

UNIVERGE SV9500

FP95-112 V2

**Configuration and Maintenance Guide
for Remote Node over IP**

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UNIVERGE SV9500

Configuration and Maintenance Guide for Remote Node over IP

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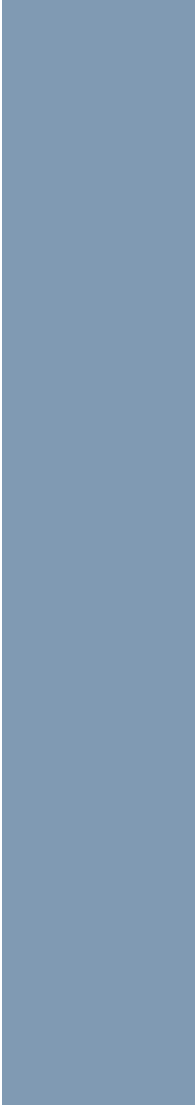
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CHAPTER 1 GENERAL



1.What is Remote Node over IP?

The Remote Node over IP (hereinafter called RNIP) is one of our flagship services that allows you to integrate UNIVERGE SV9500 (hereinafter called SV9500) and UNIVERGE NEAX2400 IPX Frame (hereinafter called IPX-Frame) or UNIVERGE SV8500 (hereinafter called SV8500-Frame) into a single system. The integrated system, we call it Remote Node over IP system, realizes an IP-based, huge, and super-efficient telephony system, and what is more, eliminating the need of any special installation.

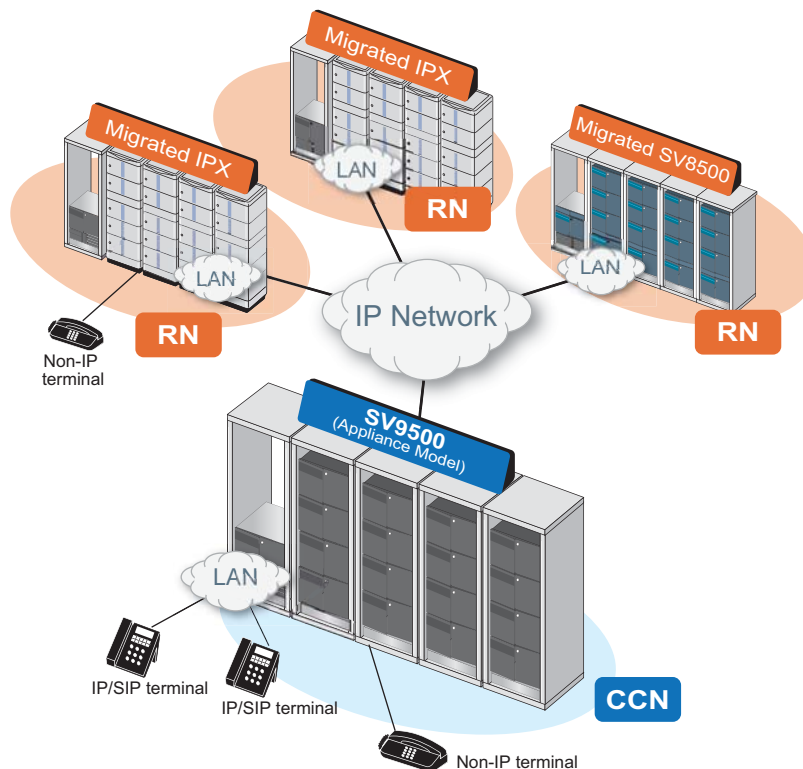
In the RNIP system, an SV9500 server (Appliance Model/Prepackaged Server Model) is called Central Control Node (hereinafter called CCN) (**Note 1**) while other IPX-Frame or SV8500-Frame is called Remote Node (hereinafter called RN): (**Note 2**) they are detailed in the next section. A CCN and RNs can be located in different locations and still function as a single system.

Note: RNIP is available in North America only.

Note 1: Only SV9500 (Appliance Model/Prepackaged Server Model) can be used as a CCN.

Note 2: All RNs must be SV9500 that is migrated from IPX, SV7000 or SV8500. Migrate IPX, SV7000 or SV8500 system to SV9500 in advance referring to “UNIVERGE SV9500 Migration Guide.”

What is Remote Node over IP?



1.1 Central Control Node and Remote Node

The RNIP system consists of nodes of the following two types:

- Central Control Node (CCN)

In this system, an SV9500 (Appliance Model/Prepackaged Server Model) node (**Note 1**) acts as the Central Control Node, which means it controls the other nodes of the system as a central node.

When a CCN is an SV9500 (Appliance Model) node, it can accommodate IP/SIP terminals (**Note 2**) as well as non-IP terminals if you install a PIR.

When a CCN is an SV9500 (Prepackaged Server Model) node, it can accommodate only IP/SIP terminals (**Note 2**).

- Remote Node (RN)

In this system, an SV9500 (Appliance Model) node that is migrated from IPX, SV7000 or SV8500 node acts as a Remote Node, which operates under the control of the CCN. An RN can accommodate non-IP terminals only.

Note1: In this manual, “CCN” is used unless the models of SV9500 such as Appliance Model or Prepackaged Server Model need to be identified.

Note2: SIP Handler Controlled SIP terminals can be used in the RNIP system from FP95-112 V2. However, OAI/ACD services do not support SIP Handler Controlled SIP terminals in the RNIP system.

1.2 Normal Mode and Survival Mode

The RNIP system varies in its operation depending on the condition:

- Normal Mode

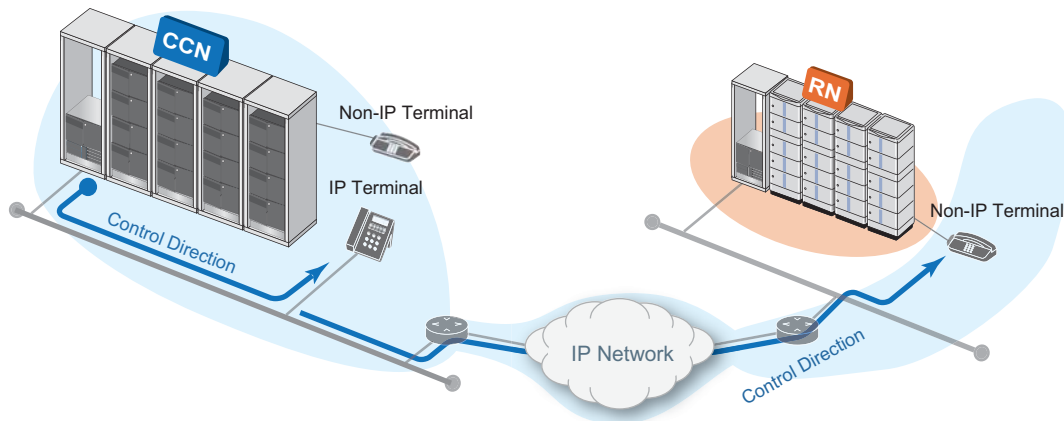
As long as the system works properly, a CCN controls the entire system including the terminals accommodated in RNs; the RNs, which are connected to the CCN, stand alone in case of a failure.

- Survival Mode

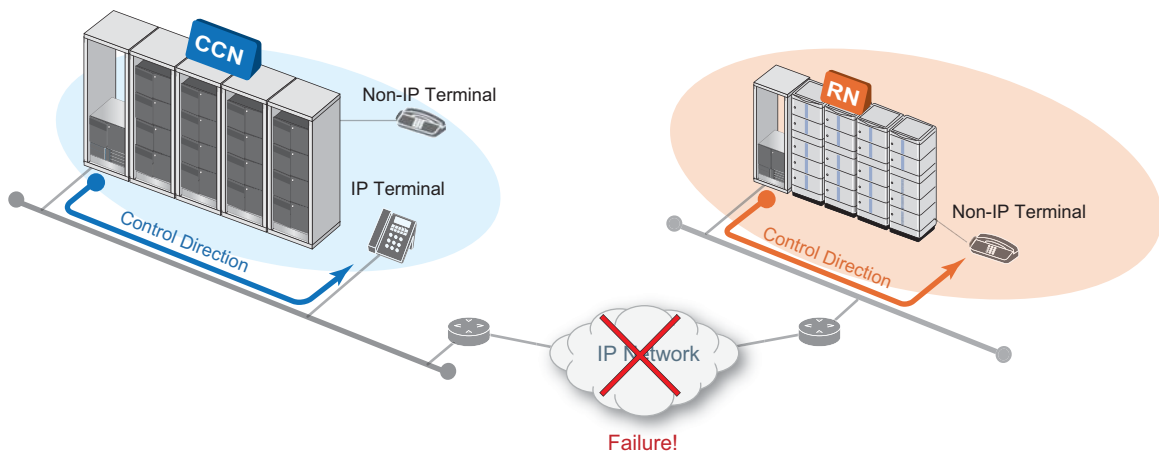
Once a failure causes a link between a CCN and an RN to go down, each node starts to operate independently to maintain the system operation. The RN controls terminals in the node instead of the CCN so that you can use (make/receive calls) the terminals as usual.

Normal Mode and Survival Mode

Normal Mode



Survival Mode

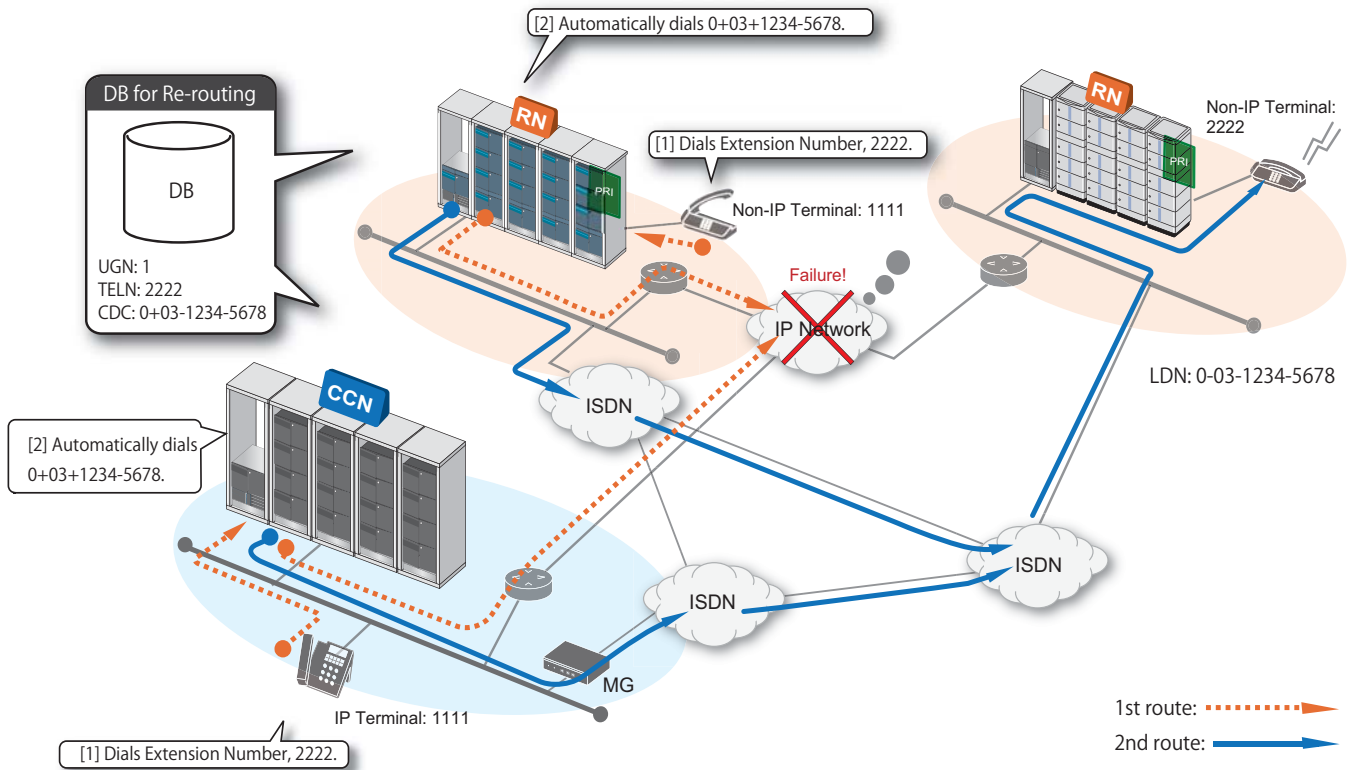


Note: This figure shows an example system configuration.

1.3 Flexible Route Re-routing for RNIP in Survival Mode

If an RN is placed in survival mode, Station-to-Station connections between this RN and other nodes are disabled. This feature provides an alternate route to ISDN at the time of network failure through the office data setting, and then allows stations in the survival mode RN to communicate with stations in other nodes by simply dialing its station number.

Flexible Route Re-routing for RNIP in Survival Mode



Note: This figure shows an example system configuration.

1.4 Physical PIR Resource License

From the FP95-112 V2, RNIP system uses Physical PIR Resource License. This license defines the size (number of available physical PIR ports) of the RNIP system. For more information on licenses, refer to UNIVERGE SV9500 Configuration Guide.

2. Conditions

2.1 General Conditions

Before performing the installation procedure, make sure of the following conditions.

- (1) All nodes must be one of the following:

CCN	RN
SV9500 (Appliance Model)	- SV9500 (Appliance Model) - SV9500 (Appliance Model) migrated from IPX
SV9500 (Prepackaged Server Model)	- SV9500 (Appliance Model) migrated from SV7000 - SV9500 (Appliance Model) migrated from SV8500

- (2) Make sure of conditions for maintenance applications to install and run PCPro. For more information about PCPro, see UNIVERGE SV9500 PCPro Setup Manual.
- (3) Some network applications supposed to communicate to CCN's LAN1 interface can be switched to the LAN2 interface. To switch to the LAN2 interface for accommodation inheritance from IPX to CCN, refer to [Additional Data Assignment; For Accommodation Inheritance from IPX to CCN](#). In this case, make sure of the conditions stated in [Conditions for LAN Interface Switching](#).
- (4) Check circuit cards available for the RNIP system referring to UNIVERGE SV9500 Circuit Card Description.
- (5) A CCN and RNs must have the same software version.
- Note:** If the software versions of the CCN and the RN are not the same, the RN cannot change to normal mode.
- (6) Country codes must be same among nodes.
- (7) RNs must have the same office data as that of their CCN. RNs periodically get an automatic copy of the CCN's office data and also when the system boots up during normal mode.
- (8) The Appliance Model CCN and RNs need flash cards.
- (9) Communications between CCN-RN and RN-RN are performed by using LAN1.
- (10) Activation authentication is required for CCN only. It is not required for RN.
- (11) A system message 10-C: System Activation Report (MJ) is generated immediately after initialization of an RN.

- (12) If an RN remains in survival mode and does not return to normal mode by the beginning of the next day, a system message 10-C: System Activation Report (MJ) will be generated at 00:00. “Certify NG (etc)” will be displayed for Certify Status in the AACT command window of the PCPro in the RN. The Certify Status will not change after changing to normal mode.
If an RN is in normal mode at the beginning of the next day, a system message 10-C: System Activation Report (MJ) will not be generated at 00:00. “Certify OK” will be displayed for Certify Status in the AACT command window of the PCPro in the RN.
- (13) The network between a CCN and each RN must support the use of UDP and is recommendable to use a closed network with a guaranteed bandwidth. See [Conditions for TCP/IP Environment](#).
- (14) For Appliance model, a node without an EMA MAIN card will not start up as a CCN or an RN, during the system initialization. However, after restarting the system, the EMA MAIN card becomes hot-pluggable.
- (15) The CCN manages the data of all the nodes. However, an RN only manages its basic office data when in survival mode. See [Conditions for Maintenance](#).
- (16) In normal mode, system messages are mainly output from the CCN (a few messages can be output from the RN side). Messages output during a CPU changeover of the CCN will be discarded. Messages originated from an RN when it is in survival mode will be output only by the RN.
- (17) A PCPro connection is possible with the CCN or RNs (in both cases to the active side).

2.2 Conditions for System Configuration

Configurations available in the RNIP system vary depending on the combination of RNs. The following are conditions for configurations in the RNIP system.

- (1) You can install up to 16 PIMs/PIRs onto a Appliance Model CCN. You cannot install any PIMs/PIRs onto a Prepackaged Server Model CCN.
- (2) An RN cannot accommodate any virtual PIMs/PIRs.
- (3) Conditions for terminal accommodation are as follows.

Terminal Accommodation

Terminal Type	CCN		RN
	Appliance Model	Prepackaged Server Model	
TDM Terminal	Supported Note 1	Not supported	Supported
IP/SIP Terminal	Supported Note 2, Note 3	Supported Note 2, Note 3	Not supported

Note 1: Only when a PIR is installed.

Note 2: In the DtermIP menu “Primary DRS Address”, assign a CCN’s IP address, not RN’s one.

Note 3: SIP Handler Controlled SIP terminals can be used in the RNIP system from FP95-112 V2. OAI/ACD services do not support SIP Handler Controlled SIP terminals in the RNIP system.

- (4) When using the PHS/PCS System or accommodating SP Controlled SIP terminals under the RNIP system, module allocations must be carefully considered, since the Wireless System and SP Controlled SIP terminals adopt Phantom Equipment Number (PHIN: MG20-31) for each PS/SP Controlled SIP terminal accommodation.

<PHIN Assignment Pattern>

When assigning the APSD command data for each PS/the ASPO command data for SP Controlled SIP terminals, the system automatically assigns any physically-existing port, out of the MG20-MG31 sphere. At this time, the first PS/SP Controlled SIP terminal is assigned the last number LEN of 313237 (MG=31, U=3, G=23, Lv=7) as the PHIN, and then the second to the next last number LEN of 313236 (MG=31, U=3, G=23, Lv=6). A maximum of 9000 PS terminals (including 4000 SIP terminals) can be accommodated in the system. Details on “PS/SP Controlled SIP terminal Number-PHIN relations” are shown in the table below.

PS/SP Controlled SIP Terminal Number-PHIN Relations

Number of PS/SP Controlled SIP terminal	MG to be used for PHIN	Maximum Number of PIM that Can Be Mounted by System Note 4
0 ~ 768	MG31	62 PIMs (IMG0 ~ 15)
769 ~ 1536	MG31, 32	60 PIMs (IMG0 ~ 14)
1537 ~ 2304	MG29 ~ 31	58 PIMs (IMG0 ~ 14)
2305 ~ 3072	MG28 ~ 31	56 PIMs (IMG0 ~ 13)
3073 ~ 3840	MG27 ~ 31	54 PIMs (IMG0 ~ 13)
3841 ~ 4608	MG26 ~ 31	52 PIMs (IMG0 ~ 12)
4609 ~ 5376	MG25 ~ 31	50 PIMs (IMG0 ~ 12)
5377 ~ 6144	MG24 ~ 31	48 PIMs (IMG0 ~ 11)
6145 ~ 6912	MG23 ~ 31	46 PIMs (IMG0 ~ 11)
6913 ~ 7680	MG22 ~ 31	44 PIMs (IMG0 ~ 10)
7681 ~ 8448	MG21 ~ 31	42 PIMs (IMG0 ~ 10)
8449 ~ 9000 (max.)	MG20 ~ 31	40 PIMs (IMG0 ~ 9)

Note 4: When PHIN is used in any MG, the system cannot use the PIMs for that MG. (Therefore, the system does not need the PIMs for that MG part.)

2.3 PBI and LP Rule

You need to allocate PBI numbers and LP numbers to all nodes in the system.

- Appliance Model CCN

PBIs are physically allocated by setting PBI No. switch on the node and LPs are logically allocated by assigning the office data, according to the PBIs.

- Prepackaged Server Model CCN

For a CCN, PBIs are logically allocated by setting the data with the Guest OS (SV9500) and LPs are logically allocated by assigning the office data, according to the PBIs.

For RNs, PBIs are physically allocated by setting switches on a node and LPs are logically allocated by assigning the office data, according to the PBIs.

In the RNIP system, all nodes are in a single system; it means that all frames, all PIRs and PIMs, are sequenced logically and technically. The first IMG and the last is determined according to the PBI and LP. They are designed to work as sequence numbers for PIRs and PIMs.

Make sure of the following rules:

- (1) The PBI is a hexadecimal number from 30 to 6F.
- (2) The LP is a decimal number from 00 to 31.
- (3) For PBI setting method, refer to [Setting PBI No. Switch](#) in Chapter 3 for Appliance Model and [Setting PBI Number](#) in Chapter 3 for Prepackaged Server Model.
- (4) You can assign LP data with the ASYD, SYS1, Indexes 198-205. For details, refer to [System Configuration Data Assignment](#) for the RNIP system with FP95-112 V2 or later versions software.

Note: For the Prepackaged Server Model CCN in the RNIP system with FP95-111 V1 version software, assign "0 (Not mounted)" for the Local Partition (No.1 System) Mounting Status corresponding to the CCN.

- (5) A 2-PBI range corresponds to a 1-LP range.
- (6) Technically, one MG (Module Group) requires a 2-PBI (1-LP) range to be installed; every IMG (frame) requires a 4-PBI (2-LP) range.
- (7) A CCN assigns PBI range beginning only with 0x30 or 0x40, which consumes the entire PBI range - PBI 0x30 - 0x3F or 0x40 - 0x4F, respectively.

Note: As a basic setting, we recommend setting to 0x40 for a CCN.

- (8) An RN assigns PBI range beginning only with 0x30, 0x38, 0x40, 0x48, 0x50, 0x58, 0x60, or 0x68; every frame consumes a 4-PBI range.

Note: As a basic setting, we recommend setting to 0x30 for a data-reused node (a node with the existing IPX/SV7000/SV8500 office data that is reused in the RNIP system); it will eliminate the need for resetting LENS data of the node.

- (9) Each node must have a unique PBI range and the corresponding LP range assigned.
- (10) The following table shows PBI and LP ranges required to configure a CCN or an RN. For example, you would use a PBI range beginning with 0x30 to configure an RN consisting of four frames, which would consume a PBI range, 0x30 - 0x3F; an LP range, 00 - 07.

PBI and LP Rule

PBI	LP Note 1	RN		CCN	
				Appliance Model	Prepackaged Server Model
30-37	00-03	1-2 frames	1-4 frames	4-IMG No PIMs/PIRs	No PIMs/PIRs
38-3F	04-07	1-2 frames			
40-47	08-11	1-2 frames	1-4 frames	4-IMG No PIMs/PIRs	No PIMs/PIRs
48-4F	12-15	1-2 frames			
50-57	16-19	1-2 frames	1-4 frames	4-IMG No PIMs/PIRs	No PIMs/PIRs
58-5F	20-23	1-2 frames			
60-67	24-27	1-2 frames	1-4 frames	4-IMG No PIMs/PIRs	No PIMs/PIRs
68-6F	28-31	1-2 frames			

Note 1: The following LPs are ranged according to PBIs; however, you need to set only LPs with the corresponding modules that are installed.

- (11) Each node in the RNIP system shares a single MG (module group) range. The head MG each node begins with depends on the PBI.

PBI for Head MG

PBI	Head MG
30	MG0
38	MG4
40	MG8
48	MG12
50	MG16
58	MG20
60	MG24
68	MG28

- (5) Licenses are assigned separately to the System #0/System #1 of a CCN and the RNs. The total number of ports of all the RNs and CCN must not exceed the capacity of the system, otherwise the system cannot function normally.
- (6) All nodes including a CCN and RNs need to have the same TSW configuration (single or dual configuration) and the same number of PLO cards (one PLO card or two PLO cards). However, it is not necessary

to use the same system (#0 or #1) for TSW and PLO. When an RNIP system is configured with a Pre-packaged Server Model CCN and a Appliance Model RN, assign the following system data according to the TSW and PLO configuration in the RN side:

- ASYD SYS1 Index 3 (Configuration of TSW: 00 = Without TSW/01 = Single/02 = Dual)
- ASYD SYS1 Index 91 Bit 4 - Bit 7 (The number of mounting PLO cards: See the table below.)

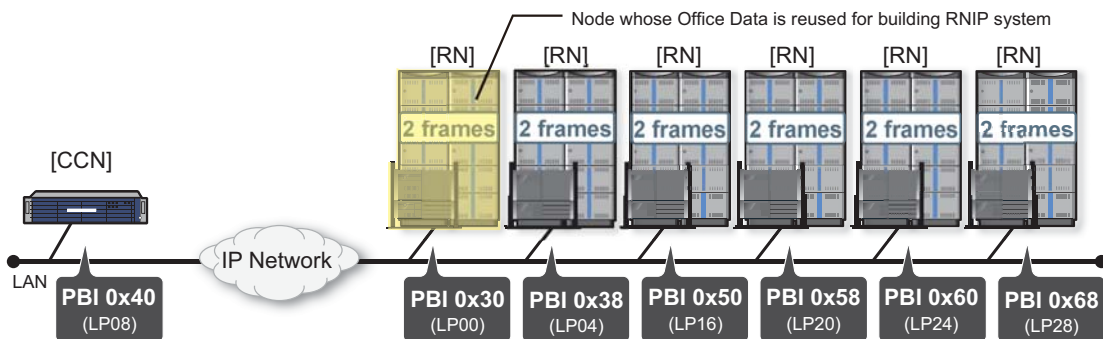
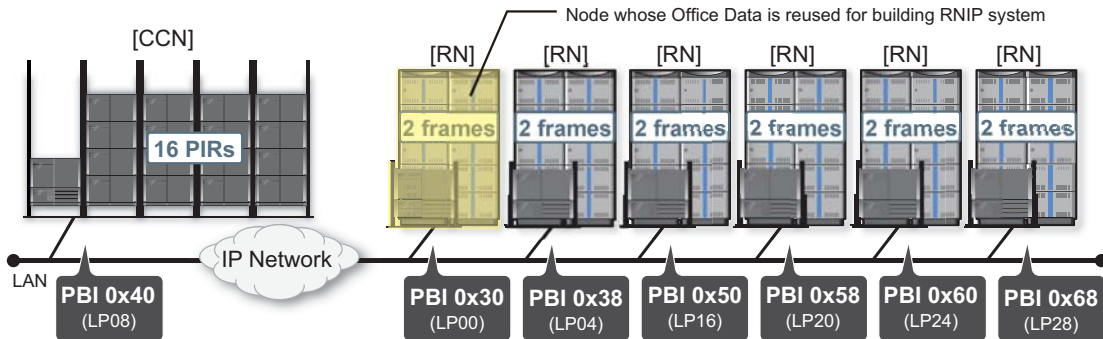
Number of Mounting PLO Cards	ASYD SYS1 Index 91			
	Bit 7	Bit 6	Bit 5	Bit 4
When a PLO card is to be mounted	0	1	0	0
When two PLO cards are to be mounted	1	1	0	0

- (7) Prepackaged Server Model CCN supports only a single CPU configuration and a full IP configuration. However, the system data assignment for CPU configurations (ASYD, SYS1, Index 58, Bit 0) and TSW configurations (ASYD, SYS1, Index 3) of a CCN in the RNIP system must be the same as those of RNs.
- (8) When a dual TSW configuration is set in the RNIP system, TSW changeover is not performed in CCN during a periodic health check.
- (9) The clocks of Appliance Model RNs are synchronized with that of a CCN at the following points:
 - shifting to normal mode
 - during a 30-second refreshing in normal mode

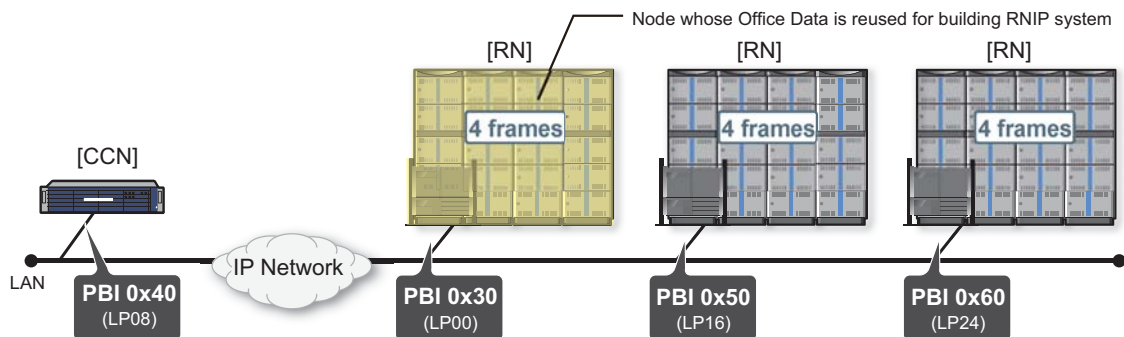
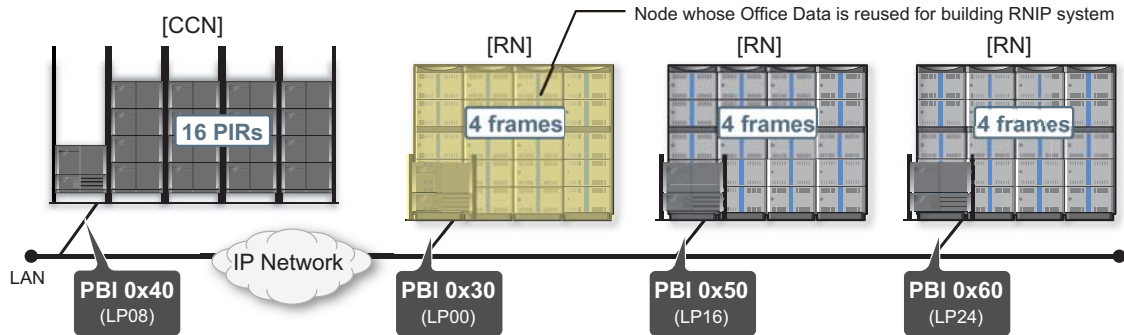
2.4 System Configuration based on PBI and LP Rules

(1) The following are configuration examples (basic) based on the preceding configuration rules.

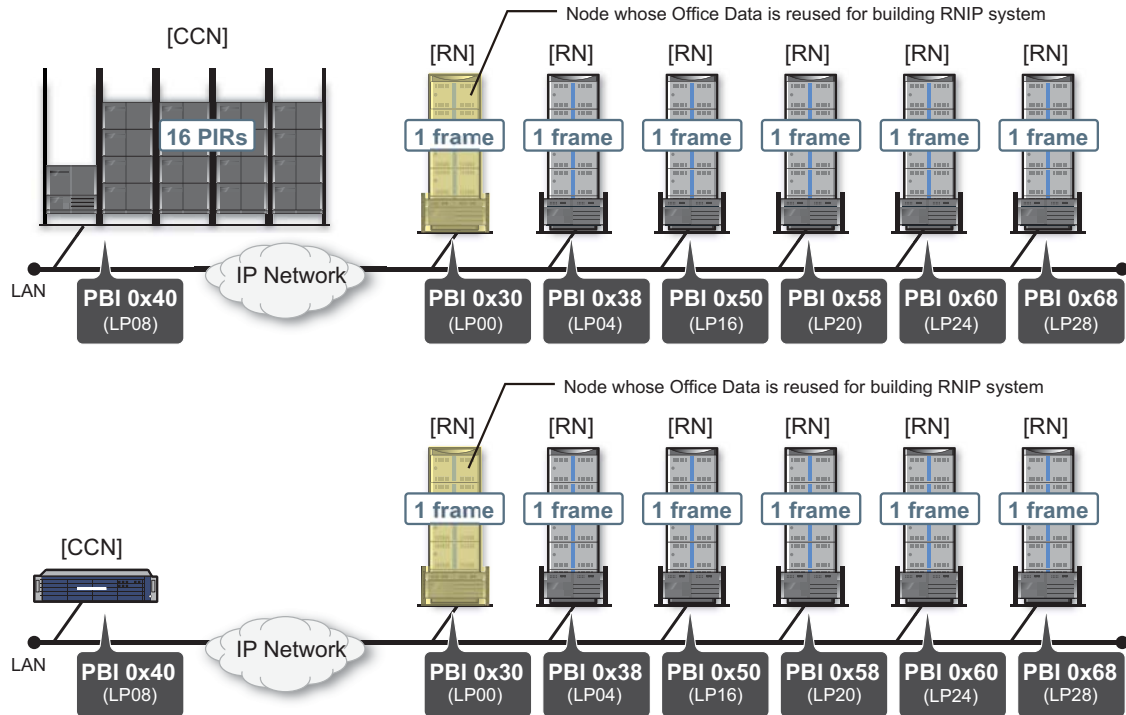
- MMG/2 frames × 6 units



- MMG/4 frames × 3 units

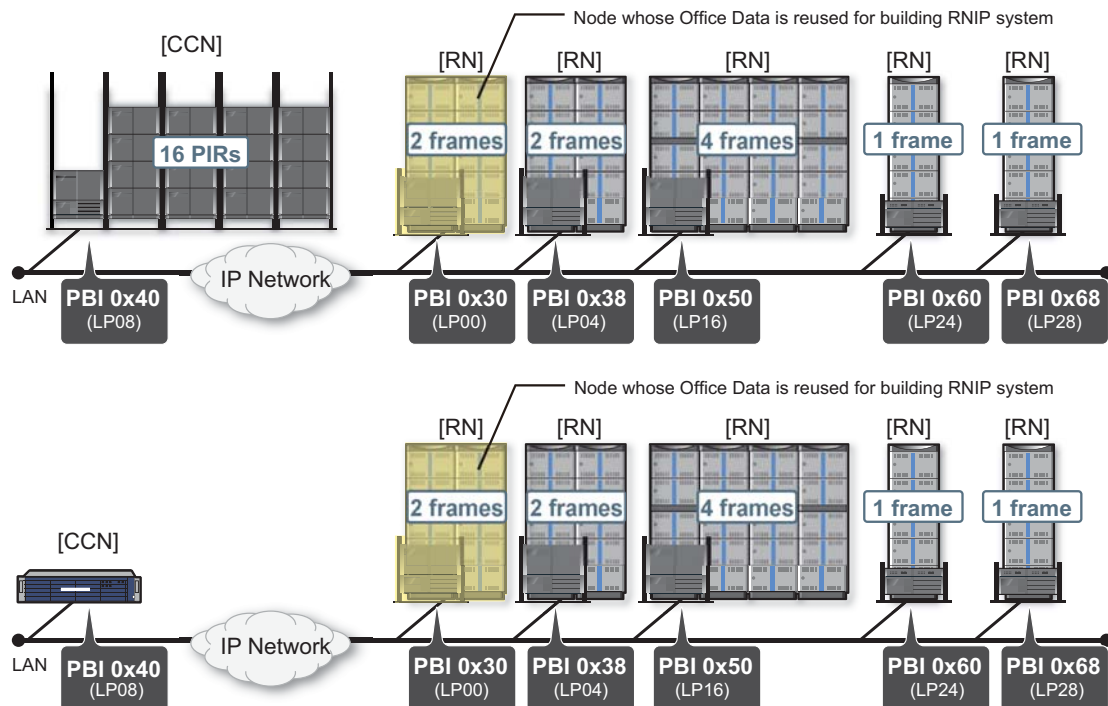


- IMG/1 frame $\times$ 6 units

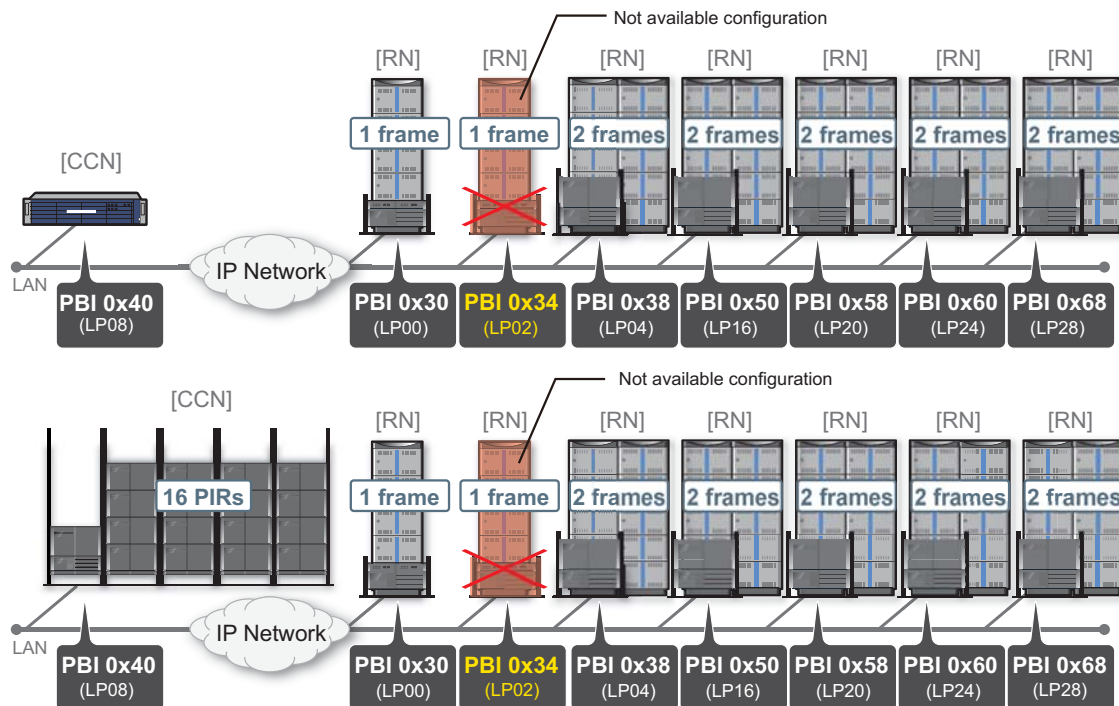


- (2) The preceding configurations are only part of available configurations; any other configurations are available as long as they meet the configuration rules. The following are available and unavailable configuration examples (customized).

- Available Configuration



- Unavailable Configuration



2.5 CPU Single Configuration/Dual Configuration

- The data setting of the CPU configuration (single/dual) in the RNIP system is performed as follows.

ASYD SYS1 Index 58 Bit 0	CPU Configuration of CCN/RN
0 (Single Configuration)	Within the RNIP system all the CPUs in all nodes are in single configuration
1 (Dual Configuration)	Within the RNIP system at least one node is in dual configuration Note 1

Note 1: Set the system data for each node CPUs according to [\[System Data Assignment for CPU Single Configuration/Dual Configuration\]](#).

