPRs selected in CLPR List in Subsystem. For example, if you select 28 GB in the Extend box of Cache Capacity and select one CLPR in CLPR List in Subsystem, the scale from 0 GB to 28 GB by 2 GB is displayed. If you select multiple CLPRs in CLPR List in Subsystem, the scale to the greatest value that can divide equally the capacity of the extended cache memory by the number of CLPRs you have selected is displayed. For example, if you select 28 GB in the Extend box of Cache Just in Time in Subsystem section and select three CLPRs in CLPR List in Subsystem, the scale from 0 GB to 8 GB is displayed. Once you have decided the capacity of cache memory to be allocated, and then you re-select the CLPR in CLPR List in Subsystem to change the value of allocated capacity, the scale is not from 0 GB but from the minus value of the decided value to the greatest value that can be allocated. The knob is placed on 0 GB.

■ The Set button allows you to preserve the settings and close the 'Cache Detail' window.

■ The Cancel button allows you to cancel the settings and close the 'Cache Detail' window.

Following is the procedure of allocating extended cache memory to CLPRs. Here the procedure starts with the step of selecting the capacity of extended cache memory in the Extend box of the Cache Capacity and ends with the step of closing the 'Cache Detail' window. For the whole procedure of extending cache memory using the On-Demand function, see section 5.2.

1. Select a desired incremental value (cache capacity) from the Extend drop-down list of the Cache Capacity.

   Note: After you have once set the allocating capacity of extended cache memory on the 'Cache Detail' window and now changed the value in the Extend box, a confirmation window may be displayed (see Fig. 5.2.1-2), if the newly set value in the Extend box does not match the existing setting of the 'Cache Detail' window. If you allow the existing setting of the 'Cache Detail' window to be initialized, select [OK].

2. Select the Detail button.
   The 'Cache Detail' window is displayed (see Fig. 5.2.1-1). In the Extend column of Cache Pool, the value that is selected in the Extend box is displayed.

3. Select one or more CLPRs for which you want to extend the cache memory in CLPR List in Subsystem.
   The scale for the Extend Cache slider is displayed, and the knob becomes available.

4. Drag the knob on the Extend Cache slider to the capacity you want to allocate to the selected CLPRs.
   The capacity of allocated cache memory is displayed in the Extend column of selected CLPRs in CLPR List in Subsystem according to the setting on the Extend Cache slider. The value in the Extend column of Cache Pool decreases as much capacity as you have allocated to each CLPR. Cache Pool and the selected rows of CLPR List in Subsystem change to the blue bold italics.

5. Select the Set button.
   The 'Cache Detail' window is closed and go back to 'On-Demand' window.
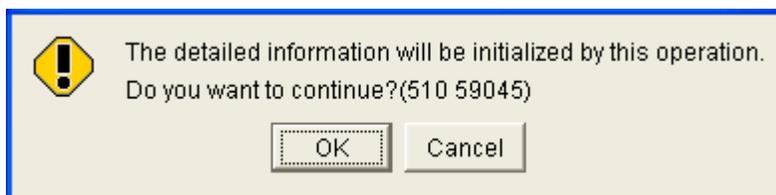
Fig. 5.2.1-2   Confirmation Window for Initializing Setting of Cache Detail Window

6. Procedure of Apache uninstallation

Please uninstall only Apache according to the following procedures. After uninstalling Apache, you need to install the Apache 2.2.4.

6.1 Uninstallation of Apache

Before installing Apache 2.2.4, you need to uninstall the Apache already installed in the SVP. Uninstall the Apache in the following procedure.

6.1.1 Checking Apache version

Use the following procedure and check the version of Apache currently installed in the SVP.

(1) Select (DR) [Start]-[Control Panel].
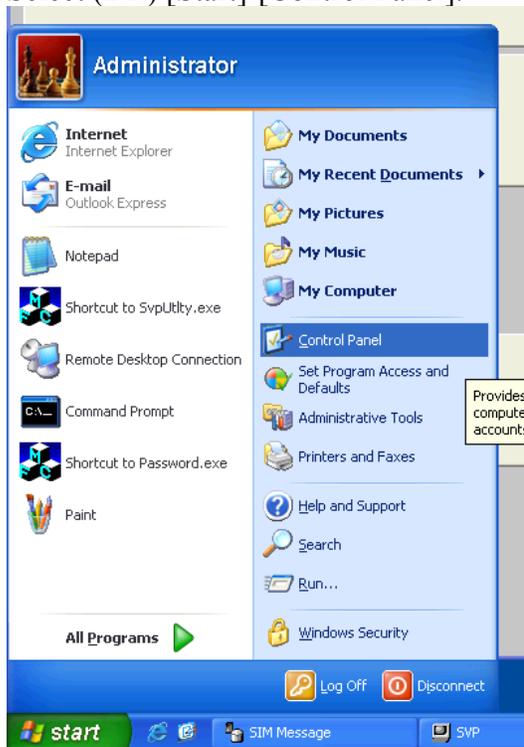
(2)   Select (DC) [Add or Remove Programs].
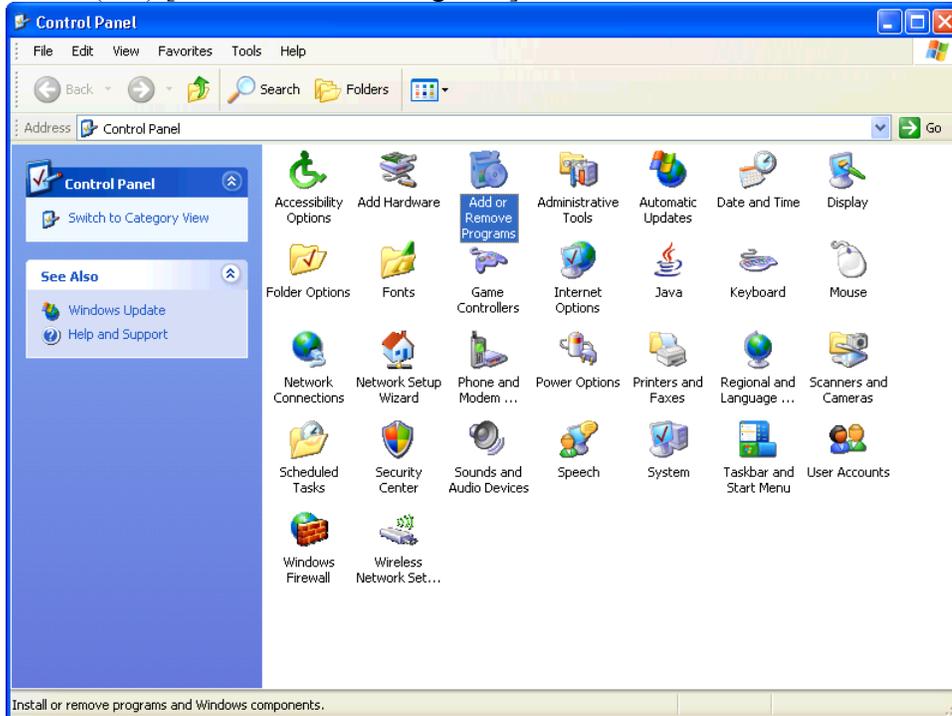
(3)   Check the content of [Currently installed programs] in the [Add or Remove Programs] panel.
      If [Apache HTTP Server 2.0.54] exists, Apache 2.0.54 is installed.
      If [Apache HTTP Server 2.2.4] exists, Apache 2.2.4 is installed.
      If [OpenSA Web Server 1] exists, OpenSA is installed.
      In order to uninstall Apache 2.0.54, go to 6.1.2.
      In order to uninstall Apache 2.2.4, go to 6.1.3.
      In order to uninstall OpenSA, go to 10.3.
      If [Apache HTTP Server 2.2.4] does not exist, go to 8.1.
      When the Apache version check is completed, select (CL) the [×] button.
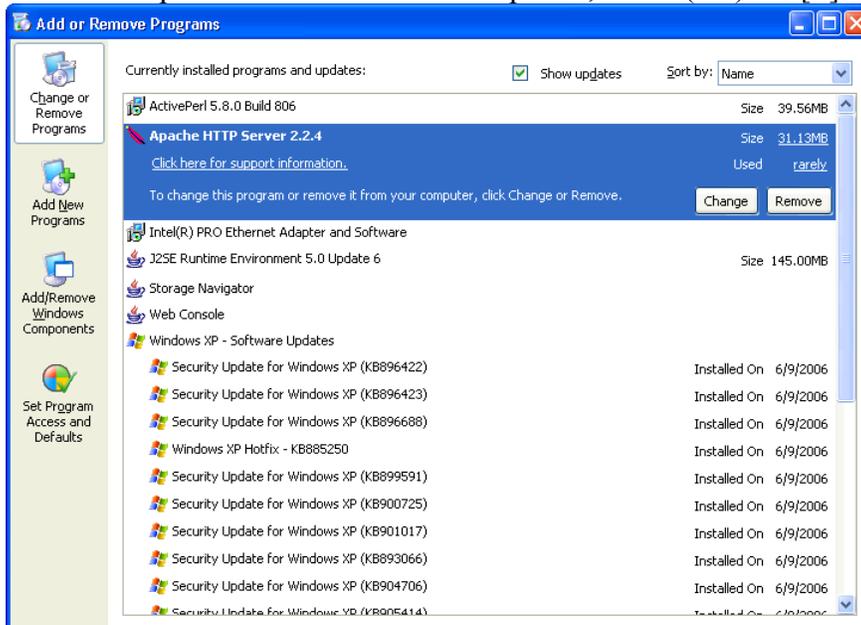
6.1.2 Uninstallation of Apache 2.0.54

