Provisioning Procedure

(KX-UDS/UDT series)

No. 42-006

December 21 , 2012

Ver.1.2

Panasonic Corporation

Abstract about this document

This document describes about overview of provisioning process and show how to do provisioning by using configuration files.

Revision history

Date	Version	Revision	Firmware version
Sep. 14, 2012	Ver. 1.0	Initial Release	All versions
Oct. 1,2012	Ver.1.1	Notes in case CS accesses to a server separately are added.	All Versions
Dec. 21,2012	Ver.1.2	To add the CS ver. screen of the system option of PS.	UDS124CE: 01.202 or later UDS124 : 01.002 or later

1. About provisioning

2. Preparation of provisioning

3. Types of configuration files

4. Downloading the configuration files

5. Secure provisioning methods

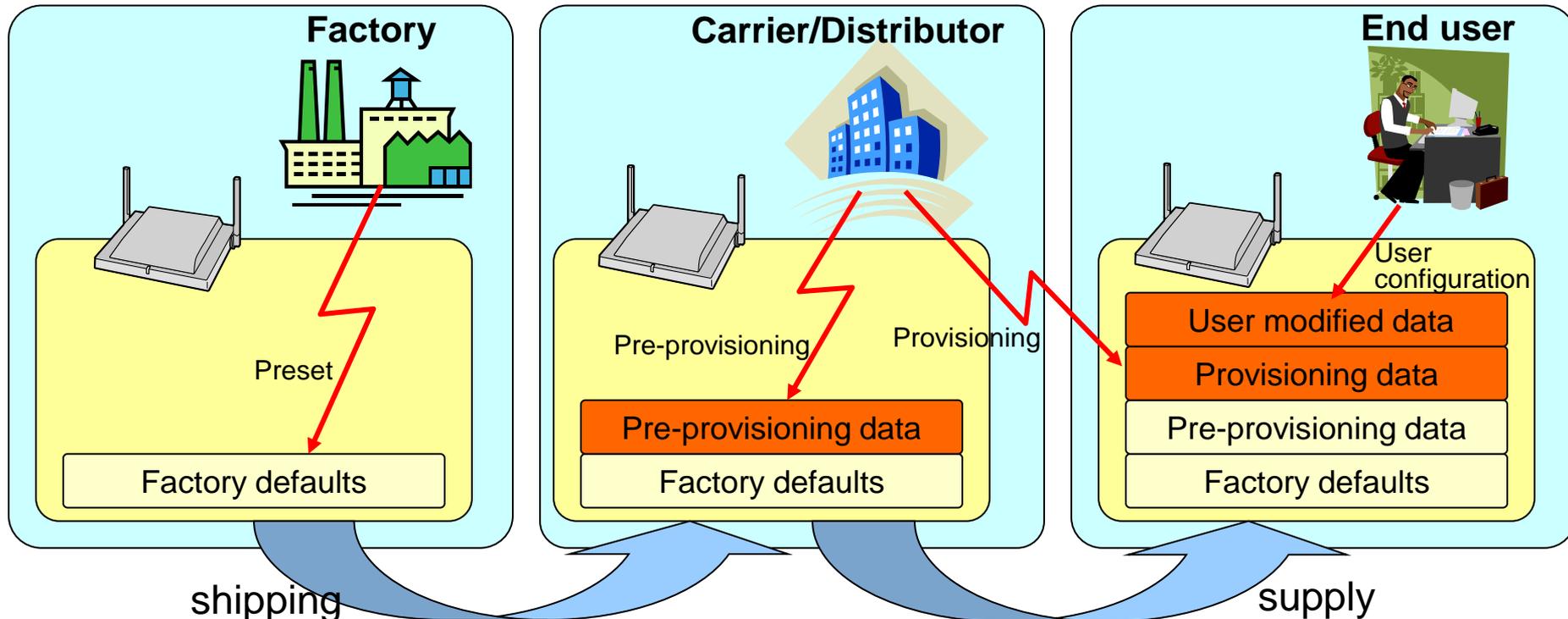6. Web port setting

1. About provisioning

What is provisioning?

Provisioning is setting up in advance so that it can be used immediately, when CS is connected to a network.

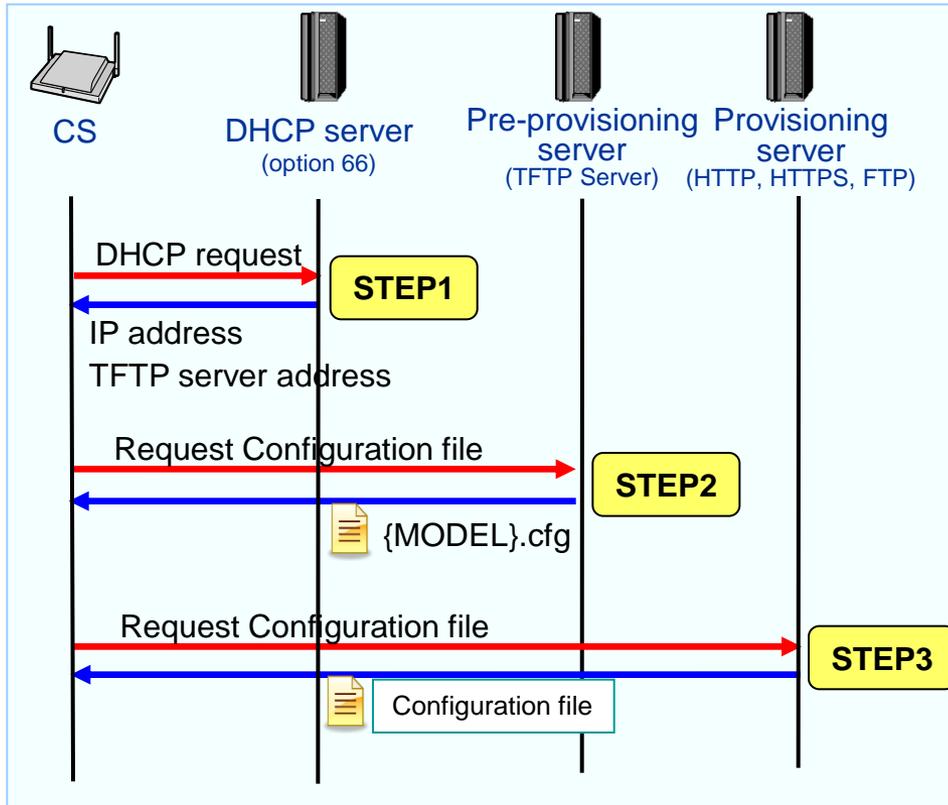**The following items can be set up in provisioning.**

- **User ID, Password, IPEI, etc…**
- **Update of Software**

Factory	Carrier/Distributor	End user
Preset	Pre-provisioning / Provisioning	User configuration
		User modified data
		Provisioning data
	Pre-provisioning data	Pre-provisioning data
Factory defaults	Factory defaults	Factory defaults

shipping   supply

Protocols for Provisioning : HTTP, HTTPS, FTP, TFTP

Steps of provisioning

STEP1 __DHCP__

Connect CS to the network, the CS gets IP address. And pre-provisioning server address is acquired when performing pre-provisioning.

STEP2 __Pre-Provisioning__

The CS automatically download the Configuration file "**{MODEL}.cfg**" from pre-provisioning sever.
There are the following two methods in pre-provisioning.
- **using DHCP server option 66**
- **using Redirection server**

STEP3 __Provisioning__

The CS download the configuration files from the provisioning server.
This address can be specified by pre-provisioning process or WEB interface or by each file.
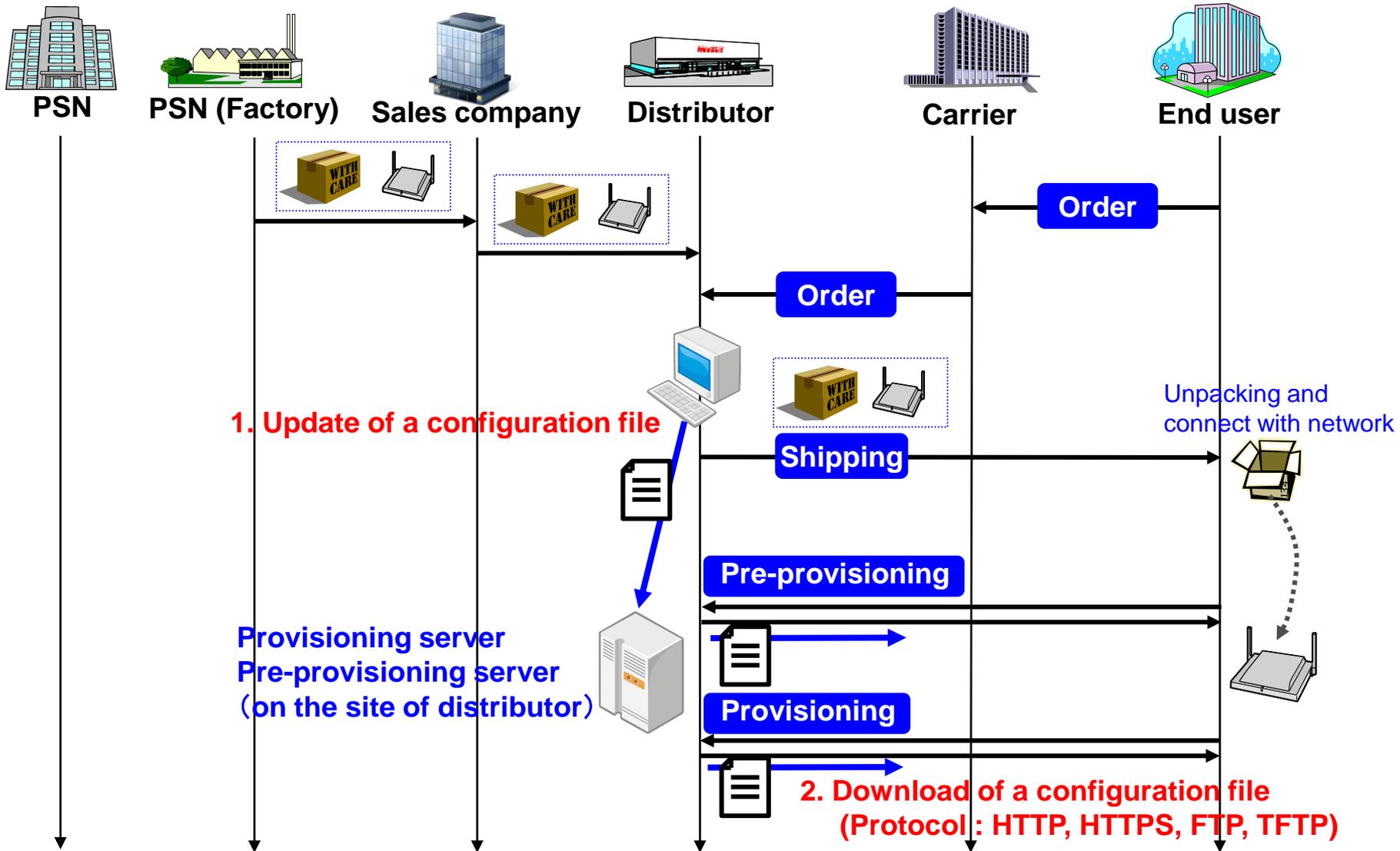
The method of provisioning

Provisioning has three kinds of methods of being different by the setting method of the address of a configuration file.