- Distribute the IP addresses according to the CPU configuration stated in [\[System Data Assignment for CPU Single Configuration/Dual Configuration\]](#).
 - In the case of a single CPU use only active IP addresses.
 - In the case of a dual CPU use active IP addresses, system #0 physical IP addresses or system #1 physical IP addresses.
- Follow the conditions below when changing CPU configuration related data.
 - To reflect to the IP address of every node any change in the CPU configuration related data of a system already operating, it is necessary to initialize the system after backing up the office data.
 - When the IP address of one node is changed, it is necessary to change the registered Telephony Server address on the following IP devices:

- MG(BRI) [SCA-2BRIA/MG-2BRIA/SCA-2BRIA-B]
 - MG(PRI) (1.5M) [SCA-24PRIA/MG-24PRIA]
 - MG-COT Card [SCA-6COTB]
 - MG-COT Card [SCA-6COTA/SCA-6COTC]
 - 8LC Card [SCA-8LCA/SCA-8LCA-EMEA/SCA-8LCC/SCA-8LCC-EMEA]
 - VS-32(Dual) [SCA-VS32VA/MG-VS32VA/SCA-VS32VA-B]
 - If it is necessary to remove temporarily one of the CPUs in a system/node that is operating with a dual configuration due to CPU failure, the CPU dual configuration data must be kept unchanged. (If you make any change, IP address of the Telephony Server with which those IP devices are registered must be changed.)
- (4) In single configuration, use CPU #0 (the system cannot operate with CPU #1).

2.6 Conditions for TCP/IP Environment

The network between a CCN and RNs requires UDP, closed network, and adequate bandwidth. The following are conditions for the network in RNIP system.

- (1) Satisfy the following conditions, or the RNIP system will not operate normally.

Connection Network Requirements

Requirement		Condition	Remark
Protocol		UDP traffic must be allowed.	-
Acceptable Delay Time	Normal	One-way: 30ms (Max) Round-trip: 60ms (Max)	* In the network including Peer-to-Peer FCCS, the total delays inside the RNIP system and inside Peer-to-Peer FCCS must be within these values.
	When using encryption	One-way: 20ms (Max) Round-trip: 40ms (Max)	
	When using analog line	One-way: 20ms (Max) Round-trip: 40ms (Max)	
	When using Three-way Conference with encryption	One-way: 17ms (Max) Round-trip: 34ms (Max)	

Bandwidth Requirements

Compressing Method	Voice Data Bandwidth	Packet Transmission Cycle				
		10ms	20ms	30ms	40ms	60ms
G.711	64.0 (Kbps)	112.0 (Kbps)	88.0 (Kbps)	80.0 (Kbps)	76.0 (Kbps)	-
G.729a	8.0 (Kbps)	56.0 (Kbps)	32.0 (Kbps)	24.0 (Kbps)	20.0 (Kbps)	-
G.723.1	5.3 (Kbps)	-	-	21.3 (Kbps)	-	13.3 (Kbps)
G.723.1	6.3 (Kbps)	-	-	22.3 (Kbps)	-	14.3 (Kbps)
G.711 (FAX)	64.0 (Kbps)	112.0 (Kbps)	88.0 (Kbps)	80.0 (Kbps)	76.0 (Kbps)	-
G.726 (FAX)	32.0 (Kbps)	80.0 (Kbps)	56.0 (Kbps)	48.0 (Kbps)	44.0 (Kbps)	-
T.30 (FAX)	7.6 (Kbps)	13.6 Kbps (Packet transmission cycle is not specified)				

Shows the amount of bandwidth consumed in a call, including following headers with full duplex communication: Ether, IP, UDP, RTP.

- (2) If the required conditions are not satisfied, the following problems may occur: an operation delay, voice delay/deterioration, ongoing call disconnection, a rash of changes to survival mode.
- (3) An operation in the network over WAN is not supported.

- (4) When you start up the RNIP system, default IP addresses of each node vary depending on the environment. Make sure that all the addresses are unique in your network:

CCN Default IP Address

CCN IP Address Information in ADTM Note 1	CCN's LP IP Address Information in ADTM Note 2	CCN Default IP Address Note 4	
Registered Note 3	Registered Note 3	Registered IP addresses	
Registered	No Data	Registered IP addresses	
No Data	Registered	LAN1 IP address (ACT):	Null (not available)
		LAN1 IP address (System-0):	Null (not available)
		LAN1 IP address (System-1):	Null (not available)
		LAN2 IP address (ACT):	172.16.253.0/16
		LAN2 IP address (System-0):	172.16.253.2/16
		LAN2 IP address (System-1):	172.16.253.1/16
No Data	No Data	LAN1 IP address (ACT):	Null (not available)
		LAN1 IP address (System-0):	Null (not available)
		LAN1 IP address (System-1):	Null (not available)
		LAN2 IP address (ACT):	172.16.253.0/16
		LAN2 IP address (System-0):	172.16.253.2/16
		LAN2 IP address (System-1):	172.16.253.1/16

RN Default IP Address

CCN IP Address Information in ADTM Note 5	RN's LP IP Address Information in ADTM Note 6	RN Default IP Address Note 4	
Registered	Registered	Registered RN's LP IP addresses	
Registered	No Data	LAN1 IP address (ACT):	Null (not available)
		LAN1 IP address (System-0):	Null (not available)
		LAN1 IP address (System-1):	Null (not available)
		LAN2 IP address (ACT):	172.16.253.0/16
		LAN2 IP address (System-0):	172.16.253.2/16
		LAN2 IP address (System-1):	172.16.253.1/16
No Data	Registered	Registered RN's LP IP addresses	
No Data	No Data	LAN1 IP address (ACT):	Null (not available)
		LAN1 IP address (System-0):	Null (not available)
		LAN1 IP address (System-1):	Null (not available)
		LAN2 IP address (ACT):	172.16.253.0/16
		LAN2 IP address (System-0):	172.16.253.2/16
		LAN2 IP address (System-1):	172.16.253.1/16

Note 1: CCN IP address information represents data in fields opened by the following in the ADTM command: IP Address tab; CCN in the CCN/LP parameter.

- Note 2:** CCN's LP IP address information represents data in fields opened by the following in the ADTM command: IP Address tab; LP in the CCN/LP parameter; CCN's LP in the LP No parameter.
- Note 3:** CCN IP addresses and CCN's LP IP addresses must completely match with each other.
- Note 4:** LAN2 default addresses are common for all the nodes of the RNIP system. Therefore, when performing an initialization or any other similar operation, change first the IP addresses that are going to be used for the local network, and then connect to the network that is going to be used.
- Note 5:** CCN IP address information represents data in fields opened by the following in the ADTM command: IP Address tab; CCN in the CCN/LP parameter.
- Note 6:** RN's LP IP address information represents data in fields opened by the following in the ADTM command: IP Address tab; LP in the CCN/LP parameter; RN's LP in the LP No parameter.
- (5) When you want to change node addresses, perform the procedure stated in [Change IP Address](#); make sure of the following conditions as well:
- Log in to, and register the same data to each node to change an IP address.
 - Disable the office data auto-forwarding by setting the following before changing an IP address: ASY-DL, SYS1, INDEX805, Bit0=1.
 - After you change an IP address of CCN's LAN1, initialize the CCN.
 - When you assign the IP address 0.0.0.0 to CCN's or RN's LAN1, applicable LAN1 port will be disconnected; therefore, avoid this operation.
 - If you log in to a CCN and change a CCN's IP address, PCPro will be disconnected from the CCN. If you change an RN's IP address, PCPro will not be disconnected.
 - If you log in to an RN and change an RN's IP address to which you are logged into, PCPro will be disconnected from the RN. If you change a CCN's IP address, PCPro will not be disconnected.
 - IP address change leads the RNIP system to survival mode temporarily.
 - The RNIP system cannot operate with default IP addresses that a CCN or an RN (SV9500 server) originally has. Execute the ADTM command to register new IP addresses.

2.7 Interactions with Other Features

The following are conditions for service features in the RNIP system.

2.7.1 Attendant Console

The following are conditions for attendant consoles used in the RNIP system. For details on attendant consoles, refer to ATTENDANT CONSOLE [A-3] in UNIVERGE SV9500 Data Programming Manual - Business.

- (1) Only an Appliance Model CCN and RNs can accommodate attendant consoles. Prepackaged Server Model CCN cannot accommodate them.
The RNIP system has the following capacity to accommodate attendant consoles.
 - A CCN can accommodate 8 attendant consoles per IMG, and up to 32 in the case of 4-IMG.
 - An RN that uses migrated PIMs from an IPX system, depending on the IMG configuration, can accommodate 60 attendant consoles as a maximum.
 - An RN that uses SV8500/SV9500 PIRs can accommodate 8 attendant consoles per IMG, but up to 32 in the case of 4-IMG.
 - Accommodate all the attendant consoles in only one node. (if the consoles are accommodated in several nodes, operations cannot be guaranteed.)
 - The RN with the lowest number to which a trunk of RT:901 (Attendant Console Route Number) is registered with the ATRK command is considered the accommodation node of the attendant consoles. Do not register a trunk of RT:901 to any other RN than the RN accommodation node of the attendant consoles.
- (2) During survival mode between a CCN and an RN, if a terminal in one node calls to an attendant console in the other node, the terminal (calling party) will hear a Reorder Tone (ROT).
- (3) If an other-FPC terminal calls to an RN-in-survival-mode Attendant Console, the terminal (calling party) will hear a Reorder Tone (ROT).
- (4) If an RN-in-survival-mode terminal calls to an other-FPC Attendant Console, the terminal (calling party) will hear a Reorder Tone (ROT).
- (5) To use Night Connection - Fixed [N-1], it is recommended that both of the Attendant Console and the destination terminal are installed in a single TN.
- (6) Busy Lamp Field - Flexible [B-2] is available with stations in a node accommodating attendant consoles.
- (7) Busy Lamp Field - Flexible [B-2] is unavailable between stations over the FCCS network.

2.7.2 Day/Night Mode

The following are conditions for the day/night mode change function used in the RNIP system. For details on the day/night mode, refer to UNIVERGE SV9500 Data Programming Manual - Business.

- (1) Day/night mode status of a CCN and an RN installed within a single Tenant (TN) are same as long as the

RN operates in normal mode.

- (2) You cannot assign the day/night mode change function separately to an Attendant Console, Desktop terminal, and external key as long as they are in a single TN.
- (3) If the day/night mode change by using IP/SIP terminals is assigned to a TN, using the ADNM command also executes the day/night mode change in the TN.
- (4) Between a CCN and an RN in survival mode, an Attendant Console cannot control the day/night mode status of the other node.
- (5) When an RN returns from survival mode to normal mode, the RN receives the day/night mode information from a CCN. If you use an external key, it may cause a difference on the day/night mode status between the external key and the system; adjust it with the external key.
- (6) When a CCN is initialized, the default values for day/night mode information are those of night 3. When the CCN enters into normal mode with an RN, the tenant data of the RN is transmitted to the CCN, which can cause a data mismatch in the data of attendant consoles, multiline telephones and external keys. For that reason, after the initialization of CCN it is recommendable to enable the Day/Night Data Automatic Backup function with ASYDL, SYS1, Index 1120, Bit 0-5.
- (7) You can assign the day/night change function to multiple Desktop terminals.
- (8) If you use an Attendant Console or external key to change the day/night mode status, the ADNM command is not available for the day/night mode change, but available if you use an IP/SIP terminal to change the day/night mode status.
- (9) The ADNM command cannot change the day/night mode status of an RN in survival mode.

2.7.3 Message Center Interface

The following are conditions for a message center interface (hereinafter called MCI) used in the RNIP system. For details on an MCI, refer to Message Center Interface [M-26] in UNIVERGE SV9500 Data Programming Manual - Business. For the data assignment, refer to [For Message Center Interface \(Serial Connection\) Use](#).

- (1) An Appliance Model CCN can use an MCI with either serial connection (RS-232C) or LAN connection (RJ-45), however, simultaneous use of both is not possible. A Prepackaged Server Model CCN can use an MCI only with LAN connection (RJ-45). An RN can use an MCI only with serial connection.
- (2) If a serial connection is used, it is necessary to designate the PBI number of the node that connects with MC by setting system data ASYDL, SYS1, Index 1221. If the PBI number is not set (system data=00) or the entered PBI number is not acknowledged, CCN will be connected to MCI **Note 1**. Also, if the connection with MCI is performed using a LAN interface, only CCN will be connected with MCI.

Note 1: ASYDL, SYS1, Index 1221 is for billing of RNIP and data used in common with the polling process for billing. Use caution when setting the data.

- (3) In the case that a connection of CM with a CCN or an RN in survival mode is interrupted, such CCN or RN can store up to 32 messages generated in the node. Then a 33rd message overwrites the oldest one.
- (4) If you change the system data, MCI messages that have been buffered will not be output. Furthermore, the system erases them unless the system data is reverted to its original state within 60 minutes from the moment the change is implemented.
- (5) A Waiting Lamp Control indication cannot traverse between a CCN and an RN in survival mode. If the indication traverses between a CCN and an RN in survival mode, the system discards it.
- (6) You can install a maximum of two Message Centers (MCs) per RNIP system.
- (7) The RNIP system can use either serial connection or LAN connection for MCIs, but not both.

2.7.4 Hotel Services

The following are conditions for Hotel services used in the RNIP system using Appliance Model CCN. For details on Hotel services, refer to UNIVERGE SV9500 Data Programming Manual - Hotel.

- (1) Hotel features are not available for the RNIP system using Prepackaged Server Model CCN.
- (2) The RNIP system provides you with a function to extend PMS transmit sequence numbers. For the data assignment, see [For Hotel Service Use](#).
- (3) PMS is not available between a CCN and an RN in survival mode.
- (4) When an RN transits from survival mode to normal mode, the data setting for the RN is cleared. At this time, the CCN sends a request for recovery; therefore, you need to perform the recovery process at the PMS side.

- (5) The following are service conditions specific to Group Services: Group Restriction [G-21], Group Service through PMS [G-4].
- RN's changeover to survival mode influences the following:

Survival Mode Influence against Hotel Features

X: Available, N/A: Not available, -: Not applicable

Feature Name	Actions	Setting/Cancelling by Attendant Console and Hotel Console
Group Restriction [G-21]	N/A	N/A
Group Service Through PMS [G-4] - Group Check in /Checkout	N/A	-
Group Service Through PMS [G-4] - Group Announcement	X Note 1	N/A
Group Service Through PMS [G-4] - Group Wake-Up Announcement	X Note 1	N/A

Note 1: Data assigned before transiting to survival mode will be valid.

- When an RN operates in survival mode, a CCN provides group services with the following condition: you cannot assign/cancel data to stations in the RN; if you assign/cancel data of group services performed between the CCN and RN, the new data will apply only to the CCN, but not to the RN.
- When an RN operates in survival mode, the RN cannot provide group services, but there is an exception: if you had assigned data for Group Wake-Up Announcement and Group Announcement Services in Group Service through PMS [G-4] before transiting to survival mode, these services (services requiring guest memory alone) are available for the RN.
- When an RN operates in survival mode, you cannot cancel Group Wake-Up Announcement and Group Announcement Services which are already being performed.

2.7.5 Station Message Detail Recording (SMDR)

The following are SMDR-related conditions only specific to the RNIP system. Make sure of conditions in Station Message Detail Recording (SMDR) [S-10] in UNIVERGE SV9500 Data Programming Manual - Business as well.

- (1) All nodes in the RNIP system share a single system time, which also applies to SMDR. Therefore, if nodes installed in different time zones complete a call, the system does not correct the time difference between nodes.
- (2) All nodes in the RNIP system share a single FPC; therefore, the ATDF command cannot correct the time difference between a CCN and RNs.
- (3) You can have up to four SMDR-equipped devices per RNIP system; all the devices can only belong to an SMDR-collecting node.

- (4) Although you can connect multiple SMDR-equipped devices, only one connection method (LAN or serial) is available in a single system.
- (5) The following are formats used in serial connection (if several SMDR terminals are used, you can set the system data to select a format for each output port):
 - Outgoing Trunk Billing: KA/KH/KK messages
 - Incoming Trunk Billing: KE/KI/KL messages
 - Station-to-Station Call: KB/KJ/KM messages
- (6) The following are formats used in LAN connection (if several SMDR terminals are used, all will output the data with the same format):
 - Outgoing Trunk Billing: KK messages
 - Incoming Trunk Billing: KL messages
 - Station-to-Station Call: KM messages
- (7) The multiple time zone function by MULTIPLE TIME ZONE [M-114] is available for IP terminals (Proprietary Protocol/SIP), but not available for analog terminals/digital terminals. A single system time shared in all nodes applies to analog terminals/digital terminals.
- (8) The SMDR multiple time zone function by SMDR - Multiple Time Zone of Multiple Time Zone [M-114] is not available for analog terminals/digital terminals. Therefore, if a CCN and an RN are installed in places with different time zones respectively, you must adjust the time difference by assigning office data to each terminal. For synchronizing the system clocks of CCN and RN, use the CCN time as the base time.
- (9) The following are CCIS centralized billing-related conditions:
 - When you assign the RNIP system to an SMDR sender, assign a CCN to SMDR-collecting node, and then RN transits to survival mode during operation, billing information generated by the RN will not be transmitted to the CCN.
 - When the centralized billing node is the CCN and one of the RNs in the system is connected to a different CCIS office, if the RN enters in survival mode, the RN will not be able to transfer billing information to a centralized billing node of another connecting CCIS network.
 - We do not recommend assigning the RNIP system to a centralized billing node. If an RN transits to survival mode, the RN will not be able to transfer billing information and discard the information.
- (10) The following are FCCS centralized billing-related conditions:
 - If you assign the RNIP system to a center node of the centralized billing for FCCS, Internal PHF inside of a CCN performs the polling process within the FCCS network.
 - If you assign the RNIP system to a local node of the centralized billing for FCCS, a CCN must be an SMDR-collecting node. It is because a center node performs the polling process against the CCN, assuming the CCN has all of the billing information generated at the RNIP system.
- (11) In FCCS CBT transmission, a CCN must be an SMDR-collecting node because Internal PHF inside of the CCN transmits billing information generated when a call ends.

- (12) When there is a call between nodes in an RNIP system, the billing time will be that of the node of the call receiving terminal.
- (13) When there is a trunk call between nodes in an RNIP system, the billing time will be that of the node accommodating the trunk.
- (14) Connect the SMDR or the billing device for Call Event Transfer Facility (ETF) of OAI system only to the node in charge of the centralized billing. If you connect the device to other node, such node will output the billing related information.

Note: In an SMDR with serial connection environment, if you execute the AIOC command to modify data, initialize the IOC circuit card to apply the changed data.

2.7.6 ACD/OAI Services

The following are conditions for ACD/OAI services used in the RNIP system. For details on ACD/OAI services, refer to UNIVERGE SV9500 Data Programming Manual - ACD and UNIVERGE SV9500 Data Programming Manual - OAI.

- (1) If you had used ACD/OAI features in multiple IPX/SV7000/SV8500 systems respectively, those ACD/OAI features must be combined and installed onto Internal ACDP/IP embedded in a CCN; therefore, you need to integrate your numbering plans.
- (2) Enable backup-UCD function in case an RN transits to survival mode.
- (3) Register trunk for agent positions to an RN to which an ACD agent position group has been assigned. If the ACD trunk is not assigned in the RN, its transit to survival mode disable backup-UCD function to maintain calls in progress.
- (4) ACD/OAI features are not available between a CCN and an RN in survival mode.
- (5) External ACDP/IP is not available in the RNIP system; Internal ACDP/IP is installed in a CCN.
- (6) MIS/OAI servers can connect only to a CCN, not to RNs.
- (7) The following describes status of ACD/OAI when the RNIP system restarts.

ACD/OAI Status on Restart

System Actions	ACD/OAI Status
System restarts	ACDP/IP in the CCN restarts; ACD/OAI terminals take up to 15 minutes to be able to communicate.
RN restarts	ACD is logged off without saving data.
CCN restarts	All of the ACD/OAI features are suspended; ACDP/IP in the CCN restarts; all the ACD/OAI are initialized; TCP connections with external server such as MIS are released; AP servers including MIS of ACD need to reconnect to the CCN.
ACDP restarts	ACD features are suspended; the system initializes ACD; MIS downloads config data; however, it does not exert an influence upon OAI (TCP/IP connection is not disconnected).

- (8) It is not recommended to register a group of ACD agent positions across multiple RNs (though you can do that if you want).

Note: If you register a group of ACD agent positions across multiple RNs, assign Call Recover - ACD [C-191A] as well, to assign a waiting time in case of survival mode.

- (9) The RNIP system uses Variable Network Data Memory (VNDM): data memory concerning Monitored number and OAI Facilities (Subscriber) Information. A CCN is designated as VNDM Center Node and

distributes the information to RNs. Note that this is used regardless of FCCS settings: ASYDL, SYS1, INDEXes512, 533. Assigning the 512 absolutely requires the 533.

- (10) The priority for VNDM transfer processing depends on the node kind of the RNIP system:
- When the RNIP system functions as a Local Node, VNDM belonging to a Center Node takes higher priority than one belonging to the RNIP system.
 - When the RNIP system functions as a Center Node, VNDM belonging to the RNIP system takes higher priority than one belonging to any other systems.

- (11) When an RN transits from survival mode to normal mode, VNDM in CP is transferred to the RN automatically. In this case, the ACD agent positions under the RN are logged off automatically and becomes idle.

Logoff instructions are tentatively sent when survival/normal status lamp is controlled per terminal. Therefore, this automatic logoff function (**Note 1**) becomes invalid during key operation, and the terminal may be unable to be logged off (indicating no change on LCD/LED lamp). In this case, log off manually to go back to normal status.

Note 1: Hot agent position or Analog ACD position do not log off automatically.

- (12) When a communication failure with a CCN occurs, the next STEP process of a CCV is not executed for already-queued calls (including announce connection but excluding already-allocated call and ongoing call).

CCV operation is stopped when a failure occurs. Therefore, it will be resumed by operations such as the release operation from the calling party, announcement trunk recovery, and recovery operation for the system failed.

- (13) The facilities available in the UMGi system are provided in this system. (The facilities performed in the case of standalone and FCCS are same.)

- (14) Depending on the restart timing, the ACD agent positions under the system may be displayed as RIP indicating being prepared.

Some of the ACD agent positions may be unable to be processed by ACDP restart process although a CCN sent an instruction to reset an RN. In this case, restart ACDP after recovery. It can also be rescued by re-registering the ACD agent position (delete and then register) with the ACDPSN command.

2.7.7 SIP Terminal Authentication

The ASECL command by PCPro in an RN does not display the One Time Password field. So log in to a CCN to register and use the password.

For details on an SIP Terminal Authentication, refer to SIP Terminal Authentication [S-152] in UNIVERGE SV9500 Data Programming Manual - Business.

2.7.8 IP Gateway (IPG)

RNIP system cannot accommodate the IP Gateway (IPG), but it can accommodate the UG50 (IPG mode).

2.7.9 Link Down Notification

- (1) This service is only for desktop terminals. Single-line terminals, ISDN terminals and attendant consoles cannot use it.
- (2) Link down button can be registered as Line/Feature Key. It cannot be registered as a Soft Key.
- (3) For this notification only the lamp of Line/Feature Key will be turned ON (green). LEDs of desktop terminals do not function with this notification.

2.7.10 One Touch Speed Calling Data for IP/SIP Terminals

- (1) One Touch Speed Calling data settings and making calls with Speed Calling features is available regardless of being in normal or survival mode.
- (2) Regarding the One Touch Speed Calling data backup, the following applies:
 - When an RN is in normal mode, any SPD data setting of the IP/SIP terminals in the RN side will be managed by CCN. To maintain the One Touch Speed data, it is necessary to backup One Touch Speed Calling for DtermIP SPD data with the MEM_HDD command of PCPro logged in to CCN.
 - When an RNIP system is in survival mode, any One Touch Speed Calling data change from IP/SIP terminals in the RN side is not reported to the CCN. When the RNIP system is put in normal mode, the updated One Touch Speed Calling data in the RN side will not be reflected to the backup data in the paired CCN. Therefore, if re-initialization of the RN and the paired CCN is performed, the One Touch Speed Calling data in the RN side returns to those when the last backup was made.

2.7.11 One Touch Calling Name Information

- (1) One Touch Calling Name Information registration and display can be performed only in normal mode.
- (2) Regarding the data backup, the following applies:
 - In normal mode, any One Touch Calling Name Information setting of the IP/SIP terminals in the RN side will be administered by CCN. When data maintenance is performed, it is necessary to perform a backup of SPD Name data with the MEM_HDD command of PCPro in the CCN.
 - Any change in the settings of the One Touch Calling Name Information data of IP/SIP terminals accommodated in an RN in survival mode, since it cannot be reported to CCN, will not be reflected to the CCN if afterwards the RN is put on normal mode. Therefore, if a reinitialization of such paired CCN and RN is performed, the resulting settings for SPD Name data will be those of the last backup.

2.7.12 Others

- (1) We strongly recommend assigning a unique LOC-ID on each RN, which means assigning different network addresses. This allows appropriate settings such as call Codec of IPPADs.
- (2) Expanded Multiple Line Operation [E-26D] is available only within a node.
- (3) Set routing of a trunk in an RN differently from that in other nodes.
- (4) It is not available to set different numbering plans on nodes respectively.
- (5) In the network including this system and CCIS using Centralized Billing or Centralized Management Report, it is not recommended setting this system as a Center Office because RN's transit to survival mode may cause communication failure between LMGs.
- (6) FCCS features are not available for RNIP system using Prepackaged Server Model CCN.
- (7) Available FCCS for RNIP system using Appliance Model CCN is FCCS Networking via IP (Peer-to-Peer) [F-36] only. DTI-FCCS and FCCS Networking via IP (by IPTRK) [F-36] cannot coexist in an FCCS network.
- (8) You can assign Virtual Trunks of CCIS Networking via IP (By PHC) [C-163] to the CCN only. Do not assign these trunks to an RN.
- (9) If there is a terminal or trunk connected to Hold tone or announcement service in an RN, it is directly connected to the sound source (external music-on hold) within the node with a TDSW connection.
- (10) A maximum of 9000 PS terminals (including 4000 SIP terminals) can be accommodated in the system.
- (11) The number of stations that can use the Phonebook [P-83] (DT800/DT700/DT400/DT300 Series) is up to 4000 units.

2.8 Conditions for RNIP Migration

The following are conditions for the existing system to be migrated.

- (1) The system scales allowed to be migrated to an RN are shown below. For detailed information about configuration of RN, refer to [Conditions for System Configuration](#).

System Scales Required to Migrate to RNs

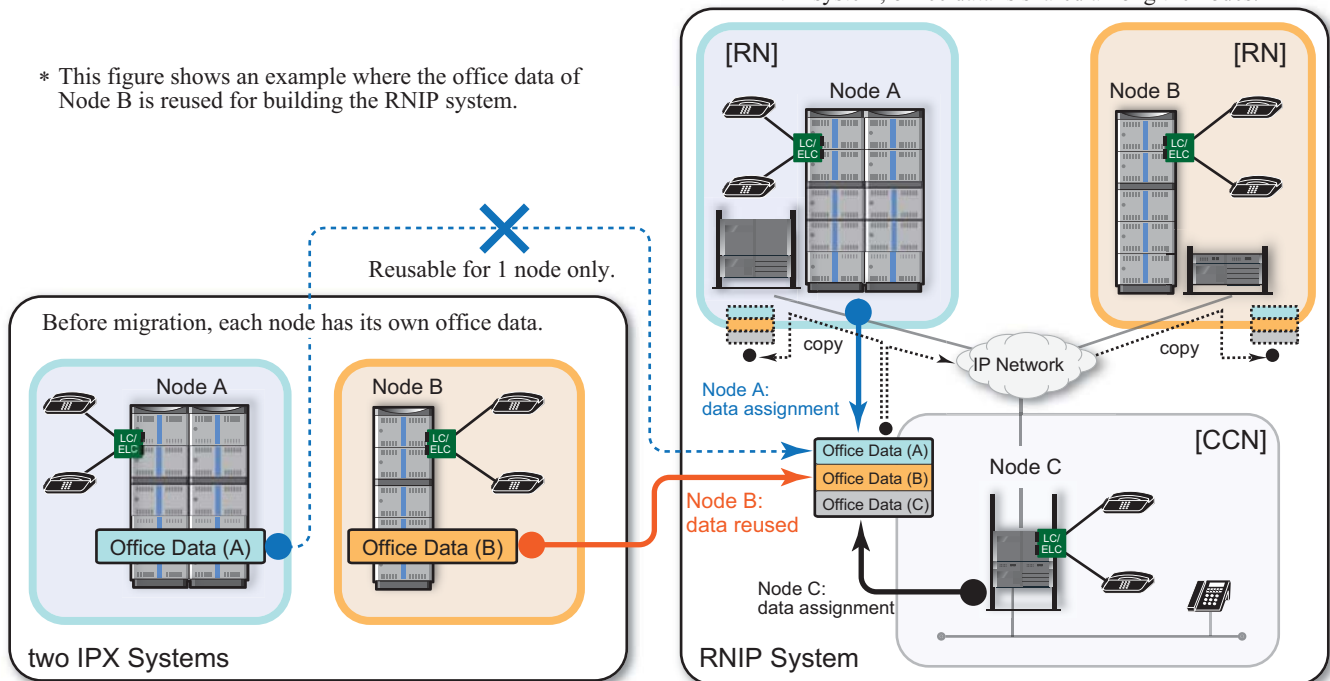
X: Available, N/A: Not available

System Scale	Availability	Remarks
IMG	X	Can be migrated up to six systems.
MMG	X	Can be migrated up to three systems.
UMG	N/A*	*Can be migrated if reconfiguring LMG of UMG to that of MMG.

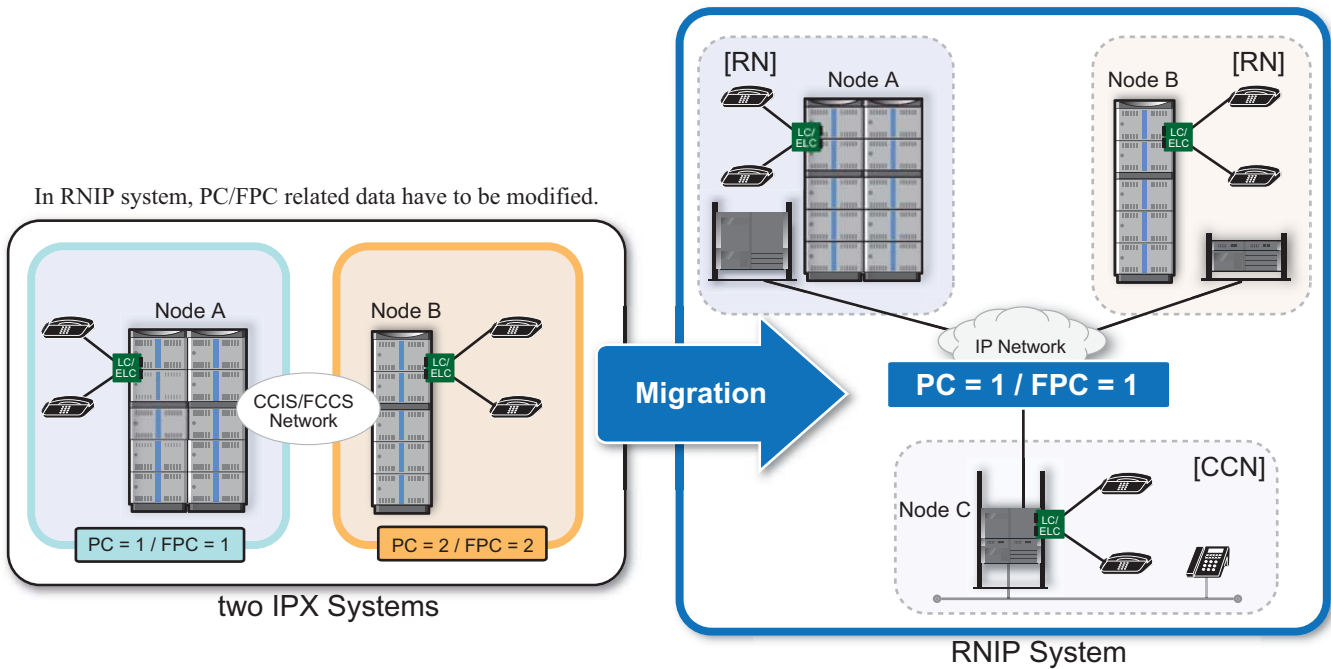
- (2) When migrating multiple systems to RNs, you can reuse the office data of one node only. So you need to assign the remaining data for other nodes onto the reused data.

In RNIP system, office data is shared among the nodes.

* This figure shows an example where the office data of Node B is reused for building the RNIP system.



- (3) The RNIP system uses only one Point Code (PC) of CCIS and one Fusion Point Code (FPC) of FCCS in the system. If migrating multiple existing systems into the RNIP system, reused office data (see (2) above) may have other systems' PCs or FPCs. Since the RNIP system uses one Point Code and one Fusion Point Code, modify the data as required.



Note: This figure shows an example system configuration.

- (4) An RN has its own conditions for circuit card accommodation (see UNIVERGE SV9500 Circuit Card Description); therefore, before migrating the existing system, make sure of firmware issues with the DISS command.
- (5) When your existing system is not SV9500, migrate the system to SV9500 before upgrading to the RNIP system. For the information on how to migrate the system to SV9500, see UNIVERGE SV9500 Migration Guide.
- (6) When you migrate from the existing system to the RNIP system and continue to use the existing ELC cards without changing the mounting positions (LENS), initialize the ELC cards after completion of the migration.

2.9 Conditions for Non-IP Equipment to Reuse

The following are conditions for existing equipment to reuse.

- (1) For information on circuit cards available for the RNIP system, refer to UNIVERGE SV9500 Circuit Card Description.
- (2) Protocol Handler (PH) cards are not available in the RNIP system. Protocol Handlers (PH) are provided only in a CCN with data programming. Therefore, remove the following circuit cards from IPX-Frame RNs: PHA, PHE, PHD, and PHC. For the data programming of Protocol Handler (PH), refer to UNIVERGE SV9500 Data Programming Manual - Business.
- (3) You need to accommodate DCH, CCH and DTI circuit cards in the same node.
- (4) Only one of the nodes (a CCN or an RN) can accommodate an IOC card. For Appliance Model CCN, accommodate the IOC card to the CCN.
- (5) The RNIP system does not support legacy FCCS feature using DTI circuit cards (DTI-FCCS). If you would use DTI-FCCS in the existing system, change the network configuration from DTI-FCCS to FCCS Networking via IP (Peer-to-Peer) [F-36]. Assign the FCCS Networking via IP (Peer-to-Peer) [F-36] data before deleting the existing DTI-FCCS data (FCCS Networking via IP (Peer-to-Peer) [F-36] data has higher priority than the DTI-FCCS data). Make sure that FCCS Networking via IP (Peer-to-Peer) [F-36] connection is properly established before deleting the DTI-FCCS data.

2.10 Conditions for Survival Mode

The following are conditions for the system where an RN operates in survival mode.

(1) An RN will transit to survival mode when the following occurs:

- Health Check timeout (30 seconds by default) is detected. **Note 1**
- After initialized, an RN cannot connect to a CCN (including the case where a CCN does not allow the connection).
- You change operation manually with the COPM command.

Note 1: Health Check (connectivity check) is executed between a CCN and an RN in two second cycles.

- If a CCN does not receive Health Check request response packets sent back from an RN for four seconds (fixed), the CCN outputs a system message “[12-E] Connection Failure Between CCN and RN (Temporary)” and stops communicating to the RN.
- If an RN does not receive confirmation packets (for Health Check request response packets) sent back from a CCN for four seconds (fixed), the RN outputs a system message “[12-E] Connection Failure Between CCN and RN (Temporary)” and stops communicating to the CCN.
- If a CCN does not receive Health Check request response packets sent back from an RN for 30 seconds (variable), the CCN outputs a system message “[12-F] Connection Failure Between CCN and RN (Permanent)”; recognizes CPU of the RN as abnormal; stops sending Health Check to the RN.
- If an RN does not receive confirmation packets (for Health Check request response packets) sent back from a CCN for 30 seconds (variable), the RN outputs a system message “[12-F] Connection Failure Between CCN and RN (Permanent)”; recognizes CPU of the CCN and the PBUS status as abnormal; transits to survival mode; again, outputs a system message “[10-M] Remote Node State Notification”.
- If a CCN and an RN successfully execute Health Check while the system is outputting a 12-E or 12-F message, both output a system message “[12-G] Connection Recovery Between CCN and RN” and restart communicating with each other.

(2) An RN will transit to survival mode without system initialization if the RN failed to communicate with a CCN during normal mode.

(3) Once an RN transits to survival mode, an ongoing call between the RN and a CCN will be disconnected; an ongoing call in the same node will not.

(4) When an RN transits to survival mode, both the RN and a CCN outputs system messages “[12-F] Connection Failure between CCN and RN (Permanent)”.

Note: The message means that phone calls are not available between the CCN and RN until another message “[12-G] Connection Recovery between CCN and RN” is output.

- (5) Once an RN transits to survival mode, terminals in the RN become unable to originate a call to other nodes. With the AKYD command's FKY=181 assigned, set Desktop terminals in the RN will light up to notify users of this situation. However, and automatic detour to a ISDN line based on the Flexible Network Rerouting [F-41] feature may occur.
- (6) If an RN transits to survival mode, the following restrictions apply.
 - The features assigned during normal mode become unavailable, such as Call Forwarding of PS, destination order of call termination for UCD, Speed Calling (SPD) Name data, One Touch Speed Calling for IP/SIP terminal data. Also, incoming and outgoing calls that uses MG-PRI on proprietary protocol mode and the use of SIP Handler Controlled SIP terminals may be not possible.
 - A PS requires the re-registration of its location and to be turned off and on.
 - A call from a CCN cannot terminate to attendant consoles; the calling party receives a Reorder Tone (ROT). However, if Night Attendant Transfer [A-19] is in service, the call can be transferred.
 - Local Phone Book is not available.
 - FCCS Networking via IP (Peer-to-Peer), PHS, ACD/OAI, Hotel features are not available in the RN.
 - A CCN cannot assign (register/modify/delete) the following office data to the RN: LENS, LP number such as station number, PH related data. (available only in normal mode)
 - By default, assigning office data with PCPro to an RN is restricted. If you want to remove the restriction, assign the system data: ASYDL, SYS1, Index 1225, Bit 0=1 (0/1=Writing or deleting to RN from PCPro is Restricted/Not restricted). This system data assignment enables you to write or delete the office data from PCPro in to the RN in survival mode. However, after the RN is put to normal mode, office data from the CCN will be transfered so the data assigned to the RN with PCPro may be lost.
- (7) While an RN is in survival mode, it checks whether communication with a CCN is available or not in 30 second cycles. If the RN confirms communication recovery, system messages are output: “[10-M] Remote Node State Notification” from the CCN; “[12-G] Connection Recovery Between CCN and RN” from the CCN and RN.
- (8) When an RN confirms communication recovery during survival mode, there are two options to get it back to normal mode: manual switchback, set by default and performed with the COPM command; automatic switchback, set with the ARPM command.
- (9) If you manually switch an RN to survival mode with the COPM command, automatic switchback will not function. Execute the COPM command again to switch the RN back to normal mode.
- (10) Manual changeovers are available only when a Health Check time-out has not been detected between a CCN and an RN.
- (11) Appliance model RN's system clock works as the following: in normal mode, it is synchronized with CCN's system clock; in survival mode, it synchronizes using its own EMA's hardware clock. The clock system of RN in the case of Prepackaged Server Model will follow the Prepackaged Server Model operations and not synchronize with CCN.(Time synchronization with an NTP server is executed for VMware ESXi. Time synchronization between a guest OS and VMware ESXi is executed by VMware Tools.)