(1) Select (DR) [Start]-[All Programs]-[Apache HTTP Server 2.0.54]-[Control Apache Server]-[Stop]. Service of Apache will stop.
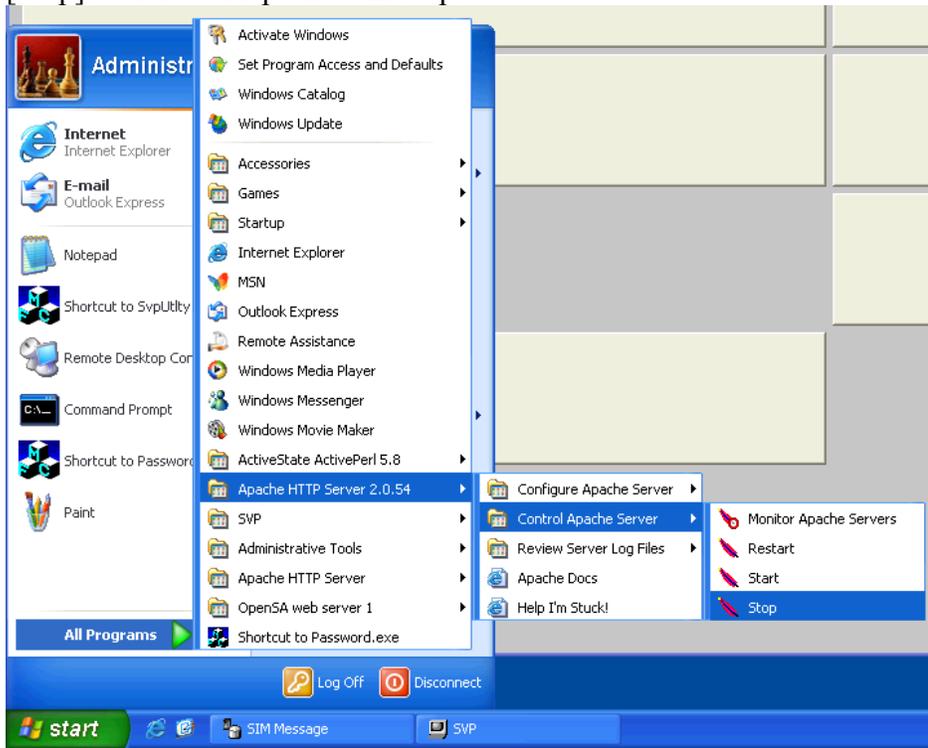
(2) Select (DR) [Start]-[Control Panel].
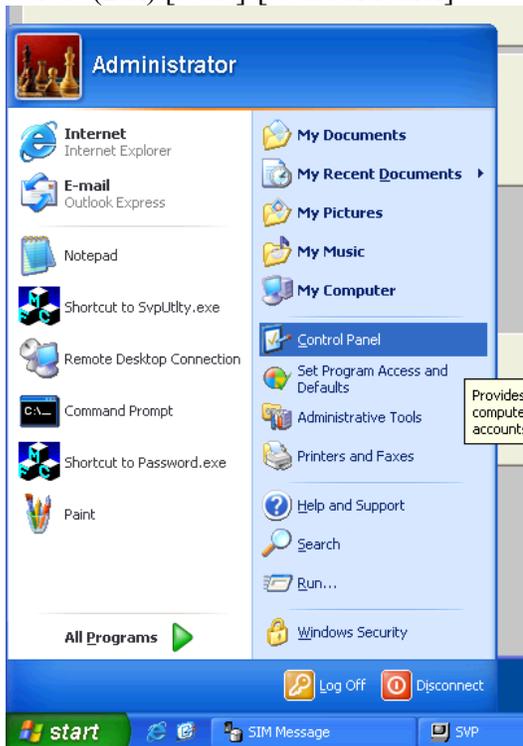
(3) Select (DC) [Add or Remove Programs].
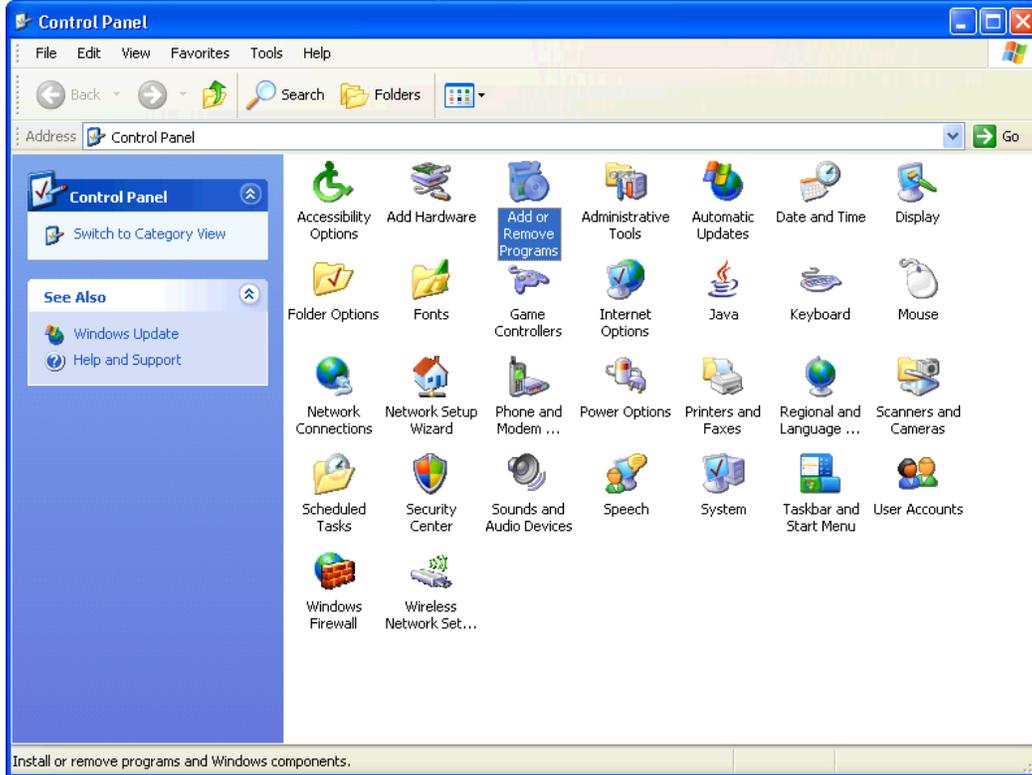
(4) Select [Apache HTTP Server 2.0.54], and then select (CL) the [Remove] button.
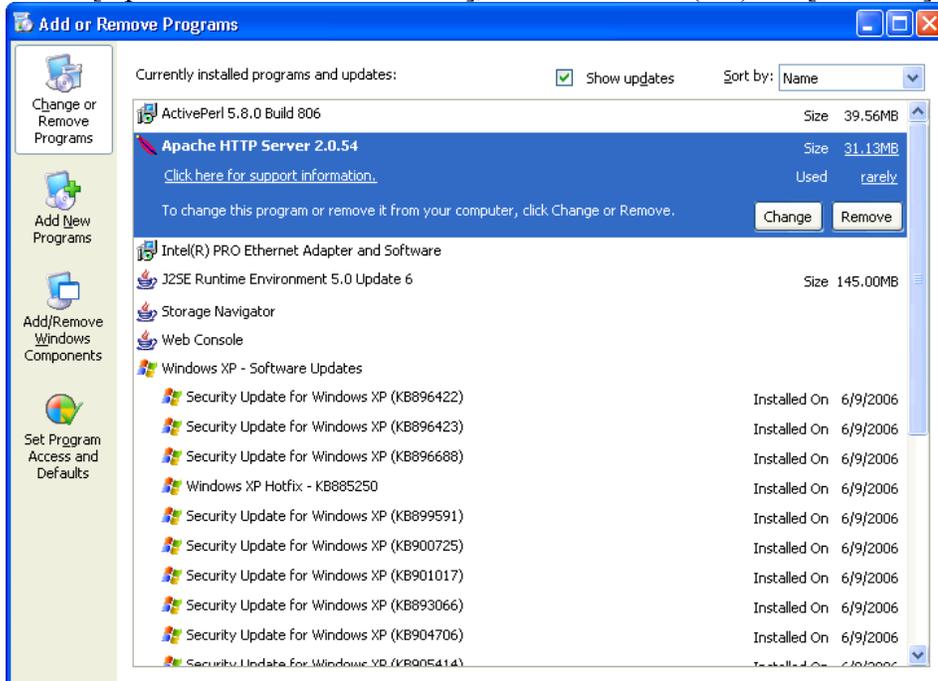
(5)   The message, "Are you sure you want to remove Apache HTTP Server 2.0.54 from your computer?" is displayed. Select (CL) the [Yes] button.
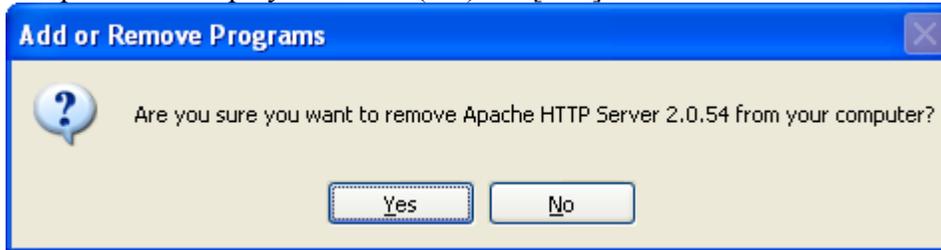
(6)   Unistallation of Apache 2.0.54 starts.
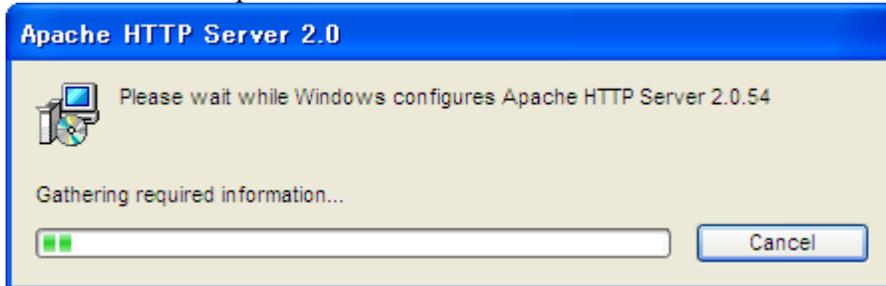
(7)   [Apache HTTP Server 2.0.54] is removed from the [Add or Remove Programs] panel. Select (CL) [×] button, and close this window.
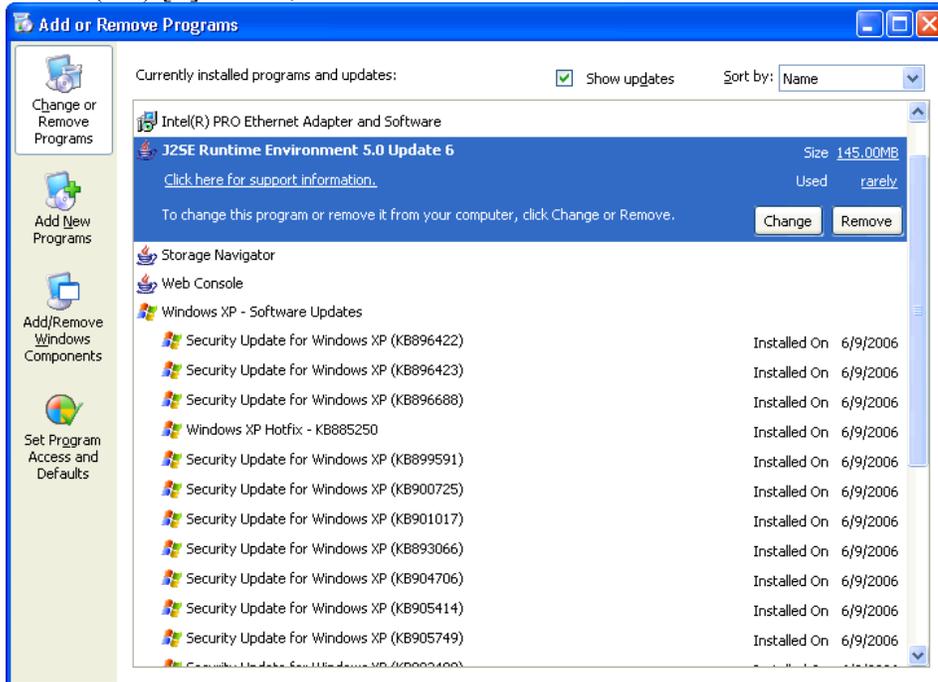
(8)   Select (DR) [Start]-[Run…].
      Enter "delApacheConf.bat" and press the [OK] button.

After completing this procedure, refer to procedure "8.1. Installation of Apache 2.2.4" (WEB08-10) and install Apache 2.2.4.

6.1.3 Uninstallation of Apache 2.2.4

(1) Select (DR) [Start]-[All Programs]-[Apache HTTP Server 2.2.4]-[Control Apache Server]-
     [Stop]. Service of Apache will stop.
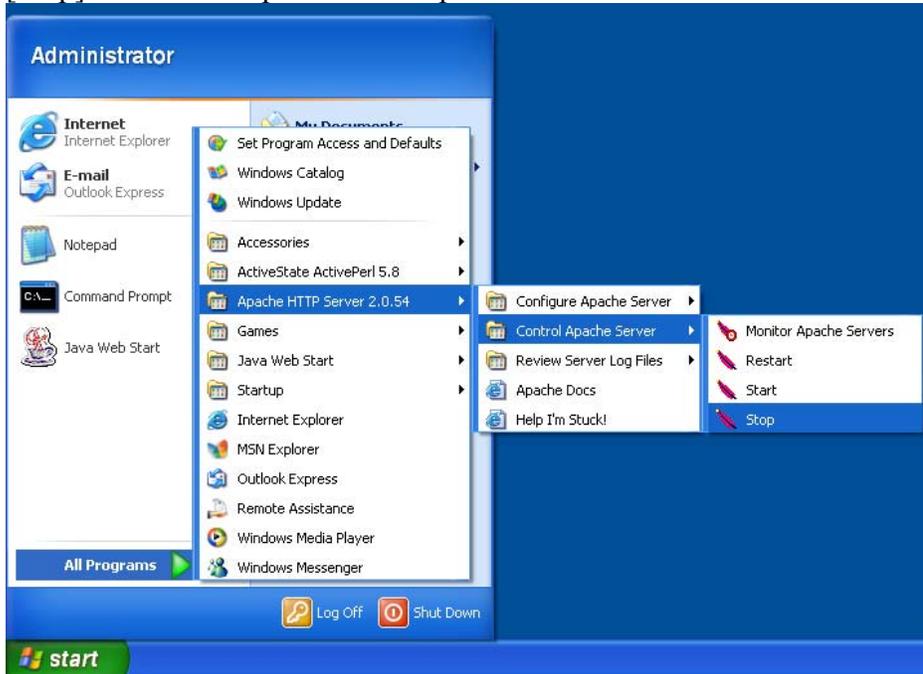
(2) Select (DR) [Start]-[Control Panel].
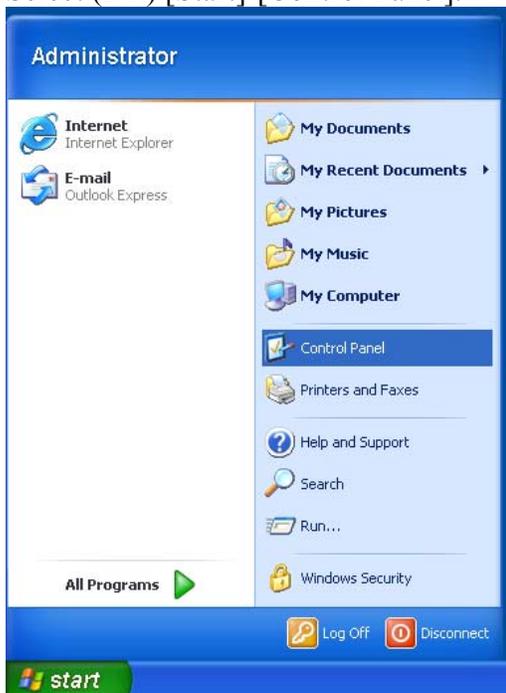
(3) [In case of Windows XP]

Select (DC) [Add or Remove Programs].
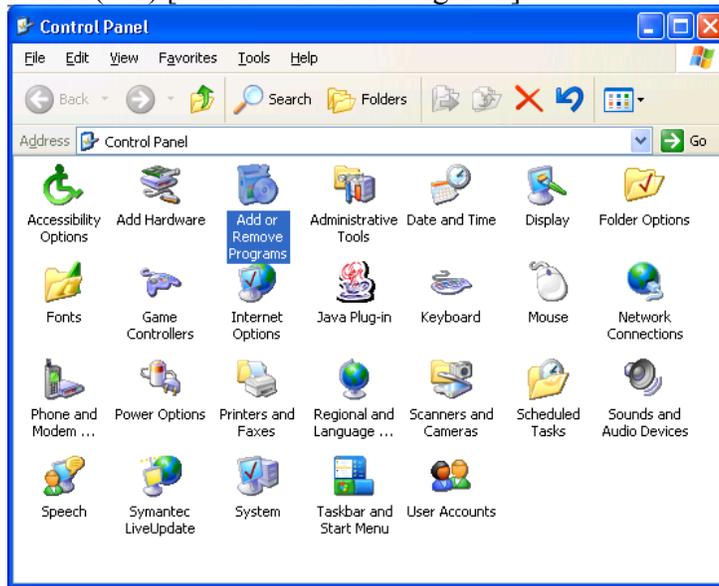
[In case of Windows Vista]

Select (DC) [Programs and Features].
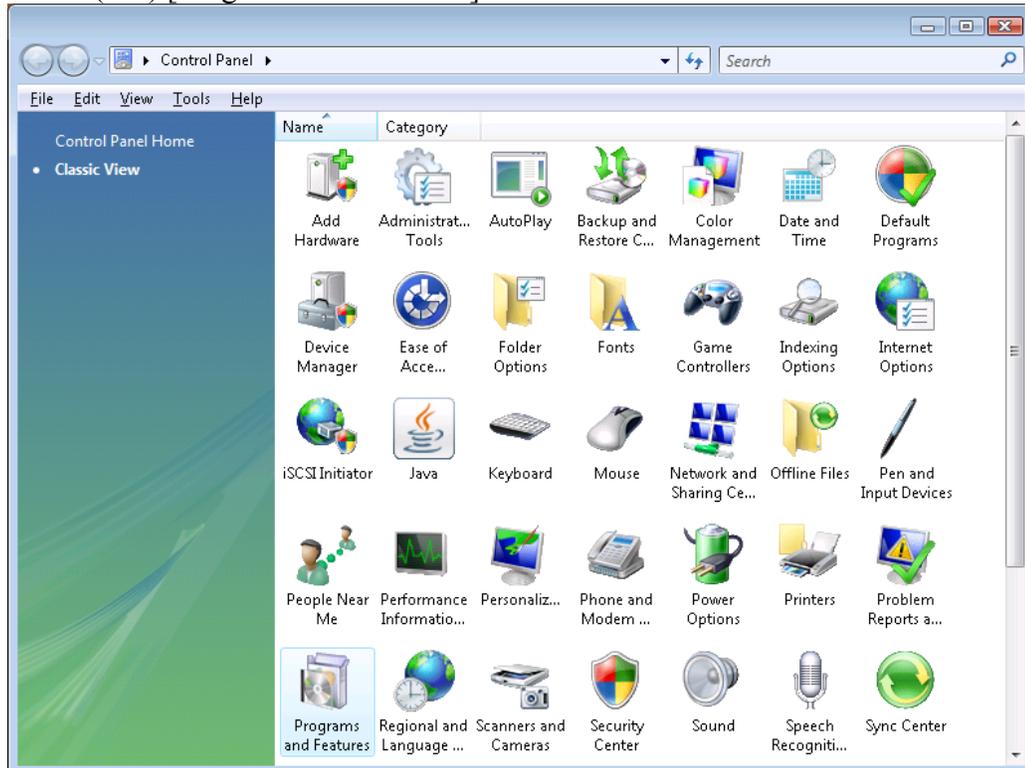
(4) [In case of Windows XP]