1. using pre-provisioning (by DHCP server option 66)
2. using pre-provisioning (by Redirection server)
3. manual setting (by Web user interface)

- The image of provisioning in a physical distribution

PSN **PSN (Factory)** **Sales company** **Distributor** **Carrier** **End user**

Order

Order

1. Update of a configuration file

Unpacking and connect with network

Shipping

Pre-provisioning

Provisioning server
Pre-provisioning server
（**on the site of distributor**）

Provisioning

2. Download of a configuration file
(Protocol : HTTP, HTTPS, FTP, TFTP)

2. Preparation of provisioning

■ <u>Steps for preparation of provisioning</u>

1. Prepare DHCP server for Option 66
   Please set DHCP server option 66 as specifying TFTP server address for pre-provisioning

2. Prepare configuration file for Pre-Provisioning
   Please prepare configuration file for pre-provisioning
   and put into TFTP server
   - File name   :{MODEL}.cfg
   - Contents   :Address for provisioning file and
                       minimum option parameter for pre-provisioning

   TFTP server

   {MODEL}.cfg
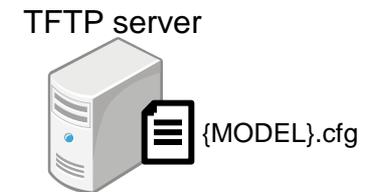
3. Provisioning
   Please put configuration files into file server
   for provisioning

   provisioning server

   Configuration File
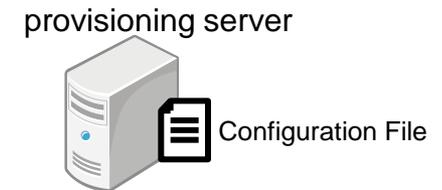
4. Connect to network
   Please connect CS to network

■ <u>Automatic reboot after pre-provisioning</u>
   The CS can reboot automatically by setting OPTION66_REBOOT="Y".

STEP1 **DHCP**

When you connect CS to the network, the CS gets IP address and TFTP server address (Option 66) from DHCP server.

STEP2 **Pre-Provisioning**

The CS automatically download the Configuration file "**KX-UDS124.cfg**" from TFTP sever.
Configuration file name "**KX-UDS124.cfg**" is specified by model name.

STEP3 **Reboot**

When pre-provisioning is completed, the CS's LED will flash red, amber and green alternately, and then reboot automatically.
(If **OPTION66_REBOOT="Y"** exists in TFTP configuration file)

STEP4 **Provisioning**

After rebooting the CS will automatically download the 1 to 4 types of Configuration files depends on the case.
- 1. System Configuration File
- 2. Master Configuration File
- 3. Product Configuration File
- 4. Standard Configuration File

This address can be specified by pre-provisioning process or WEB interface or by each file.

CS   DHCP server (option 66)   Pre-provisioning server (TFTP Server)   Provisioning server (HTTP, HTTPS, FTP)

DHCP request — **STEP1**

IP address
TFTP server address

Request Configuration file — **STEP2**

KX-UDS124.cfg

STEP3 *Reboot automatically*

Request System Configuration file

System Configuration file

Request Master Configuration file

Master Configuration file

Request Product Configuration file   **STEP4**

Product Configuration file

Request Standard Configuration file

Standard Configuration file
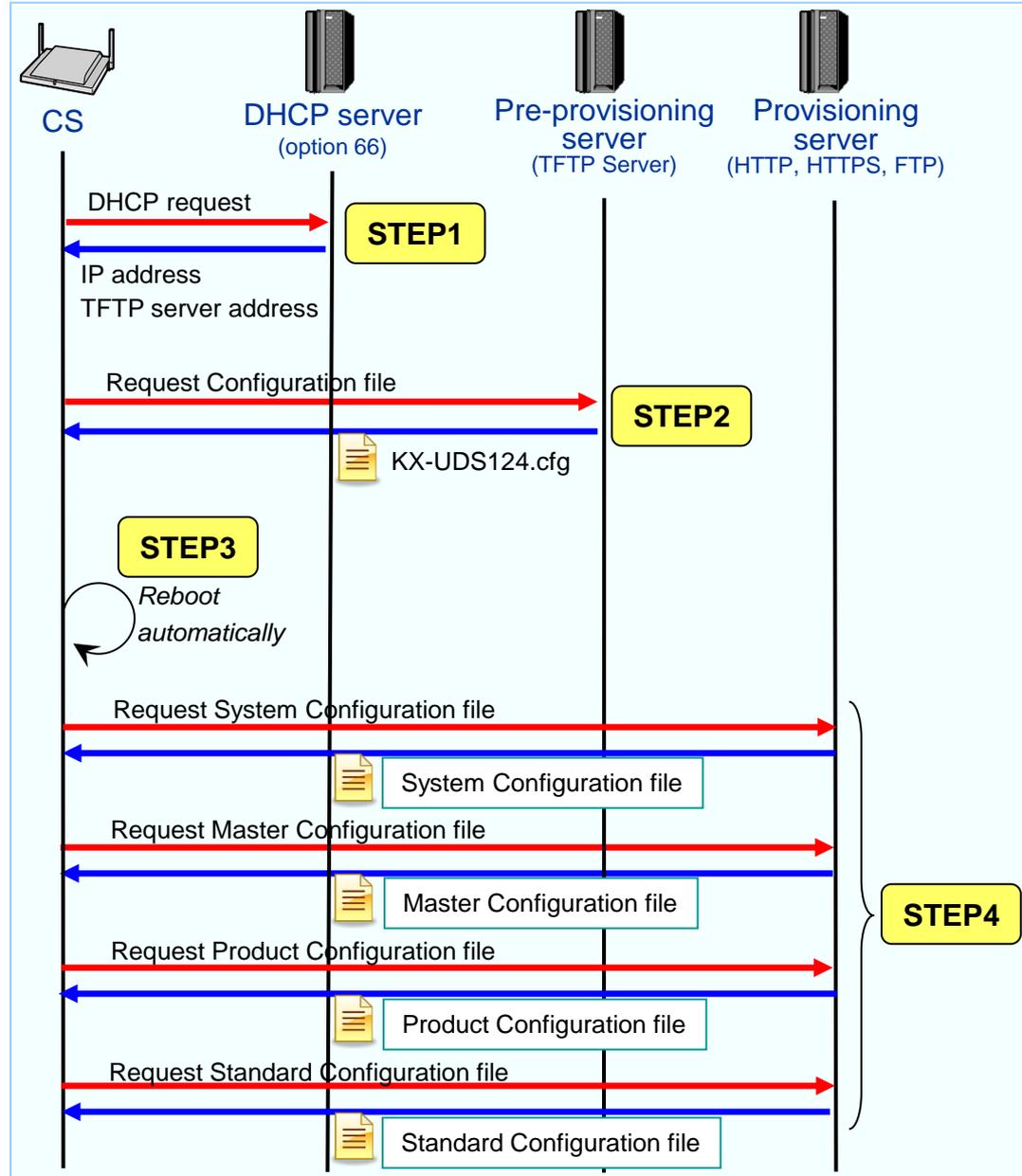
Servers for pre-provisioning

- To perform pre-provisioning, the CS needs to acquire the TFTP server address from option 66 on a DHCP server. Therefore, pre-provisioning cannot be performed if you use static IP addressing on your network. If you use static IP addressing and want to perform pre-provisioning, construct a small, separate network at first and connect a DHCP and TFTP server to that network.
- In addition, if option 66 of the DHCP server cannot be set, or if you are unauthorized to change this setting, perform pre-provisioning on the separate network, and then connect the CS to the actual network.

Server	Purpose	Description
DHCP Server	A TFTP server's address set as the option 66 is offered.	A TFTP server's IP address or FQDN (Fully Qualified Domain Name) is specified as a DHCP server's option 66. For details, please refer to the DHCP server's operation manual currently used.
TFTP Server	It is a storage location of a configuration file. A configuration file is offered by access from a terminal.	The CS will download the configuration file "(model name). cfg" stored in the root directory of the TFTP server.

- DHCP and TFTP servers may be supplied with your operating system, provided through commercial services, and are also distributed freely on the Internet. Use a server setup that best matches your environment.
- When installing and setting up the DHCP server and TFTP server, refer to the documentation supplied with the product.

Pre-provisioning setting example

Item	Description/Setting
TFTP sever address	192.168.0.130
Distribution directory of TFTP server	/tftpboot
Model name of the CS (MAC address)	KX-UDS124 (0080-F012-3456)
Distribution directory of the provisioning server	/Panasonic
File name of the configuration file used for pre-provisioning	KX-UDS124.cfg
OPTION66 of DHCP server	192.168.0.130
IP address range assigned by DHCP server	192.168.0.11 ~ 192.168.0.99
Provisioning server name (IP address)	prov.example.com (192.168.0.20)
The name of the configuration file used for provisioning	System configuration file : KX-UDS124.cfg Master configuration file : UserAccount.cfg

Configuration file example

Settings are example

```
# Panasonic SIP Phone Standard Format File # DO NOT CHANGE THIS LINE!

## Pre Provisioning Settings
OPTION66_ENABLE="Y"       <- A TFTP server's address is acquired by the OPTION66 of DHCP
OPTION66_REBOOT="Y"       <- CS reboots automatically after the pre-provisioning by the OPTION66
PROVISION_ENABLE="Y"      <- A configuration file is downloaded and the CS is set up.

## Provisioning Settings
CFG_SYSTEM_FILE_PATH="tftp://prov.example.com/Panasonic/KX-UDS124.cfg"
CFG_MASTER_FILE_PATH="tftp://prov.example.com/Panasonic/UserAccount.cfg"
```
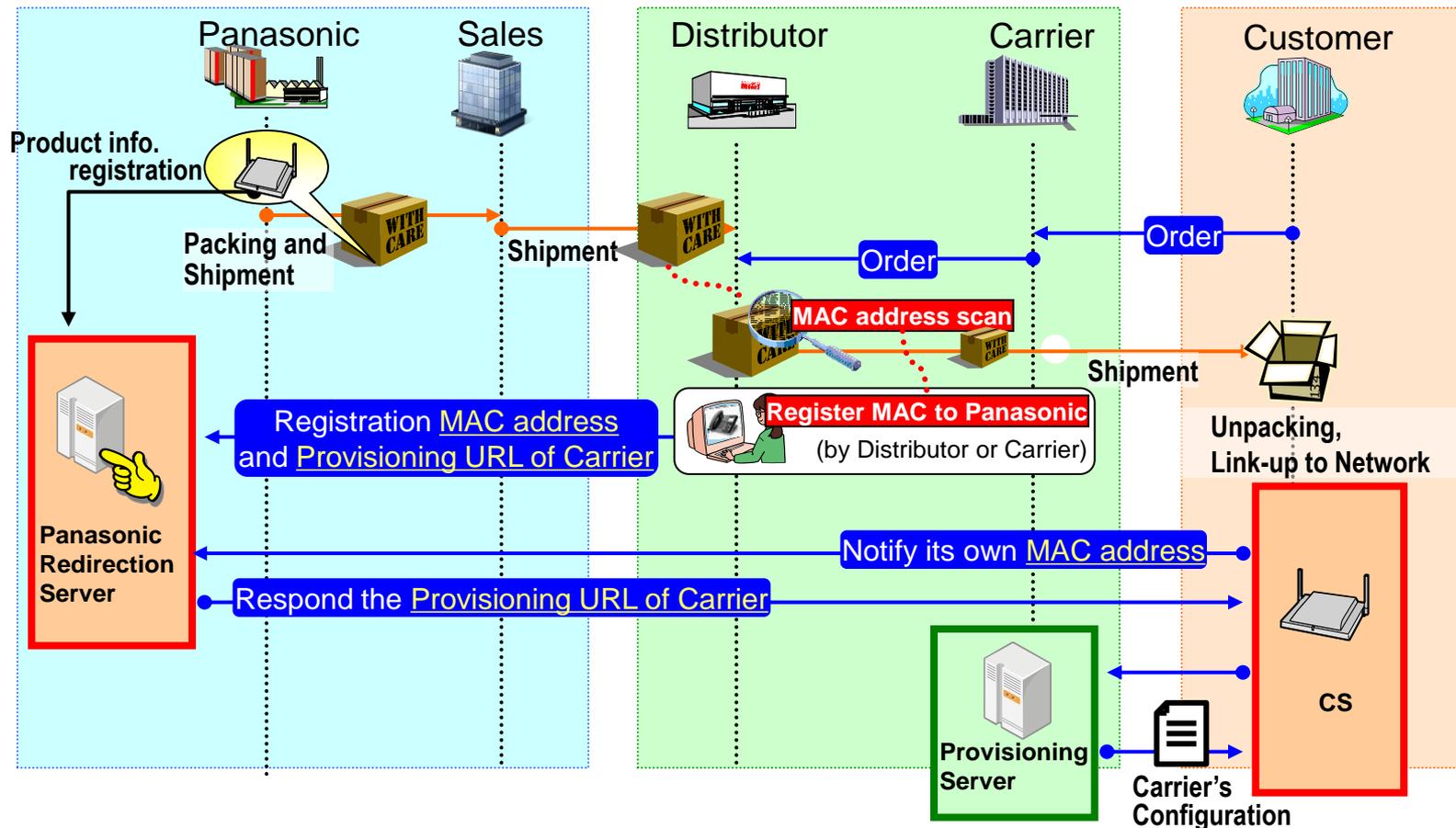
Advantage using a redirection server

- PSN : Inventory control and planning of production become easy.
  (Panasonic is managing the redirection server.)
- Sales company : Inventory control becomes easy.
- Carrier/Distributor : **It can ship to End User as it is, without opening a box and setting up about the delivered set.**

Flow of Redirection server

2.2.1 Flow of provisioning using redirection server

STEP1 **DHCP**

When you connect CS to the network, the CS is assigned IP address by DHCP server.