- (12) When multiple RNs in survival mode transit to normal mode at the same time, the time each RN takes for the change varies.
- (13) When an RN changes from survival mode to normal mode, you have to initialize the RN with the SINZ command in the cases below. (Pay attention to the time to initialize the RN because it may cause ongoing calls to be released.)
- When a difference in the DM/LDM/NDM data of the CCN between RN is detected and the data of CCN is transferred to the RN.
 - If there is a difference in the number of the system capacity licenses assigned by the CCN in the previous authentication and the number of reassigned licenses.
 - If there is a mismatch between CCN and RN data of soft switches for the 2-IMG/4-IMG configuration set with the ASSW command (System Select 3 SW7).
 - If the CCN is independently rebooted/initialized.

Note: With the following system data, you can specify a method of restarting the RN after the office data transfer from the CCN to the RN when the RN changes from survival mode to normal mode.

ASYDL Index 1225		Description	Remarks
Bit 7	Bit 6		
0	0	Execute Non Load Initial after the office data transfer (either of DM, LDM or NDM) from the CCN to the RN.	
0	1	Execute Non Load Initial after the office data transfer (either of DM or LDM) from the CCN to the RN.	*1
1	0	This data setting is prohibited.	
1	1		

*1: Even if the assigned data is transferred from a CCN to an RN normally when the mode changes to normal mode, it does not guarantee that the data is correctly transferred without a system initialization.

Be sure to assign this data when all RNs are in normal mode. If an RN is not authorized or in survival mode, the RN side system initialization with the SINZ command may be necessary to reflect the edited CCN side data to the RN depending on the data.

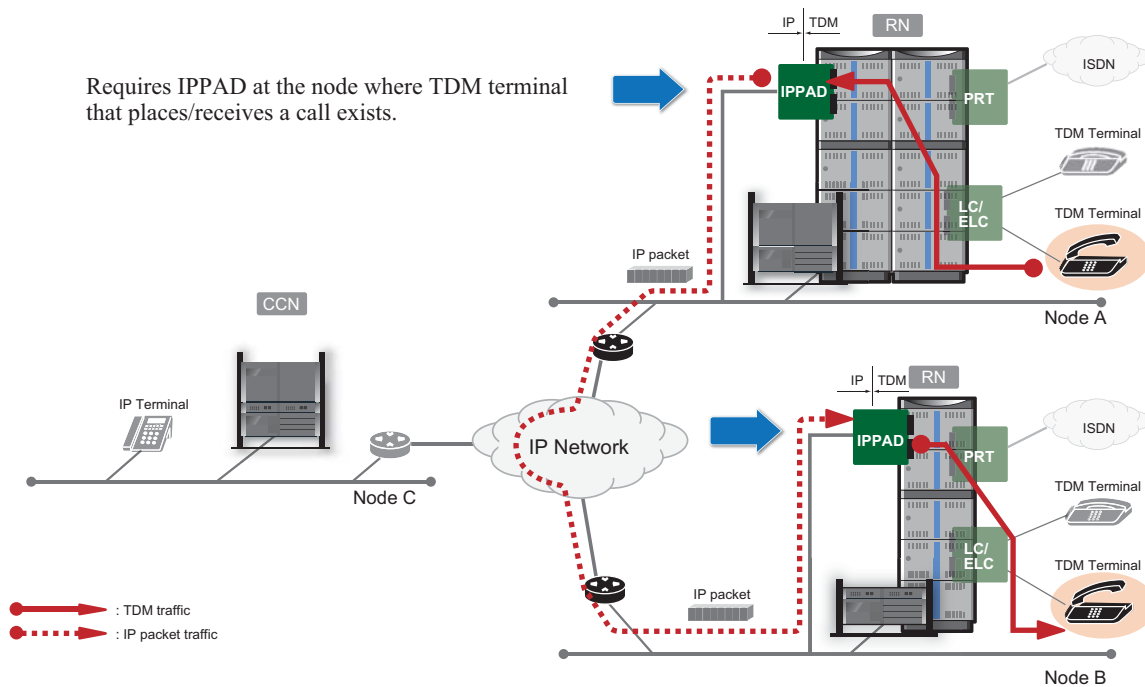
2.11 Conditions for Calls in RNIP

The following are conditions related to some calls in the RNIP system.

2.11.1 Calls Between TDM Terminals at Different Nodes

Make sure of the following to use terminals in RNs.

- (1) If you call to another node with a TDM terminal, your node must accommodate an IPPAD to send the call regardless of the destination terminal kind (IP or non-IP). This is because all nodes in the RNIP system are connected with each other via the IP network: any from-node-to-node call is established by IP connection. For that reason, make sure an IPPAD card is installed and operative to support the call traffic.



Note: TDM connections by using DTI cards in substitution of IPPAD cards are not supported.

Note: This figure shows an example system configuration.

- (2) The existing IPPAD is available.

- (3) You can set IPPADs as *IPPAD for Connection between TDM terminals*: IPPADs only for calls between existing terminals/trunks at different nodes. IPPAD usage depends on the combination of the ASYDL and ACRD commands:

IPPAD Operation

ASYDL INDEX 1225		ACRD CDN20	
Bit2	Bit1	0	1
0	0	TDM-TDM & IP-TDM	TDM-TDM & IP-TDM
0	1	IP-TDM	TDM-TDM Note 2
1	0	TDM-TDM & IP-TDM Note 1	TDM-TDM Note 2
1	1	same as above	same as above Note 2

TDM-TDM: Available for a connection between a TDM terminal and another in different nodes.
IP-TDM: Available for a connection between a IP terminal and a TDM terminal.

Note 1: This setting represents an IPPAD basically only for IP-TDM. This IPPAD allows TDM-TDM connection only if all of other IPPADs connecting TDM-TDM are not available.

Note 2: This combination represents the IPPAD-for-Connection-between-TDM-terminals setting.

- (4) An IPPAD set as IPPAD for Connection between TDM terminals is used only for TDM-TDM calls; during a call using the IPPAD, even if one party is switched to an IP terminal by some service including Consultation Hold, the other terminal will continue to use the IPPAD until the call ends.
- (5) If bandwidth control is in service and the network does not have enough bandwidth, it will be restricted to originate a call regardless of availability of IPPADs.
- (6) If an IPPAD establishing an ongoing call is initialized, the call is not released but no tone is returned.
- (7) If an RN having an ongoing call transits to survival mode, the call will be released by Audit Reports.

2.11.2 Outgoing Trunk Calls

Make sure of the following to make an outgoing trunk call.

- (1) When a terminal uses an analog trunk (sender method) accommodated in other RN for an outgoing trunk call and the terminal cannot choose the sender inside its node because being a full IP system or other reason, it chooses the sender from the node with the analog trunk. Install an RST card in the node of an outgoing trunk for using an analog trunk (sender method).
The sending terminal chooses a sender from the node with the outgoing call trunk. If it cannot find a sender, the call is restricted.
- (2) If a call cannot use a sender, the call is restricted. As for a Desktop terminal, the terminal will display

BUSY on the LCD.

- (3) This condition (same node for the outgoing call trunk and sender) is for the sender RT905 (sender trunk).
- (4) This condition (same node for the outgoing call trunk and sender) applies to other services using also a sender.
- (5) The following outgoing trunk calls are available only when used trunk and calling party are in the same node.
 - Individual Trunk Access - CCIS
 - Individual Trunk Access (with TOGC command)
 - Trunk Call Origination from Attendant Console (LCRS)
 - Trunk Call Origination from ISDN Terminal
 - OGC/OGCA Call Origination to ACSI line through Mark Out method
 - Hot Line Station through Trunk Line method (AHLS/AHLSN TYPE=3)
 - Trunk Line Appearance

2.12 Conditions for Maintenance

The following are conditions for maintenance including command use in the RNIP system.

- (1) An RN can connect to PCPro via RS-232C or LAN with any commands other than the ones for start-up and some maintenance commands (restricted in PCPro).
- (2) You can log in to a CCN using PCPro and assign the office data, but not to an RN.
- (3) SNMP [S-148] is available in all nodes (CCN/RN).
- (4) PCPro has a function to display system messages, but PCPro in an RN does not display unless the RN operates in survival mode; a CCN retrieves system message information from RNs in normal mode to display on PCPro in the CCN.
- (5) After changing the office data through the PCPro in the CCN, execute the CPDM command to broadcast the changed data to RNs.
- (6) After changing one of the following, initialize the system with the SINZ command (TYPE: Restart):
 - PBI number **Note 1**
 - Change from 2-frame to 4-frame configuration and vice versa.

Note 1: When PBI number has been changed, pressing down the INIT switch on the EMA MAIN card activates Program & Office Data Load & System Initialization (not non-load initialization).

- (7) The system message 12-E (Connection Failure between CCN and RN (Temporary)) will be output and

the loss of calls may occur in the following case:

When a TSW card failure (due to the TSW card's out of order or being unmounted in a PIR/PIM/TSWR) is restored, the TSW card will be initialized by Monitor Restart. The initialization will take about five seconds; therefore, congestion will occur in communication to the PIR/PIM/TSWR mounting the TSW card during this period.

- (8) Operations of these commands are possible only by the PCPro in the CCN and not by the PCPro in the RN.
- ASECL: Assignment of Security Data (LDM)
 - ATDL: Assignment of Terminal for Download
 - CMNT: Control of SR-MGC Maintenance Data (LDM)
- (9) Operations of these commands are possible by the PCPro in each node (either CPU #0 or CPU #1).
- CFCS: Control of Flash Card System
 - DHDF: Display of HD File Information
 - DHDS: Display of HD File Issue
 - DISS: Display of Program Issue
 - EVLOG: General Purpose Event Log Output Function

2.13 Conditions for PCPro and Telephony Server Maintenance Menu

In the RNIP system, you are supposed to use PCPro and Telephony Server Maintenance Menu.

For PCPro Setup, refer to UNIVERGE SV9500 PCPro Setup Manual. For Telephony Server Maintenance Menu, refer to the Telephony Server Maintenance Menu section in UNIVERGE SV9500 Appliance Model Installation Manual.

Note: When you start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar to access Telephony Server Maintenance Menu by typing an RN LAN1 IP address, the value shown for “LAN2 IP” and “Mask” of LAN2 in the System Status field will be the CCN LAN2 ACT IP Address and subnet mask.

2.14 Conditions for LAN Interface Switching

A CCN has two LAN interfaces (LAN1, LAN2) to communicate with network applications. The RNIP system allows the following applications belonging to LAN1 by default to belong to LAN2 instead: Internal PHF; DRS (Registration); Internal PHE; Internal PHI-BRI; SR-MGC/NMS. For more information, see [For Accommodation Inheritance from IPX to CCN](#).

LAN1/LAN2 Accommodation

X: Supported, -: Not supported

Application	Protocol	Port No.	CCN	RN	IP Address
FCCS Cluster	TCP	60210	X	-	IP Address (ACT)
Internal PHF	UDP	60180	X	-	

X: Supported, -: Not supported

Application	Protocol	Port No.	CCN	RN	IP Address
Registration by Proprietary Protocol	UDP	3456	X	-	Note: DRS (Registration), Internal PHE, Internal PHI-BRI, SR-MGC/Network Management System use the same LAN interface.
Internal PHE	UDP	60130	-	X	
Internal PHI-BRI	UDP	64000	-	X	
NMS	TCP	60060	X	-	
Receiving Health Check from SR-MGC (Server)	UDP	60110	X	-	
Sending Health Check to SR-MGC (Client)	UDP	60120	X	-	
SR-MGC Charge MGC Side	TCP	60140	X	-	
SR-MGC Charge SR-MGC Side	TCP	60150	X	-	

- (1) A CCN can inherit only one existing IPX/SV7000/SV8500 address data. it means that you can mitigate resettings of IP equipment used only in the node; it does not work on other equipment in other nodes.
- (2) The default LAN interface for Internal PHF, DRS (Registration), Internal PHE, Internal PHI-BRI, and SR-MGC/NMS is LAN1. The ADTM command allows you to switch them to LAN2. For details, refer to the ADTM command in UNIVERGE SV9500 Command Manual.

Note: When the LAN interface is changed, execute the ADPM command to initialize TCP/IP module. When initialized, the IP equipment will restart.

Note: The application ports, DRS (Registration), Internal PHE, Internal PHI-BRI and SR-MGC/NMS can select only the same LAN interface.

- (3) To switch DRS (Registration), Internal PHE, Internal PHI-BRI, and SR-MGC/NMS to LAN2, the network must be able to communicate between LAN1 and LAN2. Set the same subnet to LAN1 and LAN2, or install a router.
- (4) REG, which represents DRS (Device Registration server), does not accommodate all kinds of IP equipment, but only the ones in Proprietary Protocol mode. The equipment in SIP mode is accommodated via another application port (SipSrvSipPort), so even if switching the interface for REG, the registration destination of the equipment in SIP mode is not changed. For detailed information on registration destination of IP equipment, refer to “Registration Destination of IP Devices/Stations” in UNIVERGE SV9500 System Description.
- (5) This statement assumes that you have multiple systems networked, including the RNIP system: when a CCN switches the interface for DRS (Registration), all nodes (**Note 1**) registering the interface address as MGC Search Address need to change the setting corresponding to the switching (Options tab; Registration Service; MGC Search Address in the ADTM command).

Note 1: All nodes does not mean RNs but the CCN and nodes in other systems.

- (6) When operating the system with DRS (Registration), Internal PHE, Internal PHI-BRI, and SR-MGC/NMS set to LAN2, the maximum time the following terminals take to detect a failure increases, approximately, by 5 to 12 minutes: SIP Multiple Line terminal, Softphone (SIP).

Note: When operating the system with those application ports set to LAN1, an IP terminal takes between 2 to 4 minutes; a SIP Multiple Line terminal and Softphone (SIP) take 2 to 7 minutes.

2.14.1 SR-MGC

The following are conditions for SR-MGC, related only to the setting of application ports (DRS (Registration), Internal PHE, Internal PHI-BRI, and SR-MGC/NMS) to LAN2 in the ADTM command, which means that SR-MGC in the system communicates with a CCN's LAN2 interface. For the conditions for SR-MGC on setting to LAN1, not included here, see the UNIVERGE SV9500 Data Programming Manual - Business; [S-141] Survival Remote MGC.

- (1) You can select a CCN's LAN interface to communicate with SR-MGC by setting the following application ports to LAN1 or LAN2.

- NMS
- Receiving Health Check from SR-MGC (Server)
- Sending Health Check to SR-MGC (Client)
- SR-MGC Charge MGC Side
- SR-MGC Charge SR-MGC Side

- (2) The followings describe the setting of LAN interface for the applications (**Note 1**) communicating with SR-MGC from the Telephony Server side.

To communicate with SR-MGC, the Telephony Server uses the specified LAN interface. By default, LAN1 interface is used for the applications communicating with SR-MGC (**Note 2**). This communication includes Health Check between the Telephony Server and SR-MGC. Therefore, a failure occurred on the LAN2 port cannot be notified to SR-MGC.

Note 1: The applications communicating with SR-MGC refer to all applications such as Health Check, SMDR, Office Data Copy, DRS and Internal PHx.

Note 2: The OS update function uses LAN1 for program copy regardless of the settings of LAN interface of the applications communicating with SR-MGC.

- (3) Note the followings when LAN1 is set according to the LAN interface setting described in [Conditions for LAN Interface Switching](#):

- When the IP equipment to be controlled by the SR-MGC uses LAN2 port, the IP equipment must be assigned the same Location ID (LOC-ID) as the SR-MGC. SR-MGC does not take over the control of IP equipment that is assigned different Location ID.
- If installing SR-MGC onto the system where LAN2 accommodates MG(PRI) in Proprietary Protocol mode and LAN1 accommodates other IP equipment, pay close attention to the office data assignment and the system environments/conditions. Due to an incorrect office data setting or operating status of

SR-MGC, MG(PRI) in Proprietary Protocol mode may suddenly become unavailable.

- (4) When using SR-MGC, specify an ACT-side IP address of the CCN's LAN interface used by the application port "DRS (Registration), Internal PHE, Internal PHI-BRI, SR-MGC/NMS" as an MGC IP address set with the AIPA command.
- (5) When operating SR-MGC with CCN's LAN1, meaning the application ports listed in (1) are set to LAN1, the SR-MGC operation varies depending on the failed LAN interface:

Note: By default, SR-MGC does not take over the control of LAN2. Assign the system data to take over the control of LAN1 as well as LAN2: ASYDL, SYS1, Index 846, Bit 2=1. Also, the IP equipment to be controlled needs to belong to the same LOC-ID with the SR-MGC.

Relationship between LANs Conditions and SR-MGC (through LAN1) Operations

LAN Port		Controlled by SR-MGC	Remarks
LAN1	LAN2		
Normal	Normal	-	
Normal	Failure	NOT Available	
Failure	Normal	Available	IP equipment registered in LAN2 is also switched to SR-MGC.
Failure	Failure	Available	

- (6) When operating SR-MGC with CCN's LAN2, meaning the application ports listed in (1) are set to LAN2, the SR-MGC operation varies depending on the failed LAN interface:

Note: Assign the system data to detect a LAN1 failure and take over the control of the IP equipment: ASYDL, SYS1, Index 843, Bit 0=0, Bit 1=0 (SP Failure Detection is valid). Also, the IP equipment to be controlled needs to belong to the same LOC-ID with the SR-MGC.

Relationship between LANs Conditions and SR-MGC (through LAN2) Operations

LAN Port		Controlled by SR-MGC	Remarks
LAN1	LAN2		
Normal	Normal	-	
Normal	Failure	Available	IP equipment registered in LAN1 is also switched to SR-MGC.
Failure	Normal	Available	IP equipment registered in LAN2 is also switched to SR-MGC.
Failure	Failure	Available	

- (7) To execute office data copy from an MGC to the SR-MGC, assign ASYDL, SYS1, Index 847, Bit 6=0: Auto (selects high-speed method if it is available; if not, selects regular method).
- (8) Even if the application ports listed in (1) are set to LAN2, office data copy from an MGC to the SR-MGC uses LAN1; the system data (ASYDL, SYS1, Index 847, Bit 6=0: Auto (selects high-speed method if it is available; if not, selects regular method)) is required.
- (9) The SR-MGC cannot take over the control of SIP Handler Controlled SIP terminals.
- (10) When a Softphone (Proprietary Protocol) has software version 16 or later, the SR-MGC can take over the control of the Softphone (Proprietary Protocol) registering to LAN2 if failure occurs only on LAN1.
- (11) If migrating an MGC whose MPH-ID is not 1, an SR-MGC needs setup again:
Step1: Execute the ASPC command, select 4: MPH [MPHconfig.conf], and then click the Restore with default settings button.
Step2: Perform office data copy to apply MGC data as the RNIP system to the SR-MGC.
- (12) When an MGC side is an RNIP system, the SR-MGC cannot take over the Wireless Call Forwarding (RCF) data.
- (13) For other conditions, see the UNIVERGE SV9500 Data Programming Manual - Business; [S-141] Survival Remote MGC.

2.15 Conditions for Flexible Route Re-routing for RNIP in Survival Mode

Note: For conditions common with Flexible Network Re-routing, refer to UNIVERGE SV9500 Data Programming Manual - Business: Flexible Network Re-routing [F-41].

- (1) To enable Flexible Route Re-routing for RNIP in Survival Mode, the following system data must be assigned:
ASYDL SYS1 INDEX 1225, Bit5: 0/1=Flexible Route Re-routing for RNIP in Survival Mode is disabled/enabled.
- (2) In an RNIP system, we recommend that unique Message Area ID (MA-ID) be assigned to each LMG.
- (3) This feature is available under the following conditions:
 - (a) For communications between CCN and RN or between RNs in self node RNIP system
 - Route Re-routing operates when the call is placed between different RNs LMGs and when permanent PBUS communication failure is detected at the RN LMG that receives the call.
 - (b) For FCCS communications between different nodes in an FCCS network

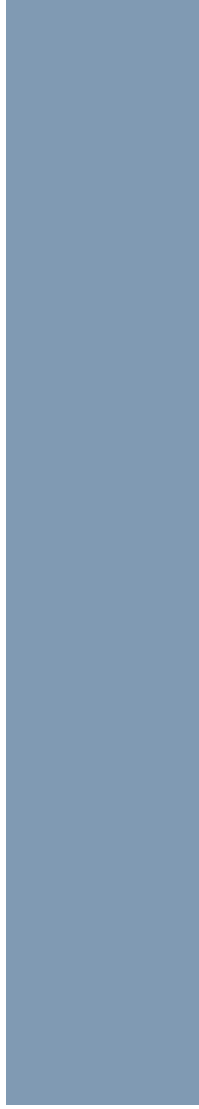
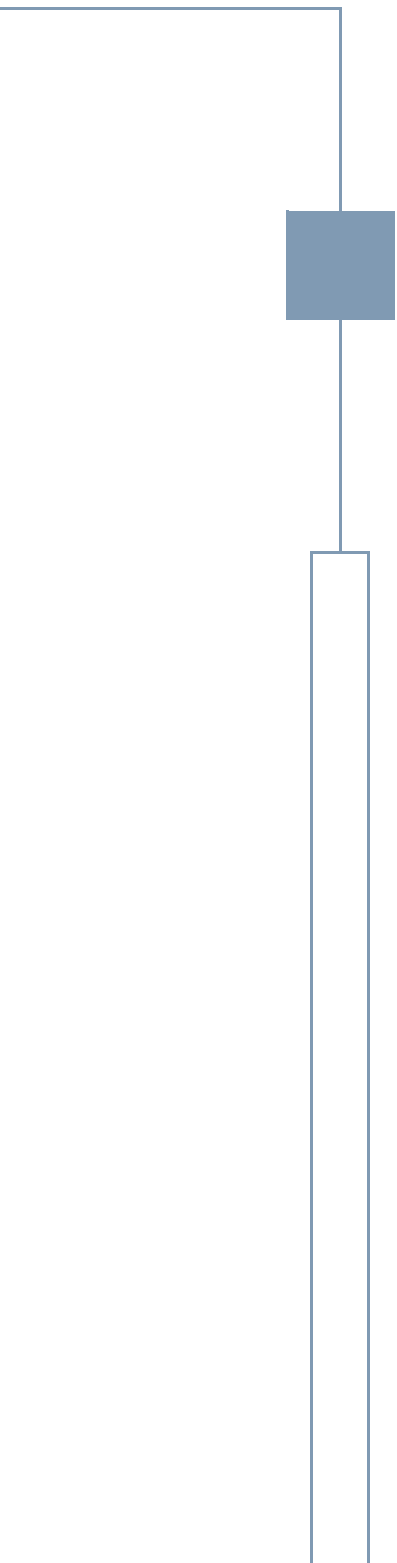
- When a call originating node (LMG) is RN of an RNIP system
Route Re-routing works when a permanent PBUS communication failure is detected in the call originating LMG.
 - When a call originating node (LMG) is CCN of an RNIP system
Route Re-routing works when the call destination node (LMG) is an RNIP system and a permanent PBUS communication failure is detected in the destination LMG.
 - When a call originating node (LMG) is not an RNIP system
Route Re-routing works when the call destination node (LMG) is an RNIP system and a permanent PBUS communication failure is detected in the destination LMG.
- (4) This feature is only available for outgoing calls to a different LMG in an RNIP system. It is not activated by placing a call to a station in the same LMG.
- (5) If the operating mode of the node is changed from the survival mode to the normal mode during telephone communication via an alternate route, the call will be disconnected.
- (6) When a call is placed to a destination in a different node via a Sub Line, LMG-LMG check is made using the originator's My Line.
- (7) The following table shows the availability of re-routing to ISDN in case of the survival mode on the basis of the combination of communication lines and devices on the call source and destination.

X: Available, N/A: Not available

Call Source \ Call Destination	• Desktop Terminal • Analog Terminal • Virtual Line (Sub Line) • ISDN Terminal • SIP Handler Controlled SIP terminals	• PS • WLAN Handset	• Attendant Console
• Desktop Terminal • Analog Terminal • Virtual Line (Call Origination on a Sub Line) • ISDN Terminal • SIP Handler Controlled SIP terminals	X	X	X
• PS, WLAN Handset • Direct Inward Dialing (DID) Line	X	X	X
• Attendant Console	N/A	N/A	N/A

- (8) This feature is not available for calls originated over a trunk. When an outgoing trunk in a node outside of the source node cannot be seized because of a network failure, re-routing by this feature is not activated.

- (9) When making a call from a station accommodated in RN which is operating in survival mode to a station in other node, the MA-ID of the called station cannot be read. For this reason, re-routing is available only when re-routing data has been assigned with the AFRRN command by specifying TYPE=TELN. Re-routing does not work even if re-routing data of TYPE=MA-ID has been set.



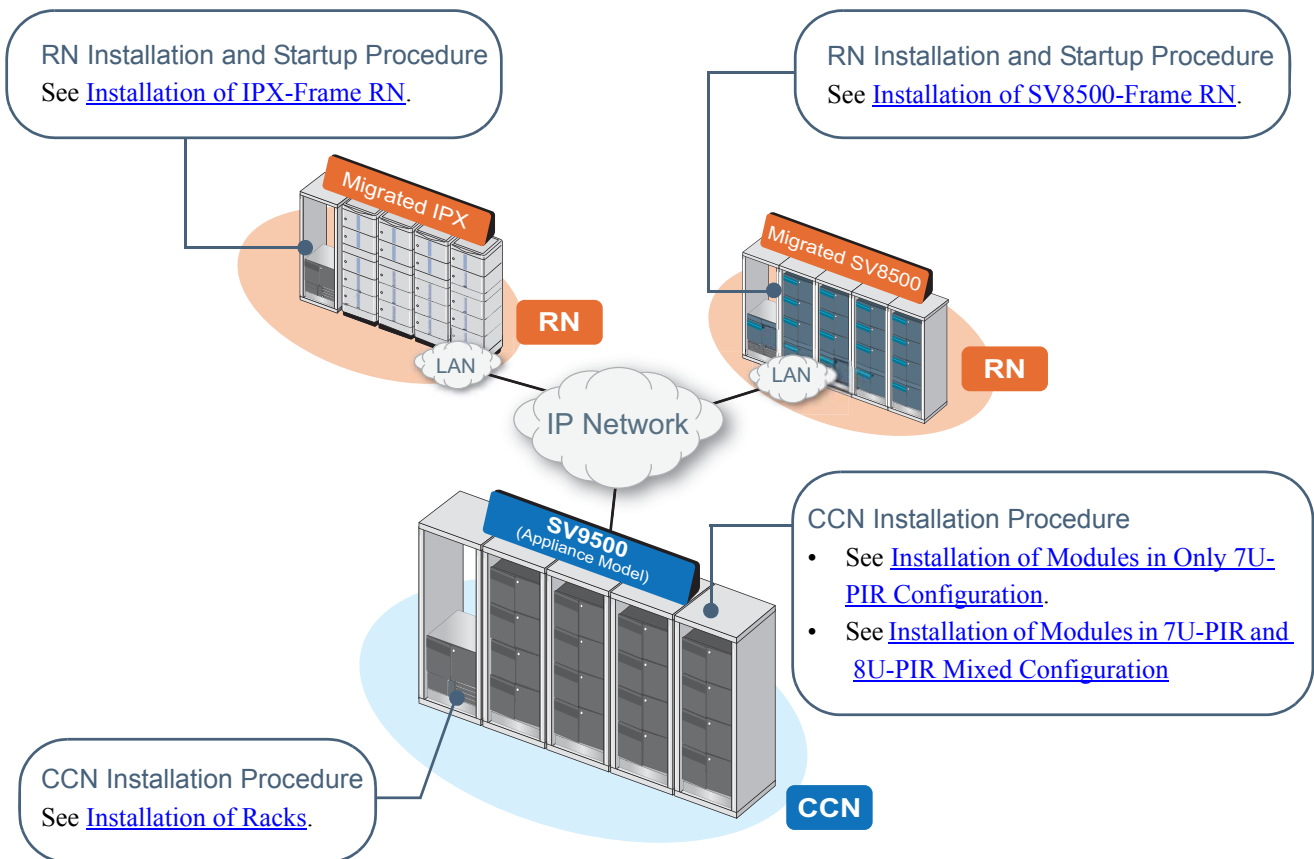
CHAPTER 2 INSTALLATION

1.General

This chapter shows procedures and reference manuals to install a CCN and RNs.

- [Using Appliance Model CCN](#)
- [Using Prepackaged Server Model CCN](#)

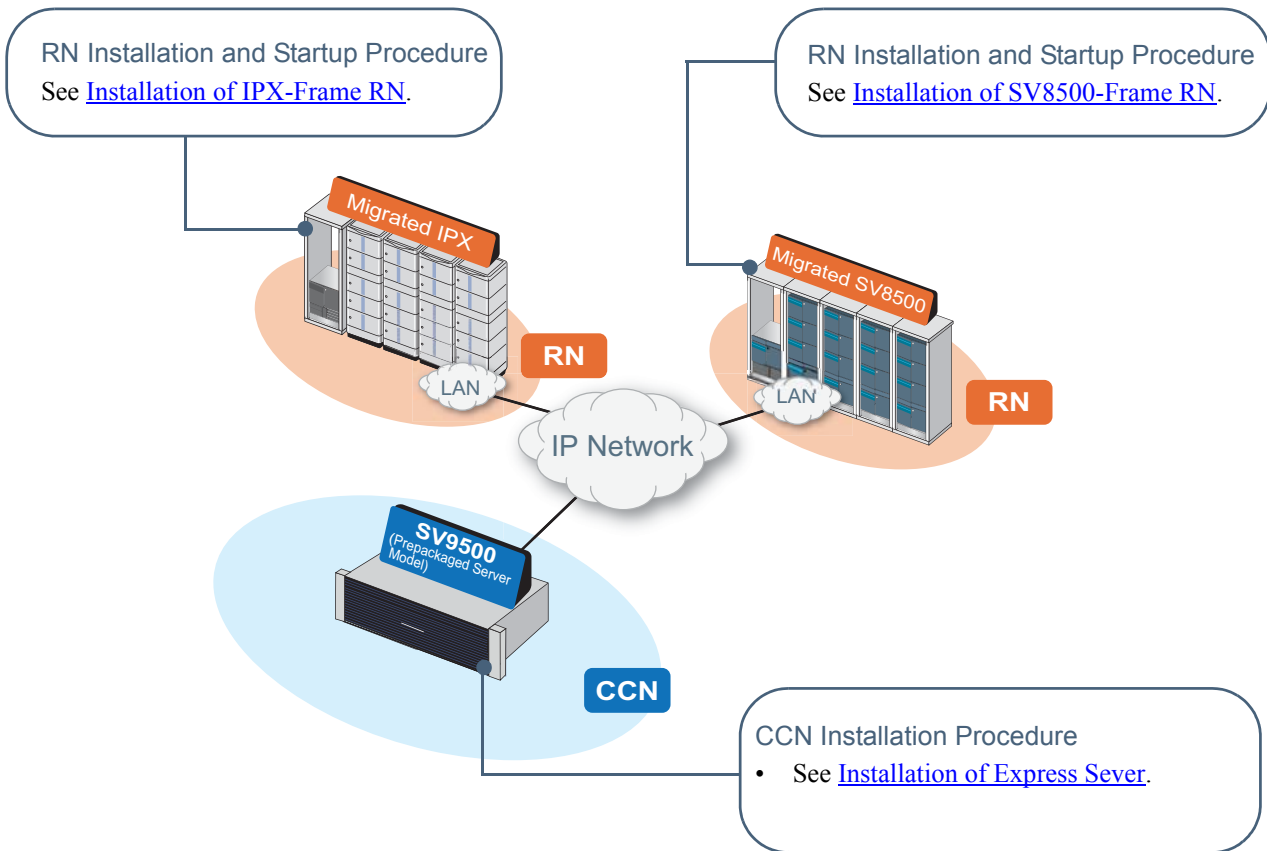
1.1 Using Appliance Model CCN



For the general information of UNIVERGE SV9500, refer also to the following manuals before RNIP system installation:

- For the information on equipment and terminals that can be accommodated in the system and procedures how to
UNIVERGE SV9500 System Description
- For the general information on SV9500 server
UNIVERGE SV9500 Appliance Model Installation Manual Chapter 1: General
- For the information on installation design
UNIVERGE SV9500 Appliance Model Installation Manual Chapter 2: Installation Design

1.2 Using Prepackaged Server Model CCN



For the general information of UNIVERGE SV9500, refer also to the following manuals before RNIP system installation:

- For the information on equipment and terminals that can be accommodated in the system and procedures how to
UNIVERGE SV9500 System Description
- For the general information on SV9500 server
UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual Chapter 1: General

1.3 CCN Installation Procedure

Follow the procedures below for the CCN installation.

- [Appliance Model CCN](#)
- [Prepackaged Server Model CCN](#)

1.3.1 Appliance Model CCN

Installation of Racks

START

Check for the position space (ground, etc.)

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Site Surveying” in Chapter 3: SV9500 Server Installation - Assembling SV9500 Server Module

Install the power equipment

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Installing Power Equipment” in Chapter 3: SV9500 Server Installation - Assembling SV9500 Server Module

Install the racks

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Installing 19-Inch Rack” in Chapter 3: SV9500 Server Installation - Assembling SV9500 Server Module

Install the Telephony Server

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Installing the Telephony Server” in Chapter 3: SV9500 Server Installation - Assembling SV9500 Server Module

Connect the cables (for DC-powered models)

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Installing the Telephony Server” in Chapter 3: SV9500 Server Installation - Assembling SV9500 Server Module

Connect the cables (for DC-powered models)

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Source Power Cable and Ground Cable Connection on BASEU” in Chapter 3: SV9500 Server Installation - Assembling SV9500 Server Module

Connect the cables to the Telephony Server

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:

“Cable Connection to the Telephony Server” in Chapter 3:
SV9500 Server Installation - Assembling SV9500 Server Module

END

Installation of Modules in Only 7U-PIR Configuration

START

Check for the position space, parts inventory,
etc.

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:

“Preparation” in Chapter 4: Modules Mounting and Connection
(7U-PIR Configuration)

Install the Main Distribution Frame

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:

“Mounting MDF” in Chapter 4: Modules Mounting and Connection
(7U-PIR Configuration)

Install the modules

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:

“Installing Modules” in Chapter 4: Modules Mounting and Connection
(7U-PIR Configuration)

Connect the cables

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:

“Cable Connections” in Chapter 4: Modules Mounting and Connection
(7U-PIR Configuration)

END

Installation of Modules in 7U-PIR and 8U-PIR Mixed Configuration

START



Check for the position space, parts
inventory, etc.

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Preparation” in Chapter 5: Modules Mounting and Connection (7U-PIR and 8U-PIR Mixed Configuration)



Install the Main Distribution Frame

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Mounting MDF” in Chapter 5: Modules Mounting and Connection (7U-PIR and 8U-PIR Mixed Configuration)



Install the modules

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Installing Modules” in Chapter 5: Modules Mounting and Connection (7U-PIR and 8U-PIR Mixed Configuration)



Connect the cables

Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:
“Cable Connections” in Chapter 5: Modules Mounting and Connection (7U-PIR and 8U-PIR Mixed Configuration)



END

1.3.2 Prepackaged Server Model CCN

Installation of Express Sever

START



Check for the position space (ground, etc.)

Ensure that the equipment room meets the specified conditions.



Express Server Installation

Refer to the attached manual for the Express server installation.
Also refer to the following:

- For LAN connections to the Express server
Refer to “Management by LAN Port” in Chapter 1: General of UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual
- For peripheral equipment installation
Refer to UNIVERGE SV9500 Peripheral Equipment Descriptions.