Select [Apache HTTP Server 2.2.4], and then select (CL) the [Remove] button.
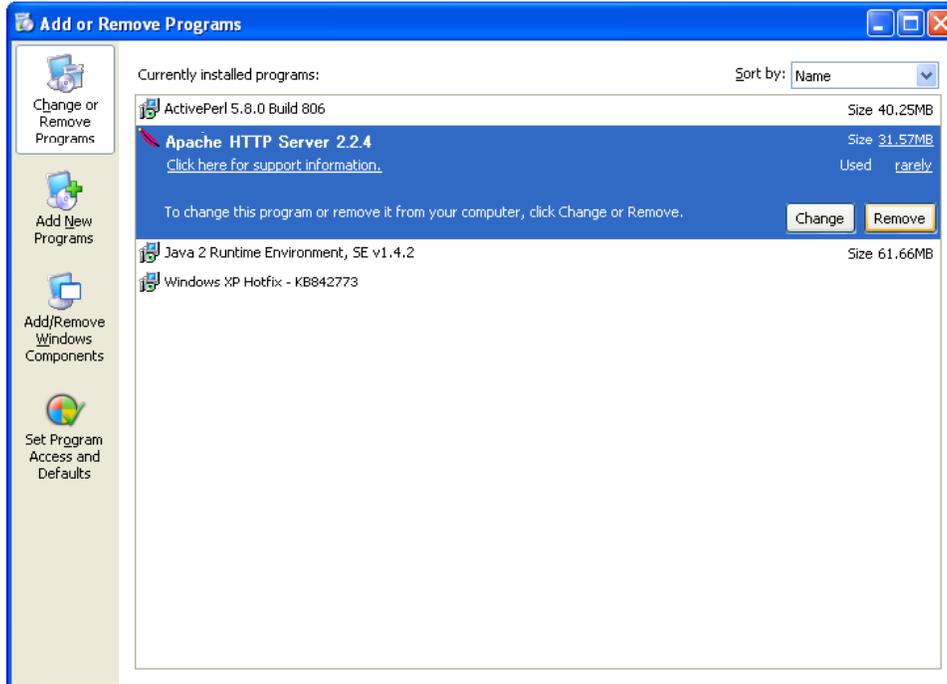
[In case of Windows Vista]

Select [Apache HTTP Server 2.2.4], and then select (CL) the [Uninstall] button.
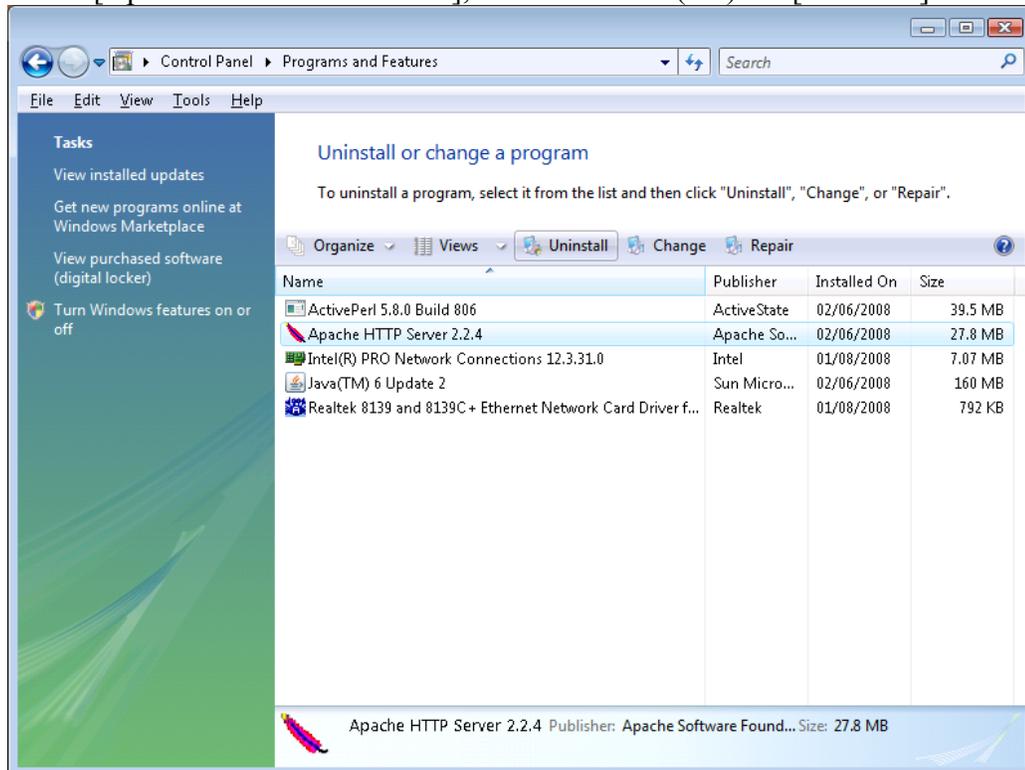
(5) The message, "Are you sure you want to remove Apache HTTP Server 2.2.4 from your computer?" is displayed. Select (CL) the [Yes] button.
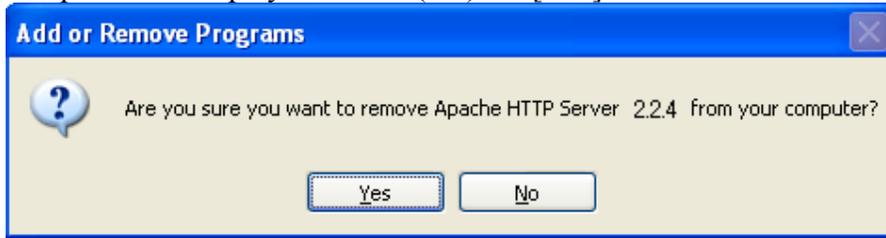
(6) Uninstallation of Apache 2.2.4 starts.
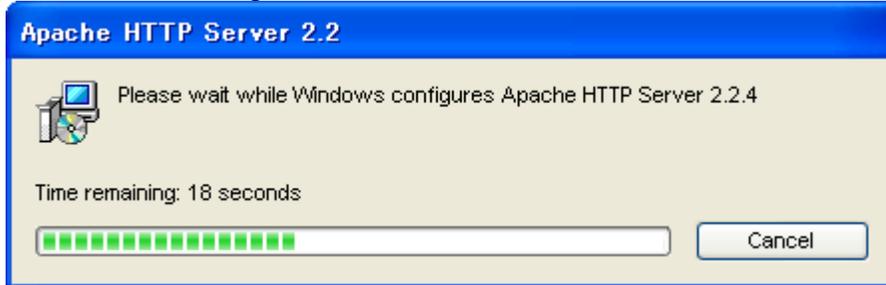
(7) [In case of Windows XP]

[Apache HTTP Server 2.2.4] is removed from the 'Add or Remove Programs' window.
Select (CL) [×] button, and close this window.
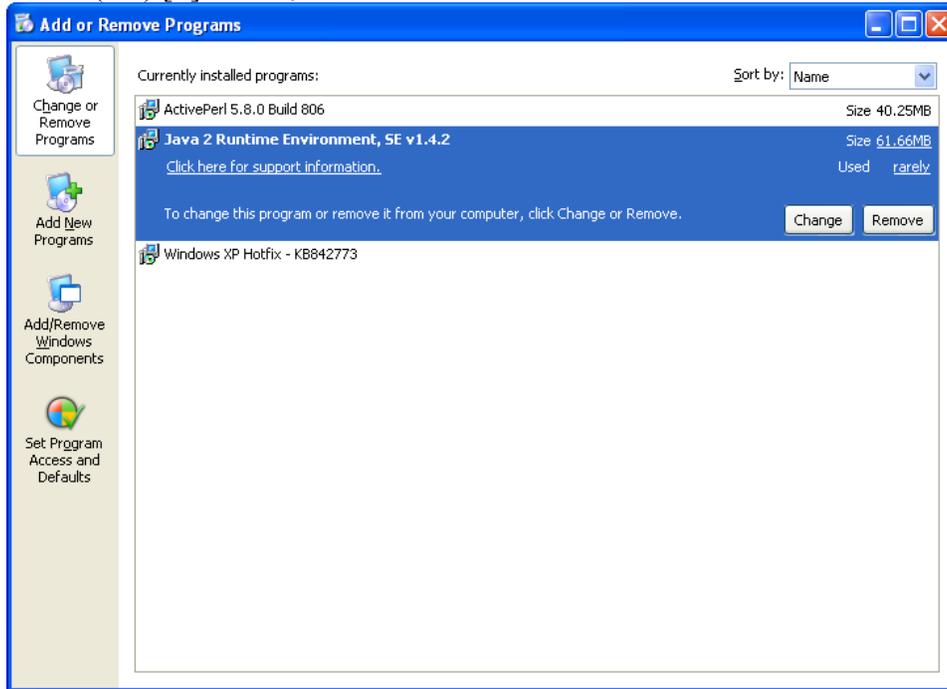
[In case of Windows Vista]

[Apache HTTP Server 2.2.4] is removed from the 'Programs and Features' window.
Select (CL) [×] button, and close this window.
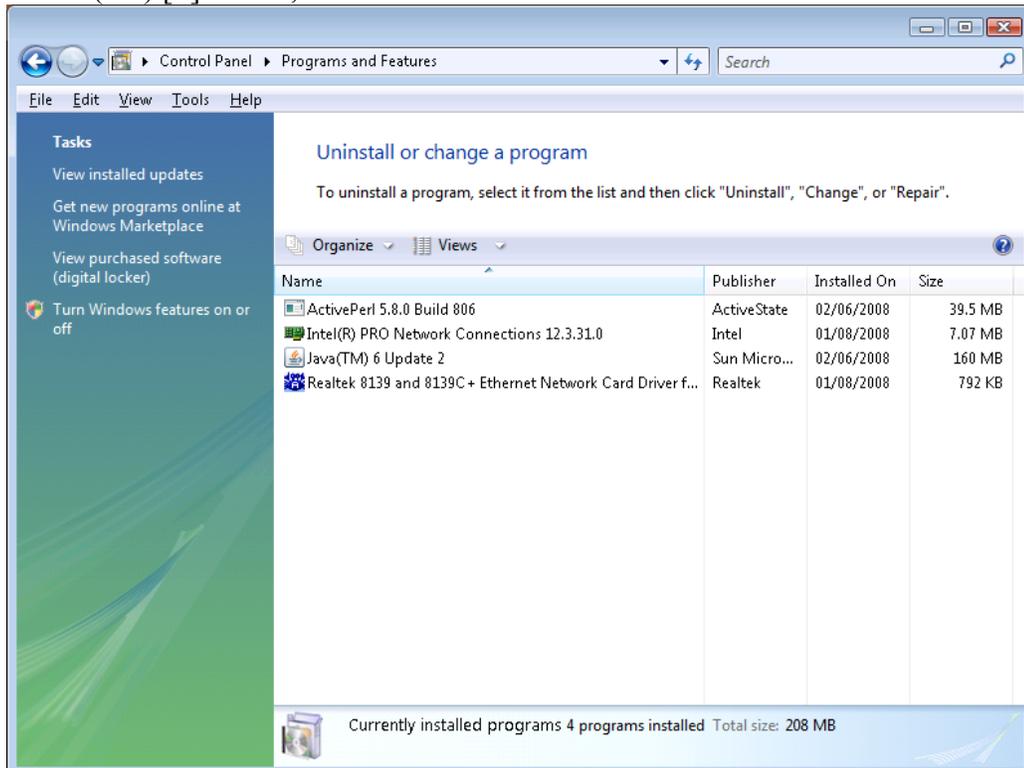
(8) Select (DR) [Start]-[Run…].
Enter "delApacheConf.bat" and press the [OK] button.

After completing this procedure, refer to procedure "8.1. Installation of Apache 2.2.4" (WEB08-10)
and install Apache 2.2.4.

7. Before using the Syslog/FTP transfer function of Audit Log

The setting of the Syslog/FTP server is required to use the Syslog/FTP transfer function of Audit Log. Ask the customer to set the address of the Syslog/FTP server.
Refer to the RAID600 Storage Navigator User's Guide ("4.8 Syslog window" and "4.9 Audit log window") for the details of the setting.

8. Procedure of Apache installation

When installing Apache only, follow the procedure shown below.
Be sure to check that the uninstallation processing is completed before installing it.
Refer to post-procedure "6. Procedure of Apache uninstallation" (WEB06-10).

8.1 Installation of Apache 2.2.4

(1) Insert the OSS media (the second media) to the CD-ROM drive in the Console PC.
Select (DR) [Start]-[Run…].
Enter "\\tsclient\e\JavaAp\Apache\mdcpap.bat e" and press the [OK] button.
When the following window is displayed, press the [Enter] key.

Note: The input value is the form of "\\tsclient\<drive letter>\JavaAp\Apache\mdcpap.bat
<drive letter>". A drive letter is made the drive which inserted the OSS media.
The above is a case where the CD-ROM drive is assigned a drive letter E.

```
C:¥WINDOWS¥system32¥cmd.exe
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_log_forensic.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_mem_cache.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_mime.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_mime_magic.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_negotiation.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_proxy.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_proxy_ajp.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_proxy_balancer.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_proxy_connect.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_proxy_ftp.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_proxy_http.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_rewrite.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_setenvif.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_speling.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_ssl.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_status.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_unique_id.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_userdir.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_usertrack.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_version.so
\tsclient\e\JavaAp\Apache\patch\Apache2\modules\mod_vhost_alias.so
321 File(s) copied

C:\WINDOWS>pause
Press any key to continue . . . _
```

(2)

Select (DR) [Start] and [Run...]. Enter "c:\
dkc200\TMP\JavaAp\Apache\apcinstset.bat"
and press the [OK] button.

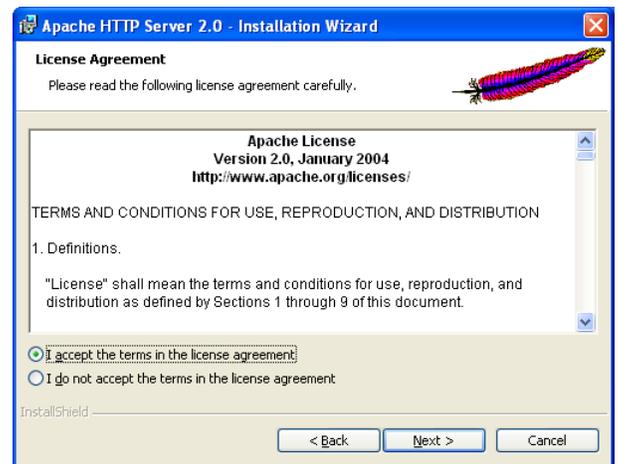Note: Adding 192.168.2.1 to DNS setting of
network by this operation.

Run

Type the name of a program, folder, document, or
Internet resource, and Windows will open it for you.

Open: C:\dkc200\tmp\JavaAp\Apache\apcinstset.bat

OK   Cancel   Browse...