STEP2 **Pre-Provisioning**

The CS downloads the Configuration file for provisioning from the Redirection server.
The URL of the server where the configuration file for provisioning is stored is set to the CS.

STEP3 **Provisioning**

The CS download the 1 to 4 types of configuration files from the provisioning server.
- 1. System Configuration File
- 2. Master Configuration File
- 3. Product Configuration File
- 4. Standard Configuration File

This address can be specified by pre-provisioning process or WEB interface or by each file.

CS | DHCP server | Redirection server | Provisioning server (HTTP, HTTPS, FTP)

DHCP request — **STEP1**
IP address

Request Configuration file — **STEP2**
KX-UDS124.cfg

Request System Configuration file
System Configuration file
Request Master Configuration file
Master Configuration file — **STEP3**
Request Product Configuration file
Product Configuration file
Request Standard Configuration file
Standard Configuration file
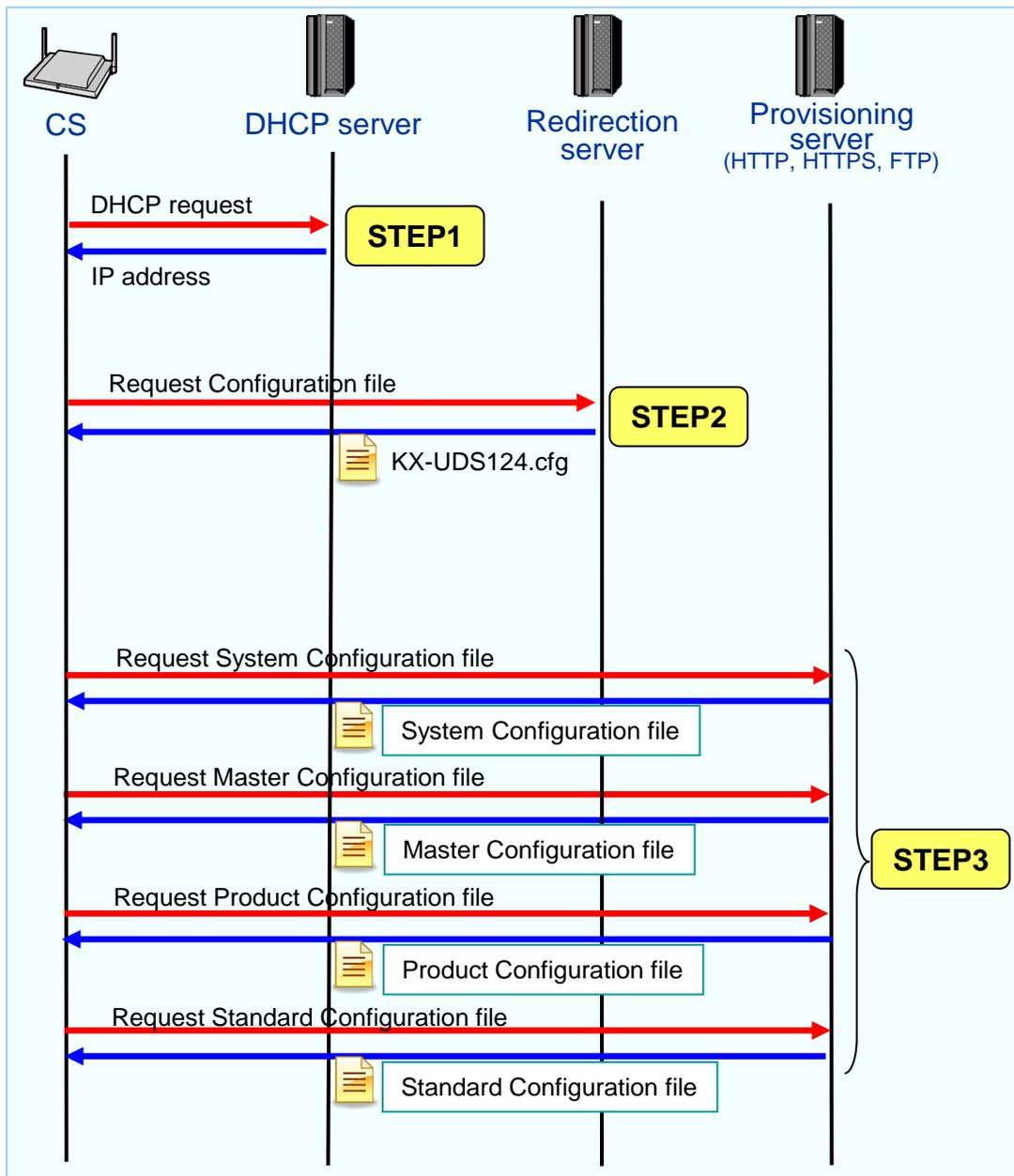
2.3 Steps of Manual Setting (by Web user interface)

Step 1.

Confirm that the provisioning server's IP address/FQDN and directory.
Put the configuration files into provisioning server.

provisioning server

System Configuration File
Master Configuration File
Product Configuration File
Standard Configuration File

Step 2.

Log in to the CS as administrator.
Input configuration file URL into "Provisioning Maintenance" setting in WEB.
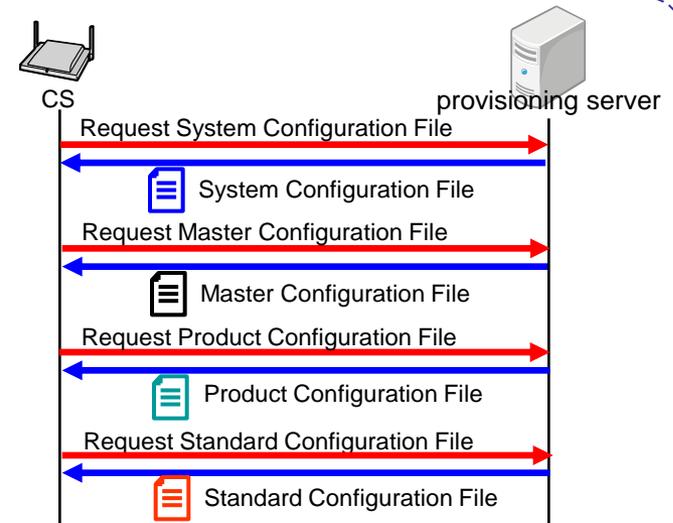(refer to next page for detail)

Provisioning Maintenance

Enable Provisioning	⊙Yes ○No
Standard File URL	
Product File URL	
Master File URL	
System File URL	
Cyclic Auto Resync	○Yes ⊙No
Resync Interval	10080 minute(s) [1-40320]
Header Value for Resync Event	check-sync

[All Save] [Cancel]

Step 3.

CS get configuration files from provisioning server from address input into WEB setting.
CS downloads configuration files when it start up, at regular intervals, and when directed to do so by the server.

CS   provisioning server

Request System Configuration File
System Configuration File
Request Master Configuration File
Master Configuration File
Request Product Configuration File
Product Configuration File
Request Standard Configuration File
Standard Configuration File

Web setting

Provisioning Maintenance	
Enable Provisioning	⊙ Yes ○ No
Standard File URL	
Product File URL	
Master File URL	http://prov.example.com/Panasonic/UserAcco
System File URL	http://prov.example.com/Panasonic/KX-UDT1
Cyclic Auto Resync	○ Yes ⊙ No
Resync Interval	10080 minute(s) [1-40320]
Header Value for Resync Event	check-sync

[All Save] [Cancel]

The item of "Enable Provisioning" is set as "Yes".

Put configuration file's URL into each column. *1

Click "All Save" button.

1. Enter the IP address into a PC's Web Browser.
2. Login as "Administrator".
3. Move to [Maintenance] – [Provisioning Maintenance] screen.
4. Check [Enable Provisioning]－"Yes"
5. Put configuration file's URL into each column.
6. Click [All Save].

*1 There is the method of inputting only one configuration file into WEB-UI.
   example) When you used two configuration files (Master and standard).
     1. Only Master configuration file's URL is inputted in WEB-UI.
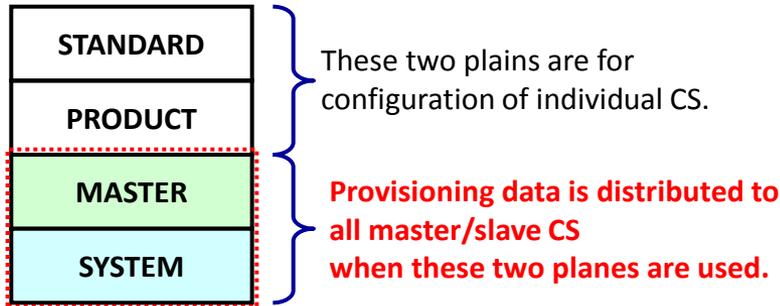   2. And you need to specify the Standard configuration file's URL in Master configuration file.