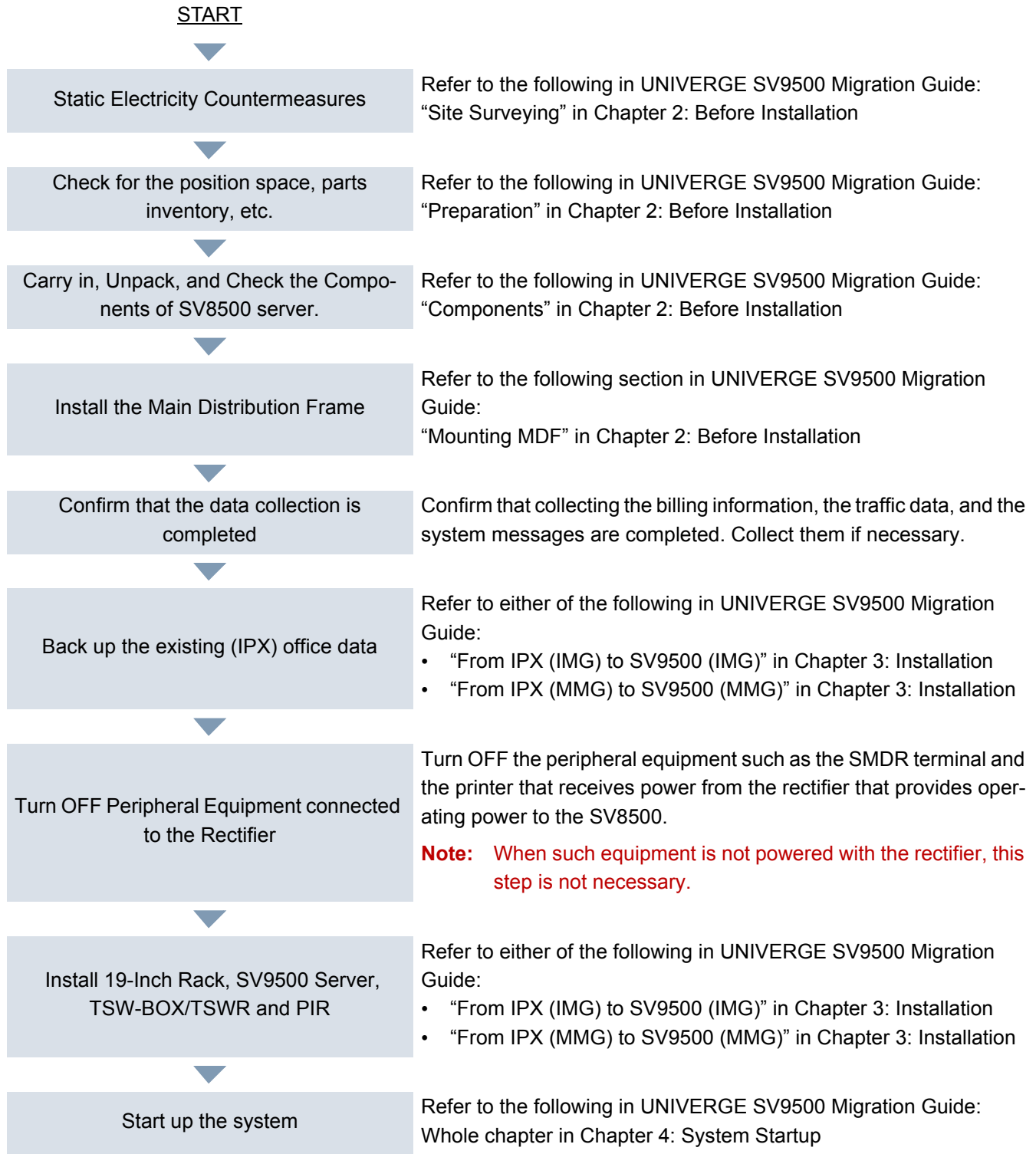


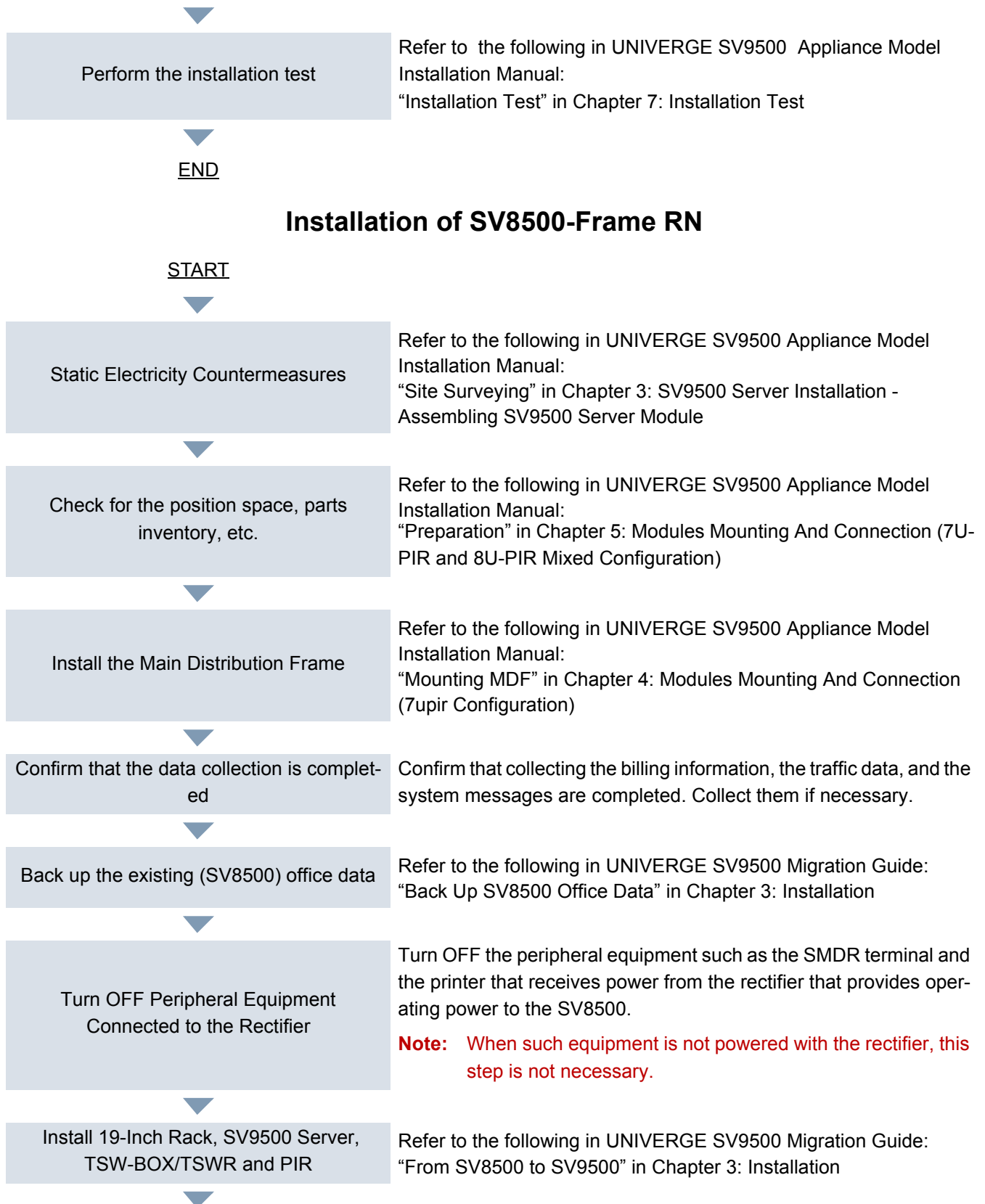
END

1.4 RN Installation and Startup Procedure

Follow the procedures below for the installation of RN.

Installation of IPX-Frame RN





Start up the System

Refer to the following in UNIVERGE SV9500 Migration Guide:
“Initial Startup Procedure” in Chapter 4: System Startup

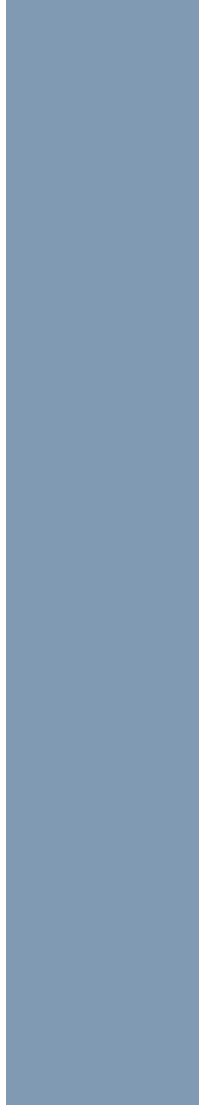
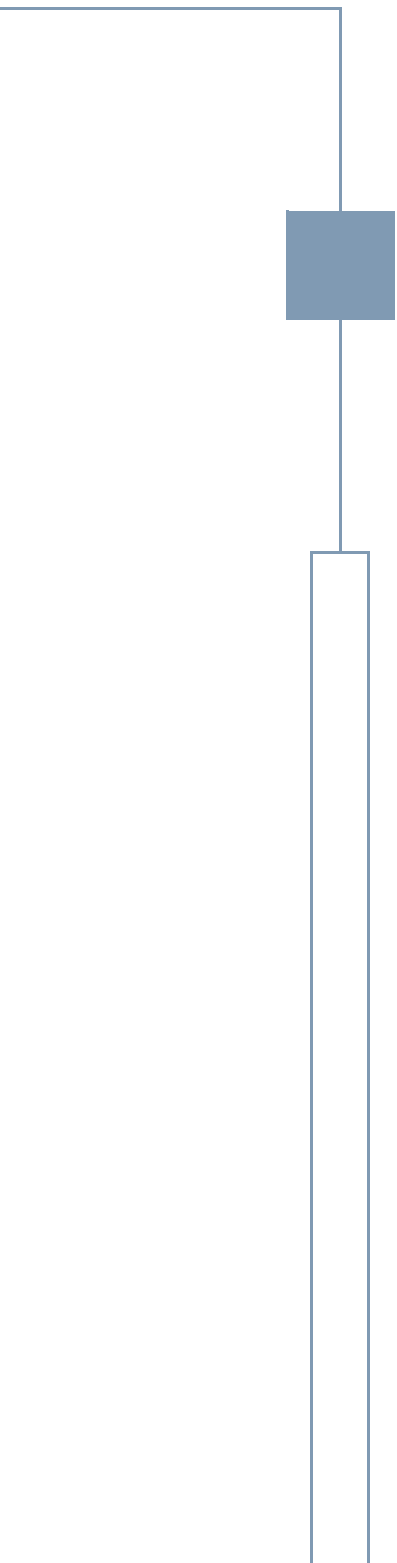


Perform the installation test

Refer to the following in UNIVERGE SV9500 Appliance Model
Installation Manual:
“Installation Test” in Chapter 7: Installation Test



END



CHAPTER 3

SYSTEM STARTUP

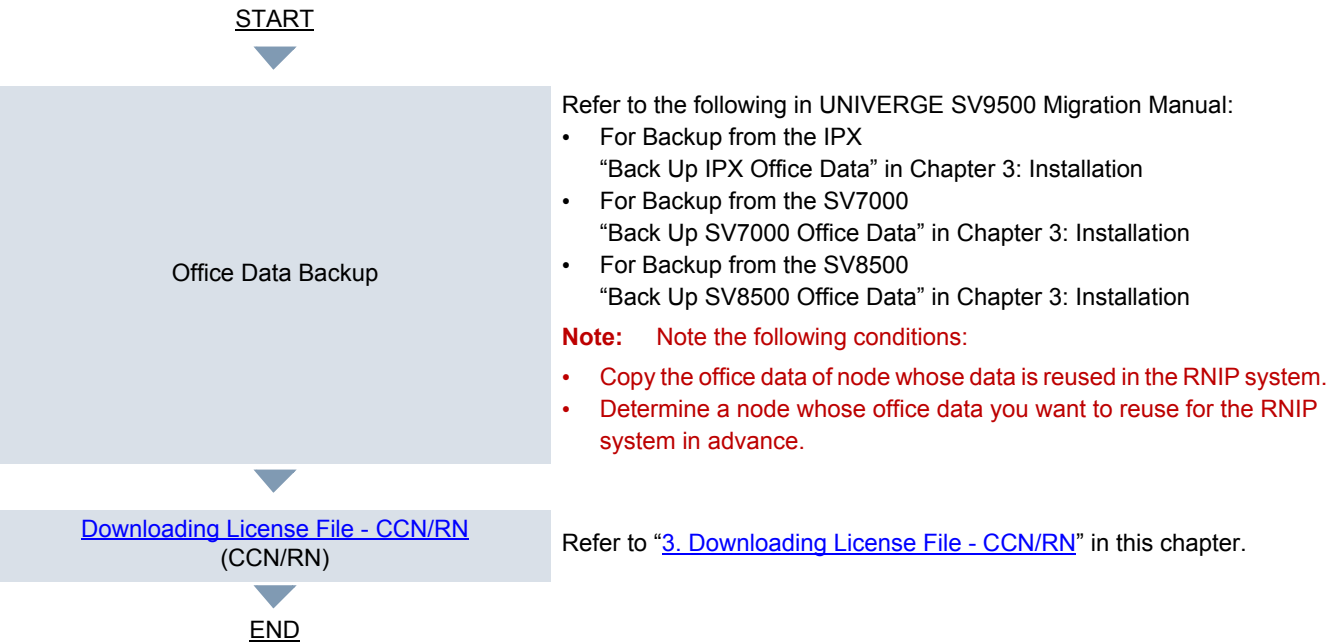
1.General

This chapter describes the procedure to set up a CCN and RNs as the RNIP system.

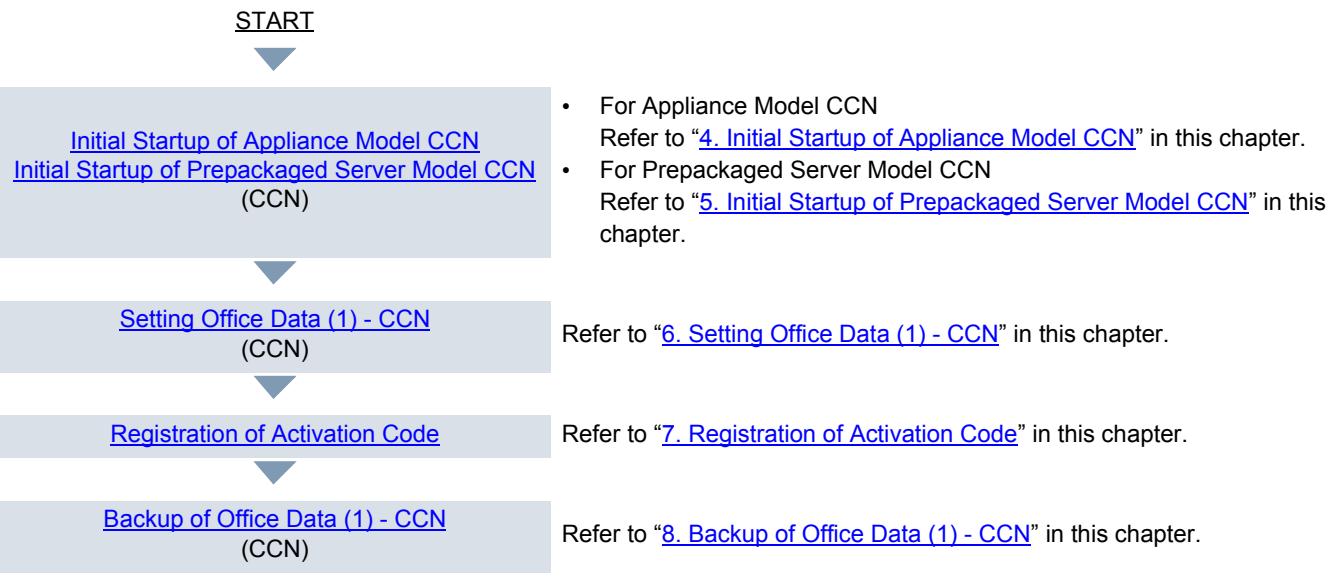
2.System Startup Procedure

The following shows the procedure to set up a CCN and RNs as the RNIP system.

Preparation



Startup Procedure for CCN and RN





Note: System Startup Procedure from FP95-111 V2 is different from the one in FP95-111 V1. For System Startup Procedure in FP95-111 V1, refer to Configuration and Maintenance Guide for Remote Node over IP in FP95-111 V1.

3. Downloading License File - CCN/RN

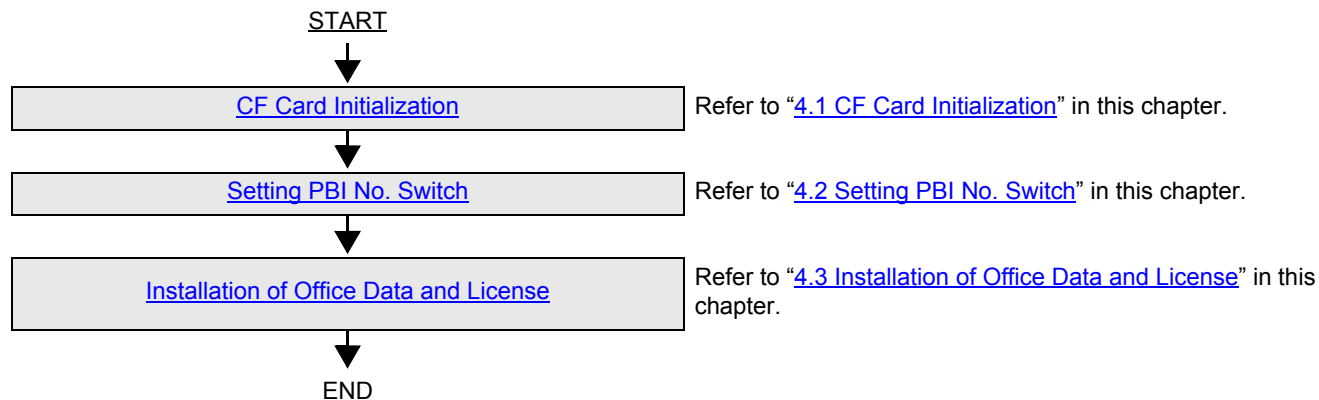
The license file is obtained from License Management Server (LMS). The License Management Server is accessed via the Information Portal (<https://eip.necam.com/login.aspx>).

Note: The following shows common conditions for downloading license files.

- The SVI file is downloaded in a zip format. Do not unzip the SVI file since this file is used as it is.
- Do not change the SVI file name.
- A new Registration Activation code is necessary when the license is upgraded.

4. Initial Startup of Appliance Model CCN

This section explains the initial startup procedure of an Appliance Model CCN. Follow the flow chart below to configure the initial startup.



4.1 CF Card Initialization

This section explains the procedure to initialize CF card and install OS, SV9500 program and default Office Data into the card.

Note: This operation is not required in North America. Skip this section and go to [4.2 Setting PBI No. Switch](#).

1

- (1) Turn on the maintenance PC to be used for CF card initialization.
- (2) Set the install DVD "GENERIC SOFTWARE" in the disk drive.
- (3) Change the maintenance PC setting to boot from DVD-ROM. For details, see a manual for the PC.
- (4) Turn off the power of the maintenance PC.

2

- (1) Insert the CF card into PCMCIA slot.
- (2) Turn on the power of the maintenance PC.

3

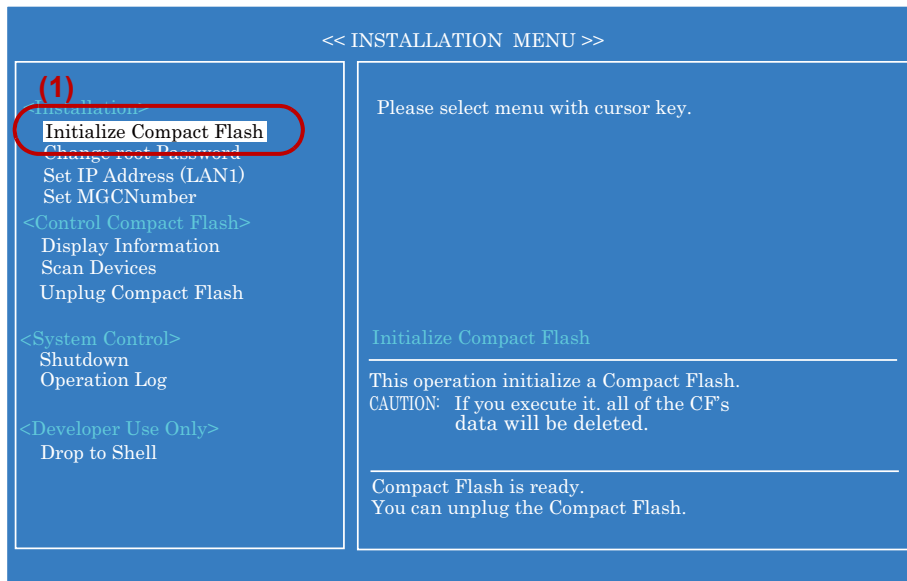
INSTALL DVD BOOT OPTIONS MENU screen appears. Select **2. Auto (Keyboard: US)** and then press the Enter key.

4

- (1) **SV9500 INSTALL MENU** screen appears about five minutes later. Select **Initialize Compact Flash** under <Installation> by using the arrow keys on the keyboard and then press the Enter key.
- (2) A confirmation message appears. Select **OK** and press the Enter key.

Note: Note the following conditions:

- The time to complete the initialization (OS and program Installation) varies depending on the PC used.
- When the CF card is not detected by the PC, the installation cannot be executed. In that case, select “Scan Devices” under <Control Compact Flash> to have the card detected, then execute the initialization again by selecting Initialize Compact Flash.

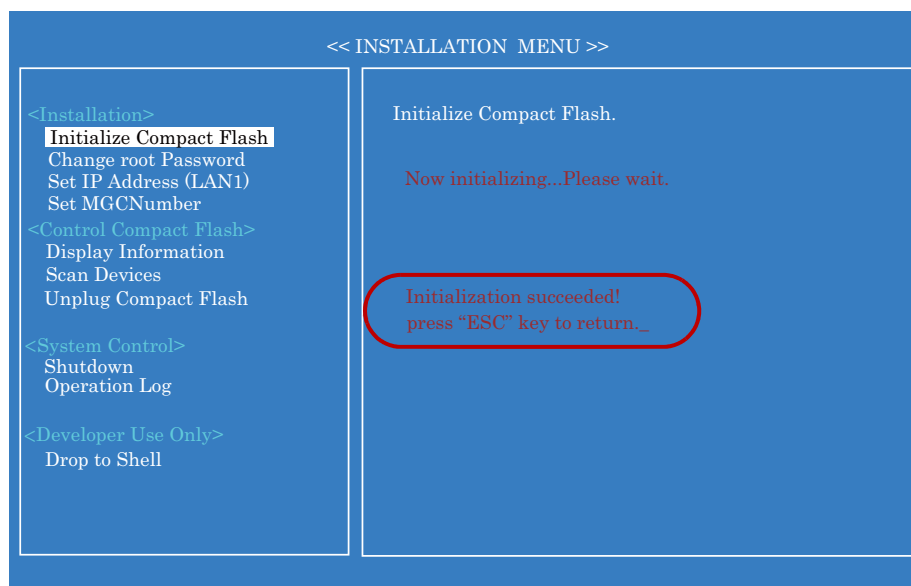


Note: When your PC is slow in CF card writing speed, an error may occur. If an error occurs during the installation, the following action is required:

- When the installation process is aborted, take DVD-ROM out of the tray manually.
- When the PC failed to recognize the CF card, the message “Compact Flash is NOT found...” is displayed. In that case, perform “Scan Devices” under <Control Compact Flash>. If the problem still remains unsolved, you need to use another PC to perform the installation.

5

When the initialization is complete, the message “Initialization succeeded! press ESC key to return” is displayed. It takes about 20 minutes to complete the initialization. Press the ESC key.



Note: The time to complete the initialization (OS and program Installation) varies depending on the PC used.

6

Select **Set IP Address (LAN1)** under <Installation> by using the arrow keys on the keyboard and then press the Enter key.



7

- (1) Regarding a target node, select “Single” for the single configuration or “Dual” for the dual configuration and then press the Enter key.
- (2) Set the values corresponding to your actual network environment for the following items.

Setting Items for Single Configuration

Items	Setting Values	Example	
		CCN	RN
IP Address [ACT]	IP address of LAN1	10.1.101.1	10.1.101.30
Subnet Mask	Subnet mask	255.255.255.0	255.255.255.0
Default Gateway	Default gateway	10.1.101.254	10.1.101.254

Setting Items for Dual Configuration

Items	Setting Values	Example	
		CCN	RN
IP Address [ACT]	IP address (ACT) of LAN1	10.1.101.1	10.1.101.30
IP Address [CPU-0]	IP address (System #0) of LAN1	10.1.101.2	10.1.101.31
IP Address [CPU-1]	IP address (System #1) of LAN1	10.1.101.3	10.1.101.32
Subnet Mask	Subnet mask	255.255.255.0	255.255.255.0
Default Gateway	Default gateway	10.1.101.254	10.1.101.254

- (3) After the setting is complete, select **OK** and then press the Enter key.
- (4) The message “WARNING! this operation will change the setting in Compact Flash” is displayed. Select **OK** and press the Enter key.
- (5) The message “Succeed. press ESC key to return” is displayed. Press the ESC key.

<< INSTALLATION MENU >>

<Installation>

- Initialize Compact Flash
- Change root Password
- Set IP Address (LAN1)**
- Set MGCNumber

<Control Compact Flash>

- Display Information
- Scan Devices
- Unplug Compact Flash

<System Control>

- Shutdown
- Operation Log

<Developer Use Only>

- Drop to Shell

Please select the CPU redundancy.
(Do NOT set it for SR-MGC (E) / (S))

[Single] **[Dual]** (1)

(2)

IP Address[ACT]:

IP Address[CPU-0]:

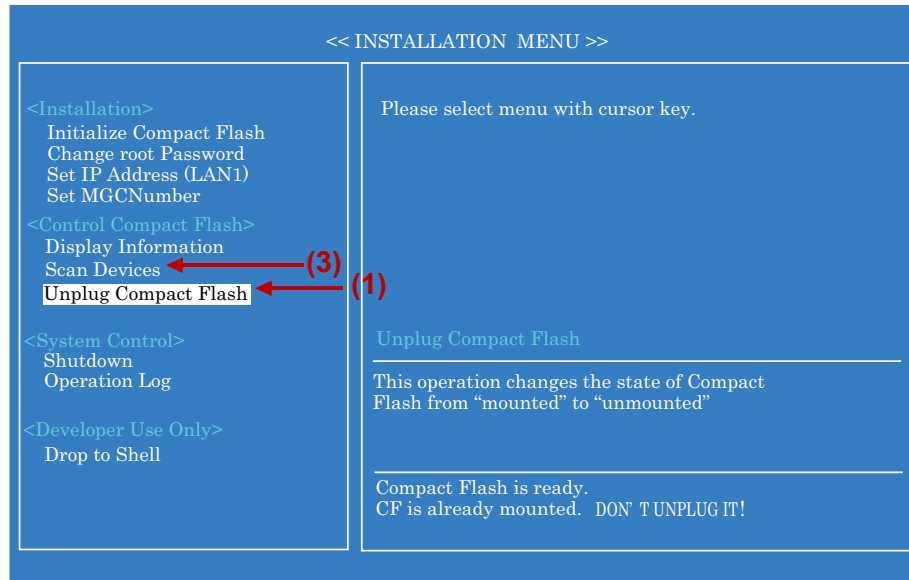
IP Address[CPU-1]:

Subnet Mask :

Default Gateway :

8

- (1) In the case of initializing the second CF card, select **Unplug Compact Flash** under <Control Compact Flash> by using the arrow keys on the keyboard and then press the Enter key.
- (2) Take the inserted CF card out of the slot and then insert the second CF card into the slot.
- (3) Select **Scan Devices** under <Control Compact Flash> to have the card detected.
- (4) Repeat the procedure [STEP 4](#) to [STEP 7](#).

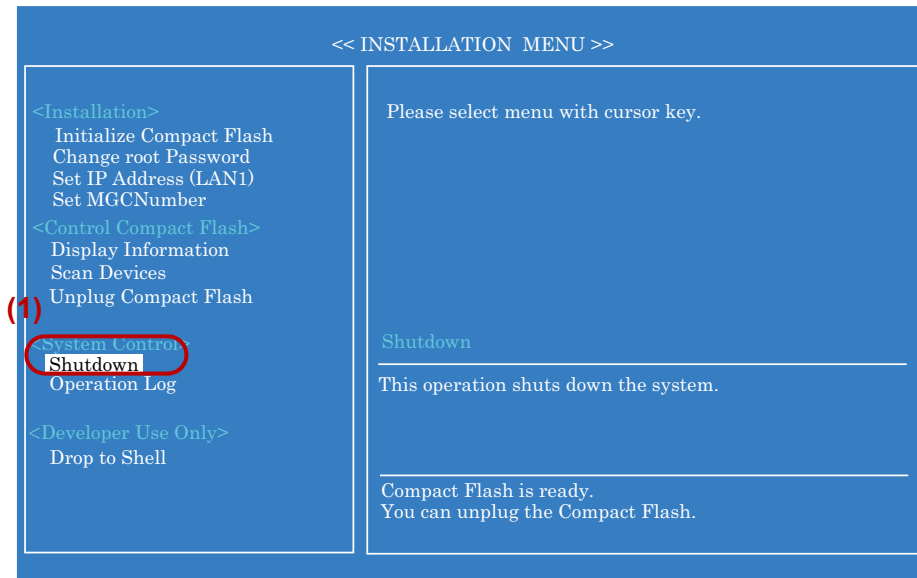


Note: Note the following conditions:

- This procedure is required only for a dual configuration system. Skip this procedure when your system is in single configuration.
- When the maintenance PC has two PCMCIA slots, use the same slot for both the first card and the second card. If different slots are used, CF card may not be detected.

9

- (1) Select **Shutdown** under <System Control> by using the arrow keys on the keyboard and then press the Enter key.
- (2) A confirmation message appears. Select **OK** and then press the Enter key.
- (3) The DVD tray is automatically ejected and the PC is turned off.
- (4) Take the CF card out of the slot.



10

When you have changed the PC setting to boot from DVD-ROM, restore the setting.

4.2 Setting PBI No. Switch

Before setting up a CCN and RNs, set a PBI number to each node.

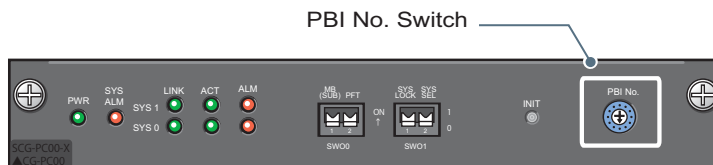


1

Set the PBI No. switch on the EMA MAIN card to the same value as PBI number of the CCN and RN.

Note: CCN/RN and 2-frame/4-frame configuration can be specified with the ASSW command.

Note: The PBI No. works as the base of the system configuration. For details, refer to [PBI and LP Rule](#) and [System Configuration based on PBI and LP Rules](#).



- PBI No. Switch on EMA MAIN card (CCN Side)

Switch No.	PBI No.	Processor
0	None (not used).	None (not used).
1	0x30	CCN (LP00)
2	None (not used).	None (not used).
3	0x40	CCN (LP08)
4	None (not used).	None (not used).
5	0x50	CCN (LP16)
6	None (not used).	None (not used).
7	0x60	CCN (LP24)
8-F	None (not used).	None (not used).

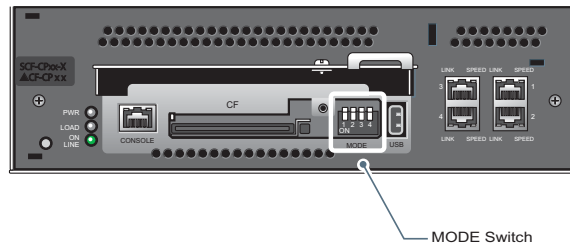
- PBI No. Switch on EMA MAIN card (RN Side)

Switch No.	PBI No.	Processor
0	None (not used).	None (not used).
1	0x30	RN (LP00)
2	0x38	RN (LP04)
3	0x40	RN (LP08)
4	0x48	RN (LP12)
5	0x50	RN (LP16)
6	0x58	RN (LP20)
7	0x60	RN (LP24)
8	0x68	RN (LP28)
9-F	None (Not used)	None (Not used)

2

Set the MODE switch on the CPU card:

MODE Switch on CPU Card



Switch No.	Settings		Remarks
 MODE	1	ON	Enable FTP, Telnet
		OFF	Disable FTP, Telnet
	2	ON	Fixed to OFF.
		OFF	
	3	ON	Fixed to OFF.
		OFF	
	4	ON	CPU Make Busy ON
		OFF	CPU Make Busy OFF

4.3 Installation of Office Data and License

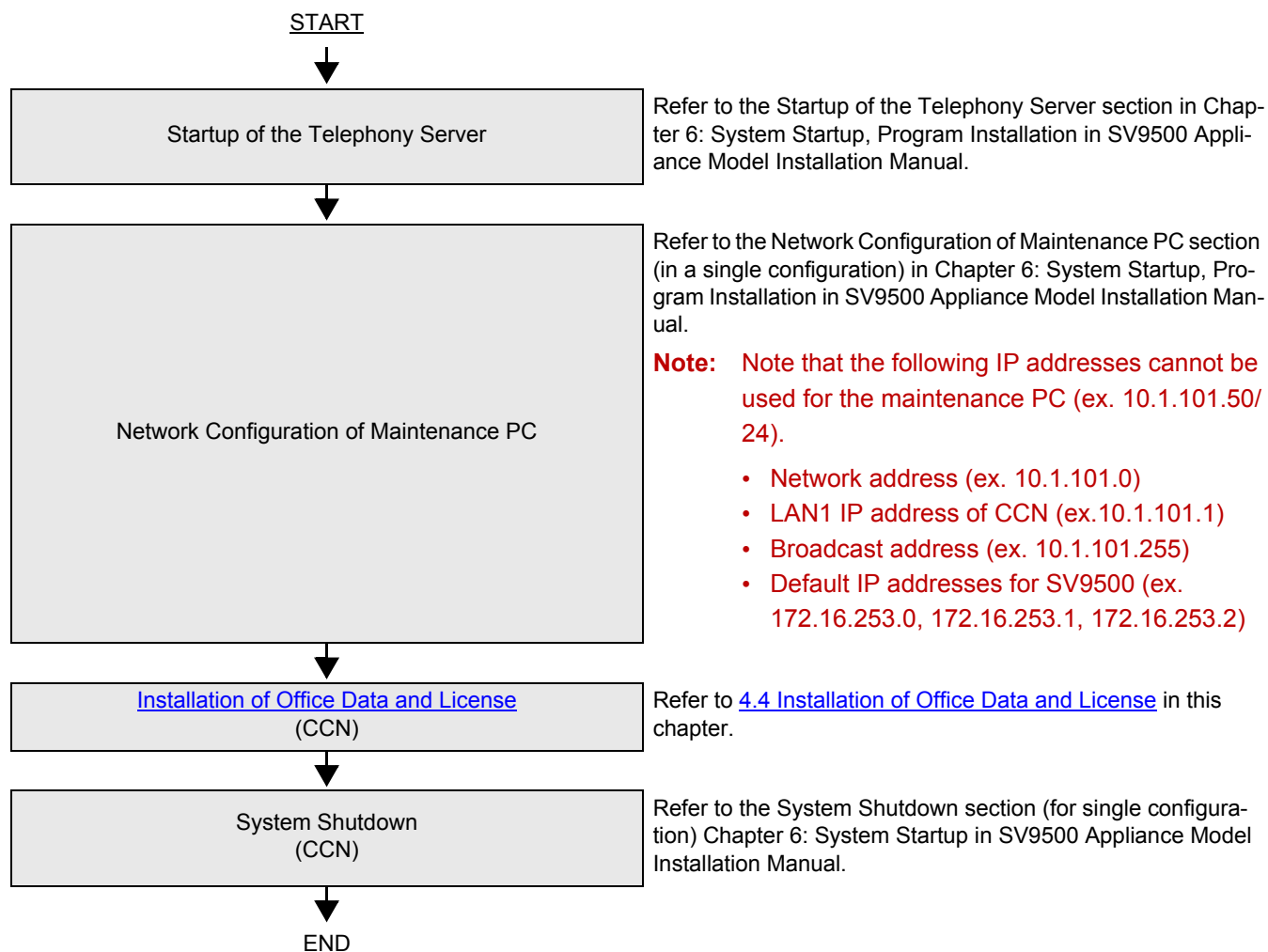
Connect a maintenance PC to the Telephony Server to install the office data which is used in the previous system and the license which was downloaded in [3. Downloading License File - CCN/RN](#) into the CF card.

This section explains the installation procedure for each configuration listed below.

- [Single Configuration](#)
- [Dual Configuration](#)

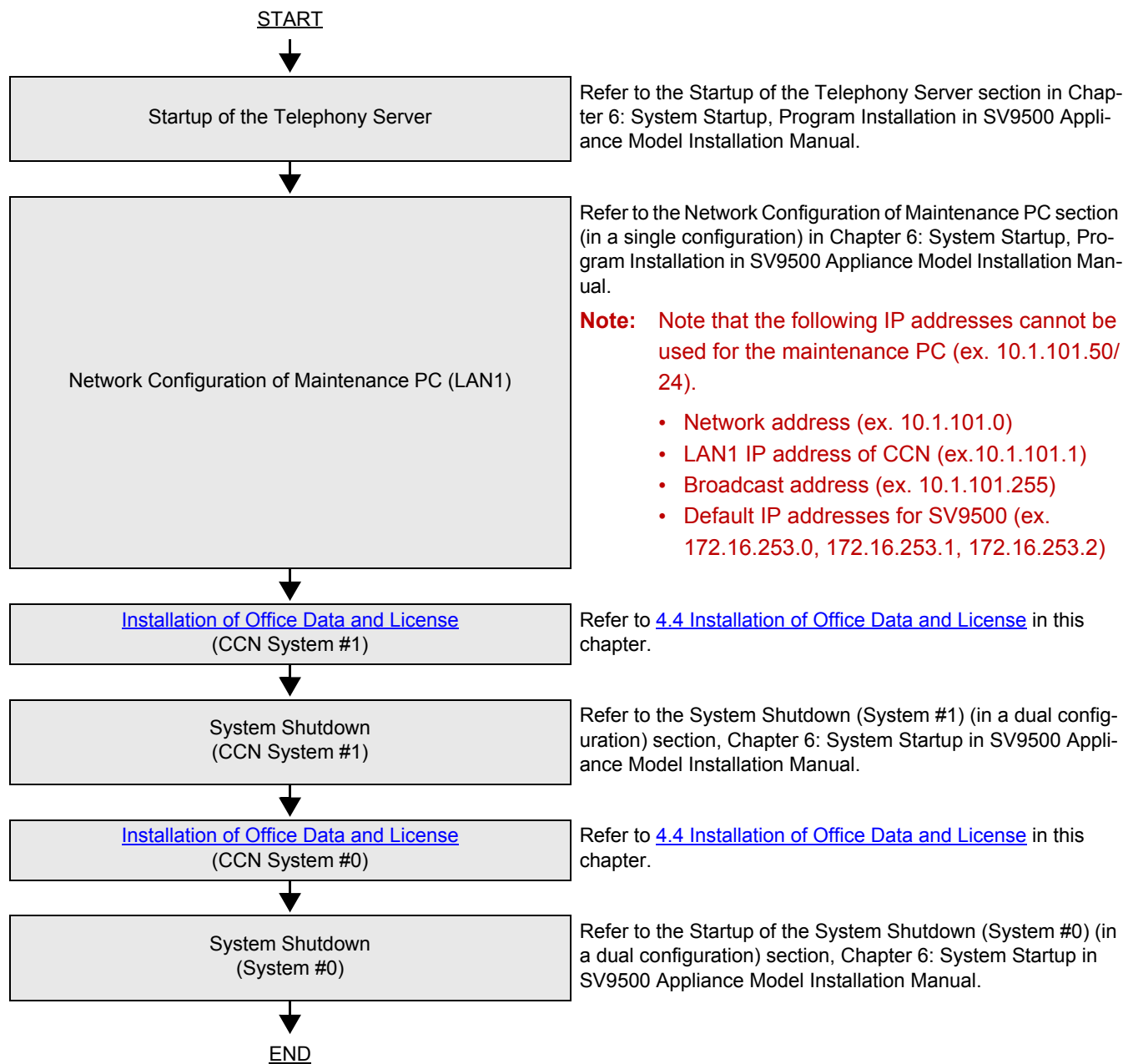
4.3.1 Single Configuration

This section explains the procedure to install the license on to the CF card in single configuration. Follow the flow chart below to install the initial setting data into CF card.