(3)

Select (DR) [Start] and [Run...].
Enter "c:\dkc200\TMP\JavaAp\Apache\
ApacheInst.bat" and press the [OK] button.
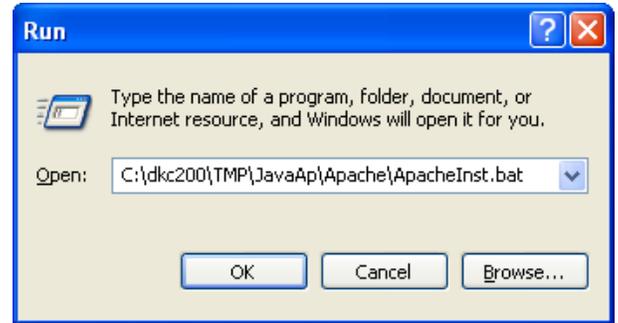
When the 'Apache HTTP Server 2.2 -
Installation Wizard' window is displayed,
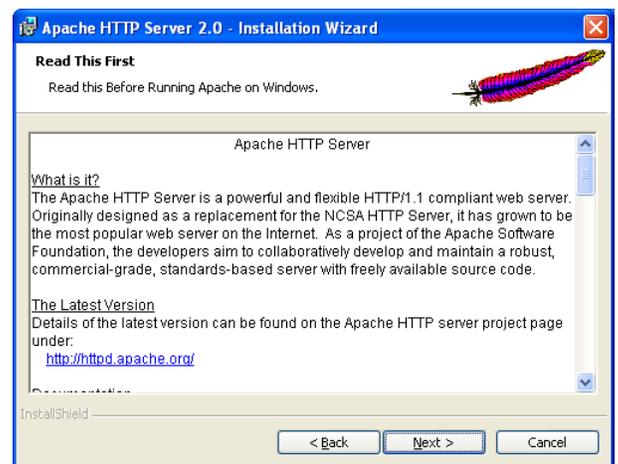Press the [Next >] button.

(4)

Press the [Next >] button after selecting "I
accept the terms in the license agreement".

(5)

Press the [Next >] button.

(6)
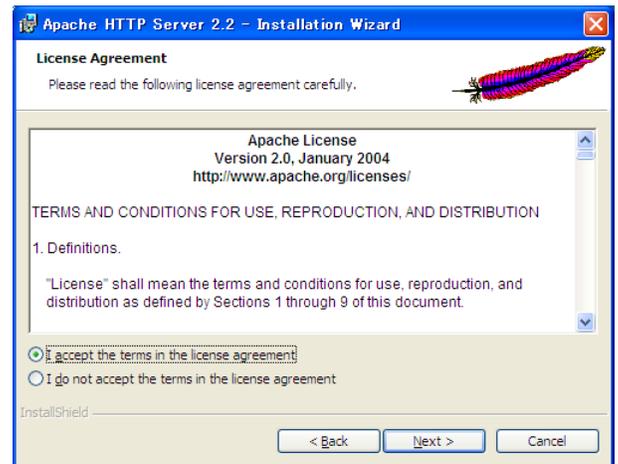
Enter "domain", "svp", and "admin@domain.com" in the Network Domain, Server Name, and Administrator's Email Address fields respectively, and then select (CL) "for All Users, on Port 80, as a Service -- Recommended." and press the [Next >] button.
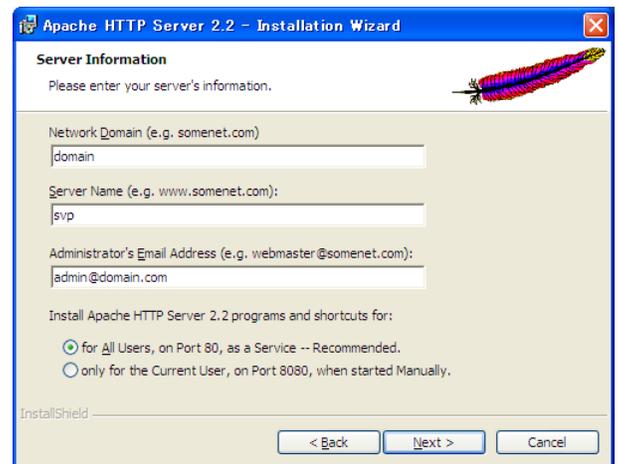
(7)

Select (CL) "Typical" and press the [Next >] button.
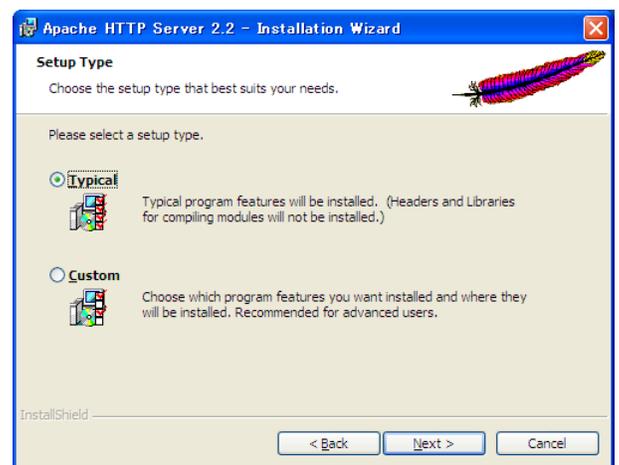
(8)

Press the [Next >] button.
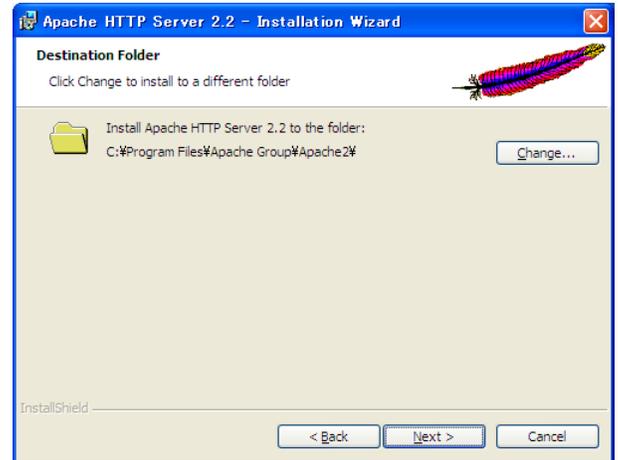
(9)

Press the [Install] button. A copying of the file is started.
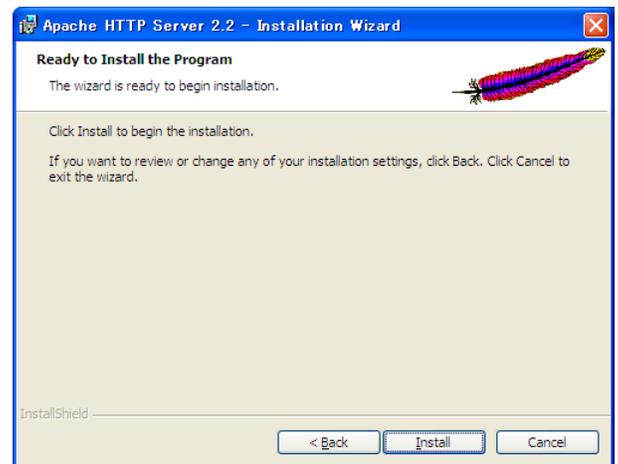
(10)

Since this panel is displayed when the copying of the file is completed, press the [Finish] button.

(11)

Select (DR) [Start] and [Run...]. Enter "c:\dkc200\TMP\JavaAp\Apache\apcinstdel.bat" and press the [OK] button.

Note: Removing temporary DNS setting of (2) by this operation.
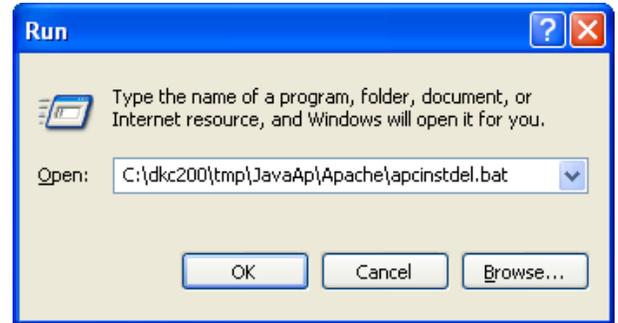
(12)

The things of default are set in the key creation for SSL communication and the certificate file. When you install an SSL communication key and a certificate file responding to the customer's request, see "Guidance of Encryption Communication Use".

(13)

Click the right mouse button on Task bar, and select (CL) [Task Manager] of the displayed menu.

(14)

Select (DR) [Shut Down]-[Restart].
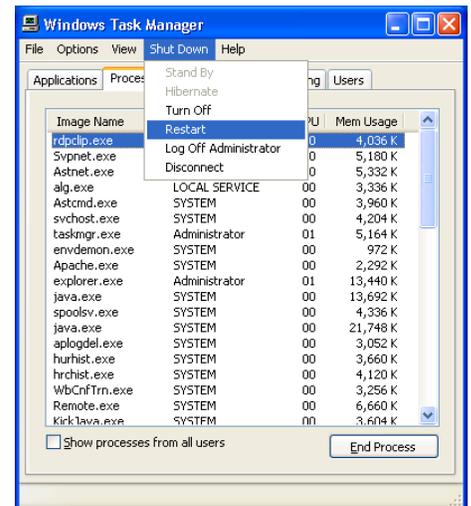
(15)

The SVP will be rebooted.

Notice: When the SVP High Reliability Kit is installed, you need to uninstall Apache (or OpenSA) and install Apache for the standby SVP in the same procedure.

8.2 Installation of Apache 2.0.54

Note: Don't perform this operation. In SVP Version later than 60-02-00/00, Apache 2.2.4 (version
for SSL) is installed.

(1) Insert the OSS media (the second media) to the CD-ROM drive in the Console PC.
Select (DR) [Start]-[Run…].
Enter "\\tsclient\e\JavaAp\Apache\mdcpap.bat e" and press the [OK] button.
When the following window is displayed, press the [Enter] key.

Note: The input value is the form of "\\tsclient\<drive letter>\JavaAp\Apache\mdcpap.bat
<drive letter>". A drive letter is made the drive which inserted the OSS media.
The above is a case where the CD-ROM drive is assigned a drive letter E.

(2)
Select (DR) [Start] and [Run...]. Enter "c:\
dkc200\TMP\JavaAp\Apache\apcinstset.bat"
and press the [OK] button.

Note: Adding 192.168.2.1 to DNS setting of
network by this operation.

(3)

Select (DR) [Start] and [Run...].
Enter "c:\dkc200\TMP\JavaAp\Apache\
apache_2.0.54-win32-x86-no_ssl.msi" and
press the [OK] button.
When the 'Apache HTTP Server 2.0 -
Installation Wizard' window is displayed,
Press the [Next >] button.

(4)

Press the [Next >] button after selecting "I
accept the terms in the license agreement".

(5)

Press the [Next >] button.

(6)

Enter "domain", "svp", and "admin@domain.com" in the Network Domain, Server Name, and Administrator's Email Address fields respectively, and then select (CL) "for All Users, on Port 80, as a Service -- Recommended." and press the [Next >] button.

(7)
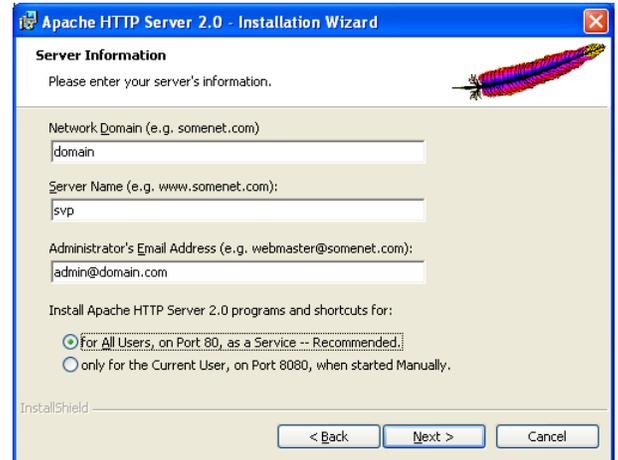
Select (CL) "Custom" and press the [Next >] button.
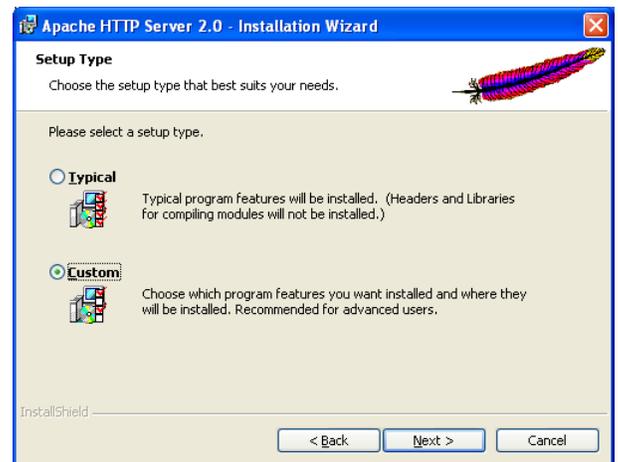
(8)

Select (CL) "Apache Runtime" and press the [Change…] button.

(9)
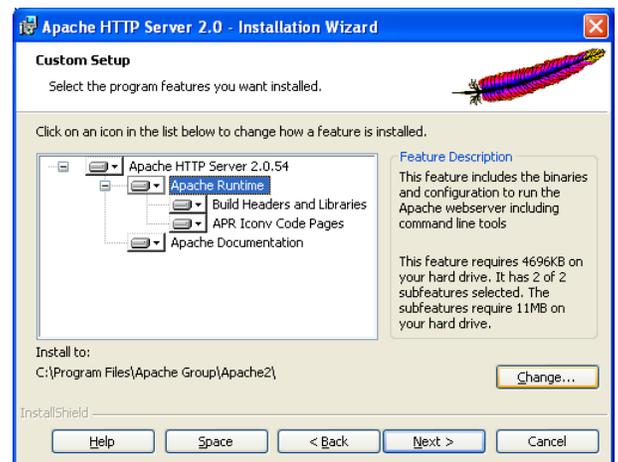
Enter "C:\Program Files\Apache Group\Apache2\" in the "Folder name:", and press the [OK] button.
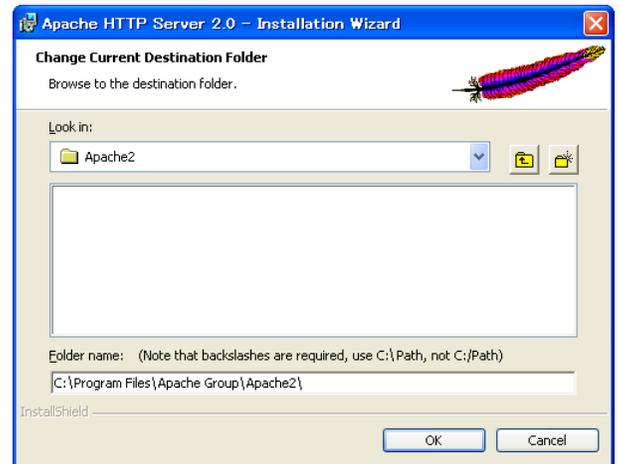
(10)

Press the [Next >] button.
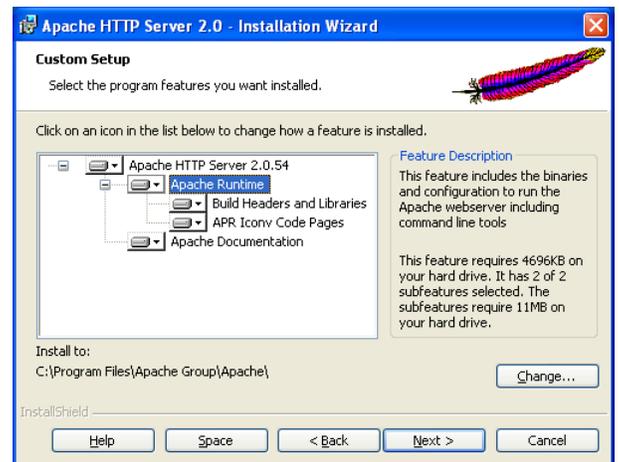
(11)

Press the [Install] button. A copying of the file is started.
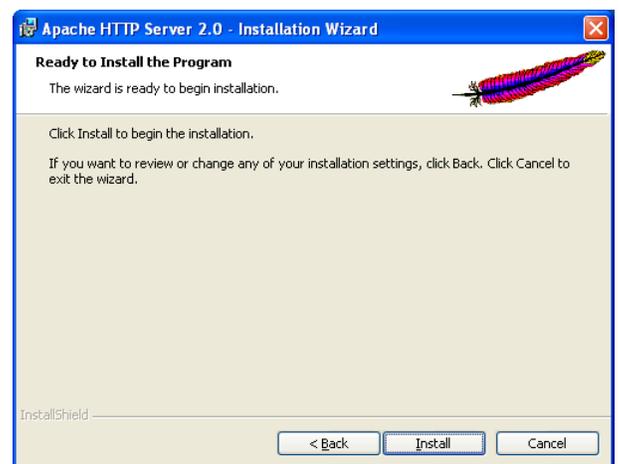
(12)

Since this panel is displayed when the
copying of the file is completed, press the
[Finish] button.