1. Centralized configuration

In PROVISION_SUPERMASTER_ONLY="Y",
Only Super Master CS accesses to a provisioning server and distributes the downloaded configuration file to subordinate's CS.
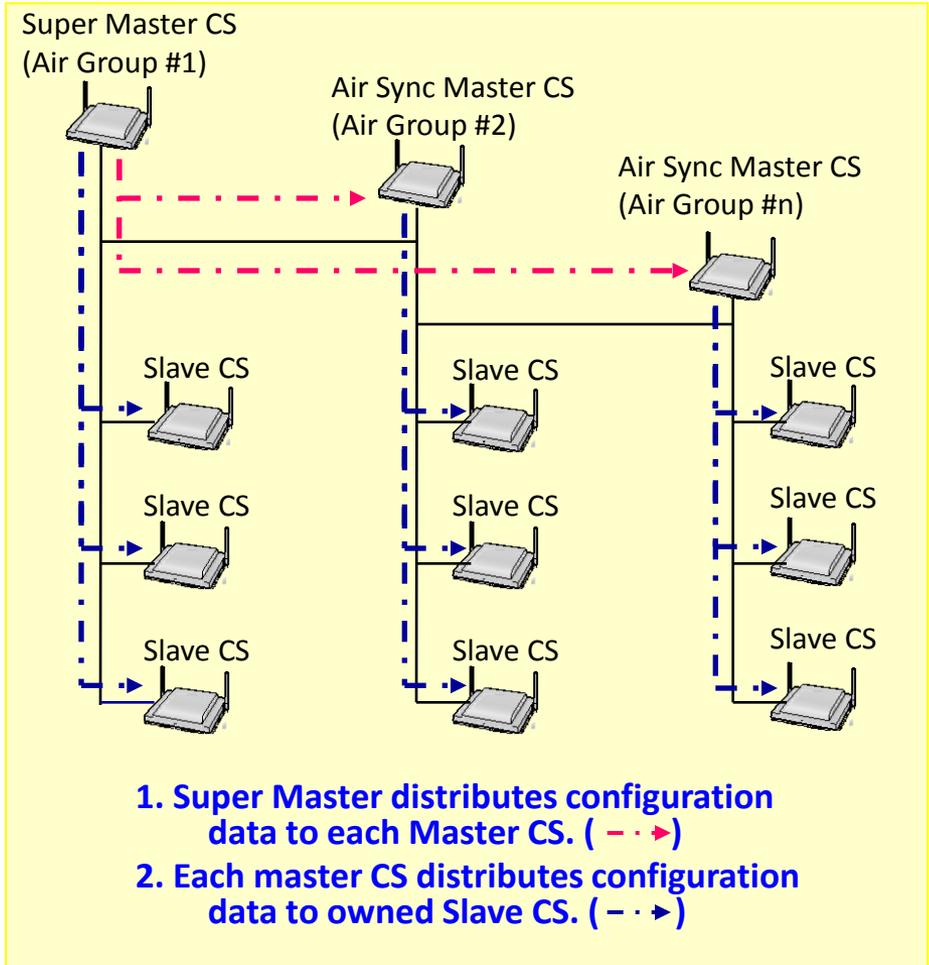
(1)Provisioning
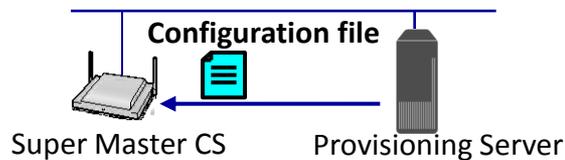
Configuration file

Super Master CS   Provisioning Server

Configuration Structure

STANDARD
PRODUCT
MASTER
SYSTEM

These two plains are for configuration of individual CS.

Provisioning data is distributed to all master/slave CS when these two planes are used.

(2)Distribution Mechanism

Super Master CS (Air Group #1)

Air Sync Master CS (Air Group #2)

Air Sync Master CS (Air Group #n)

Slave CS

1. Super Master distributes configuration data to each Master CS. (– · ▸)

2. Each master CS distributes configuration data to owned Slave CS. (– · ▸)

2. Individual configuration

In PROVISION_SUPERMASTER_ONLY="N" (default), each CS accesses a provisioning server and distribution from Super Master CS is not performed.
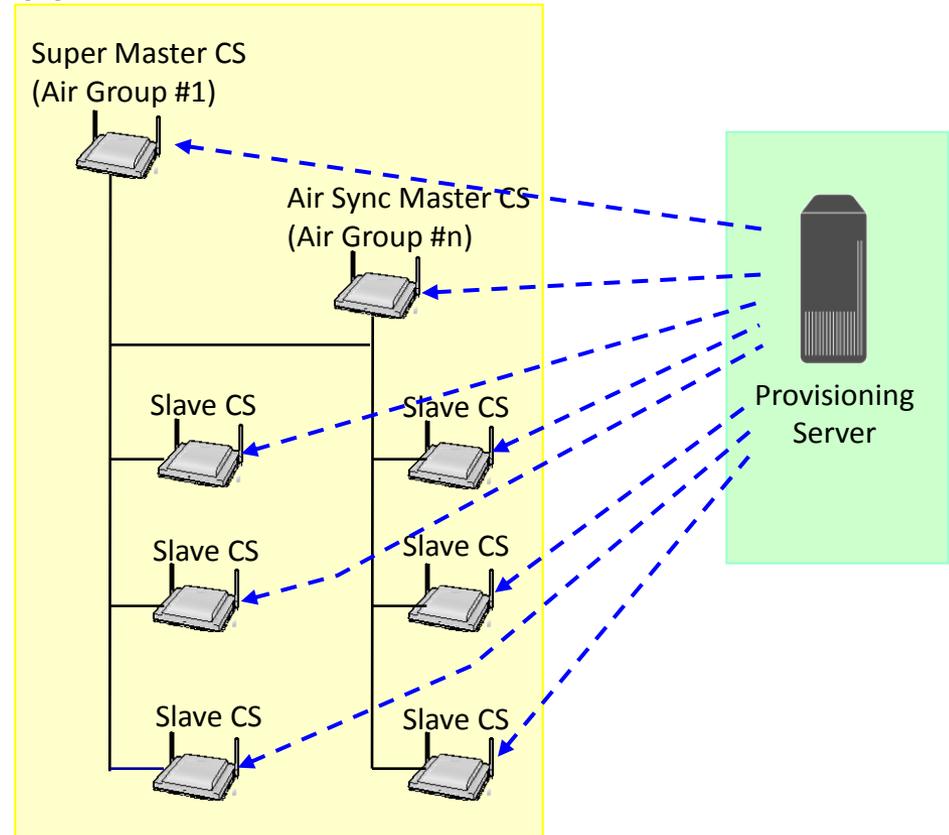
(1)Provisioning
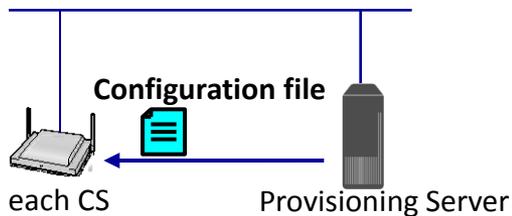
Configuration file

each CS   Provisioning Server

Configuration Structure

STANDARD
PRODUCT

These two plains are for configuration of individual CS.

MASTER
SYSTEM

Provisioning data is distributed to all master/slave CS when these two planes are used.

(2)Distribution Mechanism

Super Master CS (Air Group #1)

Air Sync Master CS (Air Group #n)

Slave CS   Slave CS

Slave CS   Slave CS

Slave CS   Slave CS
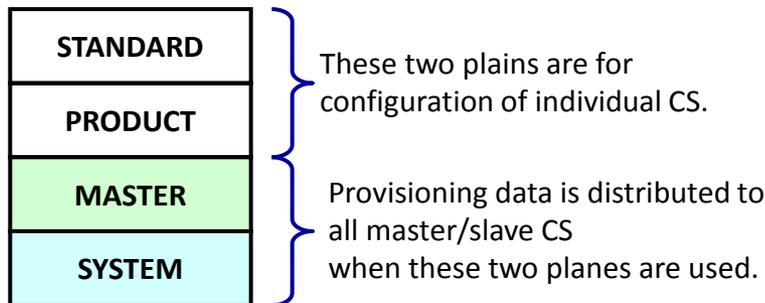
Provisioning Server

CAUTION)
When applying by PROVISION_SUPERMASTER_ONLY="N" (default), all CS needs to know the configuration file's URL.
Please refer to "**How to provisioning server address to all CSs**" for the correspondence method.

3. Types of configuration files

3.1 Types of configuration files

■There are four types of configuration file

Type	Usage
System configuration file	● Common setting for **all CSs** 　• SIP server address 　• IP address of the DNS server 　• IP address of the NTP (Network Time Protocol) server ● Example of the configuration file's URL: 　http://prov.example.com/Panasonic/{MODEL}.cfg
Master configuration file	● Common setting for **all CSs** 　• SIP User ID 　• password 　• IPEI ● Example of the configuration file's URL: 　http://prov.example.com/Panasonic/UserAccount.cfg
Product configuration file	● Setting for **each CS** 　• CS name ●Example of the configuration file's URL: 　http://prov.example.com/Panasonic/Config{MAC}.cfg
Standard configuration file	● Setting for **each CS** (for future enhancement) ● Example of the configuration file's URL: 　http://prov.example.com/Panasonic/Config{MAC}.cfg

- Usually, you only need to use the System and Master configuration files.
- If you need to centralized provisioning to the Super Master CS (see page17), set the "PROVISION_SUPERMASTER_ONLY" parameter to "Y".

■ Setting priority

- Configured by different configuration methods: provisioning, Web user interface programming, etc.
- Settings configured later override previous settings.
- Settings by Web are highest priority, can be changed by Web only.
  If configuration file is used after Settings by Web, Web settings should be reset.
  (refer to page47 for detail)

Setting Order	Priority		Setting Method
1	4	(Low)	The **factory default** settings for the CS
2	3		**Pre-provisioning** with the configuration file
3	2-4		**Provisioning** with the **system** configuration file
	2-3		**Provisioning** with the **master** configuration file
	2-2		**Provisioning** with the **product** configuration file
	2-1		**Provisioning** with the **standard** configuration file
4	1	(High)	Settings configured from the **Web user** interface

Example of Configuration file

```
# Panasonic SIP Phone Standard Format File
# DO NOT CHANGE THIS LINE!

# System Settings
 …
# Network Settings
 …
# Telephone Settings
 …
# VoIP Settings
 …
# Line Setting
SIP_PRXY_ADDR="192.168.0.10"
SIP_RGSTR_ADDR="192.168.0.10"
…

# Setting for PS1
# Line Setting
IPEI_PS1="123456789012"
PHONE_NUMBER_PS1_1="3331231"
SIP_AUTHID_PS1_1="userid1"
SIP_PASS_PS1_1="userpass1"
PHONE_NUMBER_PS1_2="3331232"
SIP_AUTHID_PS1_2="userid2"
SIP_PASS_PS1_2="userpass2"

# Setting for PS2
…
# Setting for PS255
…
```
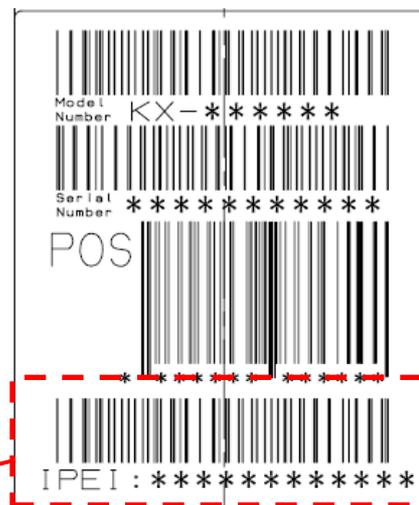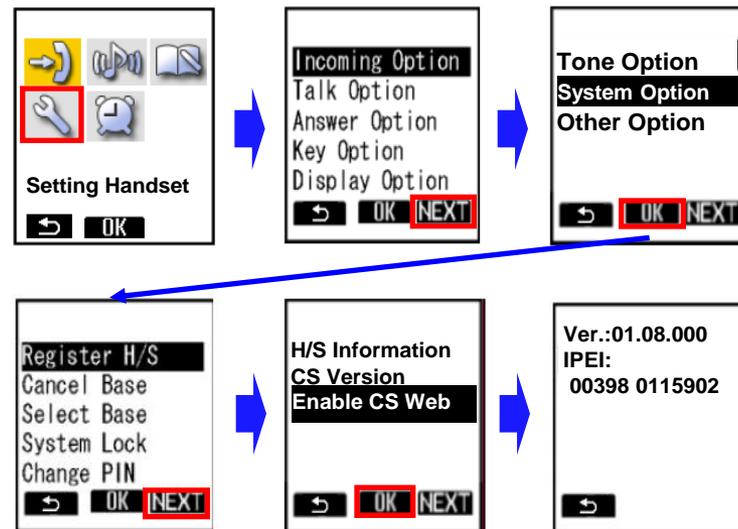
Setting item

#System Settings:
  System time・Syslog・
  Firmware update・Provisioning etc..

#Network Settings:
  IP address・DNS・NTP・STUN etc..

#Telephone Settings:
  Call control・Tone・Telephone・
  SIP-CS・Flexible etc..