4.3.2 Dual Configuration

This section explains the procedure to install the office data and license on to the CF card in dual configuration. Follow the flow chart below to install the initial setting data into CF card.



4.4 Installation of Office Data and License

This section explains the procedure to install the office data and license which is downloaded to a maintenance PC to CF card.

1

Start Internet Explorer on a Maintenance PC, and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. Enter as “xxx.xxx.xxx.xxx” the CCN LAN1 IP address (e.g. 10.1.101.1) set at [STEP 7](#) in [4.1 CF Card Initialization](#) section.

Note:

- For North America, enter the IP address pre-loaded in the CF card.
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2

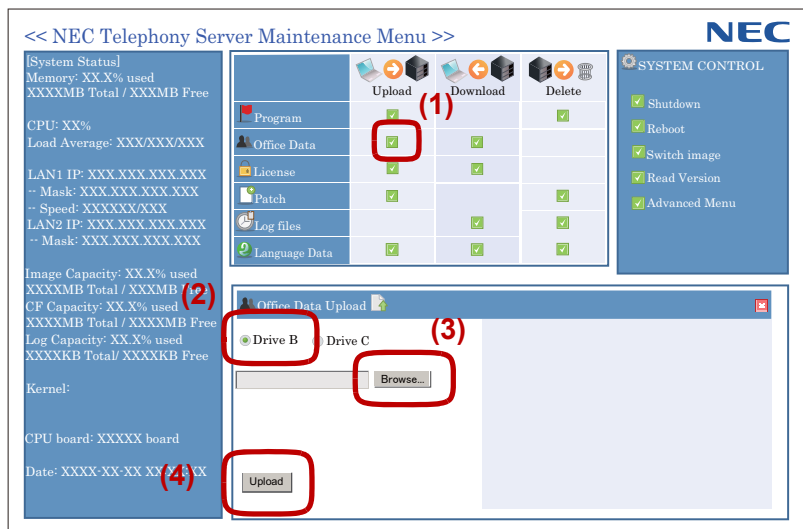
- (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
- (2) Click **OK** to log into **Telephony Server Maintenance Menu**.

Note:

- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging into SV9500 Maintenance Menu, do not use Back button on the browser.

3

- (1) Click **Upload** for **Office Data** in the **SYSTEM CONTROL** area. The **Office Data Upload** dialog box appears.
- (2) Select **Drive B**.
- (3) Click “Browse” in the Office Data Upload are and specify the office data file that is backed up from the previous system and converted for SV9500 (officedata.zip).
- (4) Click the **Upload** button. When the uploading is complete, “Operation successfully completed” will be displayed.
- (5) Click **OK**.

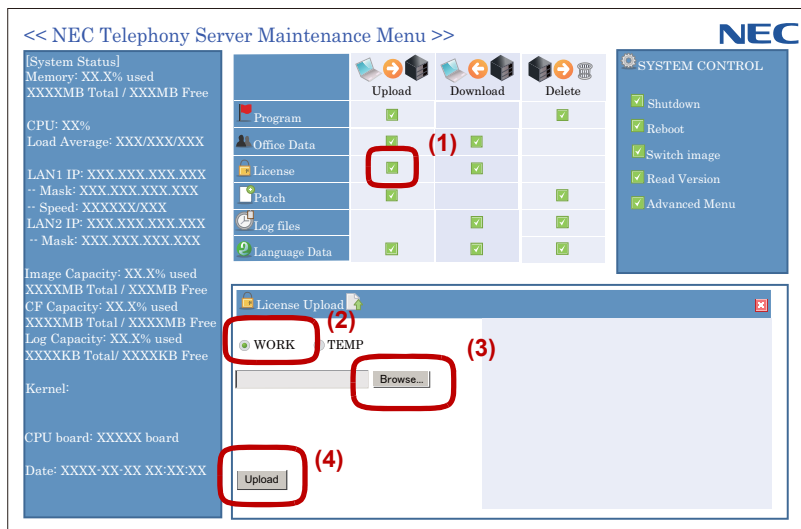


Note:

- When the office data upload is not successful, “An error occurred! Please check the logs.” is displayed and the details are displayed in the lower right portion of the screen.
- This step is not required for the initial startup of the new system. For a new system, skip this step.

4

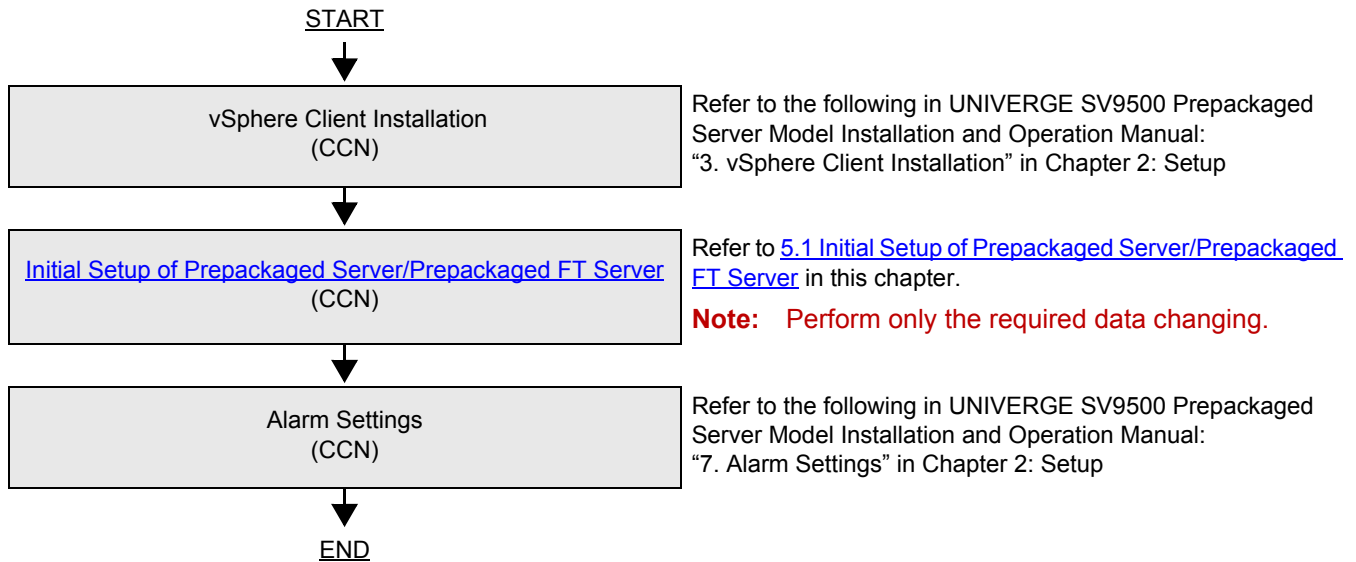
- (1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.
- (2) Select **WORK**.
- (3) Click the **Browse** button in the dialog box and then specify the License file downloaded in [3. Downloading License File - CCN/RN](#).
- (4) Click the **Upload** button. When the uploading is complete, “Operation successfully completed” will be displayed.
- (5) Click **OK**.



Point: The Language Data button needs to be clicked only when OPTIONAL LANGUAGE PACK LOADING [O-42] is used. For more details on OPTIONAL LANGUAGE PACK LOADING [O-42], see Data Programming Manual - Business.

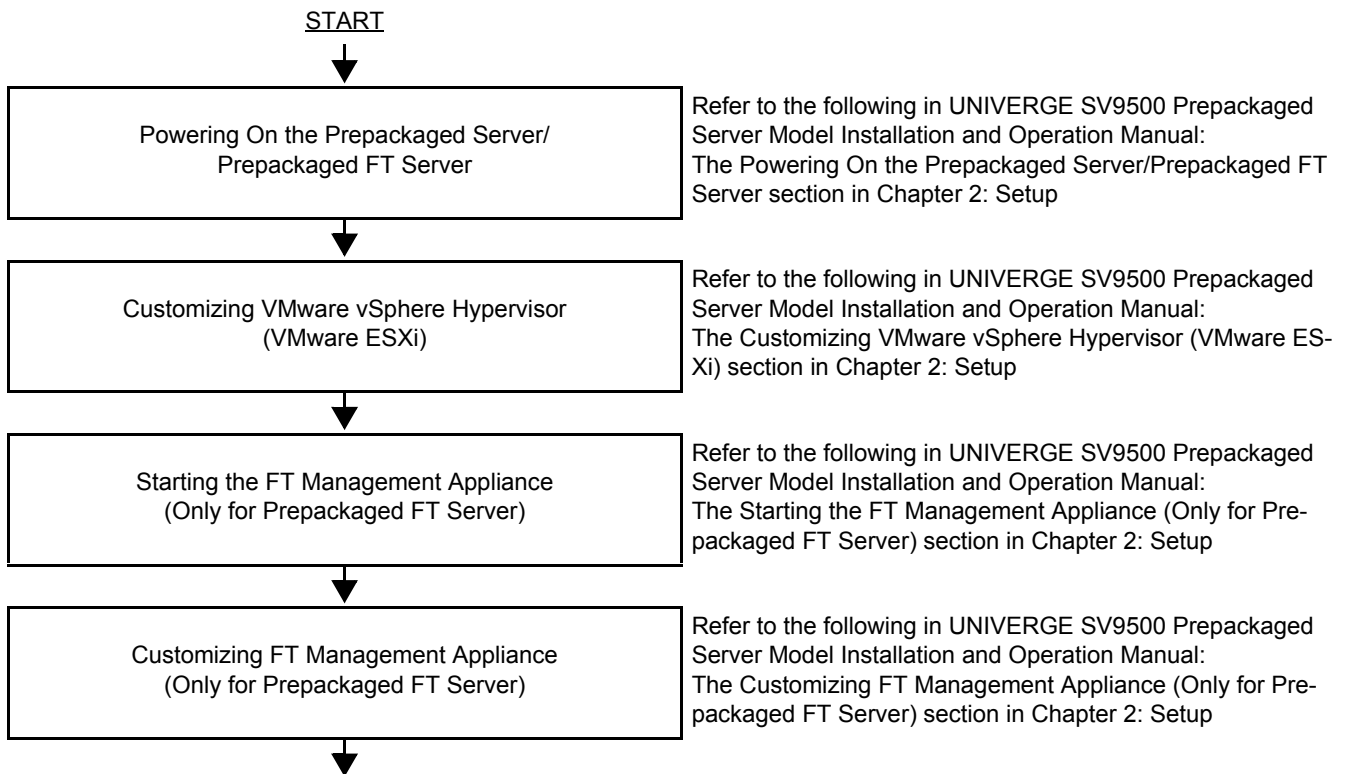
5.Initial Startup of Prepackaged Server Model CCN

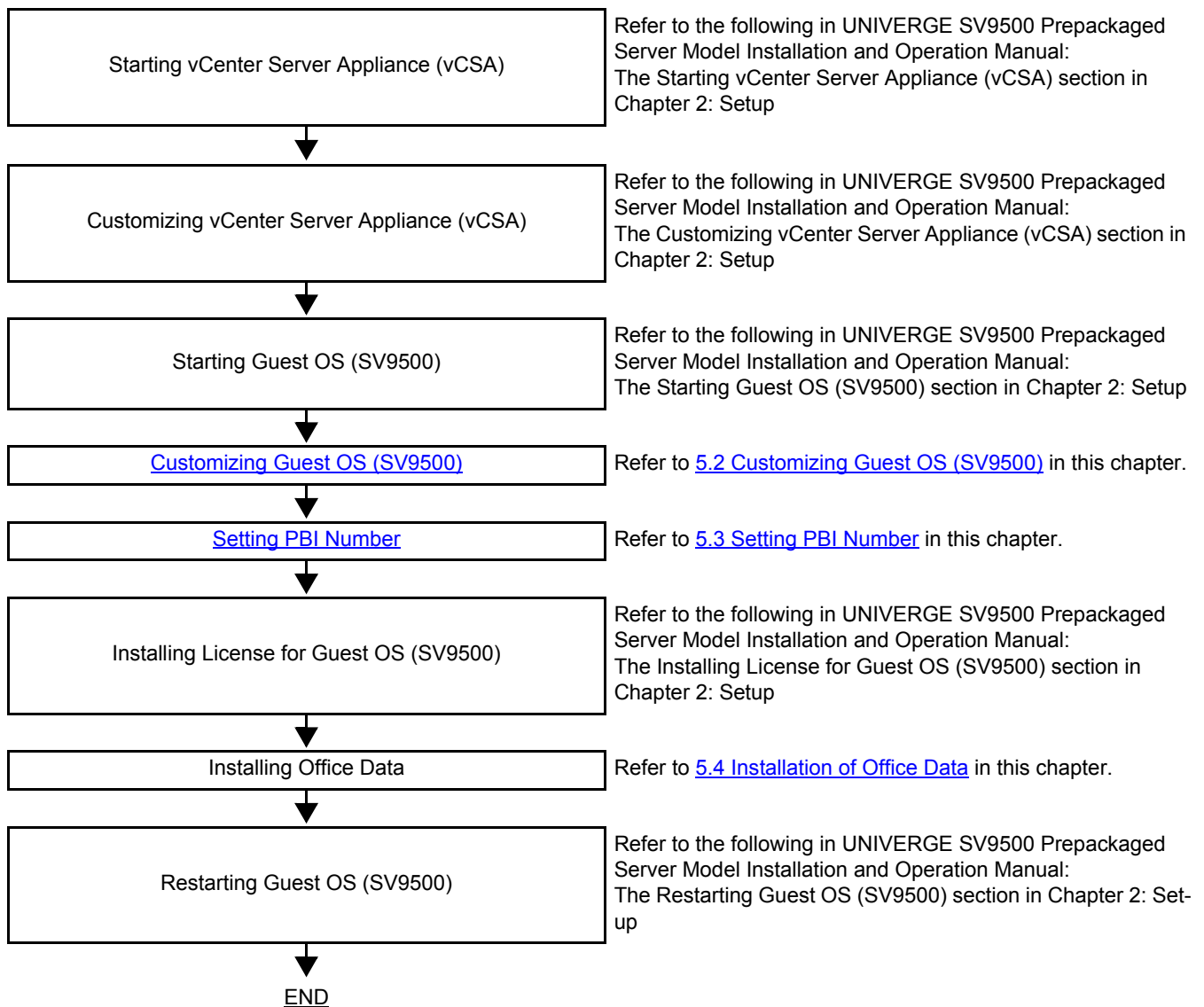
This section explains the procedure how to perform initial startup of a Prepackaged Server Model CCN.



5.1 Initial Setup of Prepackaged Server/Prepackaged FT Server

The initial setup procedure of the Prepackaged Server/Prepackaged FT Server is outlined in the flow chart below.



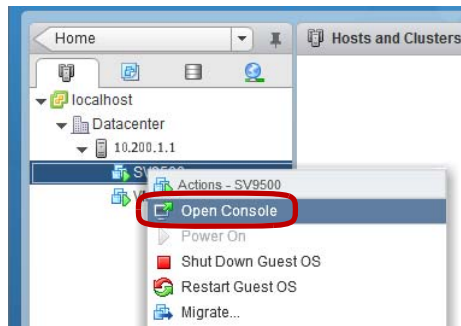


5.2 Customizing Guest OS (SV9500)

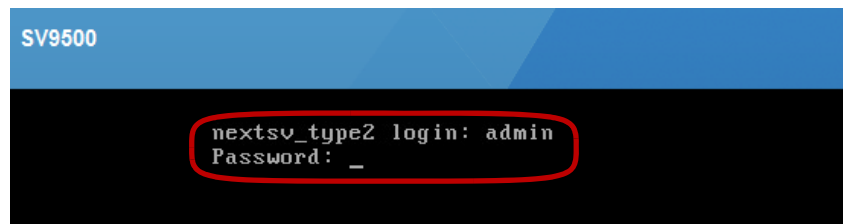
This section explains the procedure for configuring network settings for SV9500 (guest OS), such as the password and IP address information.

1 From the web browser of the maintenance PC, log in as root user to vCSA (<https://xxx.xxx.xxx:9443/>).
(xxx.xxx.xxx.xxx is the vCSA IP address).

2 Open the console of the SV9500 virtual machine.
(1) Select **Hosts and Clusters (Inventories)** from **Home** tab.
(2) Right-click on SV9500 and select **Open Console**.

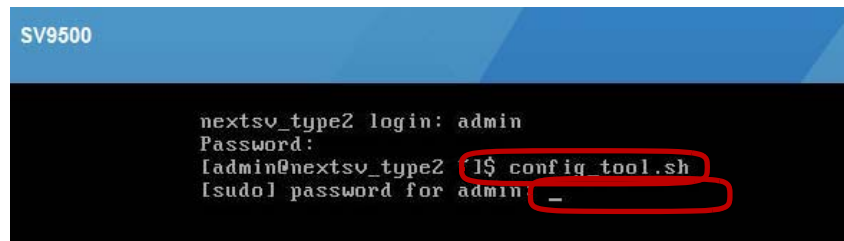


3 Log in to SV9500 from the login prompt as **admin** user.



Note: Ask your supplier for the password.

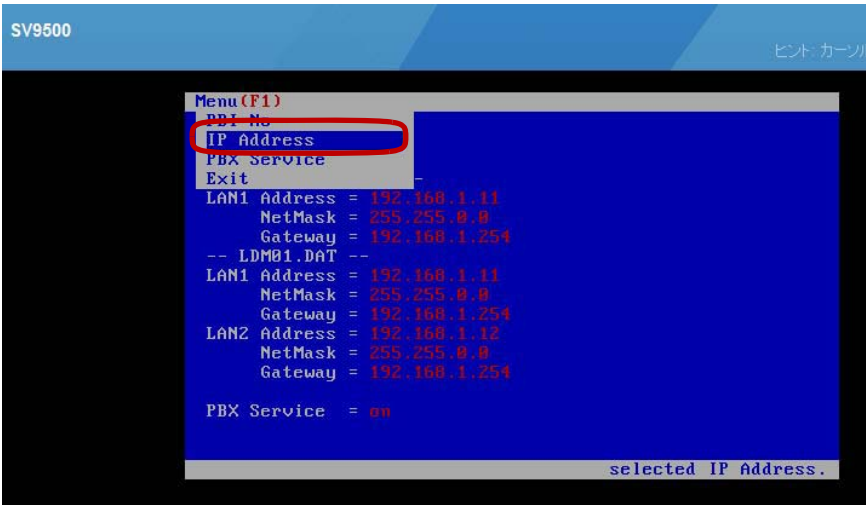
4 (1) Execute **config_tool.sh**.
(2) Enter the password for admin again.



5

To modify the IP address of LAN 1 and LAN 2 in a CCN or an RN to install respectively, proceed as follows.

- (1) Press the F1 key.
- (2) Select **IP Address**.



Note: Do not assign a PBI number here. The PBI number should be assigned after restarting the SV9500 (guest OS) in [STEP 8](#).

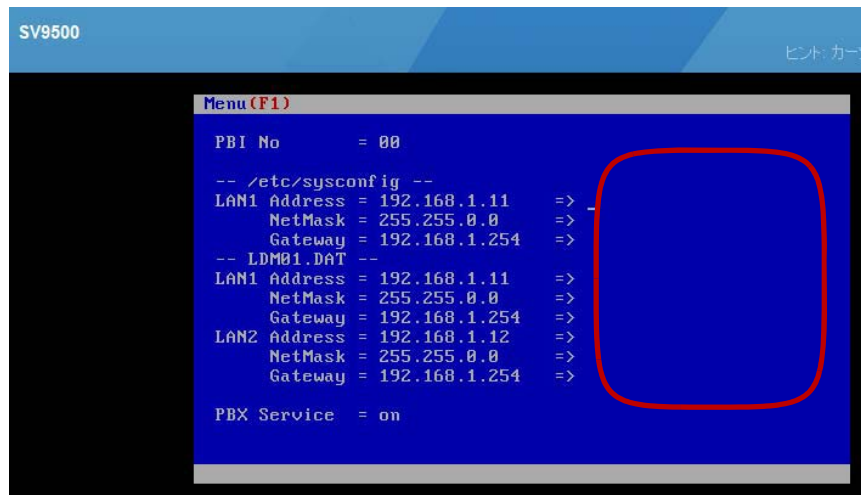
6

- (1) Modify the IP address of LAN 1 and LAN 2.

Setting Item		Setting Value	Example Setting Value	
			CCN	RN
--etc/sysconfig--	LAN1 Address	LAN1 IP address	10.1.101.1	10.1.101.30
	NetMask	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	Default Gateway	10.1.101.254	10.1.101.254
--LDM01.DAT--	LAN1	LAN1 Address	10.1.101.1	10.1.101.30
		NetMask	255.255.255.0	255.255.255.0
		Gateway	10.1.101.254	10.1.101.254
	LAN2	LAN2 Address	10.1.101.4	10.1.101.33
		NetMask	255.255.255.0	255.255.255.0
		Gateway	10.1.101.254	10.1.101.254

Note1: When the Config_tool.sh is executed after restarting the SV9500 (guest OS), the CCN LAN2 information is displayed for values of LAN2 Address, NetMask and Gateway under "--LDM01.DAT--" in the screen.

- (2) After entering the **Gateway** data, press the Enter key



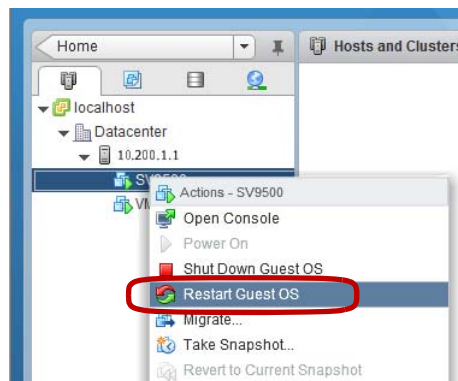
The monitor returns back to the previous screen.

7

- (1) Press the F1 key.
 - (2) Select Exit
- Close the **Console** screen.

8

- Restart SV9500 virtual machine.
- (1) Select the SV9500 virtual machine.
 - (2) Right-click and Select **Restart GuestOS**.



9

Change the IP address of the maintenance PC to connect to the network of the LAN1 IP address from [STEP 6](#).

10

Use the PING command from the maintenance PC and verify there is a response from the IP address of LAN1.

11

Log in to the Telephony Server Maintenance Menu from the maintenance PC web browser.

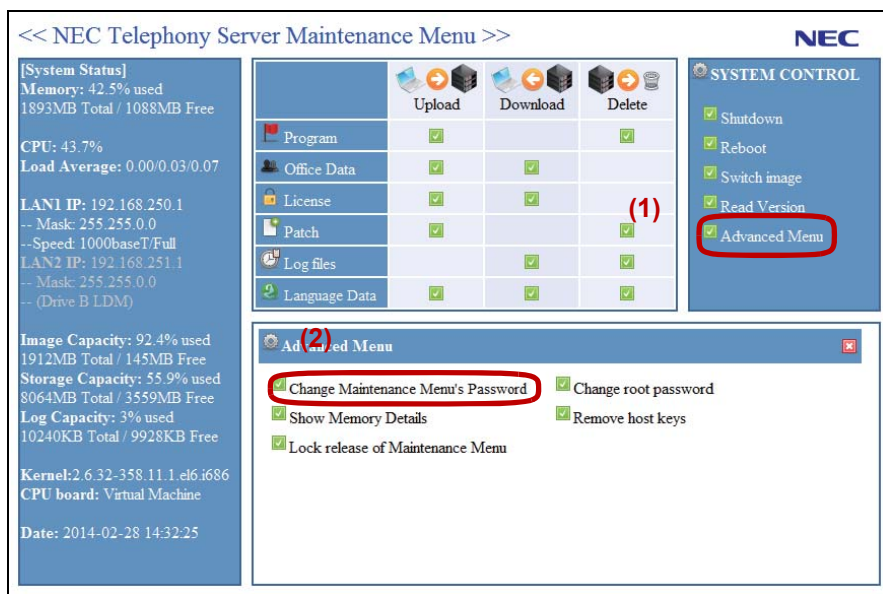
- (1) Launch the web browser from the maintenance PC, connect to Telephony Server Maintenance Menu (<http://xxx.xxx.xxx.xxx:9801/>). (xxx.xxx.xxx.xxx is the LAN1 IP address (ACT) of SV9500.)
- (2) Enter **admin** as user name.
- (3) Enter **admin** as password and press the **OK** button.

Note:

- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.
- After logging into Telephony Server Maintenance Menu, do not use Back button on browser.

12

- (1) Select Advanced Menu from SYSTEM CONTROL.
- (2) Click **Change Maintenance Menu's Password**.



13

- (1) Enter admin on **Current username**.
- (2) Enter admin on **Current password**.
- (3) Enter a new user name on **New username**.
- (4) Enter a new password on **New password**.
- (5) Enter again the new password on **Confirm new password**.
- (6) Click the **Change** button.

Note: Use more than 8 characters for the password. Create a password that is difficult to guess and periodically change it.

5.3 Setting PBI Number

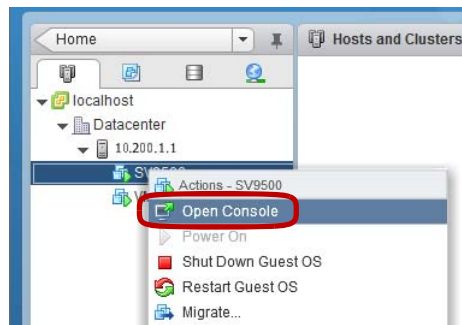
This section explains the procedure to set a PBI number. Set a PBI number to each node using the SV9500 virtual machine.

Note: Physical PIRs cannot be mounted to a Prepackaged Server Model CCN. The Prepackaged Server Model CCN uses only Virtual PIRs.

1

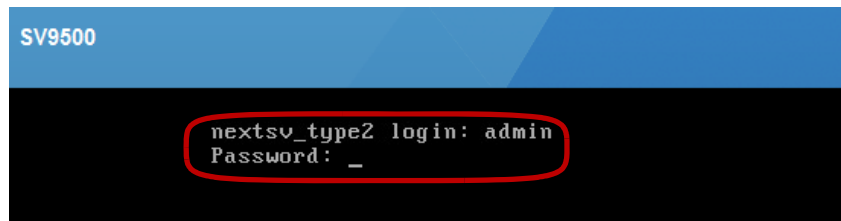
From the web browser of the maintenance PC, log in as root user to vCSA (<https://xxx.xxx.xxx:9443/>). (xxx.xxx.xxx.xxx is the vCSA IP address).

- 2 Open the console of the SV9500 virtual machine.
- (1) Select **Hosts and Clusters (Inventories)** from **Home** tab.
 - (2) Right-click on SV9500 and select **Open Console**.

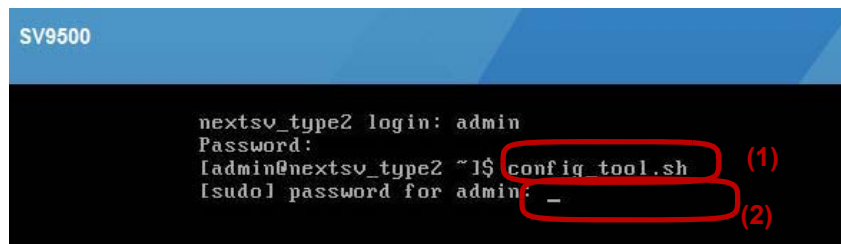


- 3 Log in to SV9500 from the login prompt as **admin** user.

Note: Ask your supplier for the password.



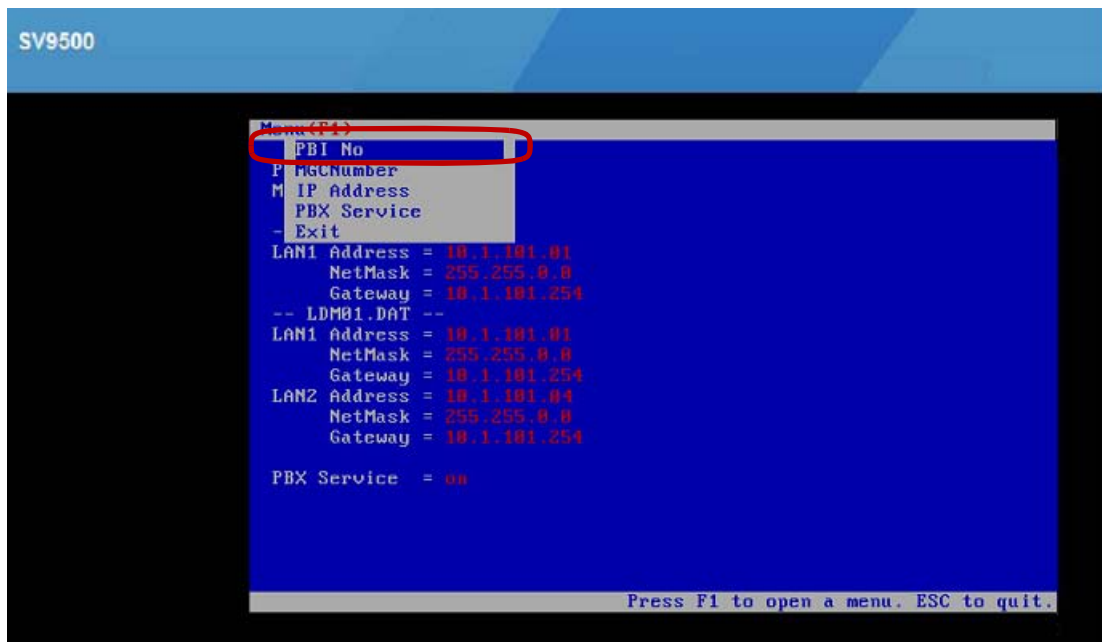
- 4
- (1) Execute **config_tool.sh**.
 - (2) Enter the password for admin again.



5

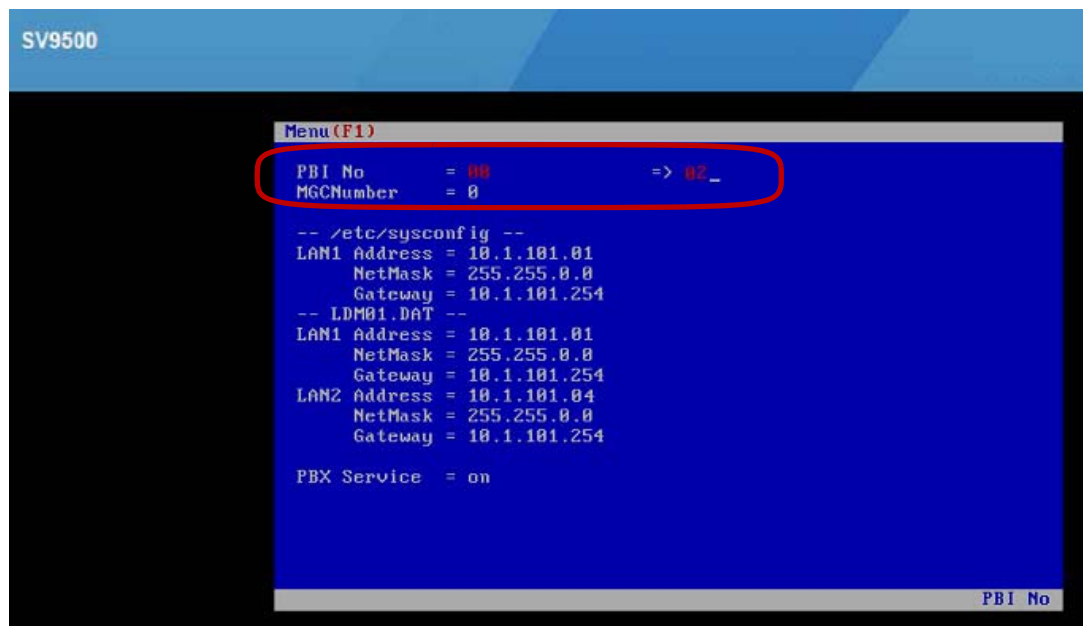
To modify the IP address of LAN 1 and LAN 2 respectively, proceed as follows.

- (1) Press the F1 key.
- (2) Select **PBI No.**



6

- (1) Type the PBI number for each processor.
- (2) After entering the **PBI No** data, press the Enter key



- PBI No. (CCN Side)

PBI No. (CCN Side)

PBI No.	Processor
0x30	CCN (LP00)
0x40	CCN (LP08)
0x50	CCN (LP16)
0x60	CCN (LP24)

- PBI No. (RN Side)

PBI No. (RN Side)

PBI No.	Processor
0x30	RN (LP00)
0x38	RN (LP04)
0x40	RN (LP08)
0x48	RN (LP12)
0x50	RN (LP16)
0x58	RN (LP20)
0x60	RN (LP24)
0x68	RN (LP28)

The monitor returns back to the previous screen.

7

- (1) Press the F1 key.
 - (2) Select Exit
- Close the **Console** screen.

Note: Setting PBI number is required for program version upgrade.

5.4 Installation of Office Data

This section explains the procedure to install the office data which is downloaded to a maintenance PC to HDD.

1

Start Internet Explorer on a Maintenance PC, and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. Enter as “xxx.xxx.xxx.xxx” the CCN LAN1 IP address (e.g. 10.1.101.1) set at [STEP 6](#) in [5.2 Customizing Guest OS \(SV9500\)](#) section.

Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2

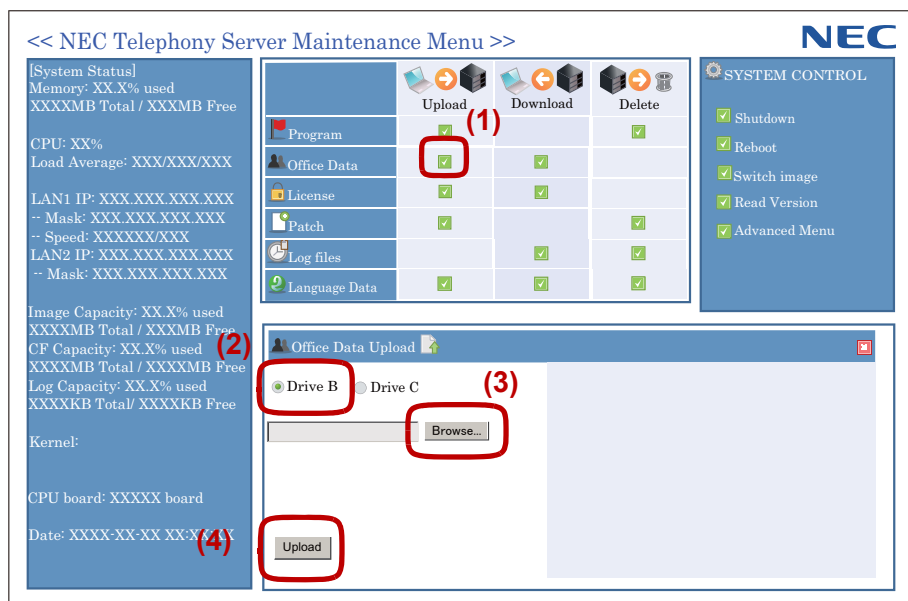
- (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
- (2) Click **OK** to log into **Telephony Server Maintenance Menu**.

Note:

- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging into SV9500 Maintenance Menu, do not use Back button on the browser.

3

- (1) Click **Upload** for **Office Data** in the **SYSTEM CONTROL** area. The **Office Data Upload** dialog box appears.
- (2) Select **Drive B**.
- (3) Click “Browse” in the Office Data Upload area and specify the office data file that is backed up from the previous system and converted for SV9500 (officedata.zip).
- (4) Click the **Upload** button. When the uploading is complete, “Operation successfully completed” will be displayed. Click **OK**



Note: When the office data upload is not successful, “An error occurred! Please check the logs.” is displayed and the details are displayed in the lower right portion of the screen.

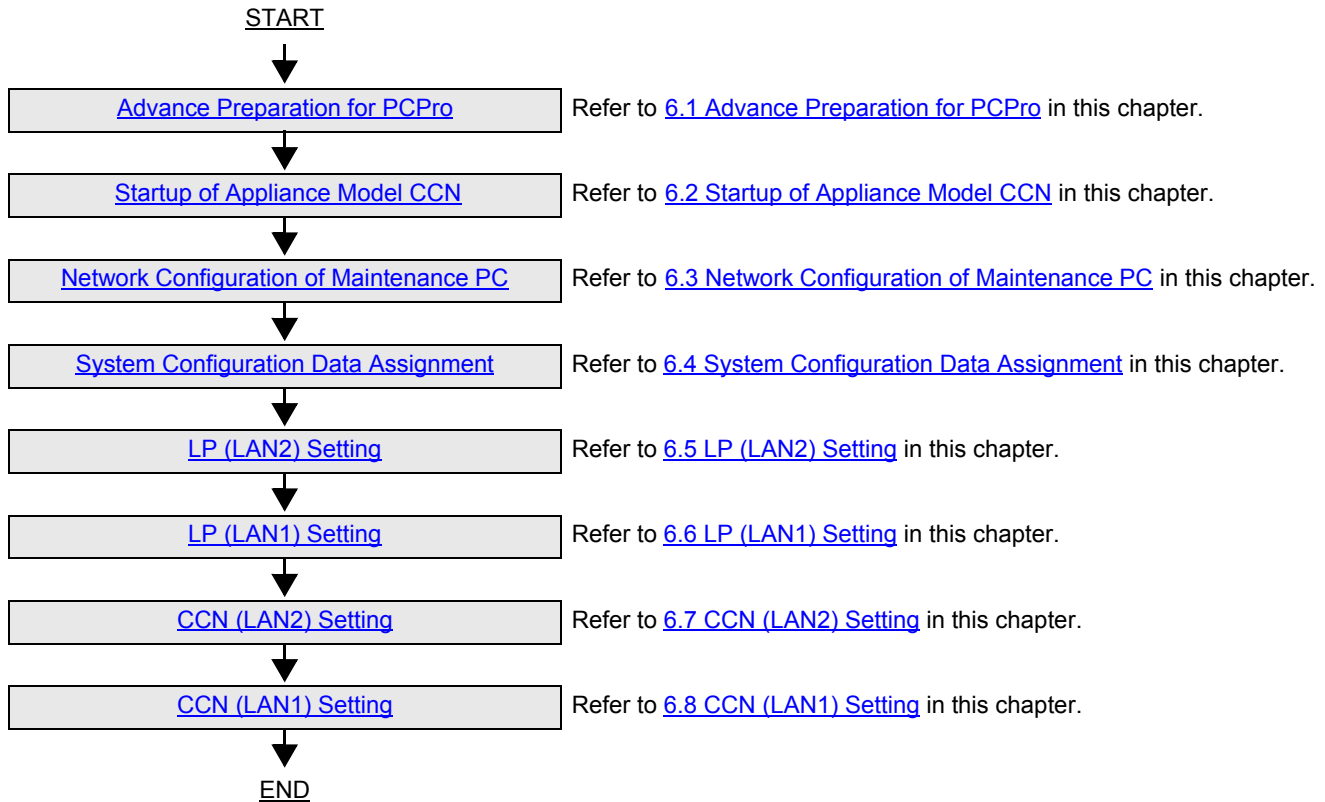
Note: This operation is not required for the initial startup of the new system.