(13)

Select (DR) [Start] and [Run...]. Enter "c:\
dkc200\TMP\JavaAp\Apache\apcinstdel.bat"
and press the [OK] button.

Note: Removing temporary DNS setting of
(2) by this operation.
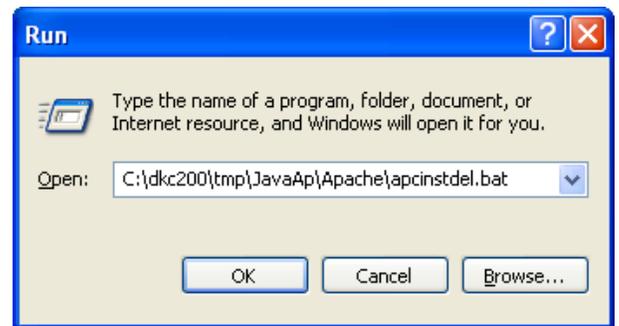
(14)

Click the right mouse button on Task bar, and
select (CL) [Task Manager] of the displayed
menu.

(15)

    Select (DR) [Shut Down]-[Restart].

(16)

    The SVP will be rebooted.

Hitachi Proprietary

SC02540Z

WEB09-10
Rev.1 / Feb.2008, Mar.2008
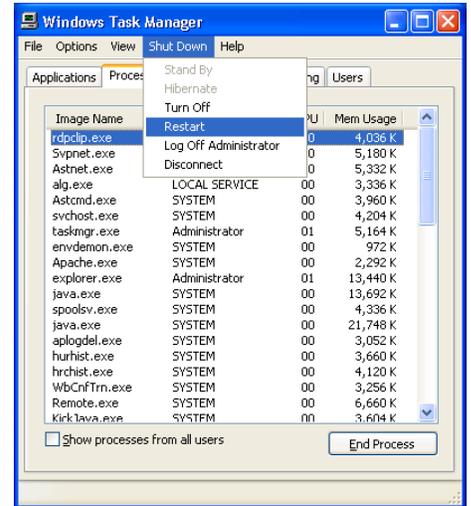
DKC610I
Copyright © 2008, Hitachi, Ltd.

9. IPv6 Setting

When the IPv6 upgrade kit for the SVP (DKC-F610I-IPV6) is installed, you can use WebConsole and Storage Navigator (Remote WebConsole in case of HP version) with IPv6.

Internet Protocol Version used for the connection of Storage Navigator switches depending on the network setting of the PC which operates the SVP and Storage Navigator. A list of the setting of the PC which operates the SVP and Storage Navigator and Internet Protocol Version used for the connection is shown below.

Table 9-1   List of Internet Protocol Version used for the Connection

Client \ SVP			Network Setting					
			IPv4	IPv6	IPv4	IPv6	IPv4	IPv6
			Enabled	Enabled	Enabled	Disabled	Disabled	Enabled
Network Setting	IPv4	Enabled	Connected by IPv4		Connected by IPv4		Connected by IPv6	
	IPv6	Enabled						
	IPv4	Enabled	Connected by IPv4		Connected by IPv4		Connection disabled	
	IPv6	Disabled						
	IPv4	Disabled	Connection disabled (*1)		Connection disabled		Connected by IPv6	
	IPv6	Enabled						

IPv4:   Internet Protocol Version 4 (TCP/IPv4)
IPv6:   Internet Protocol Version 6 (TCP/IPv6)
Client: PC which operates Storage Navigator (Remote Web Console in case of HP version)

*1: If you make only IPv6 enabled for the setting of the PC which operates Storage Navigator while keeping both IPv6 and IPv4 enabled for the setting of the SVP, you cannot use Storage Navigator. When communicating only with IPv6, set both PCs which operate the SVP and Storage Navigator as IPv6.

Perform the following when using WebConsole only with IPv6.

(1)

Select (CL) [Control Panel] of windows and select (CL) "Network and Sharing Center".
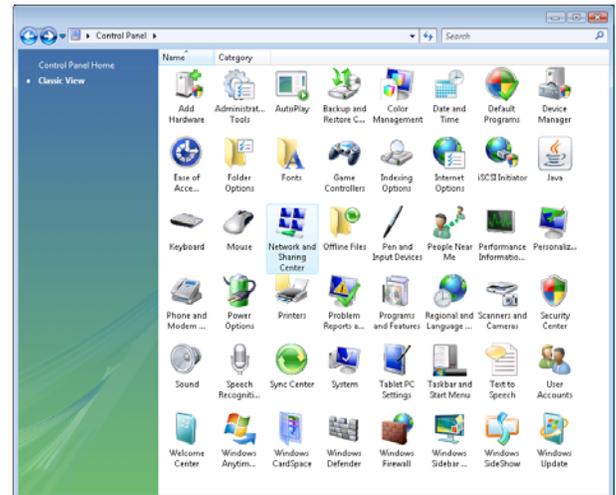
(2)

Select (CL) "Manage network connections".
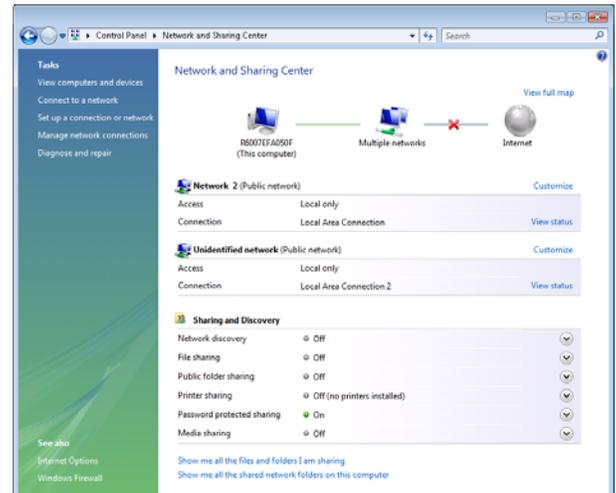
(3)

Right-click on the icon of "Local Area Connection" and select "Properties" from the displayed popup menu. Select (CL) "Continue" when the confirmation window is displayed.

Hitachi Proprietary

SC02540Z

WEB09-30
Rev.0 / Mar.2008

DKC610I
Copyright © 2008, Hitachi, Ltd.
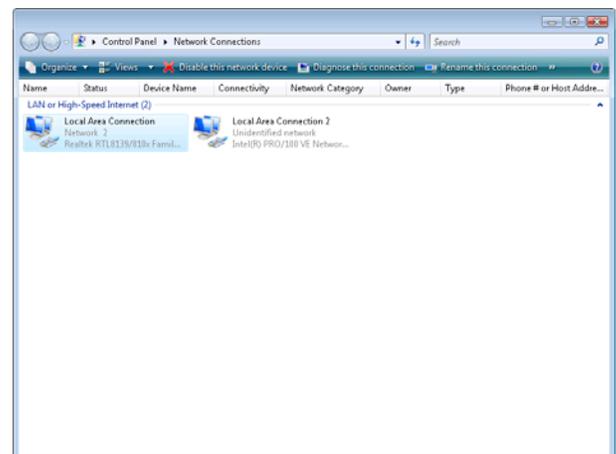
(4)
Since the property is displayed, uncheck the checkbox of "Internet Protocol Version 4 (TCP/IPv4)" in the list. Select (CL) [OK] and close the window.
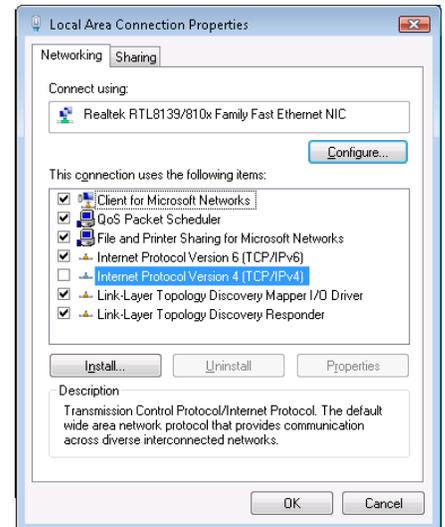
(5)
Change to [Modify Mode].

(6) <Open Install>
Select (CL) [Install] from [SVP].
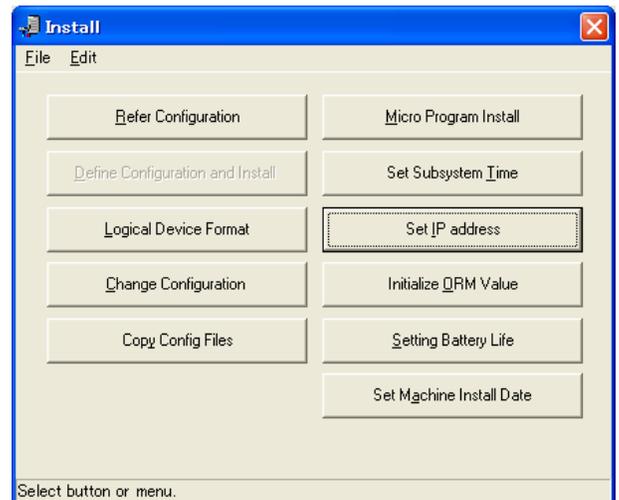
(7) <Select Set SVP IP Address>
Select (CL) [Set IP address] from the
'Install' window.
Uncheck the checkbox of IPv4 of "Use
Internet Protocol".

(8)
Restart the SVP.

10. Procedure of OpenSA (Apache supporting SSL) installation/ uninstallation

With this system, communication between Storage Navigator and SVP can be encrypted using SSL (Secure Socket Layer). In SVP Version less than 60-02-00/00, OpenSA (Apache with SSL) is sometimes installed for secure connection. Normal Apache is installed before shipment of DKC. Setup for encrypted communication will be performed only for customers who request encrypted communication.

10.1 Before installing OpenSA

Before installing OpenSA, you need to uninstall the Apache already installed in the SVP.
Uninstall the Apache referring to "6.1 Uninstallation of Apache 2.0.54" (WEB06-10).
To install OpenSA, perform the following procedure.

Note: In order to install OpenSA, a CD-ROM of OpenSA is required. Please ask your customer to get the CD-ROM in advance.

Note: In SVP Version later than 60-02-00/00, Apache 2.2.4 (version for SSL) is installed.

10.2 Installation of OpenSA

Note: Don't perform this operation. In SVP Version later than 60-02-00/00, Apache 2.2.4 (version
for SSL) is installed.

(1) Insert a CD-ROM of OpenSA to the CD-ROM drive in the Console PC.
Select (DR) [Start]-[Run…].
Enter "\\tsclient\e\program\opensa\opensa1.0.5\mdcp.bat e" and press the [OK] button.
When the following window is displayed, press the [Enter] key.