#VoIP Settings:
  Codec・RTP・Miscellaneous VoIP etc..

#Line Settings:
  SIP settings・PS configuration etc..

If you want to execute IPEI registration, you must write IPEI code in configuration file.

You can recognize IPEI code from label of package.

```
# Panasonic SIP Phone Standard Format File
# DO NOT CHANGE THIS LINE!

# System Settings
# Network Settings
# Telephone Settings
# VoIP Settings

# Line Setting
SIP_PRXY_ADDR="192.168.0.10"
SIP_RGSTR_ADDR="192.168.0.10"
…

# Setting for PS1
# Line Setting
IPEI_PS1="123456789012"
PHONE_NUMBER_PS1_1="3331231"
SIP_AUTHID_PS1_1="userid1"
SIP_PASS_PS1_1="userpass1"
PHONE_NUMBER_PS1_2="3331232"
SIP_AUTHID_PS1_2="userid2"
SIP_PASS_PS1_2="userpass2"

# Setting for PS2
…
# Setting for PS255
…
```

You can also see it from PS system option menu.

4. Downloading configuration files

CS can automatically download the configuration files when it starts up according to its setting.
Also depending on the settings, we can control the download timing.
It can also download periodically, or download by synchronizing with SIP NOTIFY signal.
Please refer to the following sections for detail.

■ Timing which accesses a provisioning server

- Start-up
- Periodical   (The interval for a maximum of 28days(=4weeks) can be set up)
- Specified time
- Performs manually (The notice from a SIP server)

■ Timing which accesses a pre-provisioning server

- CS receives the TFTP server address from the DHCP server using DHCP server option 66

Parameters that controls periodic download

Configuration Parameter (web user interface parameter)	Prohibit Download	Download Once at startup	Periodical Download in specified interval	Periodical Download at specified time
PROVISION_ENABLE (Enable provisioning)	N	Y	Y	Y
CFG_CYCLIC (Cyclic auto resync)	-	N	Y	Y
CFG_CYCLIC_INTVL (Resync Interval)	-	-	Interval in minutes "10080" is default	-
CFG_RESYNC_TIME (-)	-	-	-	Resync Time e.g. "02:00"
Download configuration file in each settings				

(-)not effective

Parameter that controls retrying of download the configuration file when download / parse error occurs.

Configuration file parameter (web user interface parameter)	value	
(*) PROVISION_ENABLE (Enable provisioning)	Y	Y
(*) CFG_CYCLIC (Cyclic auto resync)	N	Y
(*) CFG_RTRY_INTVL (-)	-	"30" is default value Value range is 1 –1440
Flow of downloading configuration file in each settings		

(*) Refer to page 25

Setting method via WEB user interface

1. Enter the IP address into a PC's Web Browser. Login "Administrator".

2. Move to [Maintenance] - [Provisioning Maintenance] screen.

3. Configuration file setting.
   (Refer to page16 for a setup config file)

4. Check [Cyclic Auto Resync] – "Yes".

5. Enter the interval of download.

6. Click [All Save]
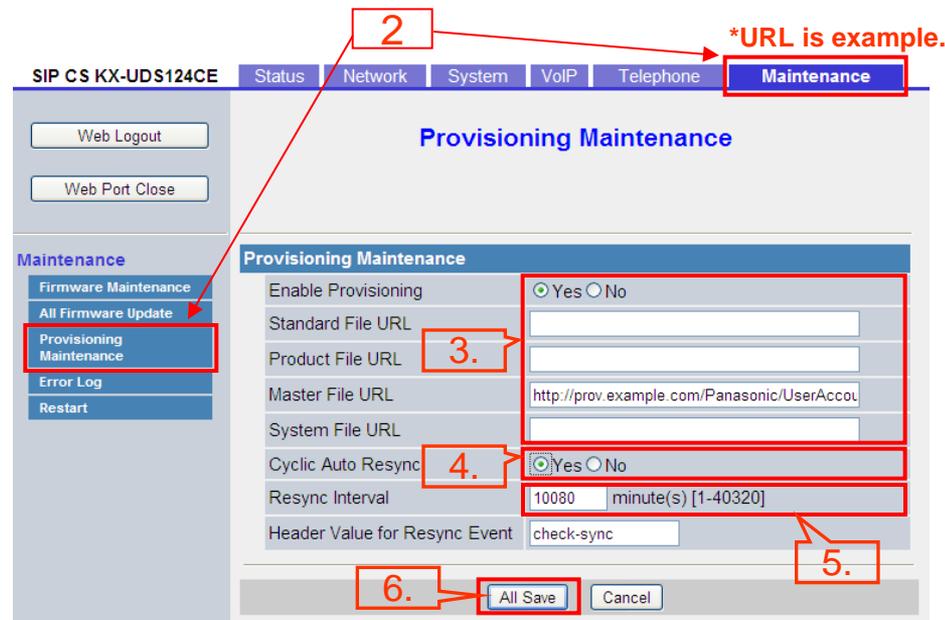
*URL is example.

Setting method by Configuration file

1. Please set the configuration file as follows.

```
PROVISION_ENABLE="Y"                                    *URL is example.
CFG_MASTER_FILE_PATH="http://prov.example.com/UserAccount.cfg"
CFG_CYCLIC="Y"
CFG_CYCLIC_INTVL="10080"
```
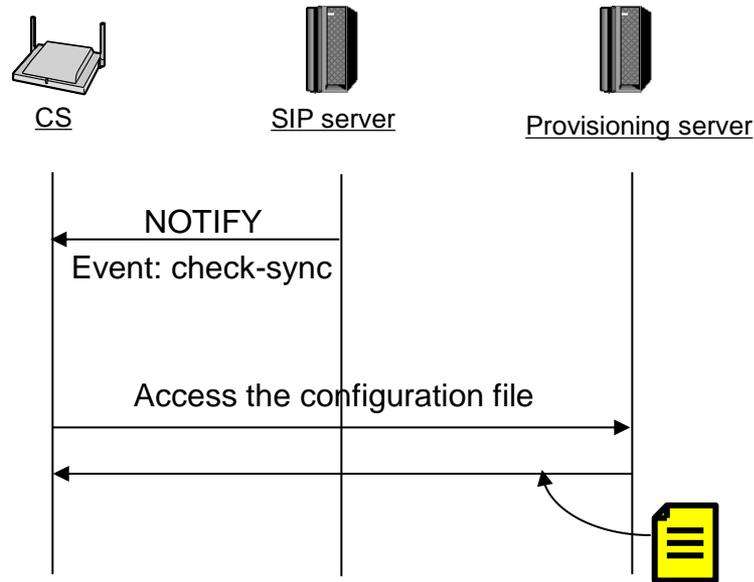   *CFG_CYCLIC_INTVL="10080" is default value. Value range is "1 – 40320".

2. Apply to the CS.

"Event" header value is example.

CS　　　　　SIP server　　　　Provisioning server

NOTIFY
Event: check-sync

Access the configuration file

The following figure shows an example NOTIFY message from the server, directing the CS to perform provisioning. The text "check-sync" is specified for "CFG_RESYNC_FROM_SIP".

```
NOTIFY sip:1234567890@sip.example.com SIP/2.0
Via: SIP/2.0/UDP xxx.xxx.xxx.xxx:5060;branch=abcdef-ghijkl
From: sip:prov@sip.example.com
To: sip:1234567890@sip.example.com
Date: Thu, 1 Jan 2009 01:01:01 GMT
Call-ID: 123456-1234567912345678
CSeq: 1 NOTIFY
Contact: sip:xxx.xxx.xxx.xxx:5060
Event: check-sync
Content-Length: 0
```

Setting method via WEB user interface

1. Enter the IP address into a PC's Web Browser. Login as "Administrator".

2. Move to [Maintenance] - [Provisioning Maintenance] screen.

3. Specifies the value of the "Event" header (typically "check-sync" or "resync" is set) to "Header Value for Resync Event"

Setting method by Configuration file

1. Please set the configuration file as follows.

   CFG_RESYNC_FROM_SIP="check-sync"

2. Apply to the CS.

Configuration File Parameter (WEB user interface Parameter)	Value Range (default)	Description
PROVISION_ENABLE (Enable provisioning)	Y/N (Y)	Specifies whether the CS is automatically configured by downloading the configuration files from the provisioning server of your phone system.
CFG_CYCLIC (Cyclic auto resync)	Y/N (N)	Specifies whether the CS periodically downloads configuration files from the provisioning server.
CFG_CYCLIC_INTVL (Resync Interval)	1–40320 (10080)	Specifies the interval, in minutes, between periodic downloads configuration files from the provisioning server.
CFG_RTRY_INTVL (-)	1–1440 (30)	Specifies the period of time, in minutes, that the CS will retry downloading configuration files after a configuration files access error has occurred.

| Configuration File Parameter (WEB user interface Parameter)	Value Range (default)	Description
CFG_RESYNC_TIME (-)	00:00–23:59 (Empty string) Note • If the value for this setting is any valid value other than an empty string, the CS downloads the configuration files at the fixed time, and the settings specified in "CFG_CYCLIC", "CFG_CYCLIC_INTVL", and "CFG_RTRY_INTVL" are disabled. • If the value for this setting is an empty string, downloading the configuration files at the fixed time are disabled.	Specifies the time (hour:minute) that the CS checks for updates of configuration files.
CFG_RESYNC_FROM_SIP (Header Value for Resync Event)	Max. 15 characters Note • If the value for this setting is any value other than an empty string (typically "check-sync" or "resync" is set), the CS will access the configuration files on the provisioning server when the SIP server sends an event to notify the CS. • If the value for this setting is an empty string, the CS will not access the configuration files on the provisioning server even if the CS receives a synchronization notification of an event.	Specifies the value of the "Event" header sent from the SIP server to the CS so that the CS can access the configuration files on the provisioning server.

5. Secure provisioning methods

In order to perform provisioning securely, there are 2 methods for transferring configuration files securely between the CS and the server.
Which method is used depends on the environment and equipment available from the system.