Point: The Language Data button needs to be clicked only when OPTIONAL LANGUAGE PACK LOADING [O-42] is used. For more details on OPTIONAL LANGUAGE PACK LOADING [O-42], see Data Programming Manual - Business.

6.Setting Office Data (1) - CCN

This section explains the procedure to set the office data used to operate the Telephony Server.



6.1 Advance Preparation for PCPro

This section explains the procedure of an advance preparation required to establish a communication link between PCPro and CCN.

1 Launch PCPro.

2 Assign connection accounts, one for the default IP address of LAN2 (172.16.253.0) and another for IP address of LAN2 in the actual environment (e.g. 10.1.101.4). See the table below.

Point: For detailed procedure, refer to “Connection Account Setting” in Chapter 5: Various Settings of PC-Pro in PCPro Setup Manual.

Account Setting Items (for IPv4)

Setting Items	Default IP address of LAN2	IP address of LAN2 in an actual environment
Account Name	arbitrary (e.g. LAN2_Default)	arbitrary (e.g. LAN2_CCN)
FUG	0	0
FPC	1	1
Connection Type	TCP/IPv4	TCP/IPv4
IP address	172.16.253.0	IP address of LAN2 used in an actual environment (e.g. 10.1.101.4)
Port Number	60000	60000

6.2 Startup of Appliance Model CCN

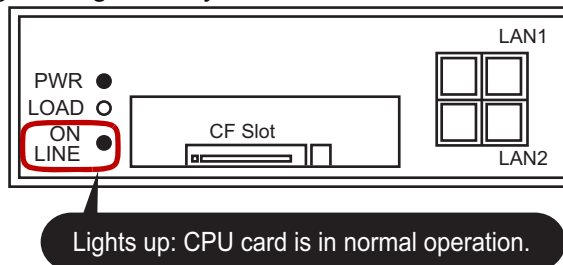
This section explains the procedure for starting up the Telephony Server (Appliance Model CCN) which is required as a first process when setting the office data.

Note: This section is only for Appliance Model CCN. Skip this section for Prepackaged Server Model CCN.

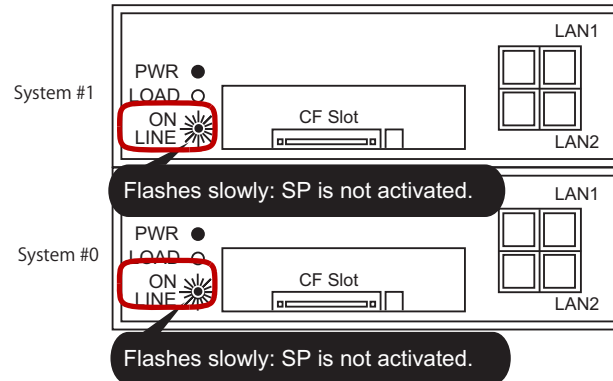
1 Turn on the power switch on the rear panel of the Telephony Server.

2 Verify that ON LINE lamp on the front panel of CPU card changes in the following order.
[1] OFF → [2] flash fast → [3] flash slowly → [4] ON

3 • Appliance model CCN Single Configuration System



- Appliance model CCN Dual Configuration System



Point: For detailed information on ON LINE lamp, refer to the CPU Card section in CHAPTER 1: GENERAL of Appliance Model Installation Manual.

6.3 Network Configuration of Maintenance PC

This section explains the procedure to set the network configuration of the maintenance PC to connect to CCN.

1

Assign an IP address to the maintenance PC so that it is in the same network segment as the active (ACT) interface for LAN 2.

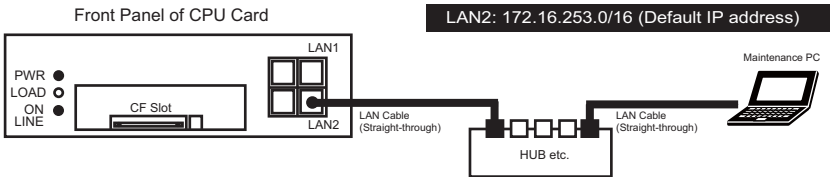
(Example for IP address of the maintenance PC: 10.1.101.50/24)

Note: IP addresses listed in the table below cannot be assigned to the maintenance PC. The table below is an example when the IP address used as ACT side of the existing system is “10.1.101.4/24”.

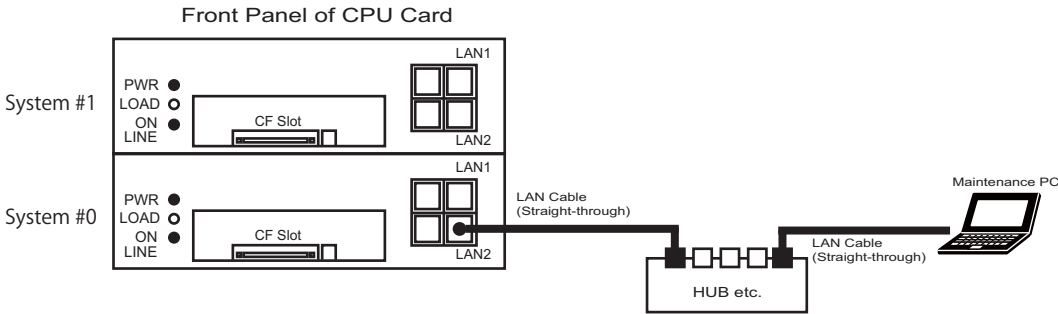
IP address	Reason
10.1.101.0	This IP address is a network address.
10.1.101.4	This IP address is used as the default IP address (ACT) for the existing system.
10.1.101.255	This IP address is a broadcast address.
172.16.253.0	These IP addresses are used as the default IP addresses for SV9500 system.
172.16.253.1	
172.16.253.2	

2

- For Appliance Model Single Configuration System
Connect LAN2 connector on CPU card of CCN and the maintenance PC with a LAN cable.



- For Appliance Model Dual Configuration System
Connect LAN2 connector of CCN System #0 and the maintenance PC with a LAN cable.



Note: Do not connect a cable to any LAN connector other than LAN2 connector.

3

Send a ping request from the maintenance PC to the default IP address of the active (ACT) interface for LAN2 (10.1.101.4/24) and verify connectivity.

If no response is confirmed, check the settings including the network configuration and cable connection.

6.4 System Configuration Data Assignment

This section explains the data assignment to start up the RNIP system.

1

Set the system time with either of the ANTPL or ATIM command. **Note 1**

- ANTPL - SNTP Setting

Time information for the system is taken in from specified SNTP server. System time is automatically adjusted periodically by setting the cycle.

IP address of DNS server need to be assigned by ADTM command when SNTP is registered by domain name.

Note 2

- ATIM - Date and Time Setting

Specify the current year, month, day, and time (hour, minute, second). System use the specified clock information during its operation. Refer to Operation and Maintenance Manual when you want to change the system time setting.

Note1: There are some conditions for system clock setting depending on combinations of a CCN and RNs whether they are Appliance Model or Prepackaged Server Model. For the details, refer to [2. System Time Setting](#) in Chapter 5.

Note2: SNTP service works once a day. When the start time is changed by ANTPL command after activating SNTP service for that day, the change takes effect on the following day. Activate SNTP service manually by pressing Execute button to activate immediately.

Example:

- 1) Start time for SNTP service is set to 01:00
- 2) At 03:00, the start time is changed by ANTPL command from 01:00 to 05:00.
- 3) The next start time for SNTP service is 05:00 of the following day.

2

Execute the ASSW command to set Soft Switch Data for CCN System 0.

3

- (1) Click **CCN** in **Node Specification**.
- (2) Click **System 0** in **System Select**.
- (3) Click **Get** button.

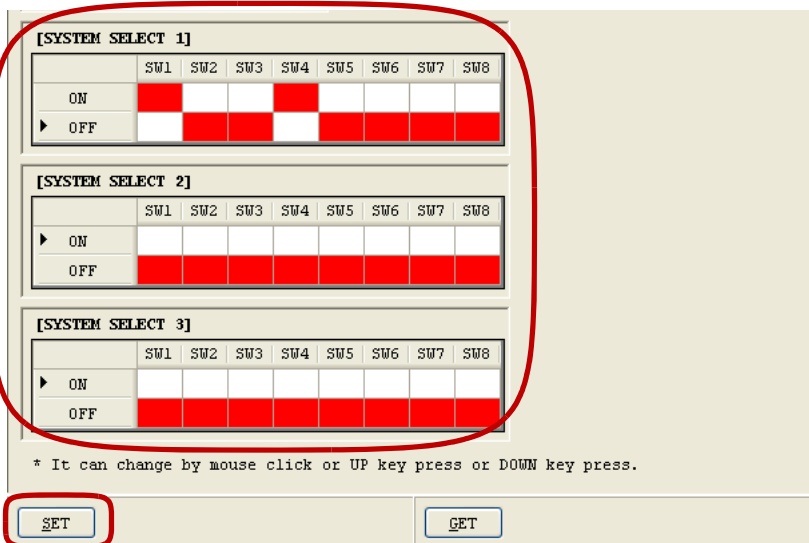
4

- (1) Set the following data for CCN System 0.

ASSW [SYSTEM SELECT]			Description	Setting Data
[SYSTEM SELECT 1]	SW1	ON	LAN connector 3 not detect fault	SET
		OFF	LAN connector 3 detect fault	
	SW4	ON	LAN connector 4 not detect fault	SET
		OFF	LAN connector 4 detect fault	
[SYSTEM SELECT 3]	SW7	ON	2-frame configuration	
		OFF	4-frame configuration	SET
	SW8	ON	RN	
		OFF	CCN	SET

- (2) Click **Set** button.

(1)



(2)

When the system is a single configuration, go to [STEP 9](#).

5

When the system is a dual configuration, set Soft Switch Data for CCN System 1.

6

- (3) Click **CCN** in **Node Specification**.
 (4) Click **System 1** in **System Select**.
 (5) Click **Get** button.

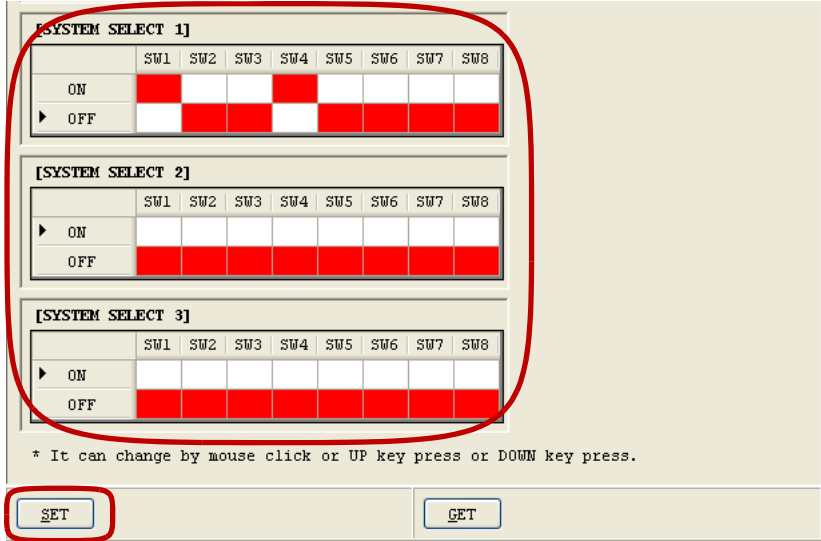
7

- (1) Set the following data for CCN System 1.

ASSW [SYSTEM SELECT]			Description	Setting Data
[SYSTEM SELECT 1]	SW1	ON	LAN connector 3 not detect fault	SET
		OFF	LAN connector 3 detect fault	
	SW4	ON	LAN connector 4 not detect fault	SET
		OFF	LAN connector 4 detect fault	
[SYSTEM SELECT 3]	SW7	ON	2-frame configuration	
		OFF	4-frame configuration	SET
	SW8	ON	RN	
		OFF	CCN	SET

- (2) Click **Set** button.

(1)



(2)

8

Set Soft Switch Data for RN System 0.

Note: Assign the Soft Switch Data to all RNs.

9

- (1) Click **LP** in **Node Specification**.
- (2) Enter a LP number in **LP No.** box.
- (3) Click **System 0** in **System Select**.
- (4) Click **Get** button.

- 10 (1) Set the following data for RN System 0.

ASSW [SYSTEM SELECT]			Description	Setting Data
[SYSTEM SELECT 1]	SW1	ON	LAN connector 3 not detect fault	SET
		OFF	LAN connector 3 detect fault	
	SW4	ON	LAN connector 4 not detect fault	SET
		OFF	LAN connector 4 detect fault	
[SYSTEM SELECT 3]	SW7	ON	2-frame configuration	
		OFF	4-frame configuration	
	SW8	ON	RN	SET
		OFF	CCN	

- 11 (2) Click **Set** button.

(1)

(2)

When the system is single configuration system, skip [STEP 12](#) to [STEP 14](#).

- 12 When the system is dual configuration system, set Soft Switch Data for RN System 1.

- 13
- (1) Click **LP** in **Node Specification**.
 - (2) Enter a LP number in **LP No.** box.
 - (3) Click **System 1** in **System Select**.
 - (4) Click **Get** button.

14

- (1) Set the following data for RN System 1.

ASSW [SYSTEM SELECT]			Description	Setting Data
[SYSTEM SELECT 1]	SW1	ON	LAN connector 3 not detect fault	SET
		OFF	LAN connector 3 detect fault	
	SW4	ON	LAN connector 4 not detect fault	SET
		OFF	LAN connector 4 detect fault	
[SYSTEM SELECT 3]	SW7	ON	2-frame configuration	
		OFF	4-frame configuration	
	SW8	ON	RN	SET
		OFF	CCN	

- (2) Click **Set** button.

(1)

[SYSTEM SELECT 1]

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
ON								
OFF								

[SYSTEM SELECT 2]

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
ON								
OFF								

[SYSTEM SELECT 3]

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
ON								
OFF								

* It can change by mouse click or UP key press or DOWN key press.

(2)

SET GET

15

- Execute the ASYD and ASYDL command to assign the following system.

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks
0		Number of Module Groups (MGs)	The number will be the last MG No. plus 1.
1		Number of Main Processors (Fixed to "0x01")	
3		Configuration of Time Division Switch 0x01/0x02=Single/Dual	

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks
30		Mounting capacity of Data Memory (1-6 Mbyte) Normally assign 02 HEX.	Assign 06 HEX when PSs, WLAN handsets or SP Controlled SIP terminals are accommodated. System initialization is not required for this data change.
31		Mounting capacity of Common Memory (1-4 Mbyte) Normally assign 02 HEX.	- Assign 0x04 if you use the following: - Guest Name Display - PS - Name Display - Internal Zone Paging - Guest Room Dial-In (Rotating Indial) - OAI/ACD - Assign 06 HEX when FLF FCCS service is used in OAI features.
58	0	Configuration of CPU 0=Single Configuration Within the RNIP system, all the CPUs in all nodes are in single configuration 1=Dual Configuration Within the RNIP system, at least one node is in dual configuration (See [System Data Assignment for CPU Single Configuration/Dual Configuration] .)	
64	0	TSW Encoding-law 0/1=μ-law/a-law	
79	6	OAI/ACD System 0/1=Used/Not used	

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks		
86	0	Routine Diagnosis Program Information (System Mes- sage “7-O”) 0/1=Not register/Register			
	1	Routine Diagnosis Program Information (System mes- sage “7-P”) 0/1=Not register/Register			
	2, 3	Fault Recovery for Trunk Ineffective Hold Detection			
		Bit3	Bit 2		Description
		0	0		Release all calls other than basic calls (two-way calls), and register all call status.
		0	1		Register all call status
		1	0		Release all calls and register all call status
1	1	Not used			
4	New/Old designation after SNMP Trap 0 = Stored as new message after SNMP Trap 1 = Stored as old message after SNMP Trap				
7	System Message Contents 0/1=Simplified/Detailed (Always assign “1”)				
87		Routine Diagnosis Program Start Time (Hour) Assign the values (00-23) in a decimal number.	When both INDEX 87 and INDEX 88 are assigned data FF HEX, the Routine Diagnosis Program is not executed		
88		Routine Diagnosis Program Start Time (Minute) Assign the values (00-59) in a decimal number.			
89		Specify routine diagnosis items.			
	1	Data Memory (DM) Check 0/1=Not required/Required			
	2	TSW Active/Standby Changeover for Dual Systems 0/1=Not required/Required			
	3	CPU Active/Standby Changeover for Dual Systems 0/1=Not required/Required			
	4	Trunk Ineffective Hold Check 0/1=Not required/Required			
	5	Trunk Ineffective Hold Detection 0/1=Not required/Required			
	6	Call Forwarding Memory Clear 0/1=Not required/Required	The data assignment of SYS1, Index 232 Bit 0, 1, 2 is required.		

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks															
90	1	Specify routine diagnosis items. Backup Call Forwarding and Individual Speed Calling Data, Name Display Data, User Assign Soft Key Data, Number Sharing Data, Call Block Data to HDD 0/1=Not required/Required	The data assignment of SYS1, Index 304 Bit 0, 1, 2 is required.															
91	4-7	PLO mounting condition: <table><tr><th>Bit 7</th><th>Bit 6</th><th>Bit 5</th><th>Bit 4</th><th>Description</th></tr><tr><td>0</td><td>1</td><td>0</td><td>0</td><td>When one PLO card is to be mounted</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>When two PLO cards are to be mounted</td></tr></table>	Bit 7	Bit 6	Bit 5	Bit 4	Description	0	1	0	0	When one PLO card is to be mounted	1	1	0	0	When two PLO cards are to be mounted	
Bit 7	Bit 6	Bit 5	Bit 4	Description														
0	1	0	0	When one PLO card is to be mounted														
1	1	0	0	When two PLO cards are to be mounted														
92	3	Assign “1.”																
192	2	CCN (No.0 System) Mounting Status 0/1=Not mounted/Mounted (Always assign “1”)	When ASYDL, Index58, bit0=1 is set, see [System Data Assignment for CPU Single Configuration/ Dual Configuration] .															
	3	CCN (No.1 System) Mounting Status 0/1=Not mounted/Mounted (For Dual CPU Configuration, assign “1”)																
194		MP Mounting Status (Fixed to “0x01”)																

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks
198	0	Local Partition 00 (No. 0 System) Mounting Status 0/1=Not mounted/Mounted	- Note the following to assign the LP number. (a) Those values will vary depending on your system configuration. (b) For the LP number, refer to Conditions for System Configuration. - For the RNIP system with FP95-111 V1 software, when the CCN is Prepackaged Server Model, assign "0 (Not mounted)" for the Local Partition (No.1 System) Mounting Status corresponding to the CCN. - For the RNIP system with FP95-112 V2 or later versions software, when ASYDL, Index 58, Bit 0=1 is set, see: [System Data Assignment for CPU Single Configuration/Dual Configuration].
	1	Local Partition 00 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 02 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 02 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
199	0	Local Partition 04 (No.0 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	
	1	Local Partition 04 (No.1 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	
	4	Local Partition 06 (No.0 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	
	5	Local Partition 06 (No.1 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	
200	0	Local Partition 08 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	1	Local Partition 08 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 10 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 10 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
201	0	Local Partition 12 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	1	Local Partition 12 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 14 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 14 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks
202	0	Local Partition 16 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	- Note the following to assign the LP number. (a) Those values will vary depending on your system configuration. (b) For the LP number, refer to Conditions for System Configuration. - For the RNIP system with FP95-111 V1 software, when the CCN is Prepackaged Server Model, assign "0 (Not mounted)" for the Local Partition (No.1 System) Mounting Status corresponding to the CCN. - For the RNIP system with FP95-112 V2 or later versions software, when ASYDL, Index 58, Bit 0=1 is set, see: [System Data Assignment for CPU Single Configuration/Dual Configuration].
	1	Local Partition 16 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 18 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 18 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
203	0	Local Partition 20 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	1	Local Partition 20 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 22 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 22 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
204	0	Local Partition 24 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	1	Local Partition 24 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 26 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 26 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
205	0	Local Partition 28 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	1	Local Partition 28 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 30 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 30 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
232	0	Call Forwarding-All Calls Clear 0/1=Not required/Required	
	1	Call Forwarding-Busy Line Clear 0/1=Not required/Required	
	2	Call Forwarding-Don't Answer Clear 0/1=Not required/Required	

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks
256	4	IOC0 0/1=Not Mounted/Mounted	
	5	IOC1 0/1=Not Mounted/Mounted	
304	0	Individual Speed Calling Data Save 0/1=Out/In service	This data is valid when SYS1 Index 90, Bit 1=1.
	1	Call Forwarding Data Save 0/1=Out/In service	
	3	Name Display Data Save 0/1=Out/In service	
	4	User Assign Soft Key Data Save 0/1=Out/In service	
	5	Number Sharing Data Save 0/1=Out/In service	
	6	Call Block Data Save 0/1=Out/In service	
305	1	CFL (Call Forwarding-Logout) Data Save 0/1=Out of service/In service	This data is valid when SYS1, Index 90, Bit 1=1.
	2	DtermIP SPD (One-Touch Speed Calling) Data Save 0/1=Out of service/In service	
	3	DM/LDM/NDM Data Save 0/1=Out of service/In service	
	4	Not used.	
	5	MA-ID Data Save 0/1=Out of service/In service	
	6	SIP Call Forwarding/Password Data Save 0/1 = Out of service/In service	
306	0	Mobility Access Data Save 0/1 = Out of service/In service	This data is valid when SYS1, Index 90, Bit 1=1.
		Local Phone book Data Save 0/1=Out of service/In service	

ASYDL SYS1

Index	Bit(s)	Detailed Information	Remarks
512		FPC (0x00 when standing alone)	
513		LDM (Local Data Memory) Usage Usually assign "0x01."	
514		NDM (Network Data Memory) Usage Usually assign "0x01" (0x00 when stand-a-lone).	

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Index	Bit(s)	Detailed Information	Remarks
556	0	PIR mounting status of PIR0 in IMG0. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG0. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG0. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG0. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG1. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG1. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG1. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG1. 0/1=Mounted/Virtual PIR is used	
557	0	PIR mounting status of PIR0 in IMG2. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG2. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG2. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG2. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG3. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG3. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG3. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG3. 0/1=Mounted/Virtual PIR is used	

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Index	Bit(s)	Detailed Information	Remarks
558	0	PIR mounting status of PIR0 in IMG4. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG4. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG4. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG4. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG5. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG5. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG5. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG5. 0/1=Mounted/Virtual PIR is used	
559	0	PIR mounting status of PIR0 in IMG6. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG6. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG6. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG6. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG7. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG7. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG7. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG7. 0/1=Mounted/Virtual PIR is used	

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Index	Bit(s)	Detailed Information	Remarks
560	0	PIR mounting status of PIR0 in IMG8. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG8. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG8. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG8. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG9. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG9. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG9. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG9. 0/1=Mounted/Virtual PIR is used	
561	0	PIR mounting status of PIR0 in IMG10. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG10. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG10. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG10. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG11. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG11. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG11. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG11. 0/1=Mounted/Virtual PIR is used	

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Index	Bit(s)	Detailed Information	Remarks
562	0	PIR mounting status of PIR0 in IMG12. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG12. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG12. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG12. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG13. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG13. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG13. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG13. 0/1=Mounted/Virtual PIR is used	
563	0	PIR mounting status of PIR0 in IMG14. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for CCN and each RN according to your system configuration. As for an Appliance Model CCN, set to 1 when no PIRs are mounted.
	1	PIR mounting status of PIR1 in IMG14. 0/1=Mounted/Virtual PIR is used	
	2	PIR mounting status of PIR2 in IMG14. 0/1=Mounted/Virtual PIR is used	
	3	PIR mounting status of PIR3 in IMG14. 0/1=Mounted/Virtual PIR is used	
	4	PIR mounting status of PIR0 in IMG15. 0/1=Mounted/Virtual PIR is used	
	5	PIR mounting status of PIR1 in IMG15. 0/1=Mounted/Virtual PIR is used	
	6	PIR mounting status of PIR2 in IMG15. 0/1=Mounted/Virtual PIR is used	
	7	PIR mounting status of PIR3 in IMG15. 0/1=Mounted/Virtual PIR is used	

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Index	Bit(s)	Detailed Information	Remarks																		
805	0	Office Data Periodic Refresh 0/1=Used/Not used	“Sequence Counter Check,” a periodic check at 8-seconds interval, is performed between Primary DM/LDM of SP and Secondary DM/LDM of each LP, to see the data integration within the System as a whole. At this time, if there is discrepancy between the mutual data, the system initiates the related data copy (from SP-ACT to LP-ACT) to assure the data integration within the system. This is called “Periodic Refresh.”																		
	1	Office Data Copy Pattern 0=Assigned/modified office data is automatically copied from SP to each LP (every data update) 1=Assigned/modified office data is manually copied by the CPDM command execution.	If data is changed from 0 to 1 during reconstruction work, it is mandatory to change back the data to 0 after work is finished.																		
	2	System message “36-A: Office Data Copy Status Notification” output related to the notification of system data copying state. 0/1=Out of service/In service																			
863	3	LOC-ID of IPPAD 0/1=Fixed to 0/Per network address																			
957		Network Data Memory (NDM) expanded memory block usage. Assign “1 (the memory block is used)” to the corresponding bit. <table><tr><th>Bit</th><th>Memory Block</th></tr><tr><td>Bit 0</td><td>NDM Memory Block #8</td></tr><tr><td>Bit 1</td><td>NDM Memory Block #9</td></tr><tr><td>Bit 2</td><td>NDM Memory Block #10</td></tr><tr><td>Bit 3</td><td>NDM Memory Block #11</td></tr><tr><td>Bit 4</td><td>NDM Memory Block #12</td></tr><tr><td>Bit 5</td><td>NDM Memory Block #13</td></tr><tr><td>Bit 6</td><td>NDM Memory Block #14</td></tr><tr><td>Bit 7</td><td>NDM Memory Block #15</td></tr></table>	Bit	Memory Block	Bit 0	NDM Memory Block #8	Bit 1	NDM Memory Block #9	Bit 2	NDM Memory Block #10	Bit 3	NDM Memory Block #11	Bit 4	NDM Memory Block #12	Bit 5	NDM Memory Block #13	Bit 6	NDM Memory Block #14	Bit 7	NDM Memory Block #15	Note the following conditions: • The data size is 2MB per memory block. • This Index is fixed to 00H except when Index 514 = FFH. • When the Network Data Memory is not enough, change the value from 01H → 03H → 07H → 0FH → 1FH → 3FH → 7FH → FFH. Avoid having a gap between memory blocks. • System Initialization is not required for changing this data. • To delete a memory block, execute the DDMO command and press the “Detail” button; a memory block can be deleted only when the Used-size of the relevant memory block (2MB) is 4,096 bytes.
Bit	Memory Block																				
Bit 0	NDM Memory Block #8																				
Bit 1	NDM Memory Block #9																				
Bit 2	NDM Memory Block #10																				
Bit 3	NDM Memory Block #11																				
Bit 4	NDM Memory Block #12																				
Bit 5	NDM Memory Block #13																				
Bit 6	NDM Memory Block #14																				
Bit 7	NDM Memory Block #15																				

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Index	Bit(s)	Detailed Information	Remarks																																																											
958	4-6	Transaction Timer for external LAN2 continuous failure on a PCI card. A failure message is sent from external LAN2 to SP to request CPU changeover when the number of failure reaches the value assigned here. 0-7 counts (1 count=5 seconds, supervising 0-35 seconds to detect external LAN2 failure)	Recommended value: 10 sec (Bit 6=0, Bit 5=1, Bit 4=0) This data is valid when Bit 7=1. The Transaction Timer is not activated if any failure occurs on Layer 2 or higher part simultaneously during supervising external LAN2.																																																											
		Note: System Changeover Time depending on Index 958 and 1344 setting data:																																																												
		<table><tr><th>Index</th><th colspan="4">Setting Value</th><th rowspan="3">System Changeover Start Time</th></tr><tr><th>958</th><th>Bit 7</th><th>Bit 6</th><th>Bit 5</th><th>Bit 4</th></tr><tr><th>1134</th><th>Bit 3</th><th>Bit 2</th><th>Bit 1</th><th>Bit 0</th></tr><tr><td rowspan="8"></td><td>1</td><td>0</td><td>0</td><td>0</td><td>Starts immediately and finishes within 12 seconds.</td></tr><tr><td>1</td><td>0</td><td>0</td><td>1</td><td>Starts 6 to 8 seconds later and finishes within 12 sec.</td></tr><tr><td>1</td><td>0</td><td>1</td><td>0</td><td>Starts 10 to 12 seconds later and finishes within 12 sec.</td></tr><tr><td>1</td><td>0</td><td>1</td><td>1</td><td>Starts 16 to 17 seconds later and finishes within 12 sec.</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>Starts 20 to 22 seconds later and finishes within 12 sec.</td></tr><tr><td>1</td><td>1</td><td>0</td><td>1</td><td>Starts 26 to 27 seconds later and finishes within 12 sec.</td></tr><tr><td>1</td><td>1</td><td>1</td><td>0</td><td>Starts 30 to 32 seconds later and finishes within 12 sec.</td></tr><tr><td>1</td><td>1</td><td>1</td><td>1</td><td>Starts 37 to 38 seconds later and finishes within 12 sec.</td></tr></table>				Index	Setting Value				System Changeover Start Time	958	Bit 7	Bit 6	Bit 5	Bit 4	1134	Bit 3	Bit 2	Bit 1	Bit 0		1	0	0	0	Starts immediately and finishes within 12 seconds.	1	0	0	1	Starts 6 to 8 seconds later and finishes within 12 sec.	1	0	1	0	Starts 10 to 12 seconds later and finishes within 12 sec.	1	0	1	1	Starts 16 to 17 seconds later and finishes within 12 sec.	1	1	0	0	Starts 20 to 22 seconds later and finishes within 12 sec.	1	1	0	1	Starts 26 to 27 seconds later and finishes within 12 sec.	1	1	1	0	Starts 30 to 32 seconds later and finishes within 12 sec.	1	1	1	1	Starts 37 to 38 seconds later and finishes within 12 sec.
		Index	Setting Value				System Changeover Start Time																																																							
		958	Bit 7	Bit 6	Bit 5	Bit 4																																																								
		1134	Bit 3	Bit 2	Bit 1	Bit 0																																																								
			1	0	0	0	Starts immediately and finishes within 12 seconds.																																																							
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			1	0	1	0	Starts 10 to 12 seconds later and finishes within 12 sec.																																																							
			1	0	1	1	Starts 16 to 17 seconds later and finishes within 12 sec.																																																							
1	1		0	0	Starts 20 to 22 seconds later and finishes within 12 sec.																																																									
1	1		0	1	Starts 26 to 27 seconds later and finishes within 12 sec.																																																									
1	1		1	0	Starts 30 to 32 seconds later and finishes within 12 sec.																																																									
1	1		1	1	Starts 37 to 38 seconds later and finishes within 12 sec.																																																									
7	CPU changeover activation when LAN2 Connector failure occurs. 0/1=CPU changeover is not activated/Activated																																																													
1026	0	PIR usage of PIR0 in IMG0 0/1=Not mounted/Mounted																																																												
	1	PIR usage of PIR1 in IMG0 0/1=Not mounted/Mounted																																																												
	2	PIR usage of PIR2 in IMG0 0/1=Not mounted/Mounted																																																												
	3	PIR usage of PIR3 in IMG0 0/1=Not mounted/Mounted																																																												
	4	PIR usage of PIR0 in IMG1 0/1=Not mounted/Mounted																																																												
	5	PIR usage of PIR1 in IMG1 0/1=Not mounted/Mounted																																																												
	6	PIR usage of PIR2 in IMG1 0/1=Not mounted/Mounted																																																												
	7	PIR usage of PIR3 in IMG1 0/1=Not mounted/Mounted																																																												

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Index	Bit(s)	Detailed Information	Remarks
1027	0	PIR usage of PIR0 in IMG2 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG2 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG2 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG2 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG3 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG3 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG3 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG3 0/1=Not mounted/Mounted	
1028	0	PIR usage of PIR0 in IMG4 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG4 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG4 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG4 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG5 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG5 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG5 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG5 0/1=Not mounted/Mounted	

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Index	Bit(s)	Detailed Information	Remarks
1029	0	PIR usage of PIR0 in IMG6 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG6 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG6 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG6 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG7 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG7 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG7 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG7 0/1=Not mounted/Mounted	
1030	0	PIR usage of PIR0 in IMG8 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG8 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG8 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG8 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG9 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG9 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG9 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG9 0/1=Not mounted/Mounted	

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Index	Bit(s)	Detailed Information	Remarks
1031	0	PIR usage of PIR0 in IMG10 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG10 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG10 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG10 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG11 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG11 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG11 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG11 0/1=Not mounted/Mounted	
1032	0	PIR usage of PIR0 in IMG12 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG12 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG12 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG12 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG13 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG13 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG13 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG13 0/1=Not mounted/Mounted	

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Index	Bit(s)	Detailed Information	Remarks
1033	0	PIR usage of PIR0 in IMG14 0/1=Not mounted/Mounted	
	1	PIR usage of PIR1 in IMG14 0/1=Not mounted/Mounted	
	2	PIR usage of PIR2 in IMG14 0/1=Not mounted/Mounted	
	3	PIR usage of PIR3 in IMG14 0/1=Not mounted/Mounted	
	4	PIR usage of PIR0 in IMG15 0/1=Not mounted/Mounted	
	5	PIR usage of PIR1 in IMG15 0/1=Not mounted/Mounted	
	6	PIR usage of PIR2 in IMG15 0/1=Not mounted/Mounted	
	7	PIR usage of PIR3 in IMG15 0/1=Not mounted/Mounted	
1125	1	Re-routing of calls placed to a legacy terminal/IP Station in the event of a network failure 0/1=Out of service/In service	Assign the data with the ASYDN command when the node belongs to an FCCS network.
	2	Re-routing of calls placed to a PS/SP Controlled SIP terminal in the event of a network failure 0/1=Out of service/In service	
	3	Provides a beep when a legacy terminal/IP terminal call or PS call is automatically rerouted in the event of a network failure 0/1=Out of service/In service	
	4	Re-routing of calls placed on a virtual line in the event of a network failure 0/1=Out of service/In service	
	6	Re-routing of incoming TIE Line calls in the event of a network failure 0/1=Out of service/In service	
	7	Re-routing of incoming C.O. calls in the event of a network failure 0/1=Out of service/In service	

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Index	Bit(s)	Detailed Information	Remarks																													
1133	0	Flexible Route Re-routing For Network Failure 0/1=Out of service/In service	Assign the data with the ASYDN command when the node belongs to an FCCS network.																													
	1	Flexible Route Re-routing For Network Failure - Attendant 0/1=Out of service/In service Note: Set this bit to enable this feature for attendant incoming calls.																														
	2	Flexible Network Re-routing - FCCS link all busy 0/1=Out of service/In service																														
1134	0	MA-ID for Attendant Console (Most Significant Byte) Example: For MA-ID=16, set Index 1134=10 (Hex), Index 1135=00 (Hex)	Assign the data with the ASYDN command when the node belongs to an FCCS network.																													
	1																															
	2																															
	3																															
	4																															
	5																															
	6																															
	7																															
1135	0	MA-ID for Attendant Console (Least Significant Byte) Example: For MA-ID=16, set Index 1134=10 (Hex), Index 1135=00 (Hex)	Assign the data with the ASYDN command when the node belongs to an FCCS network.																													
	1																															
	2																															
	3																															
	4																															
	5																															
	6																															
	7																															
1216	0-2	PBUS over IP Retransmission Timer	If other than the value in the table is assigned, the value is set as 128 ms (Standard).																													
		<table><tr><th>Bit 2</th><th>Bit 1</th><th>Bit 0</th><th>Value</th></tr><tr><td>0</td><td>0</td><td>0</td><td>128 ms (Standard)</td></tr><tr><td>0</td><td>0</td><td>1</td><td>32 ms</td></tr><tr><td>0</td><td>1</td><td>0</td><td>64 ms</td></tr><tr><td>0</td><td>1</td><td>1</td><td>256 ms</td></tr><tr><td>1</td><td>0</td><td>0</td><td>512 ms</td></tr><tr><td>1</td><td>0</td><td>1</td><td>1024 ms</td></tr><tr><td>1</td><td>1</td><td>0</td><td>2048 ms</td></tr></table>		Bit 2	Bit 1	Bit 0	Value	0	0	0	128 ms (Standard)	0	0	1	32 ms	0	1	0	64 ms	0	1	1	256 ms	1	0	0	512 ms	1	0	1	1024 ms	1
Bit 2	Bit 1	Bit 0	Value																													
0	0	0	128 ms (Standard)																													
0	0	1	32 ms																													
0	1	0	64 ms																													
0	1	1	256 ms																													
1	0	0	512 ms																													
1	0	1	1024 ms																													
1	1	0	2048 ms																													
1221		PBI No. where an IOC circuit card is accommodated.																														