Note: The input value is the form of "\\tsclient\<drive letter>\program\opensa\opensa1.0.5\
mdcp.bat <drive letter>". A drive letter is made the drive which inserted CD-ROM.
The above is a case where the CD-ROM drive is assigned a drive letter E.
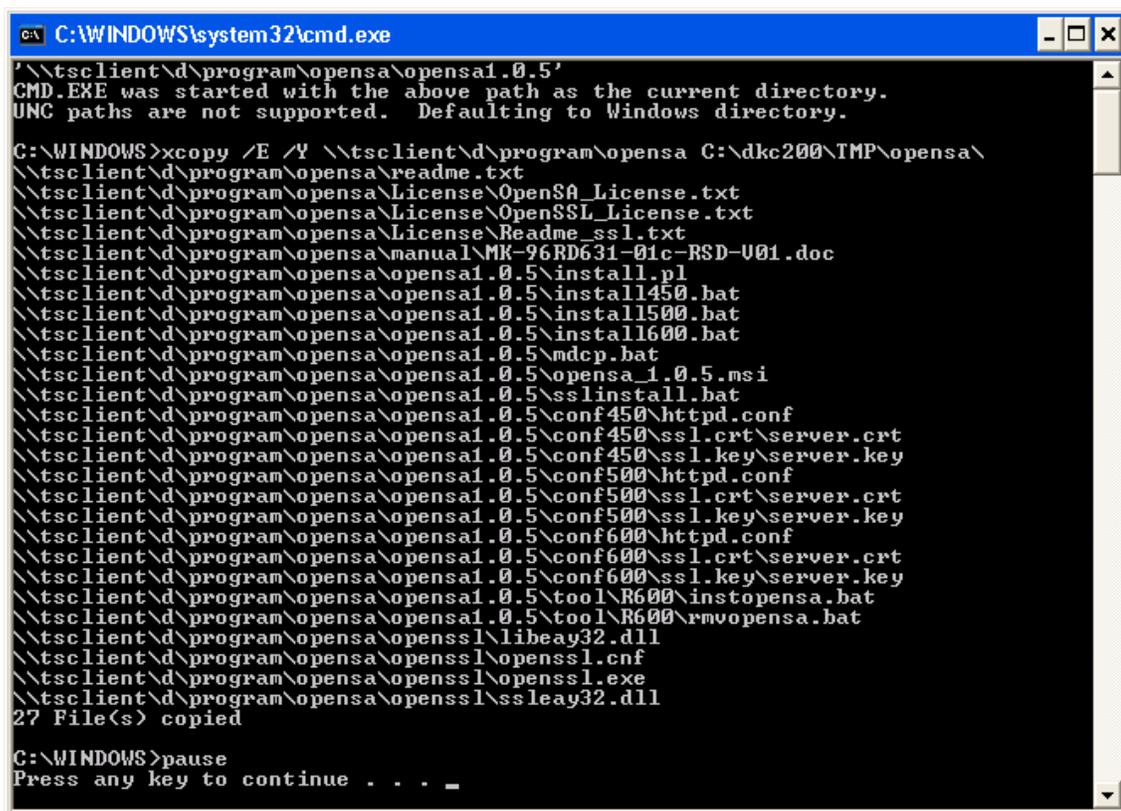
```
C:\WINDOWS\system32\cmd.exe                                            _ □ ×
'\\tsclient\d\program\opensa\opensa1.0.5'
CMD.EXE was started with the above path as the current directory.
UNC paths are not supported.  Defaulting to Windows directory.

C:\WINDOWS>xcopy /E /Y \\tsclient\d\program\opensa C:\dkc200\TMP\opensa\
\\tsclient\d\program\opensa\readme.txt
\\tsclient\d\program\opensa\License\OpenSA_License.txt
\\tsclient\d\program\opensa\License\OpenSSL_License.txt
\\tsclient\d\program\opensa\License\Readme_ssl.txt
\\tsclient\d\program\opensa\manual\MK-96RD631-01c-RSD-V01.doc
\\tsclient\d\program\opensa\opensa1.0.5\install.pl
\\tsclient\d\program\opensa\opensa1.0.5\install450.bat
\\tsclient\d\program\opensa\opensa1.0.5\install500.bat
\\tsclient\d\program\opensa\opensa1.0.5\install600.bat
\\tsclient\d\program\opensa\opensa1.0.5\mdcp.bat
\\tsclient\d\program\opensa\opensa1.0.5\opensa_1.0.5.msi
\\tsclient\d\program\opensa\opensa1.0.5\sslinstall.bat
\\tsclient\d\program\opensa\opensa1.0.5\conf450\httpd.conf
\\tsclient\d\program\opensa\opensa1.0.5\conf450\ssl.crt\server.crt
\\tsclient\d\program\opensa\opensa1.0.5\conf450\ssl.key\server.key
\\tsclient\d\program\opensa\opensa1.0.5\conf500\httpd.conf
\\tsclient\d\program\opensa\opensa1.0.5\conf500\ssl.crt\server.crt
\\tsclient\d\program\opensa\opensa1.0.5\conf500\ssl.key\server.key
\\tsclient\d\program\opensa\opensa1.0.5\conf600\httpd.conf
\\tsclient\d\program\opensa\opensa1.0.5\conf600\ssl.crt\server.crt
\\tsclient\d\program\opensa\opensa1.0.5\conf600\ssl.key\server.key
\\tsclient\d\program\opensa\opensa1.0.5\tool\R600\instopensa.bat
\\tsclient\d\program\opensa\opensa1.0.5\tool\R600\rmvopensa.bat
\\tsclient\d\program\opensa\openssl\libeay32.dll
\\tsclient\d\program\opensa\openssl\openssl.cnf
\\tsclient\d\program\opensa\openssl\openssl.exe
\\tsclient\d\program\opensa\openssl\ssleay32.dll
27 File(s) copied

C:\WINDOWS>pause
Press any key to continue . . . _
```

(2) Remove a CD-ROM of OpenSA from the CD-ROM drive in the Console PC.

(3) Select (DR) [Start]-[Run…].
Enter "c:\dkc200\TMP\opensa\opensa1.0.5\opensa_1.0.5.msi" and press the [OK] button.
When the Installation Wizard panel is displayed, select (CL) the [Next >] button.
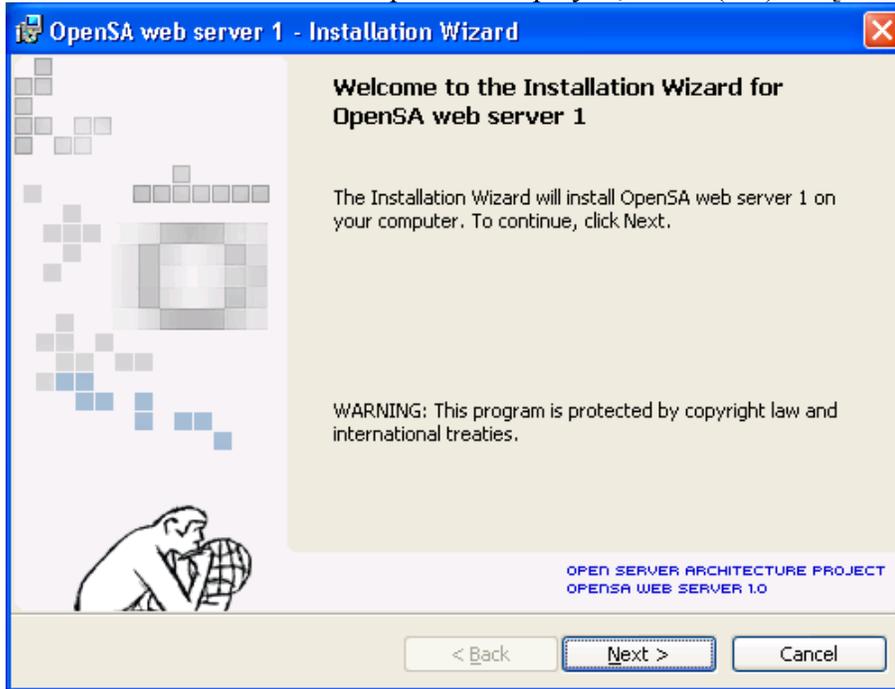
(4) After selecting (CL) "I accept the terms in the license agreement", select (CL) the [Next >]
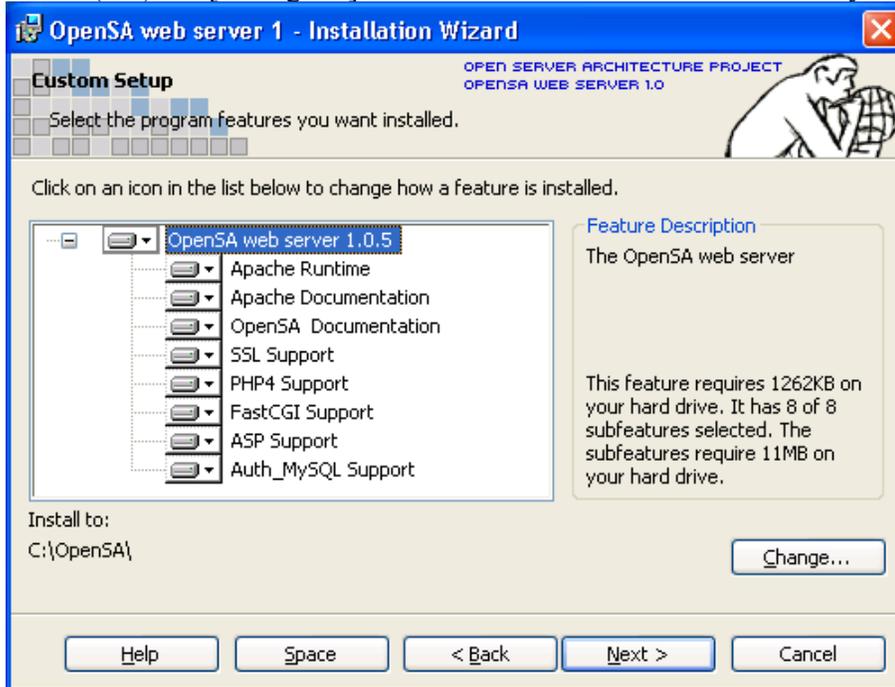button.
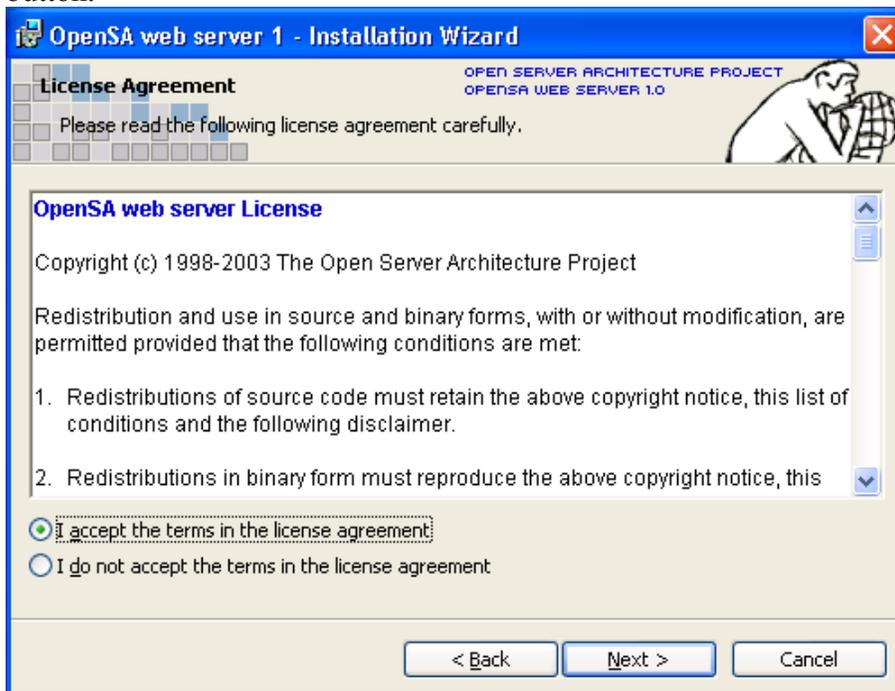
(5)   Select (CL) the [Next >] button.
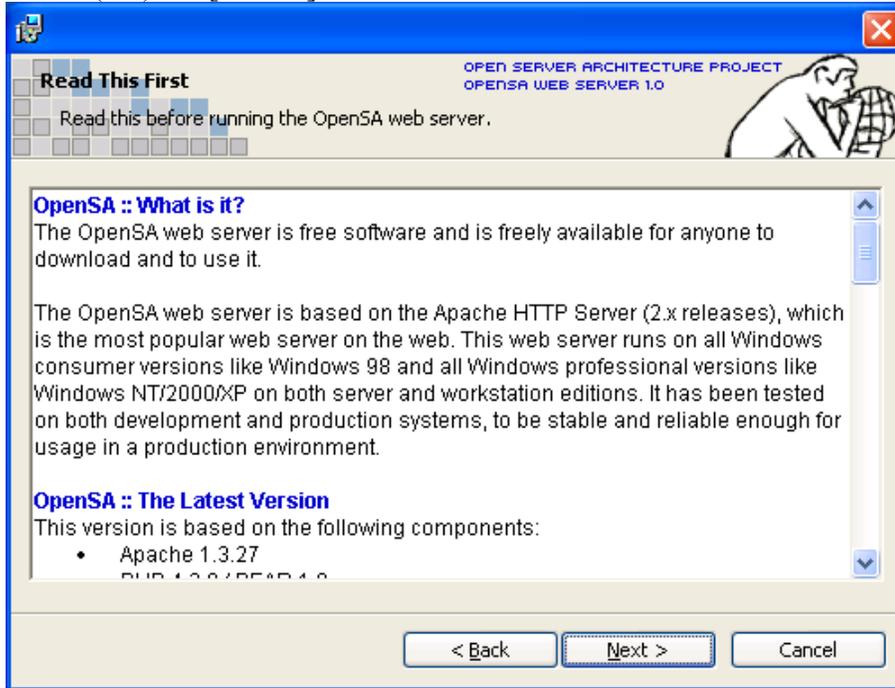
(6)   Enter "domain" to the Network Domain field, "svp" to the Server Name field, and "admin@domain.com" to the Administrator's Email Address field. After selecting "for All Users, on Port 80, as a Service -- Recommended", select (CL) the [Next >] button.
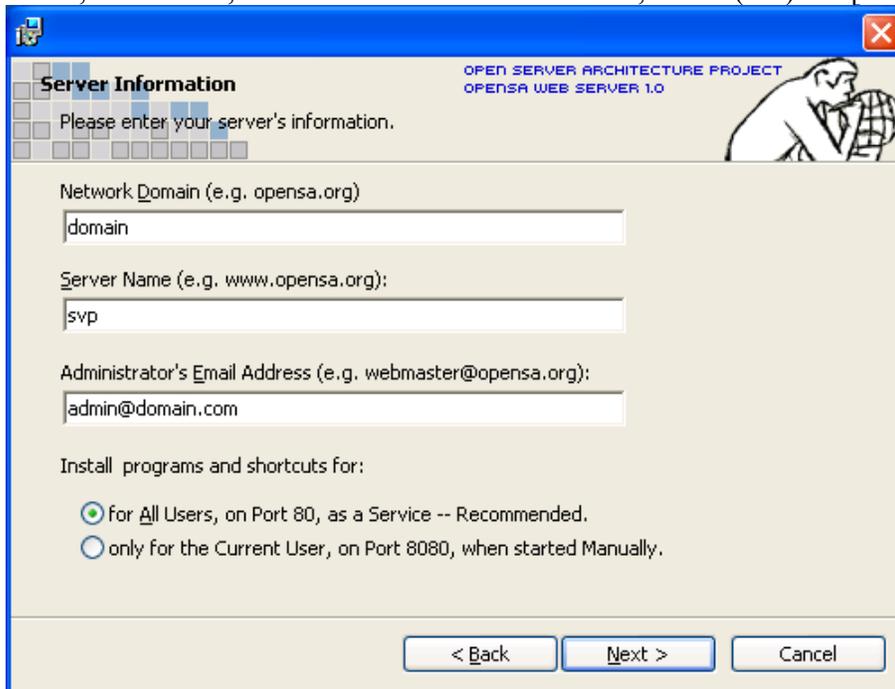
(7) Select (CL) "Custom", and then select (CL) the [Next >] button.
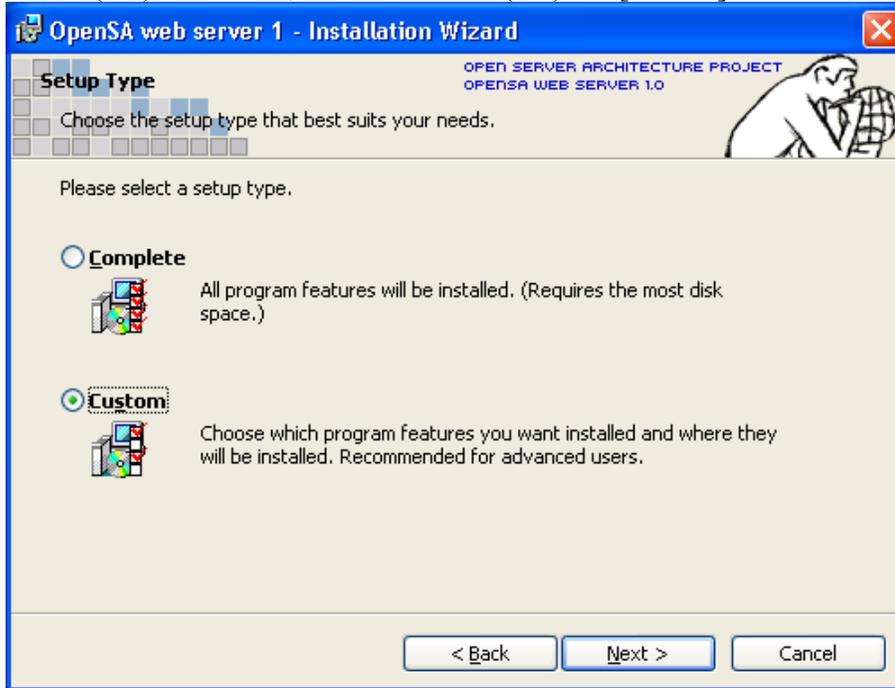
(8) Select (CL) the [Change…] button and set the installation directory for Apache.