Method1: Transferring encrypted configuration files

- In this method, an encryption key is required to encrypt and decrypt the configuration files.
- When the CS downloads an encrypted configuration file, it will decrypt the file using the same encryption key, and then configure the settings automatically.
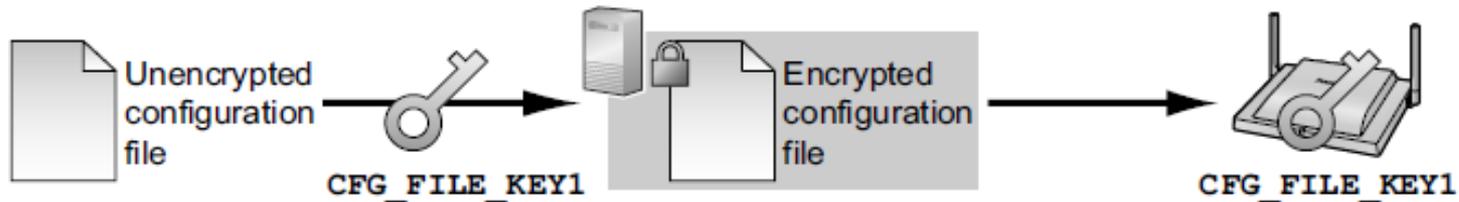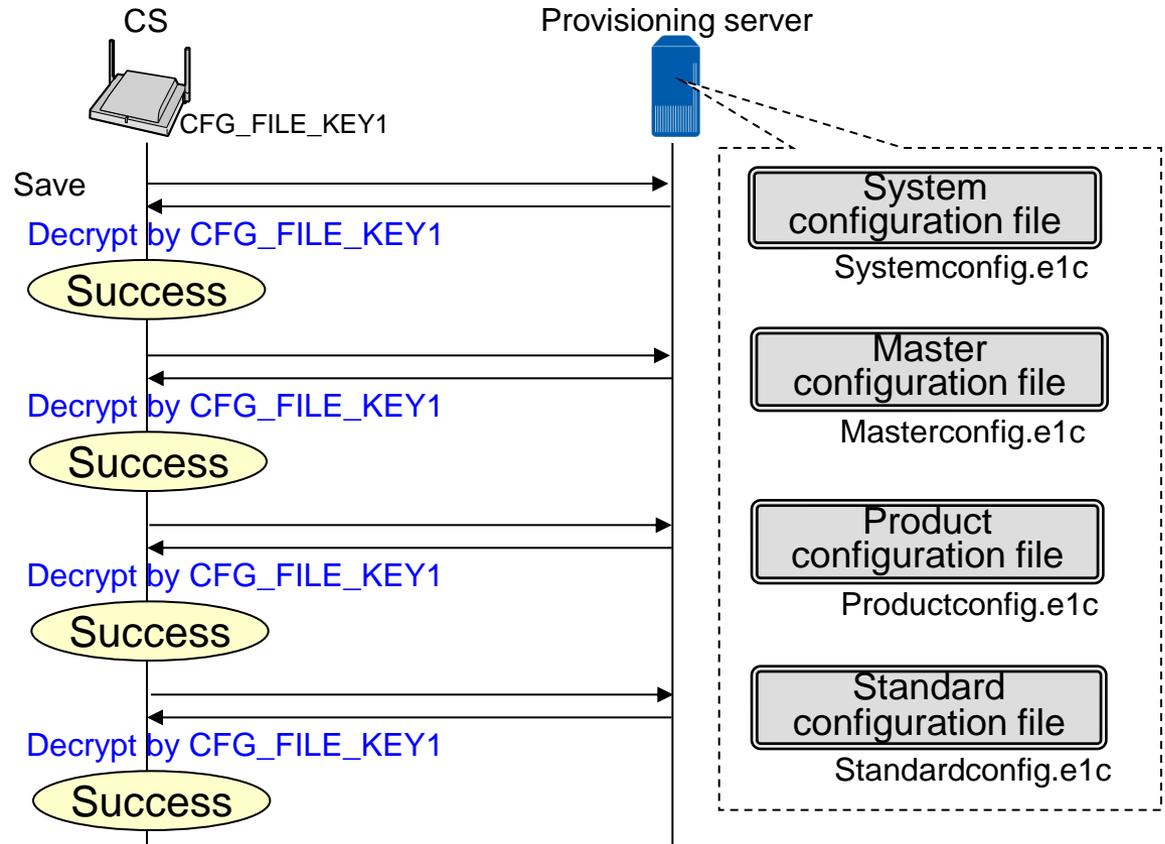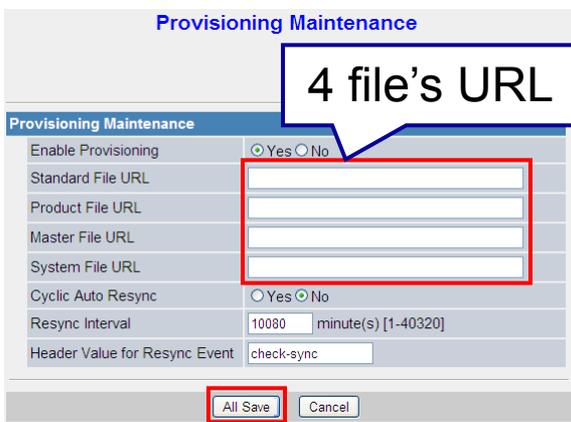

Method2: Transferring configuration files using HTTPS

- This method uses SSL, which is commonly used on the internet, to transfer configuration files between the CS and server.
- For more secure communication, you can use a root certificate.

When you use 2 or more configuration files for provisioning, and all configuration file's key number is set to 1(extension set as "e1c"), download of configuration files is successful.

Provisioning Maintenance

4 file's URL

Provisioning Maintenance	
Enable Provisioning	⊙Yes ○No
Standard File URL	
Product File URL	
Master File URL	
System File URL	
Cyclic Auto Resync	○Yes ⊙No
Resync Interval	10080 minute(s) [1-40320]
Header Value for Resync Event	check-sync

[All Save] [Cancel]

CS — CFG_FILE_KEY1

Provisioning server

Save

Decrypt by CFG_FILE_KEY1

Success

Decrypt by CFG_FILE_KEY1

Success

Decrypt by CFG_FILE_KEY1

Success

Decrypt by CFG_FILE_KEY1

Success

System configuration file
Systemconfig.e1c

Master configuration file
Masterconfig.e1c

Product configuration file
Productconfig.e1c

Standard configuration file
Standardconfig.e1c

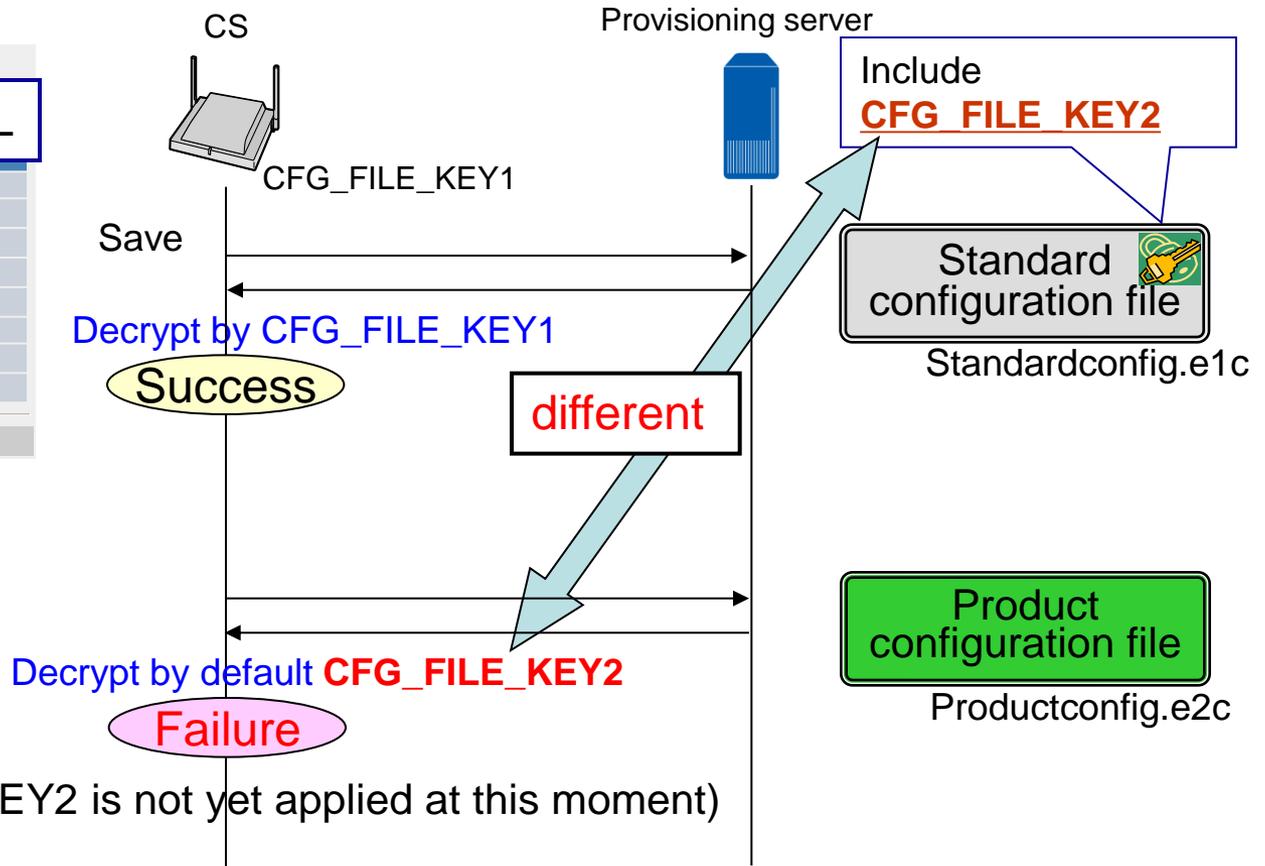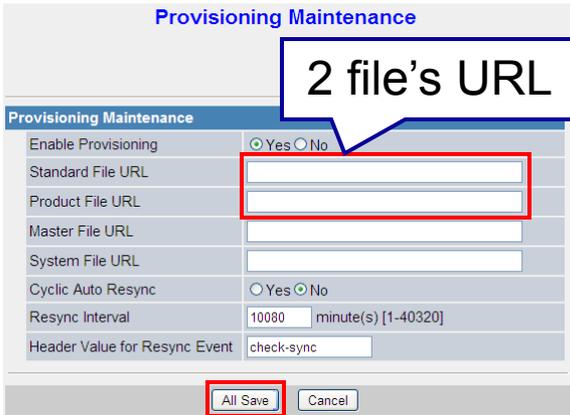## All Config values are applied

CAUTION)
When applying by PROVISION_SUPERMASTER_ONLY="N", since a default key cannot be used, all the CS needs to have a common encryption key.
It is necessary to import an encryption key before provisioning.
Please refer to "**How to set common encryption key to all CSs**" for details.

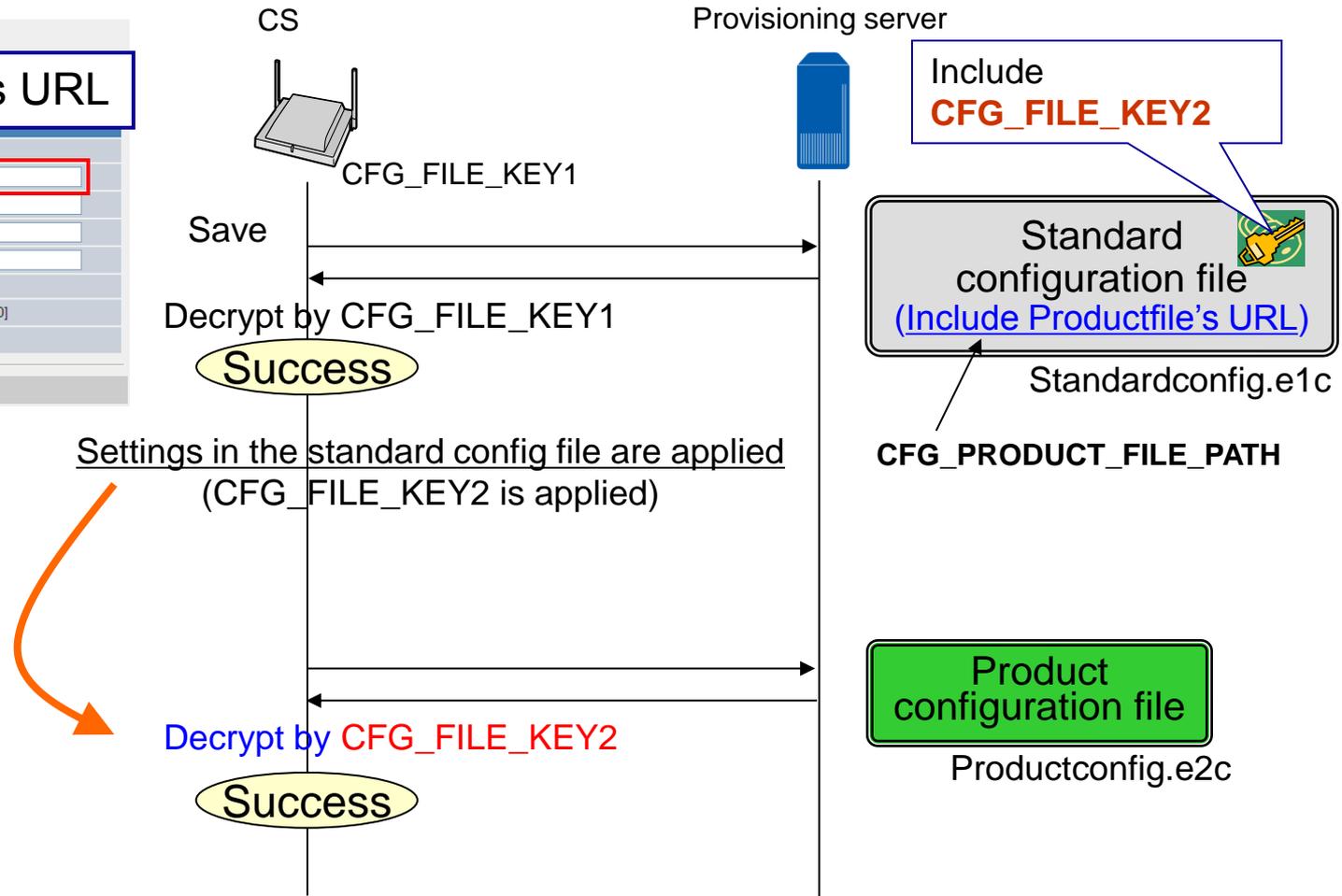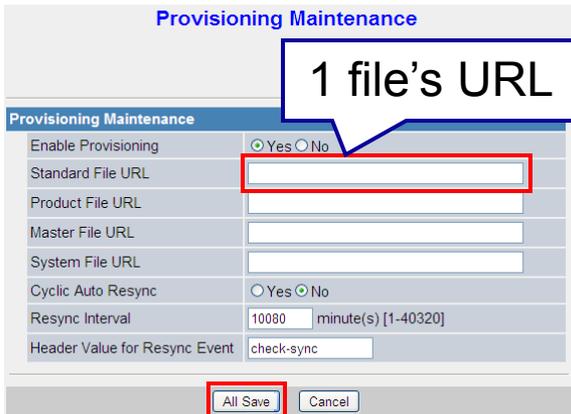# 5.1.1 Problem case (When different key are used)