ASYDL SYS1

Index	Bit(s)	Detailed Information	Remarks
1222	0-3	Periodical Health Check Execution Timer Between CCN and RN: Bits(1-15) x 2 seconds (0=2sec)	
	4-7	Periodical Health Check Time-out Detection Timer Between CCN and RN: Bits(1-15) x 10 seconds (0=30sec)	
1223	0-3	Periodical Health Check Execution Timer Among RNs: Bits(1-15) x 4 seconds (0=30sec)	
	4-7	Periodical Health Check Time-out Detection Timer Among RNs: Bits(1-15) x 4 seconds (0=8sec)	
1224	0-3	Waiting Timer for CPU Active/Standby Changeover: Bits(1-15) x 10 seconds (0=60sec)	

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Index	Bit(s)	Detailed Information	Remarks															
1225	0	Command Restriction of Remote Node=0 [Enabled (default)]																
	1, 2	A call between TDM terminals at different RNs. <table><tr><th>Bit 2</th><th>Bit 1</th><th>Meanings</th></tr><tr><td>0</td><td>0</td><td>Share all IPPAD with other connections.</td></tr><tr><td>0</td><td>1</td><td>Use IPPAD for Connection between TDM terminals. If all the IPPAD is busy, the call will be restricted.</td></tr><tr><td>1</td><td>0</td><td>Use IPPAD for Connection between TDM terminals. If all the IPPAD is busy, normal IPPAD will be searched and seized.</td></tr><tr><td>1</td><td>1</td><td>Not used (operate as 10 if assigned).</td></tr></table>	Bit 2	Bit 1	Meanings	0	0	Share all IPPAD with other connections.	0	1	Use IPPAD for Connection between TDM terminals. If all the IPPAD is busy, the call will be restricted.	1	0	Use IPPAD for Connection between TDM terminals. If all the IPPAD is busy, normal IPPAD will be searched and seized.	1	1	Not used (operate as 10 if assigned).	If use of IPPAD for Connection between TDM terminals is assigned in this index, assign ACRD command in addition, to make it valid. Refer to IP-PAD Related Data for details.
		Bit 2	Bit 1	Meanings														
		0	0	Share all IPPAD with other connections.														
		0	1	Use IPPAD for Connection between TDM terminals. If all the IPPAD is busy, the call will be restricted.														
1		0	Use IPPAD for Connection between TDM terminals. If all the IPPAD is busy, normal IPPAD will be searched and seized.															
1	1	Not used (operate as 10 if assigned).																
5	Flexible Route Re-routing for RNIP in Survival Mode 0/1=disabled/enabled																	
6, 7	Method of restarting the RN after the office data transfer from the CCN to the RN when the RN changes from survival mode to normal mode (Available from FP95-112 V2) <table><tr><th>Bit 7</th><th>Bit 6</th><th>Meanings</th></tr><tr><td>0</td><td>0</td><td>Execute Non Load Initial after the office data transfer (either of DM, LDM or NDM) from the CCN to the RN.</td></tr><tr><td>0</td><td>1</td><td>Execute Non Load Initial after the office data transfer (either of DM or LDM) from the CCN to the RN. Note</td></tr><tr><td>1</td><td>0</td><td rowspan="2">This data setting is prohibited.</td></tr><tr><td>1</td><td>1</td></tr></table>	Bit 7	Bit 6	Meanings	0	0	Execute Non Load Initial after the office data transfer (either of DM, LDM or NDM) from the CCN to the RN.	0	1	Execute Non Load Initial after the office data transfer (either of DM or LDM) from the CCN to the RN. Note	1	0	This data setting is prohibited.	1	1	Even if the assigned data is transferred from a CCN to an RN normally when the mode changes to normal mode, it does not guarantee that the data is correctly transferred without a system initialization. Be sure to assign this data when all RNs are in normal mode. If an RN is not authorized or in survival mode, the RN side system initialization with the SINZ command may be necessary to reflect the edited CCN side data to the RN depending on the data.		
	Bit 7	Bit 6	Meanings															
	0	0	Execute Non Load Initial after the office data transfer (either of DM, LDM or NDM) from the CCN to the RN.															
	0	1	Execute Non Load Initial after the office data transfer (either of DM or LDM) from the CCN to the RN. Note															
	1	0	This data setting is prohibited.															
1	1																	

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Index	Bit(s)	Detailed Information	Remarks																																																																
1344	0-2	Transaction Timer for external LAN1 continuous failure on a PCI card. A failure message is sent from external LAN1 to SP to request CPU changeover when the number of failures reaches the value assigned here. 0-7 counts (1 count=5 seconds, supervising 0-35 seconds to detect external LAN1 failure)	Recommended value: 10 sec (Bit 2=0, Bit 1=1, Bit 0=0) This data is valid when Bit 3=1. The Transaction Timer is not activated if any failure occurs on Layer 2 or higher part simultaneously during supervising external LAN1.																																																																
	3	CPU changeover activation when LAN1 Connector failure occurs. 0/1=CPU changeover is not activated/Activated																																																																	
		Note: System Changeover Time depending on Index 958 and 1344 setting data:																																																																	
		<table><tr><th>Index</th><th colspan="4">Setting Value</th><th rowspan="3">System Changeover Start Time</th></tr><tr><th>958</th><th>Bit 7</th><th>Bit 6</th><th>Bit 5</th><th>Bit 4</th></tr><tr><th>1344</th><th>Bit 3</th><th>Bit 2</th><th>Bit 1</th><th>Bit 0</th></tr><tr><td></td><td>1</td><td>0</td><td>0</td><td>0</td><td>Starts immediately and finishes within 12 seconds.</td></tr><tr><td></td><td>1</td><td>0</td><td>0</td><td>1</td><td>Starts 6 to 8 seconds later and finishes within 12 sec.</td></tr><tr><td></td><td>1</td><td>0</td><td>1</td><td>0</td><td>Starts 10 to 12 seconds later and finishes within 12 sec.</td></tr><tr><td></td><td>1</td><td>0</td><td>1</td><td>1</td><td>Starts 16 to 17 seconds later and finishes within 12 sec.</td></tr><tr><td></td><td>1</td><td>1</td><td>0</td><td>0</td><td>Starts 20 to 22 seconds later and finishes within 12 sec.</td></tr><tr><td></td><td>1</td><td>1</td><td>0</td><td>1</td><td>Starts 26 to 27 seconds later and finishes within 12 sec.</td></tr><tr><td></td><td>1</td><td>1</td><td>1</td><td>0</td><td>Starts 30 to 32 seconds later and finishes within 12 sec.</td></tr><tr><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td>Starts 37 to 38 seconds later and finishes within 12 sec.</td></tr></table>	Index	Setting Value				System Changeover Start Time	958	Bit 7	Bit 6	Bit 5	Bit 4	1344	Bit 3	Bit 2	Bit 1	Bit 0		1	0	0	0	Starts immediately and finishes within 12 seconds.		1	0	0	1	Starts 6 to 8 seconds later and finishes within 12 sec.		1	0	1	0	Starts 10 to 12 seconds later and finishes within 12 sec.		1	0	1	1	Starts 16 to 17 seconds later and finishes within 12 sec.		1	1	0	0	Starts 20 to 22 seconds later and finishes within 12 sec.		1	1	0	1	Starts 26 to 27 seconds later and finishes within 12 sec.		1	1	1	0	Starts 30 to 32 seconds later and finishes within 12 sec.		1	1	1	1	Starts 37 to 38 seconds later and finishes within 12 sec.	
Index	Setting Value				System Changeover Start Time																																																														
958	Bit 7	Bit 6	Bit 5	Bit 4																																																															
1344	Bit 3	Bit 2	Bit 1	Bit 0																																																															
	1	0	0	0	Starts immediately and finishes within 12 seconds.																																																														
	1	0	0	1	Starts 6 to 8 seconds later and finishes within 12 sec.																																																														
	1	0	1	0	Starts 10 to 12 seconds later and finishes within 12 sec.																																																														
	1	0	1	1	Starts 16 to 17 seconds later and finishes within 12 sec.																																																														
	1	1	0	0	Starts 20 to 22 seconds later and finishes within 12 sec.																																																														
	1	1	0	1	Starts 26 to 27 seconds later and finishes within 12 sec.																																																														
	1	1	1	0	Starts 30 to 32 seconds later and finishes within 12 sec.																																																														
	1	1	1	1	Starts 37 to 38 seconds later and finishes within 12 sec.																																																														

[System Data Assignment for CPU Single Configuration/Dual Configuration]

From FP95-112 V2, set the system data for each node CPUs as follows:

Note 1: Set the data according to the actual configuration.

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Index	Bit(s)	Detailed Information	Appliance Model CCN		Prepackaged Server Model CCN
			Single	Dual	Single
192	0-1	Not used.	04H	0CH	04H
	2	CCN (No.0 System) Mounting Status 0/1=Not mounted/Mounted (Always assign "1")			
	3	CCN (No.1 System) Mounting Status 0/1=Not mounted/Mounted			

ASYD SYS1 Index 198 - 199

Index	Bit(s)	Detailed Information	Appliance Model CCN/ Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x30				PBI: 0x38		PBI: 0x30
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
198	0	Local Partition 00 (No. 0 System) Mounting Status 0/1=Not mounted/Mounted	1 (Fixed)	1 (Fixed)	1 (Fixed)	1 (Fixed)			1 (Fixed)
	1	Local Partition 00 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	1 (Fixed)	0 (Fixed)	1 (Fixed)			0 (Fixed)
	4	Local Partition 02 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1	0/1 Note 1	0/1 Note 1			1 (Fixed)
	5	Local Partition 02 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	0 (Fixed)	0/1 Note 1			0 (Fixed)

ASYD SYS1 Index 198 - 199

Index	Bit(s)	Detailed Information	Appliance Model CCN/ Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x30				PBI: 0x38		PBI: 0x30
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
199	0	Local Partition 04 (No.0 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	0/1 Note 1	0/1 Note 1			1 (Fixed)	1 (Fixed)	1 (Fixed)
	1	Local Partition 04 (No.1 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	0 (Fixed)	0/1 Note 1			0 (Fixed)	1 (Fixed)	0 (Fixed)
	4	Local Partition 06 (No 0 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	0/1 Note 1	0/1 Note 1			0/1 Note 1	0/1 Note 1	1 (Fixed)
	5	Local Partition 06 (No.1 System) Mounting Status 0/1=Not mounted/Mounted (Standard Settings: 0x00)	0 (Fixed)	0/1 Note 1			0 (Fixed)	0/1 Note 1	0 (Fixed)

ASYD SYS1 Index 200 - 201

Index	Bit(s)	Detailed Information	Appliance Model CCN / Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x40				PBI: 0x48		PBI: 0x40
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
200	0	Local Partition 08 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	1 (Fixed)	1 (Fixed)	1 (Fixed)	1 (Fixed)			1 (Fixed)
	1	Local Partition 08 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	1 (Fixed)	0 (Fixed)	1 (Fixed)			0 (Fixed)
	4	Local Partition 10 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1	0/1 Note 1	0/1 Note 1			1 (Fixed)
	5	Local Partition 10 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	0 (Fixed)	0/1 Note 1			0 (Fixed)

ASYD SYS1 Index 200 - 201

Index	Bit(s)	Detailed Information	Appliance Model CCN / Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x40				PBI: 0x48		PBI: 0x40
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
201	0	Local Partition 12 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1			1 (Fixed)	1 (Fixed)	1 (Fixed)
	1	Local Partition 12 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1			0 (Fixed)	1 (Fixed)	0 (Fixed)
	4	Local Partition 14 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1			0/1 Note 1	0/1 Note 1	1 (Fixed)
	5	Local Partition 14 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1			0 (Fixed)	0/1 Note 1	0 (Fixed)

ASYD SYS1 Index 202 - 203

Index	Bit(s)	Detailed Information	Appliance Model CCN / Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x50				PBI: 0x58		PBI: 0x50
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
202	0	Local Partition 16 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	1 (Fixed)	1 (Fixed)	1 (Fixed)	1 (Fixed)			1 (Fixed)
	1	Local Partition 16 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	1 (Fixed)	0 (Fixed)	1 (Fixed)			0 (Fixed)
	4	Local Partition 18 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1	0/1 Note 1	0/1 Note 1			1 (Fixed)
	5	Local Partition 18 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	0 (Fixed)	0/1 Note 1			0 (Fixed)

ASYD SYS1 Index 202 - 203

Index	Bit(s)	Detailed Information	Appliance Model CCN / Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x50				PBI: 0x58		PBI: 0x50
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
203	0	Local Partition 20 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1			1 (Fixed)	1 (Fixed)	1 (Fixed)
	1	Local Partition 20 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1			0 (Fixed)	1 (Fixed)	0 (Fixed)
	4	Local Partition 22 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1			0/1 Note 1	0/1 Note 1	1 (Fixed)
	5	Local Partition 22 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1			0 (Fixed)	0/1 Note 1	0 (Fixed)

ASYD SYS1 Index 204 - 205

Index	Bit(s)	Detailed Information	Appliance Model CCN / Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x60				PBI: 0x68		PBI: 0x60
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
204	0	Local Partition 24 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	1 (Fixed)	1 (Fixed)	1 (Fixed)	1 (Fixed)			1 (Fixed)
	1	Local Partition 24 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	1 (Fixed)	0 (Fixed)	1 (Fixed)			0 (Fixed)
	4	Local Partition 26 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1	0/1 Note 1	0/1 Note 1			1 (Fixed)
	5	Local Partition 26 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	0 (Fixed)	0/1 Note 1			0 (Fixed)

ASYD SYS1 Index 204 - 205

Index	Bit(s)	Detailed Information	Appliance Model CCN / Appliance Model RN						Prepackaged Server Model CCN
			PBI: 0x60				PBI: 0x68		PBI: 0x60
			4-IMG		2-IMG		2-IMG		4-IMG
			Single	Dual	Single	Dual	Single	Dual	Single
205	0	Local Partition 28 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1			1 (Fixed)	1 (Fixed)	1 (Fixed)
	1	Local Partition 28 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1			0 (Fixed)	1 (Fixed)	0 (Fixed)
	4	Local Partition 30 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1			0/1 Note 1	0/1 Note 1	1 (Fixed)
	5	Local Partition 30 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1			0 (Fixed)	0/1 Note 1	0 (Fixed)

16 Execute the AUNT command to assign unit data:

- MG: Module Group Number
- TYPE: 1 (Port Interface Rack (PIR))
- UNIT: 1/2 (Mounted/Not Mounted)

Note: Module Group Number (MG) will vary depending on the system configuration.

17 Execute the ARPM command to assign the office name, changeover mode, and transfer mode of RN.

- 18**
- (1) Enter a LP number in **LP No.** box.
 - (2) Click **Get** button.
 - (3) Enter an office name to **Office Name** (max. 20 characters). (Optional)
 - (4) Select the mode of **Changeover Mode** and **Transfer Mode**.
 - (5) Click **Set** button.
 - (6) Click **Exit** button to exit the window.

6.5 LP (LAN2) Setting

- 1 Execute the ADTM command to assign the network, routing and NIC card data for an LP LAN2 connector.
- 2
 - (1) Select **LP** for **CCN/LP**.
 - (2) Select a number for **LP No.**
 - (3) Select **LAN2** for **Select LAN Interface**.
 - (4) Click **Get** button.
- 3
 - (1) Click the **IP Address** tab.
 - (2) Set the following corresponding to your actual network environment.
 - IP Address (ACT)
 - IP Address (System-0) *Only for a dual CPU configuration system
 - IP Address (System-1) *Only for a dual CPU configuration system
 - Subnet Mask
 - (3) Click the **Apply** button.

(1) IP Address | Routing | NIC | Options

(2)

IP Address (ACT) 10 . 1 . 101 . 33

IP Address (System-0) 10 . 1 . 101 . 34

IP Address (System-1) 10 . 1 . 101 . 35

Subnet Mask 255 . 255 . 255 . 0

* IP Address (System-0) and IP Address (System-1) can be input only with a Dual System.

(3) Apply

Note 3

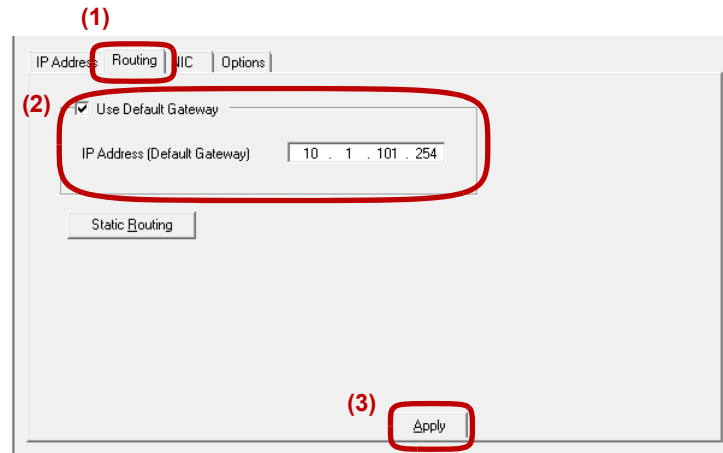
Note3: The figure shows when the RN is an Appliance Model dual configuration system as an example. When the RN is a single configuration system, the following parameters are not displayed.

- IP address (System-0)
- IP address (System-1)

- 4** The confirmation message is displayed. Click the **Yes** button to apply the change.

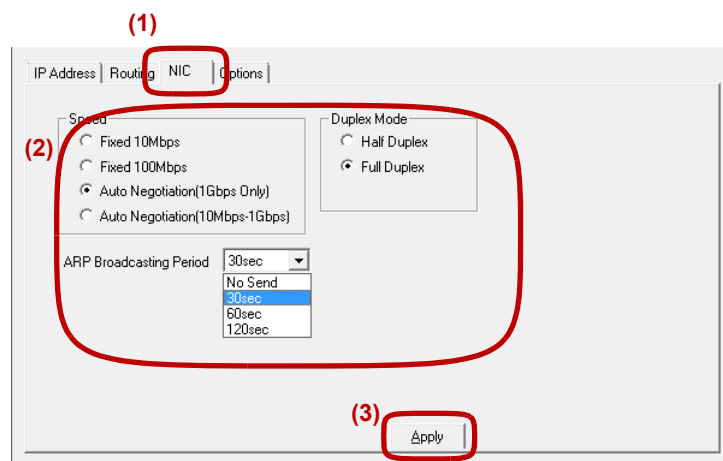
5

- (1) Click the **Routing** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
Click **Apply** button.



6

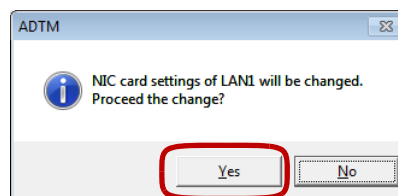
- (1) Click the **NIC** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.



Note: 30 sec is recommended for ARP Broadcasting Period.

7

The confirmation message is displayed. Click the **Yes** button to apply the change.



Note: For a node in a dual configuration, note the following:

- Be sure to disable spanning tree protocol (STP) on the data switch used for SV9500 LAN port. If STP is enabled, the length of disconnection time for packet communications may get long after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter (30 sec, 60 sec or 120 sec) in the NIC tab of ADTM command to both of LAN1 and LAN2. If CPU changeover occurs during a broadcast storm, there is a case where an IP address is not reflected due to Gratuitous ARP packet loss after the system changeover.

6.6 LP (LAN1) Setting

1 Execute the ADTM command to assign the network, routing and NIC card data for each RN LAN1 connector.

- 2**
- (1) Select **LP** for **CCN/LP**.
 - (2) Select a number for **LP No.**
 - (3) Select **LAN1** for **Select LAN Interface**.
 - (4) Click **Get** button.

- 3**
- (1) Click the **IP Address** tab.
 - (2) Set the following corresponding to your actual network environment.
 - IP Address (ACT)
 - IP Address (System-0) *Only for a dual CPU configuration system
 - IP Address (System-1) *Only for a dual CPU configuration system
 - Subnet Mask
 - (3) Click the **Apply** button.

The screenshot shows the 'IP Address' configuration window. The 'IP Address' tab is selected, indicated by a red circle and label (1). The window contains several input fields: 'IP Address (ACT)' with the value '10 . 1 . 101 . 30', 'IP Address (System-0)' with '10 . 1 . 101 . 31', 'IP Address (System-1)' with '10 . 1 . 101 . 32', and 'Subnet Mask' with '255 . 255 . 255 . 0'. These fields are grouped by a red circle and label (2). A red 'Note 4' is placed to the right of the System-0 and System-1 fields. At the bottom right, the 'Apply' button is circled in red and labeled (3). A small note at the bottom states: '* IP Address (System-0) and IP Address (System-1) can be input only with a Dual System.'

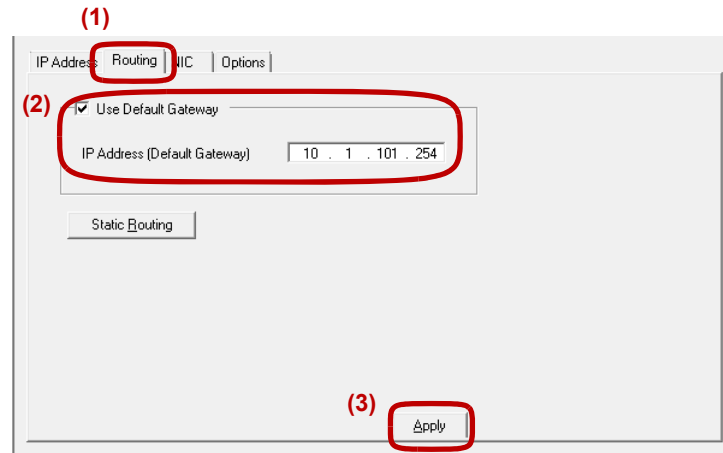
Note4: The figure shows when the RN is an Appliance Model dual configuration system as an example. When the RN is a single configuration system, the following parameters are not displayed.

- IP address (System-0)
- IP address (System-1)

4 The confirmation message is displayed. Click the **Yes** button to apply the change.

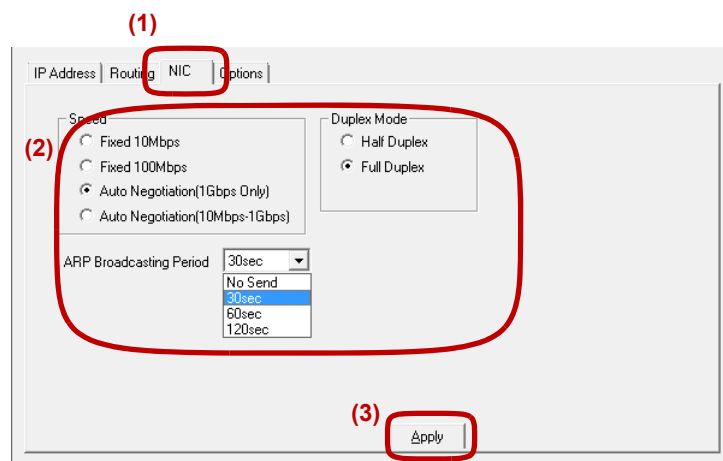
5

- (1) Click the **Routing** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.



6

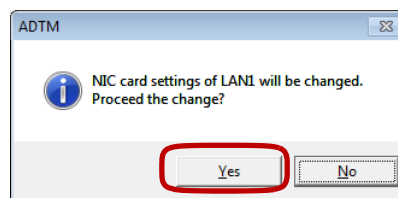
- (1) Click the **NIC** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.



Note: 30 sec is recommended for ARP Broadcasting Period.

7

The confirmation message is displayed. Click the **Yes** button to apply the change.



Note: For a node in a dual configuration, note the following:

- Be sure to disable spanning tree protocol (STP) on the data switch used for SV9500 LAN port. If STP is enabled, the length of disconnection time for packet communications may get long after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter (30 sec, 60 sec or 120 sec) in the NIC tab of ADTM command to both of LAN1 and LAN2. If CPU changeover occurs during a broadcast storm, there is a case where an IP address is not reflected due to Gratuitous ARP packet loss after the system changeover.

Repeat [6.5 LP \(LAN2\) Setting](#) and [6.6 LP \(LAN1\) Setting](#) until you finish configuring all RNs.

6.7 CCN (LAN2) Setting

1

- (1) Execute the ADTM command to assign an IP address of CCN (LAN2).
- (2) Select **CCN** for **CCN/LP**.
- (3) Select **LAN2** for **Select LAN Interface**.
- (4) Click **Get** button.

2

- (1) Click the **Routing** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.

(1) Routing tab selected.

(2) Use Default Gateway checked. IP Address (Default Gateway) set to 10 . 1 . 101 . 254.

(3) Apply button.

3

- (1) Click the **NIC** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.

(1) NIC tab selected.

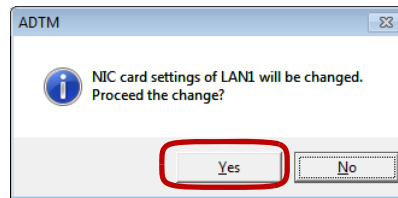
(2) Speed: Auto Negotiation(1Gbps Only) selected. Duplex Mode: Full Duplex selected. ARP Broadcasting Period: 30sec selected.

(3) Apply button.

Note: 30 sec is recommended for ARP Broadcasting Period.

4

The confirmation message is displayed. Click the **Yes** button to apply the change.

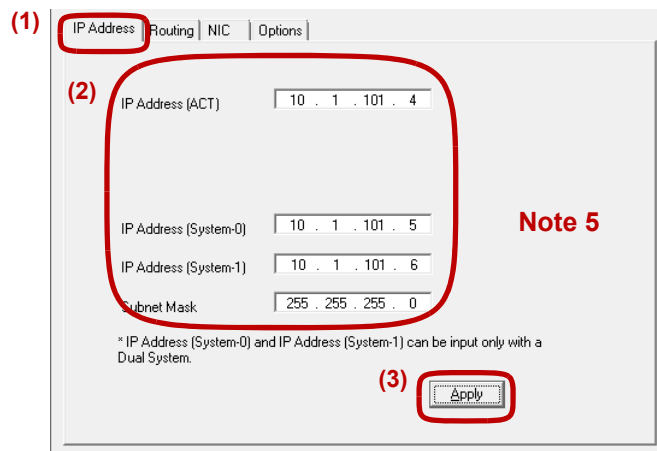


Note: For a node in a dual configuration, note the following:

- Be sure to disable spanning tree protocol (STP) on the data switch used for SV9500 LAN port. If STP is enabled, the length of disconnection time for packet communications may get long after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter (30 sec, 60 sec or 120 sec) in the NIC tab of ADTM command to both of LAN1 and LAN2. If CPU changeover occurs during a broadcast storm, there is a case where an IP address is not reflected due to Gratuitous ARP packet loss after the system changeover.

5

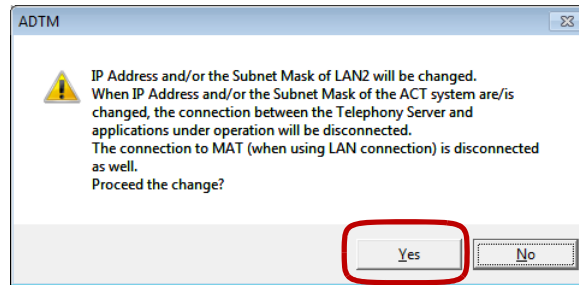
- (1) Click the **IP Address** tab.
- (2) Set the following corresponding to your actual network environment.
 - IP Address (ACT)
 - IP Address (System-0) *Only for a dual CPU configuration system
 - IP Address (System-1) *Only for a dual CPU configuration system
 - Subnet Mask
- (3) Click the **Apply** button.



Note5: The figure shows when the CCN is an Appliance Model dual configuration system as an example. When the CCN is an Appliance Model single configuration system or the CCN is a Prepackaged Server Model, the following parameters are not displayed.

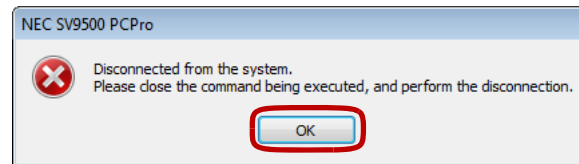
- IP address (System-0)
- IP address (System-1)

- 6 The following confirmation message will be displayed.
Click the **Yes** button to apply the modification.



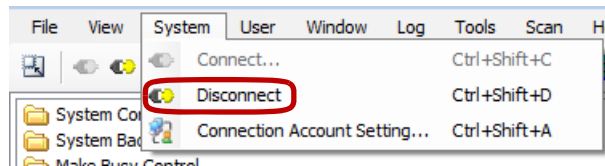
Point: The connection to PCPro will be disconnected when the data is modified.

- 7 The following message will be displayed by PCPro.
Click **OK** to close the message box.



- 8 Click the **Exit** button to exit the ADTM command.

- 9 Disconnect PCPro from the system.



Point: For detailed disconnecting procedure, refer to "Disconnecting the Communication Link" in Chapter 3: Setting Up PCPro in PCPro Setup Manual.

6.8 CCN (LAN1) Setting

1

- (1) Execute the ADTM command to assign an IP address of CCN (LAN1).
- (2) Select **CCN** for **CCN/LP**.
- (3) Select **LAN1** for **Select LAN Interface**.
- (4) Click **Get** button.

2

- (1) Click the **Routing** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.

The screenshot shows the 'Routing' tab selected. A red box highlights the 'Use Default Gateway' checkbox and the 'IP Address (Default Gateway)' field, which contains '10 . 1 . 101 . 254'. Another red box highlights the 'Apply' button at the bottom right.

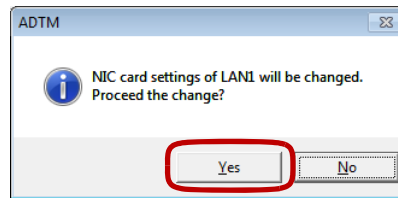
3

- (1) Click the **NIC** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click **Apply** button.

The screenshot shows the 'NIC' tab selected. A red box highlights the 'Speed' section, where 'Auto Negotiation(10Gbps Only)' is selected. Another red box highlights the 'Duplex Mode' section, where 'Full Duplex' is selected. A third red box highlights the 'ARP Broadcasting Period' dropdown menu, which is open and shows '30sec' selected. The 'Apply' button is at the bottom right.

Note: 30 sec is recommended for ARP Broadcasting Period.

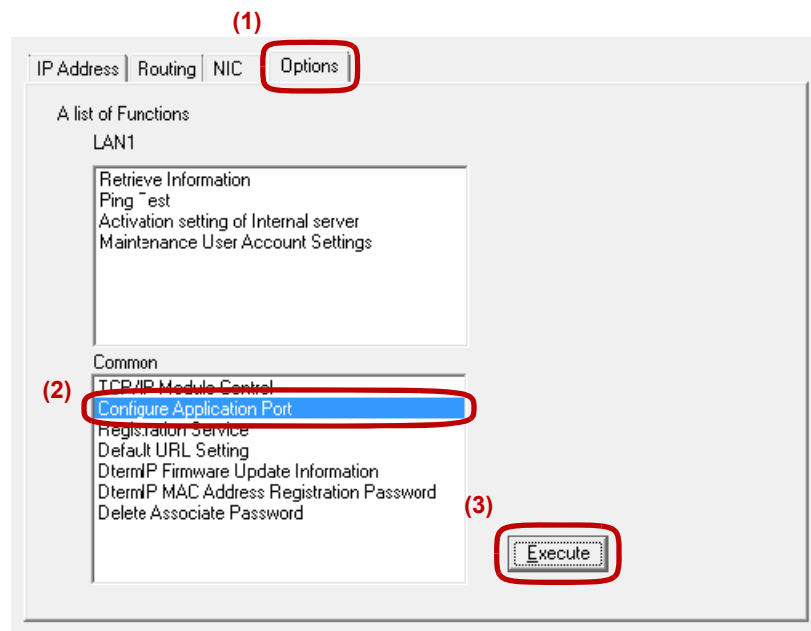
- 4 The confirmation message is displayed. Click the **Yes** button to apply the change.



Note: For a node in a dual configuration, note the following:

- Be sure to disable spanning tree protocol (STP) on the data switch used for SV9500 LAN port. If STP is enabled, the length of disconnection time for packet communications may get long after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter (30 sec, 60 sec or 120 sec) in the NIC tab of ADTM command to both of LAN1 and LAN2. If CPU changeover occurs during a broadcast storm, there is a case where an IP address is not reflected due to Gratuitous ARP packet loss after the system changeover.

- 5
- (1) Click the **Options** tab.
 - (2) In the **Common** list, select **Configure Application Port**.
 - (3) Click the **Execute** button.



6

- (1) Select **LAN1** under **LAN Interface to be used for Internal PHF**.
- (2) Select **LAN1** under **LAN Interface to be used for REG**.
- (3) Click the **Apply** button.
- (4) Click the **Close** button.

Configure Application Port

Configure Application Port	LAN Interface to be used	Port Number (1024-65534)	Default Value
MAT	(TCP) ☐ LAN1 ☒ LAN2	0	60000
SMDR	(TCP) ☐ LAN1 ☒ LAN2	0	60010
MCI	(TCP) ☐ LAN1 ☒ LAN2	0	60020
OAI	(TCP) ☐ LAN1 ☒ LAN2	0	60030
MIS	(TCP) ☐ LAN1 ☒ LAN2	0	60040
CS Report	(TCP) ☐ LAN1 ☒ LAN2	0	60080
PMS	(TCP) ☐ LAN1 ☒ LAN2	0	60050
MCC	(TCP) ☐ LAN1 ☒ LAN2	0	60190
CCIS Cluster	(TCP) ☐ LAN1 ☒ LAN2	0	60001
FCOS Cluster	(TCP) ☒ LAN1 ☐ LAN2	0	60210

*If you want to change Port Number of "FCOS Cluster", you must use AFCMN command.

Internal PHI-PRI	(TCP) ☐ LAN1 ☒ LAN2	0	64000
Internal PHC	☐ LAN1 ☒ LAN2		
Client	(TCP)	0	65030
Server	(TCP)	0	57000
(1) Internal PHF	(UDP) ☒ LAN1 ☐ LAN2	60180	60180
(2) REG	(UDP) ☒ LAN1 ☐ LAN2	0	3456
Internal PHE	(UDP)	60130	60130
Internal PHI-BRI	(UDP)	*Internal PHI-PRI and Internal PHI-BRI use the same Port Number.	
SR-MGC/NMS			
NMS	(TCP)	0	60060
Health Check Receive MGC - SR-MGC (Server)	(UDP)	0	60110
Health Check Send MGC - SR-MGC (Client)	(UDP)	0	60120
SR-MGC Charge MGC Side	(TCP)	0	60140
SR-MGC Charge SR-MGC Side	(TCP)	0	60150
DNS	(UDP) ☐ LAN1 ☒ LAN2	0	53
SNTP	(UDP) ☐ LAN1 ☒ LAN2	0	123
PBUS over IP	(UDP) ☒ LAN1 ☐ LAN2	0	60220
Internal SIP Handler	☐ LAN1 ☐ LAN2 ☒ LAN1(ACT2)		
SIP Signaling	(UDP)	0	5060
DRS Registration	(UDP)	0	60300
Negotiation	(UDP)	0	60301

*When the Port Number of "REG" is changed, it is necessary to set the same Port Number as DrsPort by the ASPC command. (SPconfig.conf,StaticInfo.txt)

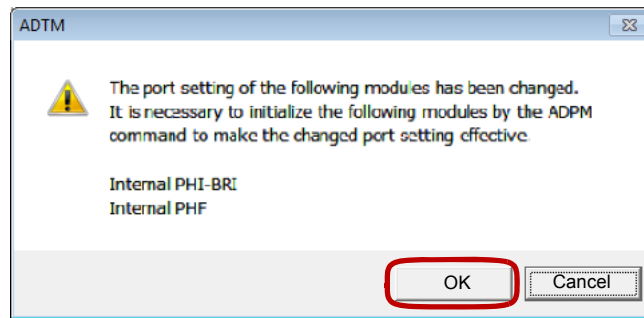
*When "Internal PHI-PRI" or "Internal PHI-BRI" or "Internal PHC" or "Internal PHF" or "Internal SIP Handler" is changed, it is necessary to initialize the module.

*When the Port Number of "Internal PHE" is changed, it is necessary to set the same Port Number as PHEPort by the ASPC command. (SPconfig.conf)

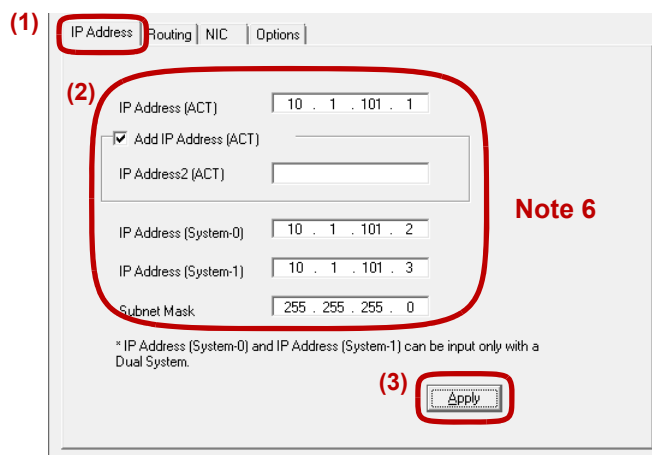
*Port Number=0:Using the default value.

(3) **Apply** (4) **Close**

- 7 The following confirmation message will be displayed.
Click the **OK** button to apply the modification.



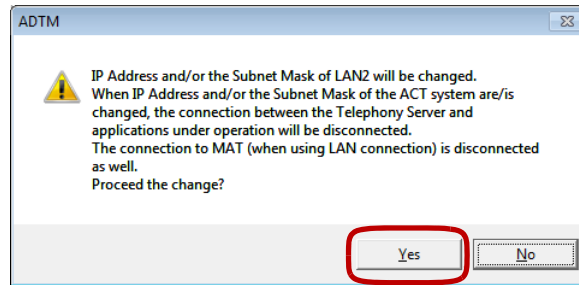
- 8
- (1) Click the **IP Address** tab.
 - (2) Set the following corresponding to your actual network environment.
 - IP Address (ACT)
 - IP Address (System-0) *Only for a dual CPU configuration system
 - IP Address (System-1) *Only for a dual CPU configuration system
 - Subnet Mask
 - (3) Click the **Apply** button.



Note6: The figure shows when the CCN is an Appliance Model dual configuration system as an example. When the CCN is an Appliance Model single configuration system or the CCN is a Prepackaged Server Model, the following parameters are not displayed.

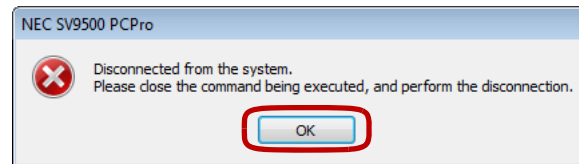
- IP address (System-0)
- IP address (System-1)

- 9 The following confirmation message will be displayed.
Click the **Yes** button to apply the modification.