(9) Enter "C:\Program Files\Apache Group\" in the "Folder name:", and press the [OK] button.
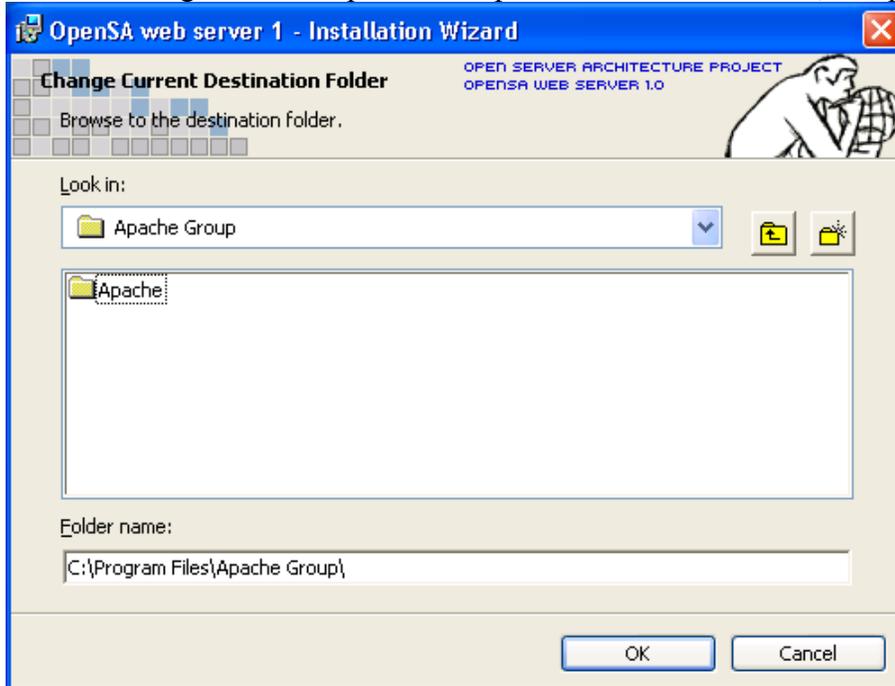
(10) Check that "Install to:" is "C:\Program Files\Apache Group\".
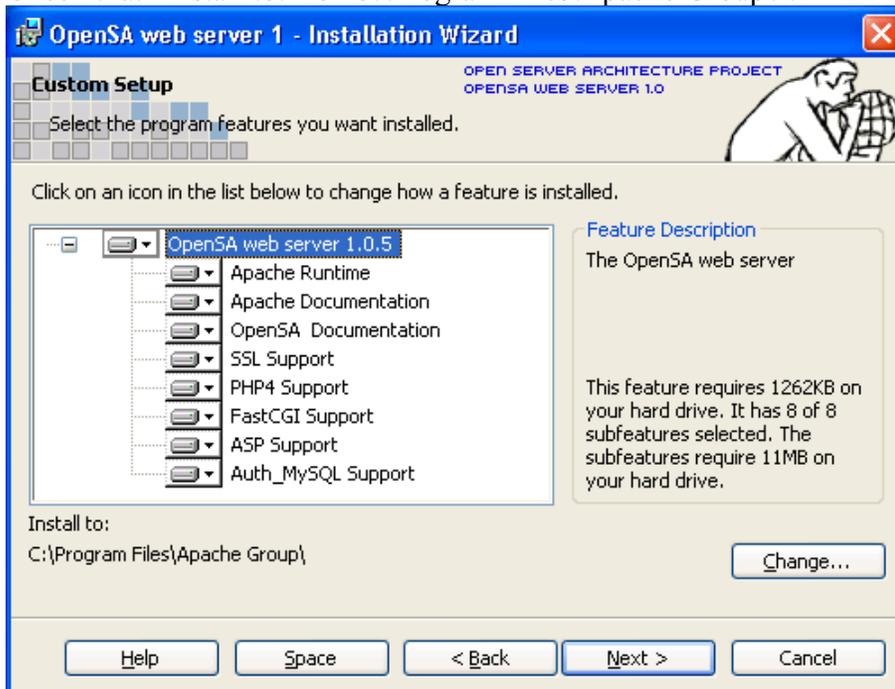
(11) Select (CL) "Apache Runtime" and Select (CL) the [Change…] button.
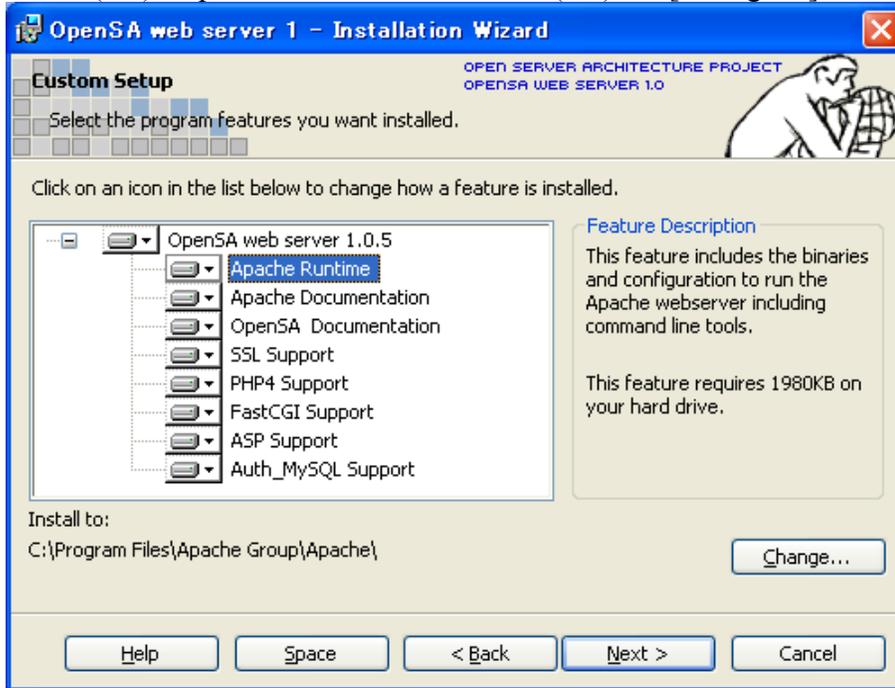
(12) Enter "C:\Program Files\Apache Group\Apache2\" in the "Folder name:", and press the [OK] button.
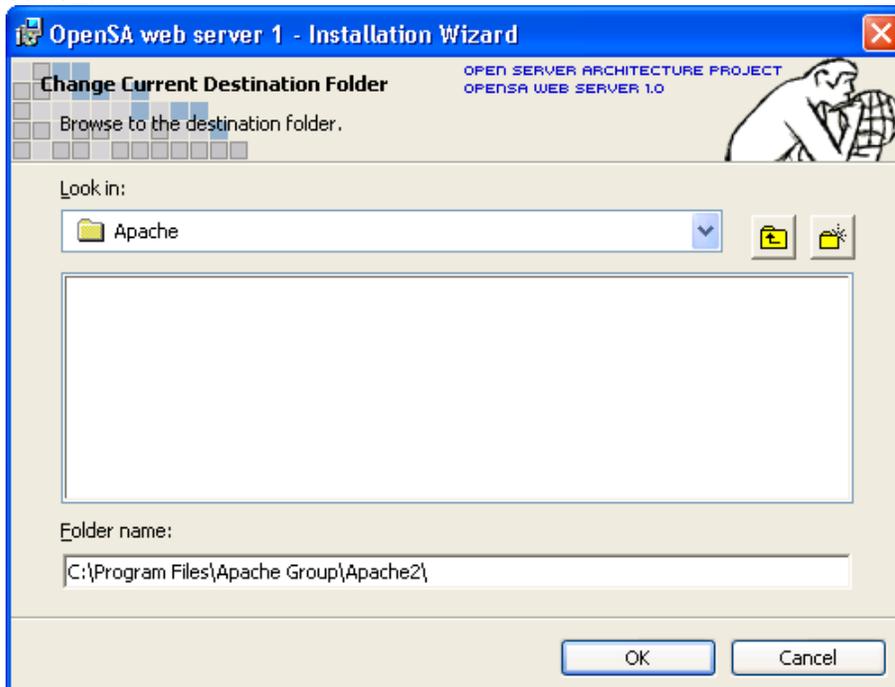
(13) Check that "Install to:" is "C:\Program Files\Apache Group\Apache2\", and select (CL) the [Next >] button.
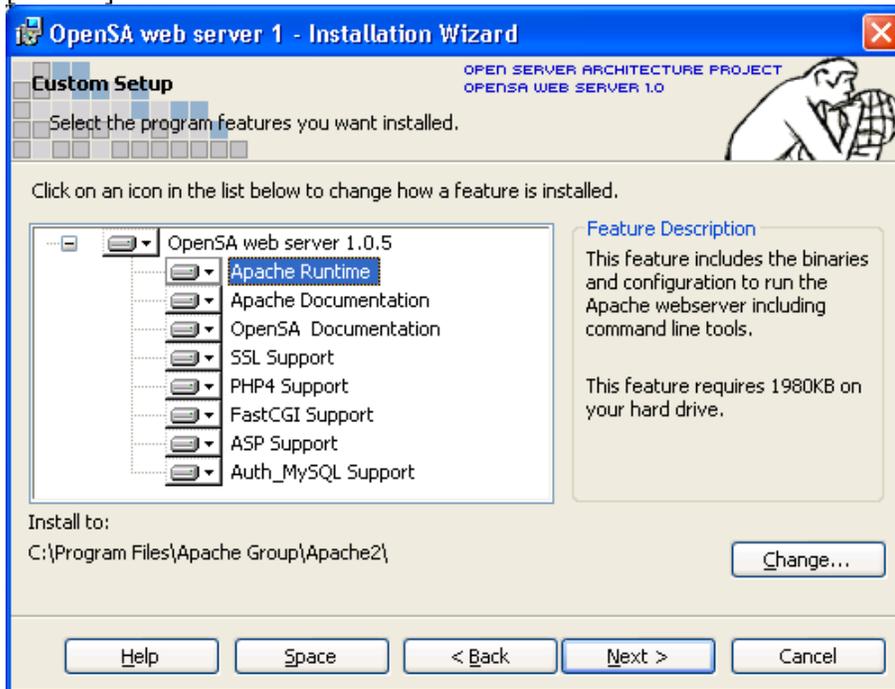
(14) Select (CL) the [Install] button.
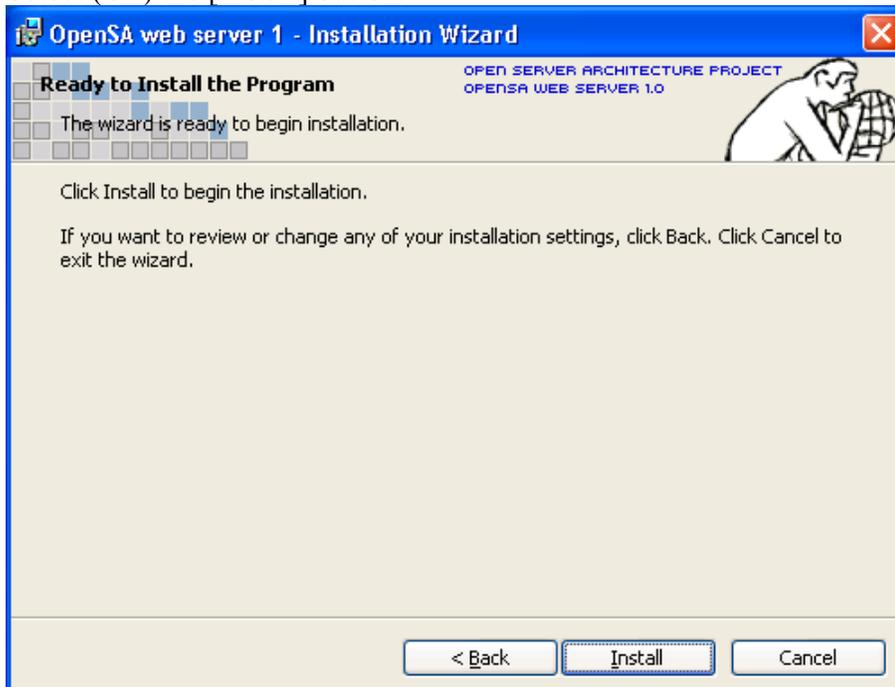
(15) Copying of the file starts.
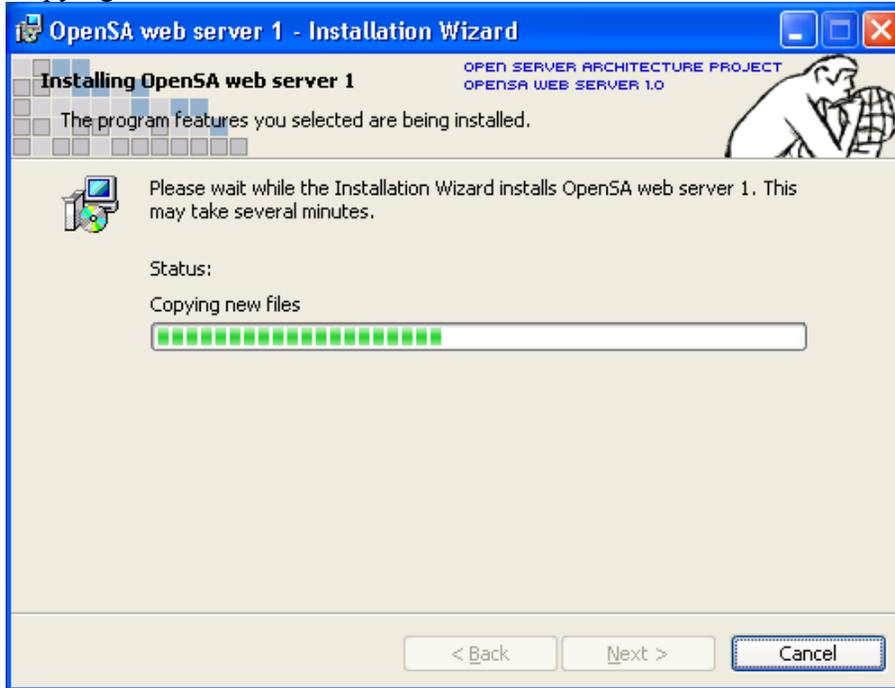
(16) Although some error message is displayed, it ignores.
When the following window is displayed, press the [ESC] key, and continue.
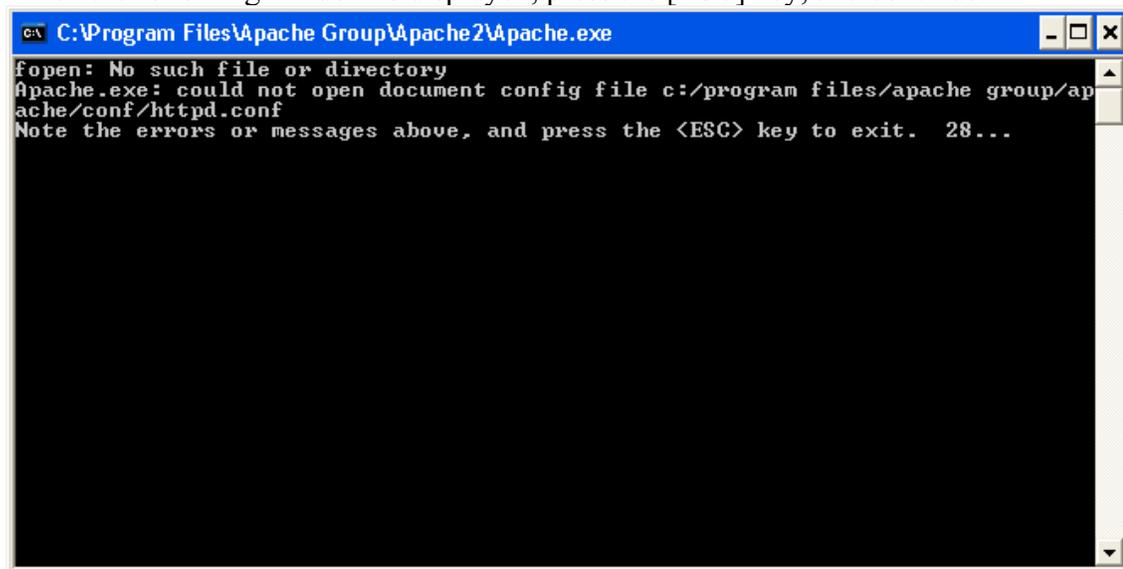
(17) When copying of the file is completed, the "Installation Wizard Completed" panel is displayed.
Select (CL) the [Finish] button.