When you input both Standard and Product File's URL in WEB-UI, and Product configuration file's Key number is set to 2 or more (extension set as "e2c" or "e3c"), it is failed to decrypt Product configuration file since key is not applied at that moment.

Provisioning Maintenance

Enable Provisioning	⊙Yes ○No
Standard File URL	
Product File URL	
Master File URL	
System File URL	
Cyclic Auto Resync	○Yes ⊙No
Resync Interval	10080 minute(s) [1-40320]
Header Value for Resync Event	check-sync

2 file's URL

[All Save] [Cancel]

CS — CFG_FILE_KEY1

Provisioning server

Include **CFG_FILE_KEY2**

Save

Decrypt by CFG_FILE_KEY1 — Success

different

Standard configuration file — Standardconfig.e1c

Decrypt by default **CFG_FILE_KEY2** — Failure

(Because CFG_FILE_KEY2 is not yet applied at this moment)

Product configuration file — Productconfig.e2c

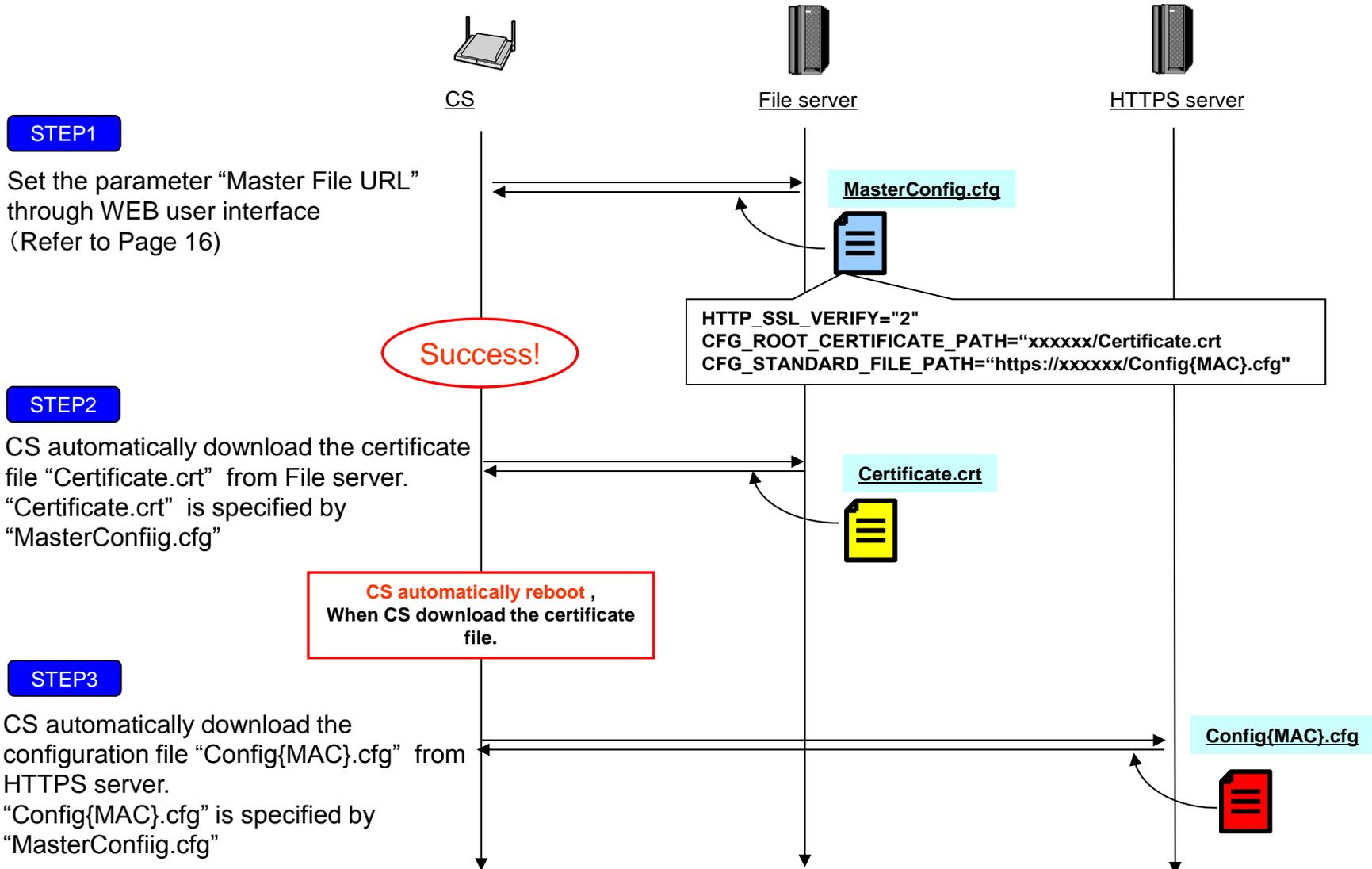## All Settings are **not** applied

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5.1.2 Solution

Please input only Standard File's URL in WEB-UI so that Key number 2 described in Standard configuration file will be used.

Provisioning Maintenance

1 file's URL

Provisioning Maintenance	
Enable Provisioning	⊙Yes ○No
Standard File URL	
Product File URL	
Master File URL	
System File URL	
Cyclic Auto Resync	○Yes ⊙No
Resync Interval	10080 minute(s) [1-40320]
Header Value for Resync Event	check-sync

All Save   Cancel

CS   Provisioning server

CFG_FILE_KEY1

Save

Decrypt by CFG_FILE_KEY1

Success

Settings in the standard config file are applied
(CFG_FILE_KEY2 is applied)

Decrypt by CFG_FILE_KEY2

Success

Include **CFG_FILE_KEY2**

Standard configuration file
(Include Productfile's URL)

Standardconfig.e1c

CFG_PRODUCT_FILE_PATH

Product configuration file

Productconfig.e2c

Settings in the product configuration file are applied

Configuration file name and
certificate file name are example.

CS　　　　　　　**File server**　　　　　　**HTTPS server**

STEP1

Set the parameter "Master File URL"
through WEB user interface
（Refer to Page 16)

MasterConfig.cfg

Success!

```
HTTP_SSL_VERIFY="2"
CFG_ROOT_CERTIFICATE_PATH="xxxxxx/Certificate.crt
CFG_STANDARD_FILE_PATH="https://xxxxxx/Config{MAC}.cfg"
```
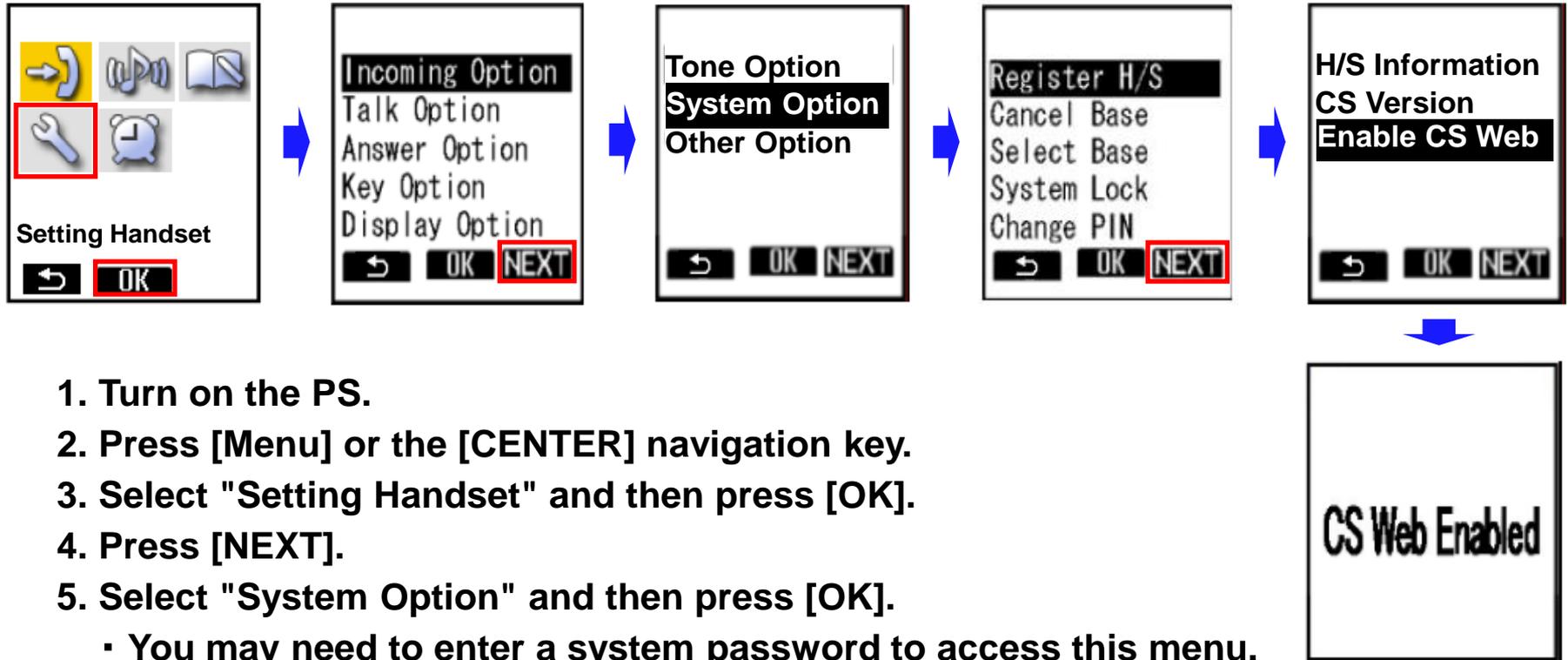
STEP2

CS automatically download the certificate
file "Certificate.crt" from File server.
"Certificate.crt" is specified by
"MasterConfiig.cfg"

Certificate.crt

CS automatically reboot ,
When CS download the certificate
file.

STEP3

CS automatically download the
configuration file "Config{MAC}.cfg" from
HTTPS server.
"Config{MAC}.cfg" is specified by
"MasterConfiig.cfg"

Config{MAC}.cfg

```
# Panasonic SIP Phone Standard Format File # DO NOT CHANGE THIS LINE

HTTP_SSL_VERIFY="2"
CFG_ROOT_CERTIFICATE_PATH="xxxxxx/Certificate.crt
CFG_STANDARD_FILE_PATH=https://xxxxxx/Config{MAC}.cfg
```

1. Please make a configuration file that sets the above settings.
2. Apply Configuration file into CS.

Meaning of HTTP_SSL_VERIFY

Value Format	Integer
Description	Specifies whether to enable the verification of the root certificate
Value Range	• 0 (No verification of root certificate) • 1 (Simple verification of root certificate) • 2 (Precise verification of root certificate) Note • If set to "0", the verification of the root certificate is disabled. • If set to "1", the verification of the root certificate is enabled. In this case, the validity of the certificate's date, certificate's chain, and the confirmation of the root certificate will be verified. • If set to "2", precise certificate verification is enabled. In this case, the validity of the server name will be verified in addition to the items verified when "1" is set.
Default Value	0

6. Web port setting

Setting Handset

Incoming Option
Talk Option
Answer Option
Key Option
Display Option

Tone Option
System Option
Other Option

Register H/S
Cancel Base
Select Base
System Lock
Change PIN

H/S Information
CS Version
Enable CS Web

CS Web Enabled

1. **Turn on the PS.**
2. **Press [Menu] or the [CENTER] navigation key.**
3. **Select "Setting Handset" and then press [OK].**
4. **Press [NEXT].**
5. **Select "System Option" and then press [OK].**
   ・ **You may need to enter a system password to access this menu.**
6. **Press [NEXT] to display the second screen,**
    select "Enable CS Web", and then press [OK].
7. **When the operation is complete, "CS Web Enabled" is displayed.**

Method to find out IP address of Super Master CS

・ **DHCP server**

   Access to DHCP server, and find out IP address of Super Master CS

・ **Packet capture software**

   Download packet capture software

・ **Register one PS**

   Execute following procedure (If PS is registered, please execute from step 12)

1. **Turn on the CS (Super Master) while holding RESET Switch.**

2. **Release the RESET Switch when the LED flashes [Green/Red/Amber] alternately, then the IP address is set to [192.168.0.241].**

3. **Log in to all CSs from PC by opening web browser and input .**
   http://192.168.0.241/

4. **Put ID and Password for administrator.**

   ID : admin

   Password : adminpass

Ethernet Cable
AC Adaptor Cord

Log in by WEB Browser
ID: admin
Pass : adminpass

RESET Switch
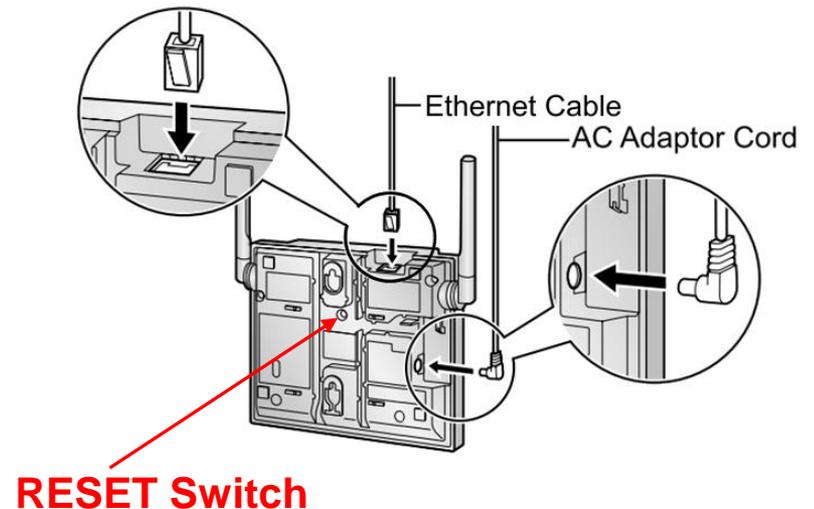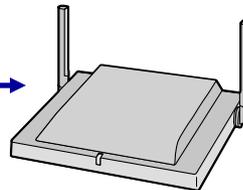
5. In the [System] tab, select [Air Settings].   [System] → [Air Settings]

6. In CS Class, select "Master".

7. Click [Save].

　・The CS will restart automatically.

　・ Once again, please execute 1 to 4.

8. In the [System] tab, select [PS Registration].   [System] → [PS Registration]

9. Click [Start PS Registration].

10. Select "1"to be registered in Available PS, and then click [>].

　　To deselect PS(s), click [<] or [<<].

11. Click [Next] and click [OK] to confirm registration.
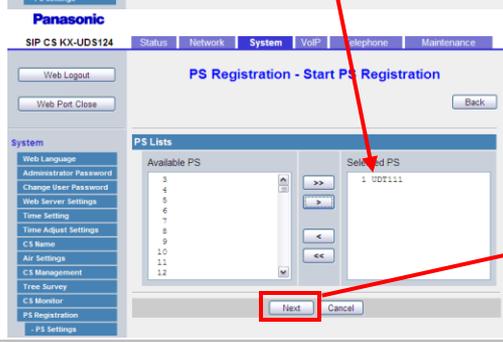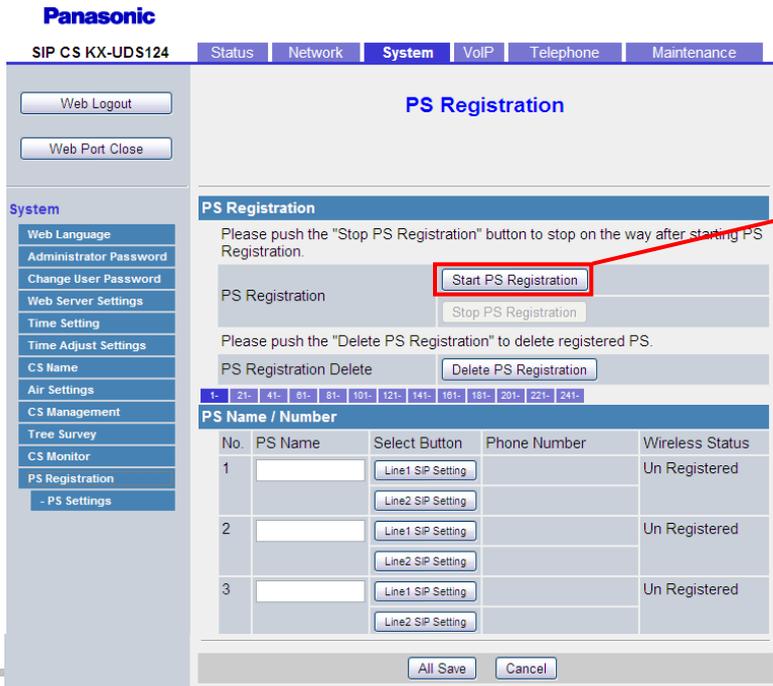
Master CS IP address
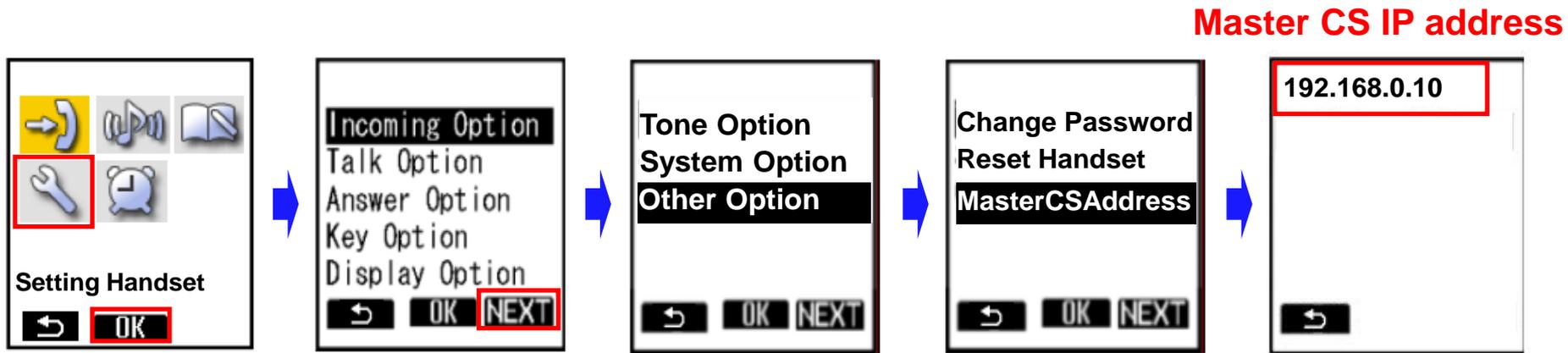
12. **Turn on the PS.**

13. **Press [Menu] or the [CENTER] navigation key.**

14. **Select "Setting Handset" and then press [OK].**

15. **Press [NEXT].**

16. **Select "Other Option" and then press [OK].**

17. **Select "MasterCSAddress" and the press [OK].**
   ・ **Display the Master CS IP address.**

"Port Close Timer" Specifies the length of time, in minutes, to keep the Web port open when there has been no communication between the CS and the PC. If the specified length of time elapses without any communication, the Web port closes automatically. Communication is detected when you click a tab, menu item, the **[Save]** button, or reloading the application or pressing the F5 key.

1. log-in Admin account

2. Click [System] – [Web Server Settings]

3. Set the "Port Close Timer" in the range of 1-1440 minute.
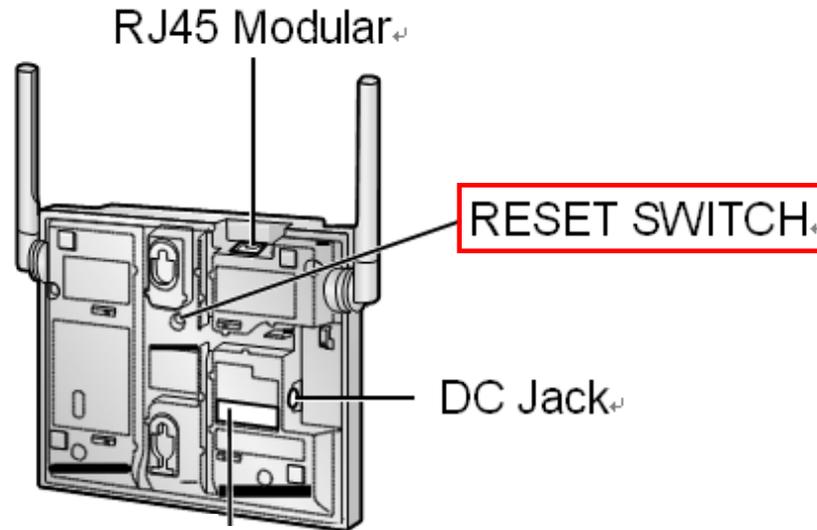
HTTPD_PORTOPEN_AUTO="Y"

Please add or change the above setting to configuration file.

This setting can be done only from Configuration file.

Description	Specifies whether the CS's Web port is always open.
Value Range	• Y (Web port is always open) • N (Web port is closed [can be opened temporarily through phone user interface programming]) Notice • If you want to set to "Y", please fully recognize the possibility of unauthorized access to the CS through the Web user interface and change this setting at your own risk. In addition, please take full security measures for connecting to an external network and control all passwords for logging in to the Web user interface.
Default Value	N

RJ45 Modular
RESET SWITCH
DC Jack

1. Turn on the CS.

2. Press and hold the RESET switch
   until the LED turns off (about 10 seconds).

Notice
- After performing this procedure, the CS will restart automatically.
- To avoid problems, it is recommended that you save your settings beforehand.
- This type of initialization also deletes all other data on the CS, such as the call logs, the phonebook and configuration data etc.