(18) Select (DR) [Start]-[Run…].
Enter "c:\dkc200\TMP\opensa\opensa1.0.5\ sslinstall.bat " and press the [OK] button.
When the following window is displayed, press the [Enter] key.

(19) Click the right mouse button on Task bar, and select (CL) [Task Manager] of the displayed menu.

(20) Select (DR) [Shut Down]-[Restart].
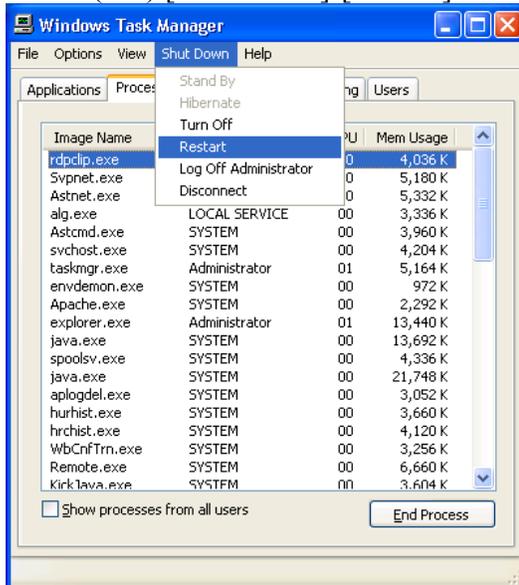
(21) The SVP will be rebooted. After waiting for several minutes, reconnect the console PC to the SVP.

(22) Reboot SVP again in the procedure of (19) ~ (20).

(23) If the SVP High Reliability Support Kit has been installed, perform the operations from "10.1 to 10.2 (22)" (WEB10-10 to 110) in the Standby SVP.

(24) Maintenance personnel have to perform the operations above. A user needs to create keys and install the certificate file for SSL communication.
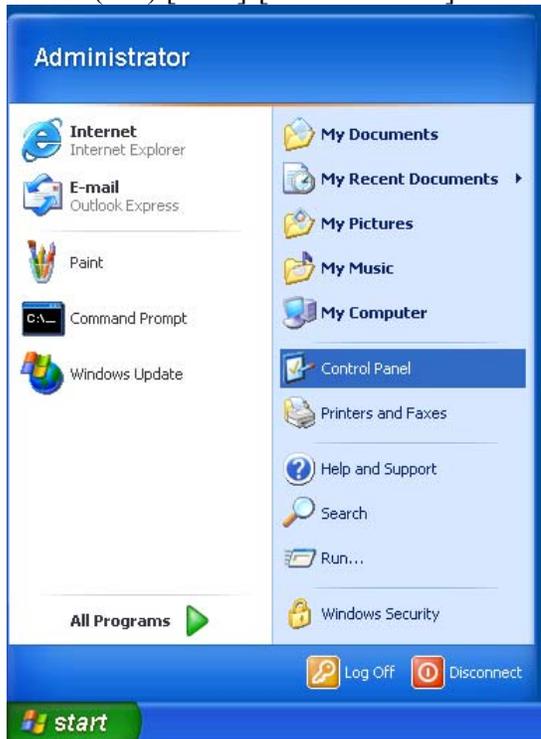
10.3 Before uninstalling OpenSA

In SVP Version later than 60-02-00/00, Apache 2.2.4 (for SSL) need to be installed. You need to uninstall OpenSA when upgrading microcode.
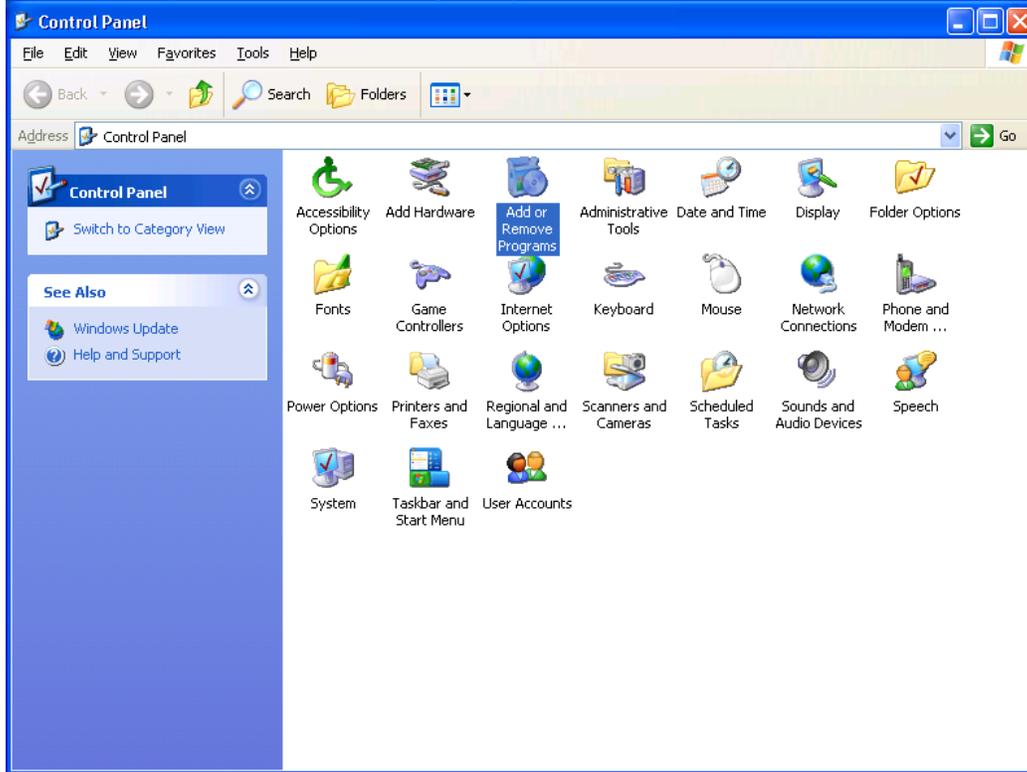
To uninstall OpenSA, perform the following procedure.
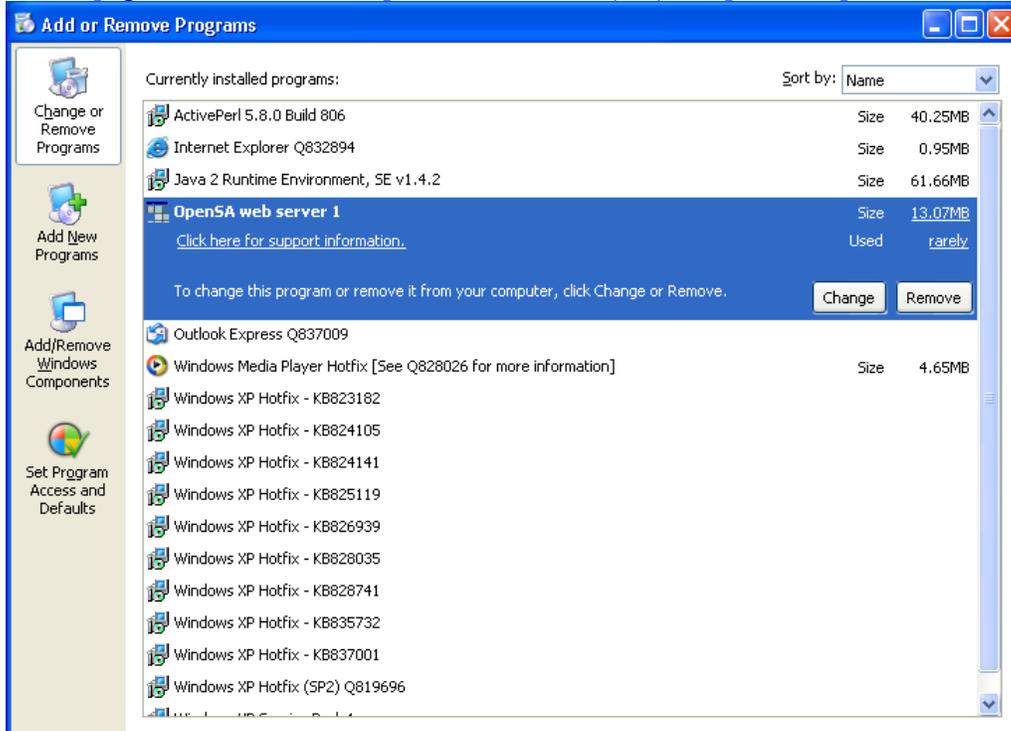
10.4 Uninstallation of OpenSA

(1) Select (DR) [Start]-[Run...].
Enter "rmvopensa.bat" and press the [OK] button.
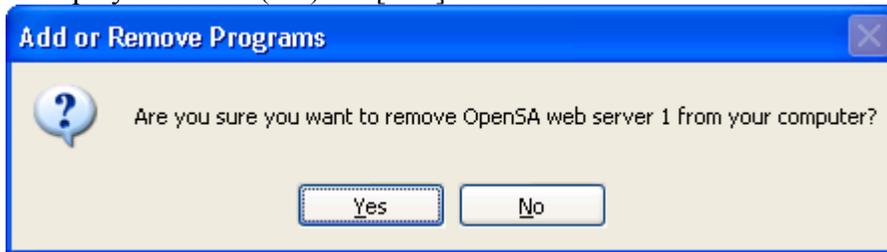
(2) Select (DR) [Start]-[Control Panel].

Hitachi Proprietary

SC02540Z

WEB10-130

DKC610I

Rev.0 / Jul.2008

Copyright © 2008, Hitachi, Ltd.
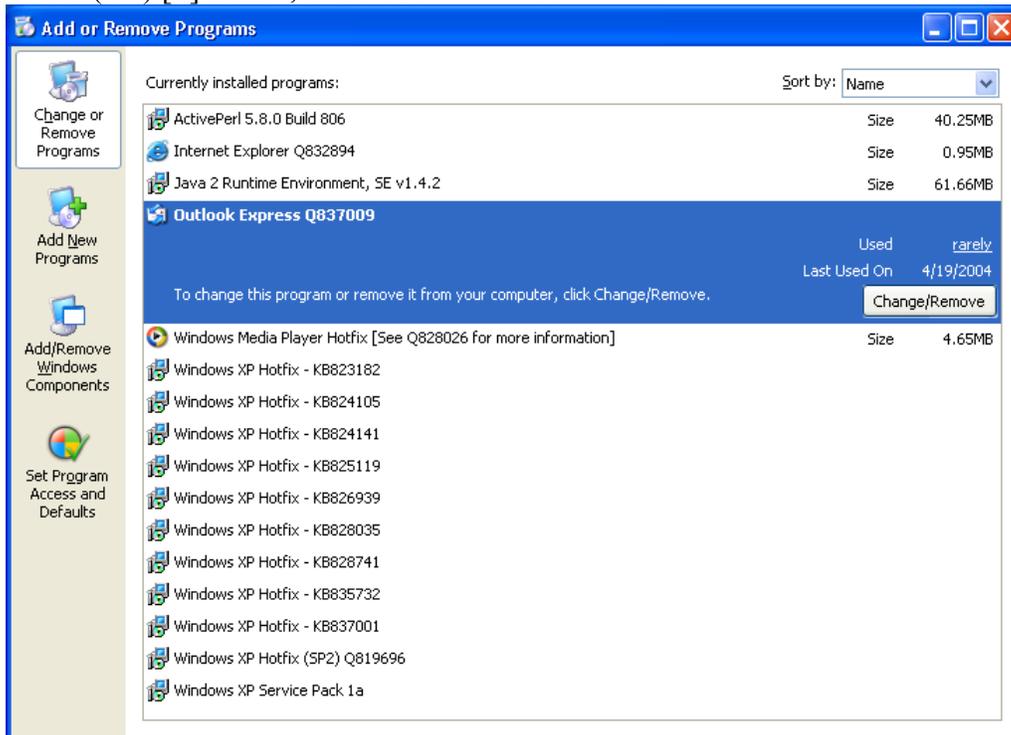
(3) Select (DC) [Add or Remove Programs].

(4) Select [OpenSA web server 1], and then select (CL) the [Remove] button.

(5)   The message, "Are you sure you want to remove OpenSA web server 1 from your computer?", is displayed. Select (CL) the [Yes] button.

(6)   [OpenSA web server 1] is removed from the [Add or Remove Programs] panel. Select (CL) [×] button, and close this window.

(7)   Select (DR) [Start]-[Run…].
      Enter "delApacheConf.bat" and press the [OK] button.

After completing this procedure, refer to procedure "8.1. Installation of Apache 2.2.4" (WEB08-10) and install Apache 2.2.4.