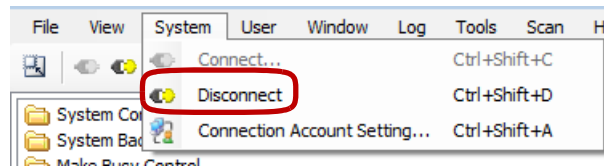
Point: The connection to PCPro will be disconnected when the data is modified.

- 10 The following message will be displayed by PCPro.
Click **OK** to close the message box.



- 11 Click the **Exit** button to exit the ADTM command.

- 12 Disconnect PCPro from the system.



Point: For detailed disconnecting procedure, refer to "Disconnecting the Communication Link" in Chapter 3: Setting Up PCPro in PCPro Setup Manual.

The office data setting (1) is complete.

7.Registration of Activation Code

Register an activation code you have received from the LMS server.

For procedure to register an activation code, refer to the Registration of Activation Code section (for single configuration and dual configuration):

- Chapter 6: System Startup in UNIVERGE SV9500 Appliance Model Installation Manual.
- Chapter 2: Setup in UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.

Note: Note the following conditions:

- Activation Code Certificate is required only for CCN. It is not required for RNs.
- For Prepackaged Server Model CCN, register the Activation Code after you set the IP address of Prepackaged Server Model CCN LAN1 active side. If you change the IP address of LAN1 active side after your Certify Status is “Certify OK”, it will change to “Certify NG (HKC)” (only for IPv4). In that case, see the appendix of UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.

8.Backup of Office Data (1) - CCN

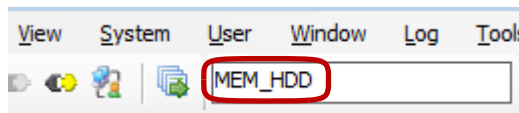
This section explains the procedure to back up Office Data to a CF card with the MEM_HDD command.

Point: The Office Data backed up in the Telephony Server can be stored on a maintenance PC by using Telephony Server Maintenance Menu.

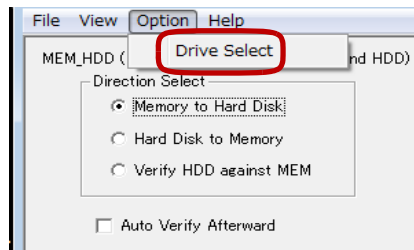
- 1 Launch the PCPro and connect the CCN to the PCPro using the connection account assigned for the IP address (ACT side) of LAN2 connector of the CCN.

Point: For procedure to connect to the PCPro, refer to “Communication Link with the Telephony Server” in Chapter 3: Setting Up PCPro in PCPro Setup Manual.

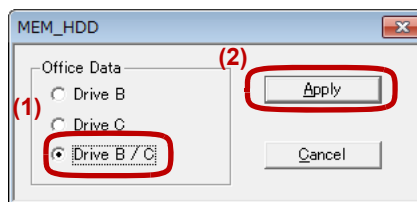
- 2 Execute the **MEM_HDD** command.



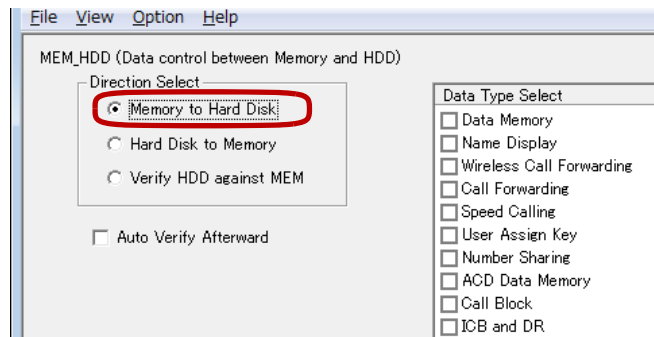
- 3 Select **Drive Select** from the **Option** menu.



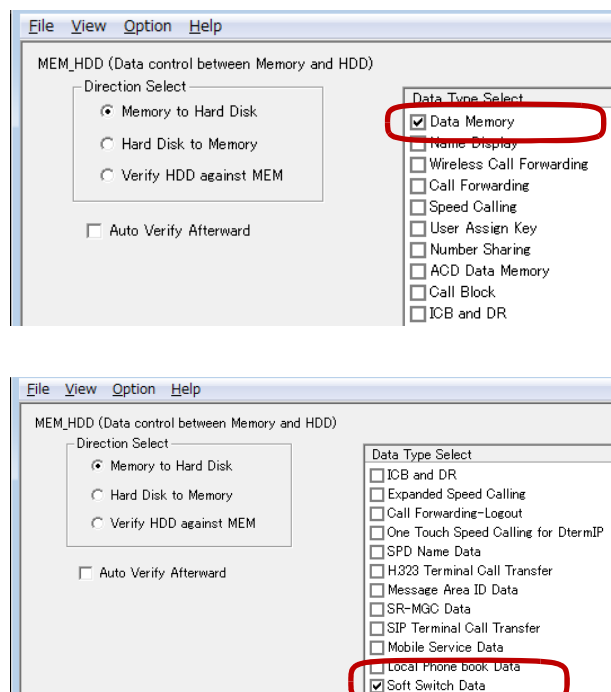
- 4 (1) Select **Drive B / C** for **Office Data**.
(2) Click the **Apply** button.



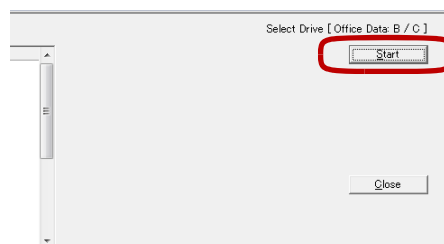
5 Select **Memory to Hard Disk** for **Direction Select**.



6 Select **Data Memory** and **Soft Switch Data** for **Data Type Select**

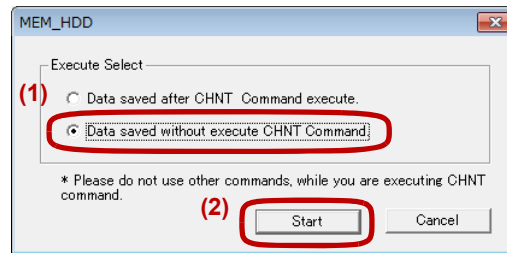


7 Click the **Start** button. The backup process starts.



8

- (1) Select **Data saved without execute CHNT Command** for Execute Select.
- (2) Click the **Start** button.
The data backup begins.



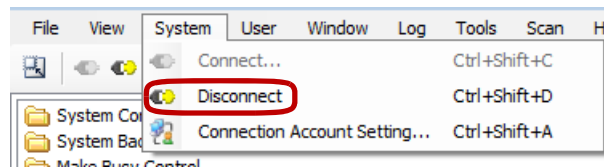
9

After the backup is completed, click the **Close** button to exit the MEM_HDD command.



10

Disconnect PCPro from the system.



Point: For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3: Setting Up PCPro in PCPro Setup Manual.

Backup of office data (1) is complete.

9. Downloading Office Data - CCN

This section explains the procedure how to download office data in the CCN to a maintenance PC.

- 1** Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
Note: xxx.xxx.xxx.xxx represents the CCN LAN1 IP address (ex. 10.1.101.1 for single configuration, 10.1.101.2 for dual configuration).
- 2** A login screen appears. Type a user name and password, and then click **OK**. **Telephony Server Maintenance Menu** screen appears.
Note: When you type a user name and password, note the following points.
 - The default for both user name and password is “admin”.
 - Contact NEC maintenance personnel if you forget your user Name and password.
- 3** In the **Telephony Server Maintenance Menu** screen, select **Office Data** from **Download**.
- 4** **Office Data Download** screen appears. Select **Drive B** or **Drive C**.
- 5** Click **Download** in the **Office Data Download** screen.
- 6** A download screen appears. Choose a folder to save the data.

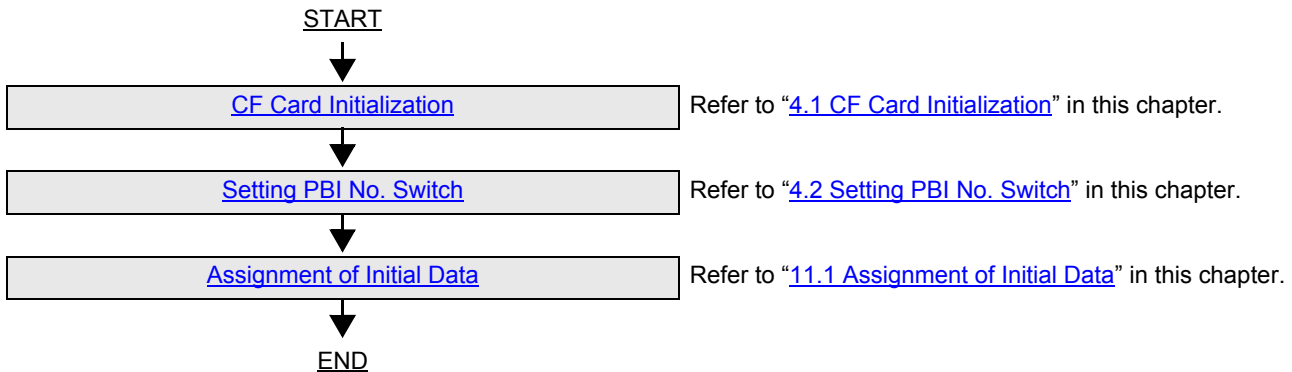
10. Modifying Network Configuration of Maintenance PC

Modify the network configuration of the maintenance PC to connect to the IP address (ACT side) of LAN2 connector in the CCN to the actual environment (e.g. 10.1.101.4).

For details of the procedure, see the Modifying Network Configuration of Maintenance PC section in CHAPTER 6 of SV9500 Appliance Model Installation Manual.

11.Initial Startup RN

This section explains the initial startup procedure of an RN. Follow the flow chart below to configure the initial startup.



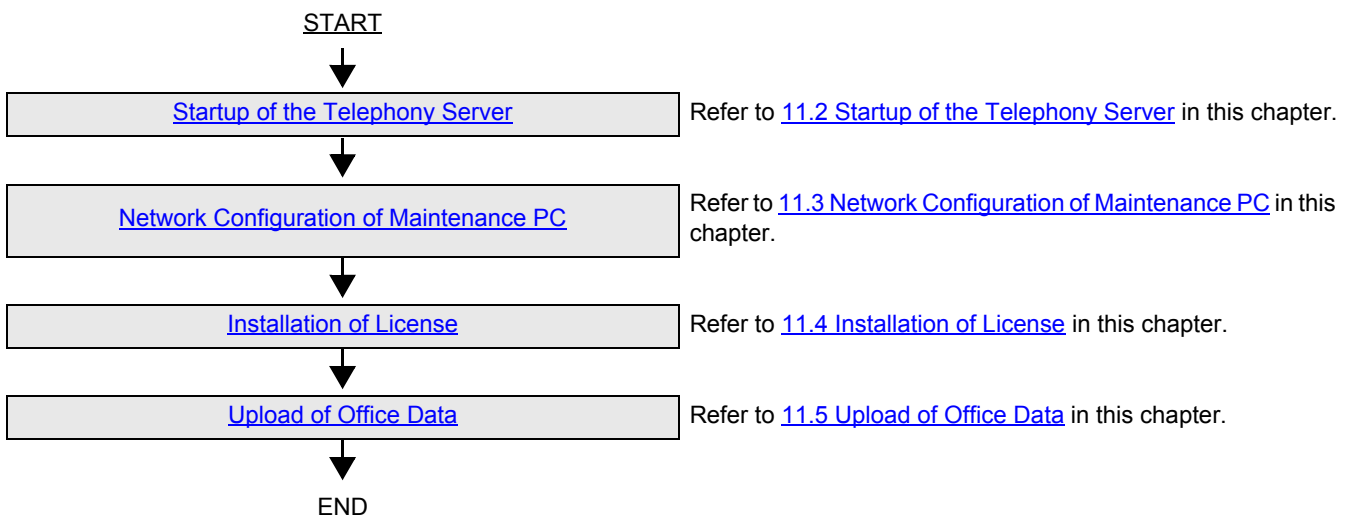
11.1 Assignment of Initial Data

Initial data such as program, office data and license data needs to be written to a CF card of each RN. This section explains the procedure how to write the initial data to the CF card of an RN.

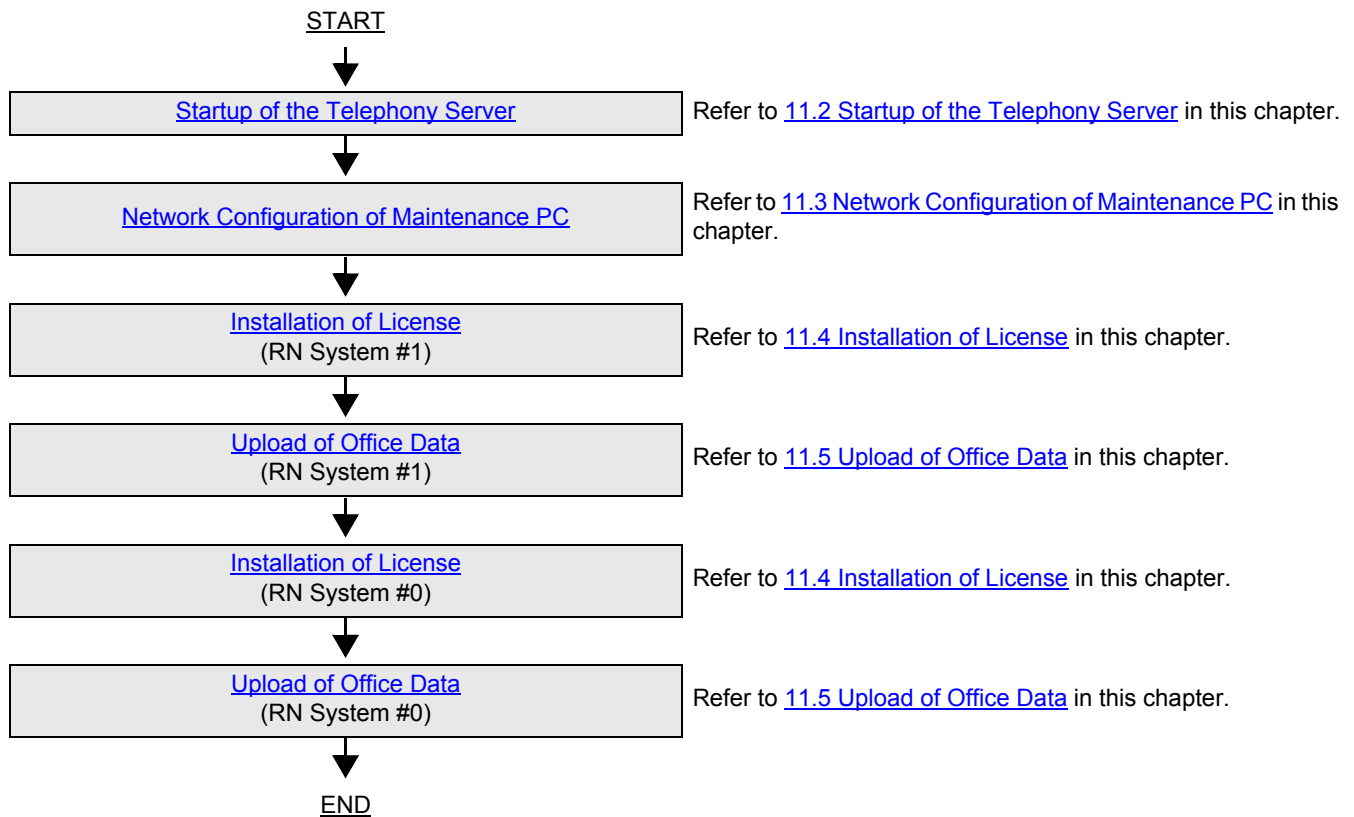
This section explains the installation procedure for each configuration listed below.

- [Single Configuration](#)
- [Dual Configuration](#)

11.1.1 Single Configuration



11.1.2 Dual Configuration



11.2 Startup of the Telephony Server

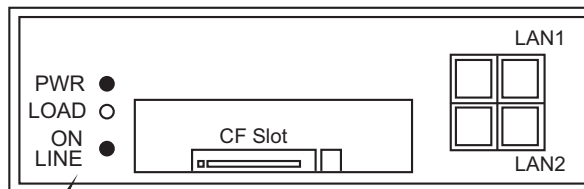
This section explains the procedure to start up the Telephony Server which is required as a first process when installing the program.

- 1 Insert CF card into CF slot on CPU card. For a dual configuration Appliance Model RN, Insert a CF card into CF slot on both of System #0 and #1.

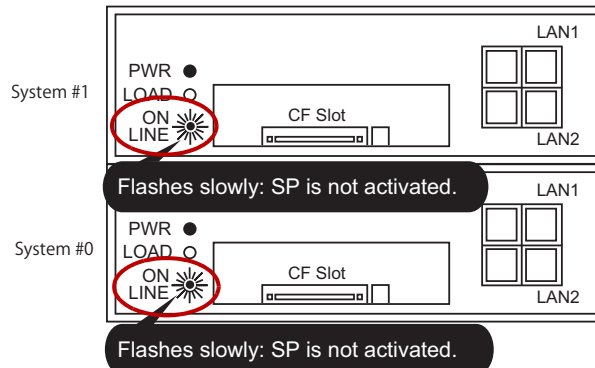
Point: Only the CF cards provided by NEC are supported.

- 2 Turn on the power switch on the rear panel of the Telephony Server.

- 3 Verify that ON LINE lamp on the front panel of CPU card flashes slowly after a few minutes.
 - For Single Configuration RN



- For Dual Configuration RN



Point: For detailed information on ON LINE lamp, refer to “2.2.1 CPU Card” in 1. WHAT IS SV9500? of CHAPTER 1: GENERAL of Appliance Model Installation Manual.

11.3 Network Configuration of Maintenance PC

This section explains the procedure to set the network configuration of the maintenance PC to connect to the Telephony Server.

1

Modify the network configuration of the maintenance PC to connect the RN LAN1 IP address set in the [CF Card Initialization](#) section (ex. 10.1.101.30/24 for single configuration, 10.1.101.31/24 for system#0 of dual configuration or 10.1.101.32/24 for system#1 of dual configuration).

Example of IP address for maintenance PC: 10.1.101.50/24

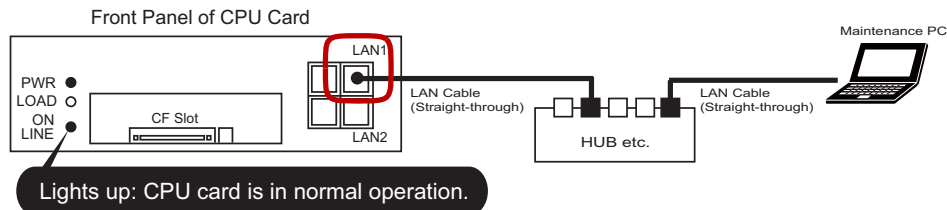
Note: IP addresses listed below cannot be assigned to the maintenance PC.

- Network address (ex. 10.1.101.0)
- LAN1 IP address (ACT) of each RN (ex.10.1.101.30)
- LAN1 IP address (System#0) of each RN (ex.10.1.101.31) *Only for Dual Configuration system
- LAN1 IP address (System#1) of each RN (ex.10.1.101.32) *Only for Dual Configuration system
- Broadcast address (ex. 10.1.101.255)
- Default IP addresses for SV9500 (ex. 172.16.253.0, 172.16.253.1, 172.16.253.2)

2

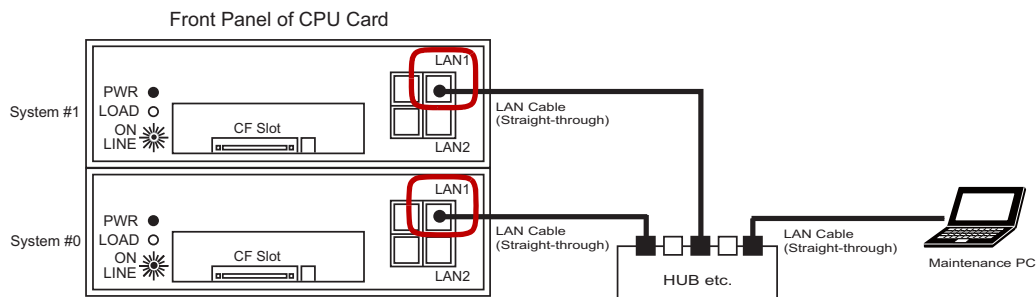
- For Single Configuration RN

Connect LAN1 connector on CPU card and the maintenance PC with a LAN cable.



- For Dual Configuration RN

Connect LAN cables from LAN1 connector on CPU cards of System #0 and System #1 to the maintenance PC.



Note: Do not connect a cable to any LAN connector other than LAN1 connector.

3

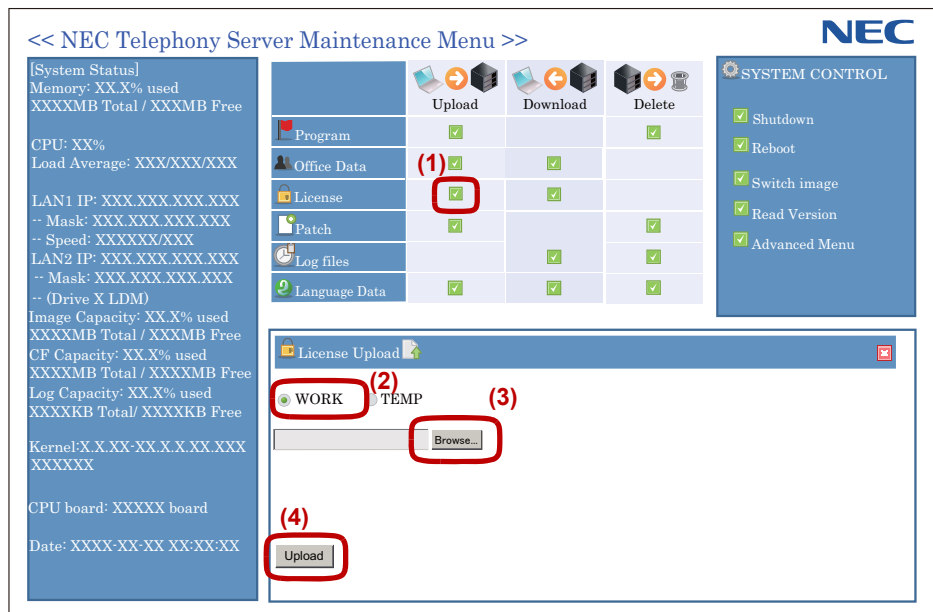
Execute ping command from the maintenance PC to the RN LAN1 IP address set in the [CF Card Initialization](#) section (ex. 10.1.101.30/24 for single configuration, 10.1.101.31/24 for system#0 of dual configuration or 10.1.101.32/24 for system#1 of dual configuration) and verify that a response is sent back.

If no response is confirmed, check the settings including the network configuration and cable connection.

11.4 Installation of License

This section explains the procedure to install the downloaded license files into the CF card of the RN with Telephony Server Maintenance Menu.

- 1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
(xxx.xxx.xxx.xxx represents the RN LAN1 IP address set in the [CF Card Initialization](#) section (ex. 10.1.101.30 for single configuration, 10.1.101.31 for system#0 of dual configuration or 10.1.101.32 for system#1 of dual configuration)).
- Note:** Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.
- 2
 - (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
 - (2) Click **OK** to log into **Telephony Server Maintenance Menu**.
- Note:**
 - The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
 - Contact NEC maintenance personnel if you forget your User Name and Password.
 - After logging into Telephony Server Maintenance Menu, do not use Back button on browser.
- 3
 - (1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.
 - (2) Select **Work** on the **License Upload** dialog box.
 - (3) Click the **Browse** button on the dialog box and then specify the License file downloaded in the [Downloading License File - CCN/RN](#) section.
 - (4) Click the **Upload** button. When the uploading is complete, “Operation successfully completed” will be displayed. Click **OK**.



Point: The Language Data button needs to be clicked only when Optional Language Pack Loading [O-42] is used. For more details on Optional Language Pack Loading [O-42], see Data Programming Manual - Business.

Note: When the writing of license file ends in failure, "An error occurred! Please check the logs." is displayed and the details are displayed in the lower right portion of the screen.

4

When the RN is dual configuration system, repeat [STEP 1](#) to [STEP 3](#) to the LAN1 IP addresses of RN System #0 and RN System #1.

11.5 Upload of Office Data

This section explains the procedure to upload the CCN office data files downloaded to the maintenance PC into the CF card of RN with Telephony Server Maintenance Menu.

1

Start Internet Explorer and type "http://xxx.xxx.xxx.xxx:9801/" into the address bar.

(xxx.xxx.xxx.xxx represents the RN LAN1 IP address set in the [CF Card Initialization](#) section (ex. 10.1.101.30 for single configuration, 10.1.101.31 for system#0 of dual configuration or 10.1.101.32 for system#1 of dual configuration).

Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2

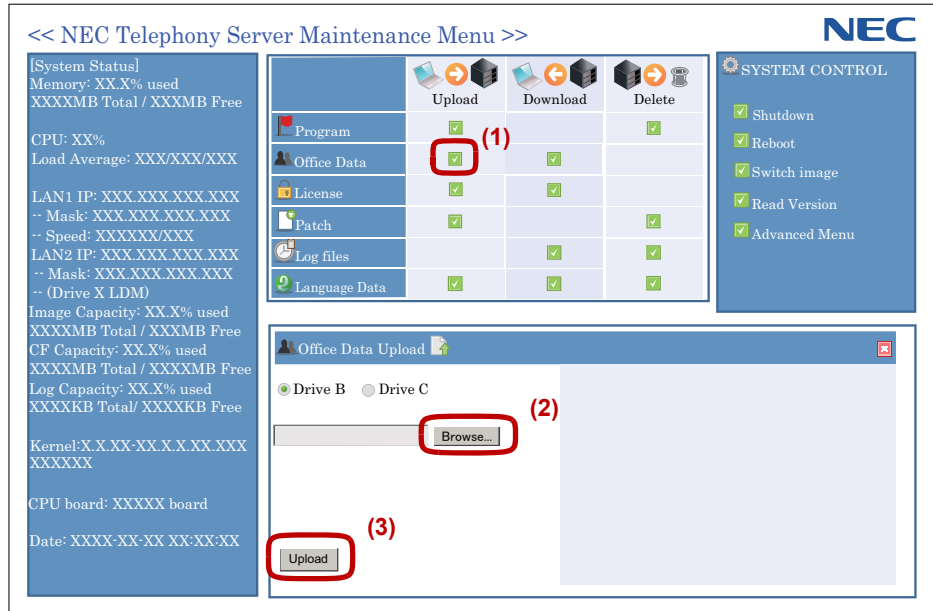
- (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
- (2) Click **OK** to log into **Telephony Server Maintenance Menu**.

Note:

- The default for both user name and password is "admin". You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging into Telephony Server Maintenance Menu, do not use Back button on browser.

3

- (1) Click the **Upload** button for **Office Data**. The **Office Data Upload** dialog box appears in the lower right portion of the screen.
- (2) Click the **Browse** button on the dialog box and then specify the office data file downloaded in the [Downloading Office Data - CCN](#) section.
- (3) Click the **Upload** button. When the uploading is complete, “Operation successfully completed” will be displayed. Click **OK**.



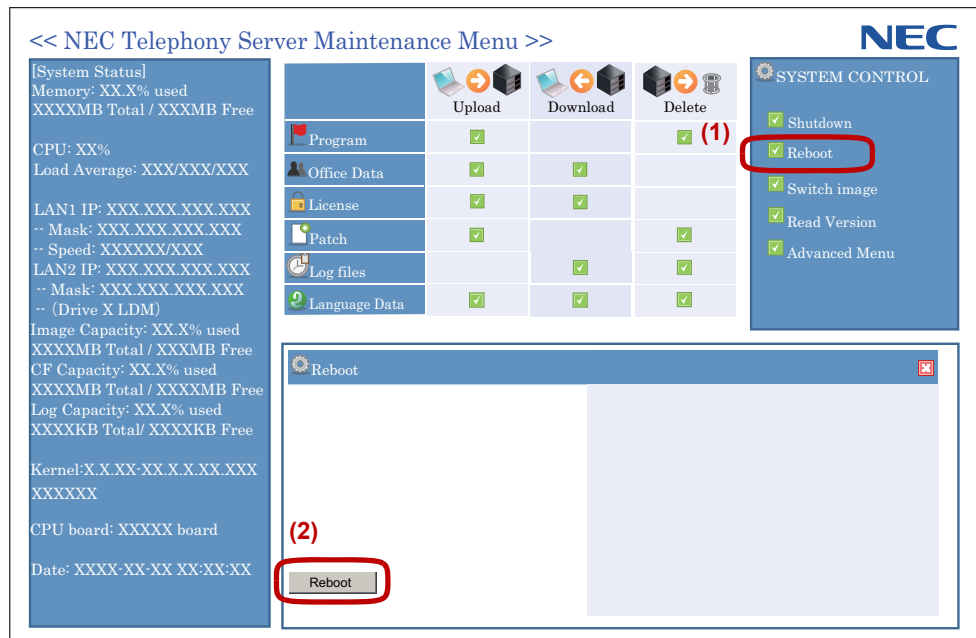
4

When the RN is dual configuration system, repeat [STEP 1](#) to [STEP 3](#) to the LAN1 IP addresses of RN System #0 and RN System #1.

12.Reboot of RN

This section explains the procedure how to reboot each RN with Telephony Server Maintenance Menu.

- 1** Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
(xxx.xxx.xxx.xxx represents the RN LAN1 IP address set in the [CF Card Initialization](#) section (ex. 10.1.101.30 for single configuration, 10.1.101.31 for system#0 of dual configuration or 10.1.101.32 for system#1 of dual configuration)).
- Note:** Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.
- 2**
 - (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
 - (2) Click **OK** to log into **Telephony Server Maintenance Menu**.
- Note:**
 - The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
 - Contact NEC maintenance personnel if you forget your User Name and Password.
 - After logging into Telephony Server Maintenance Menu, do not use Back button on browser.
- 3**
 - (1) Click the **Reboot** button in the **SYSTEM CONTROL** area. The **Reboot** dialog box appears.
 - (2) Click the **Reboot** button on the dialog box.
 - (3) A confirmation message “Are you sure you reboot the system?” appears. Click **OK** to shut down the telephony server.
 - (4) When the rebooting the system is complete, “Operation successfully completed. Please close the browser.” will be displayed. Click **OK**, and then close the browser with the **Close** button .



- 4** When the RN is dual configuration system, repeat [STEP 2](#) to [STEP 3](#) to the LAN1 IP address of RN System #1.

13.Setting Office Data (2) - CCN/RN

This section explains the following data assignment.

- PHD Circuit Card/Internal PHD/Internal PHE Data Deletion
- Configuration of SIP Server (ASPC)
- SR-MGC Re-Configuration (CMNT)
- Initial Data Assignment

13.1 Data Deletion of Internal PHD and PHD/PHE Circuit Card

If an Internal PHD, PHD circuit cards and PHE circuit cards (PA-CC118 (PHD/PHE)) have been used in the existing IPX system, you need to delete the data for those in each system according to the following procedure. If no internal PHD, PHD circuit cards and PHE circuit cards have been used, skip this section and go to the SIP server Setting (ASPC) section.

1 Execute **LLIDL** command.

- 2**
- (1) Select **All Data** in the **List Type** field and
 - (2) Click **Execute** button.

(1) LIST TYPE

☒ All Data

☐ Specified Range (MG)

(2) EXECUTE

Not read-out ...

3 Verify the **PH LENS** data of Internal PHD, PHD and Internal PHE for **PH TYPE**.

PH LENS	PH TYPE	MPH ID	DTG ID	PH Basic Settings				
				PH IP	MASK BIT	PORT	REGMAX	Exclusive PH
00018	PHA			192.168.1.0	255.255.254.0	61010	256	OFF
00022	Internal PHI						6144	
00318	Internal PHD						6144	
00320	Internal PHE						6144	
00322	MPH	1						

Note: The figure above shows Internal PHD data as an example.

4 Execute **ALIDL** command.

- 5**
- (1) Type the LENS verified with the **LLIDL** command in [STEP 3](#).
 - (2) Click **Get** button.

(1)

PH LENS

(2)

GET

6 Click **DEL** button.

PH LENS

PH TYPE
 Internal PHD

PH Basic Settings
 REGMAX

SET
 DEL

GET

Note: To edit the data, click **Prevent Unintended Change of This Data** in the Edit menu to disable the Prevent Unintended Change of This Data function.

- 7**
- (1) Repeat the procedures in [STEP 5](#) to [STEP 6](#) and delete all LENS verified in [STEP 3](#).
 - (2) After operations are complete, exit the **ALIDL** command.

- 8 (1) When a LENS of Internal PHD is deleted, execute the ASYDL command.
- (2) Assign the following Data.
SYS1 INDEX880 Bit0=0 (Internal PHD is not valid)
- (3) Exit the **ASYDL** command.

13.2 Configuration of SIP Server (ASPC)

This section explains the procedure to configure the SP part of the system. Perform this procedure to a processor in the CCN.

Note: The configuration of SIP Server must be set when using IP devices/stations within the system. This procedure can be skipped if IP devices/stations are not used in the system.

- 1 Execute the ASPC command.

- 2 (1) Select a Local Processor number of desired processor from 0, 4, 8, 12, 16, 20, 24 or 28 in the **LP No.** box.
- (2) Click **System-0** for **System**, **Standard** for **Input Mode** and select **SIP Server** from the **Function** list.
- (3) Click the **Get** button.

Note:

- You cannot select a Local Processor number of an RN being in survival mode.
- System which does not exist cannot be selected for **System**.
- Customize mode is for engineers only.

- 3 (1) Type the SIP Server Identifier for **SIP Server ID**.
- (2) Click the **Set** button.

Note:

- Unique SIP-Server Identifier must be assigned in the network within the range from 1 to 127.
- Always assign SIP-Server Identifier when initializing the RN regardless of whether the SP Controlled SIP terminals are used or not. The number set for SIP-Server Identifier by ASSDL/ASSDN command must be assigned for ASPC command as well.

- 4 (1) Select **SIP Gateway** from the **Function** list.
- (2) Click the **Get** button.
- (3) Click the **Set** button without changing any data displayed in the window.

Note: Do not change the default data of **SIP Gateway** in the **Function** list.

- 5 (1) Select a Local Processor (LP) number of desired processor from 0, 4, 8, 12, 16, 20, 24 or 28 in the **LP No.** box.
- (2) Click **System-1** for **System**, **Standard** for **Input Mode** and select **SIP Server** from the **Function** list.
- (3) Click the **Get** button.

- 6 Repeat [STEP 3](#) and [STEP 4](#) to configure the SP part of System#1.

- 7 Click the **Exit** button to exit the ASPC command.

Configuring the SP part of an RN is complete.

13.3 Re-Configuration of SR-MGC

When an existing IPX system or an existing RNIP system accommodates an SR-MGC, re-configuration of the SR-MGC with the CMNT command is needed. This section explains the procedure to re-configure the SR-MGC. For more information of the SR-MGC, see the following manuals:

- Survivable Remote MGC [S-141] in SV9500 Data Programming Manual - Business
- SR-MGC(E) [SN8178 MGCEV-B] in SV9500 Peripheral Equipment Description (IP Devices)
- SV9500 Command Manual
- SV9500 Operations and Maintenance Manual

1

Execute the **CMNT** command.

2

- (1) Select a Local Processor number of desired processor in the **LP No.** box.
- (2) Click the **Setting** tab. Set the following data.

SR-MGC No.:	Enter an SR-MGC number.
MGC Kind	“SR-MGC” is displayed.
Office Data:	Enter an office name of the RN to which the corresponding SR-MGC belongs.
IP Address:	Enter the IP address of SR-MGC, not the default IP address but the actual IP address to be allocated to the target SR-MGC.
Mode:	Select the type of changeover and recovery is to be executed.
C_MGC:	Select an Operating Mode for SR-MGC.
Assigning MA-ID:	Select this check box to assign MA-ID.
MA-ID:	Enter a Message Area ID.
FTP Server No.:	Enter the number to be allocated to the FTP number.

- (3) Click the **Set** button.

3

After finish, close the CMNT command window.

SR-MGC re-configuration is complete.

13.4 Assignment of Initial Data

This section explains how to assign data with PCPro to enable use of IP terminals, SIP Multiple Line terminals, SP Controlled SIP terminals and SIP Handler Controlled SIP terminals. Assign data in order as below. Refer to Command Manual for the detailed explanation on each command.

Note that the following data assignment is not required if the system consists only of digital and/or analog devices.

- (a) [If using IP Terminal and/or SIP Multiple Line Terminal](#)
- (b) [If using SP Controlled SIP Terminal and WLAN Handset \(MH Series\)](#)
- (c) [If using SIP Handler Controlled SIP Terminal](#)

Note: Note the following conditions:

- All of (a), (b) and (c) are required for the Telephony Server with dual CPU cards.
- Each of the data assignment in (a), (b) and (c) is required for the system where terminals mentioned in (a), (b) and (c) coexist.
- To change the ToS value on messages from SP to the devices/terminals in SIP mode, Steps 3, 7, and 8 in (b) [If using SP Controlled SIP Terminal and WLAN Handset \(MH Series\)](#) are required. As for Steps 7 and 8, however, they are not required if set already.
- Before starting the data assignment, clear the SIP server ID of system #0 and #1 with the ASPC command. Reassign the SIP server ID after completing the assignment.
- When assigning MPH-ID data with the ALIDL command: an MPH-ID you need to assign depends on the relationship between a PBI set with the PBI No. switch and a CPU side (see the table below); a LENS you can assign to the ID also depends on the PBI (see [PBI and LP Rule](#) and [System Configuration based on PBI and LP Rules](#)).

MPH-ID to be assigned

PBI No. (LP No.)	CPU Side	MPH-ID
0x30 (0)	#0	1
	#1	2
0x38(4)	#0	3
	#1	4
0x40 (8)	#0	5
	#1	6
0x48(12)	#0	7
	#1	8
0x50(16)	#0	9
	#1	10
0x58(20)	#0	11
	#1	12
0x60(24)	#0	13
	#1	14
0x68(28)	#0	15
	#1	16

13.4.1 If using IP Terminal and/or SIP Multiple Line Terminal

Step1: ASYDL: System data (LDM)

SYS1, Index 880, Bit 3 = 1 (Internal PHE is valid)

SYS1, Index 885, Bit 7 = 1 (Signaling Protocol (SP) is valid)

Step2: ALIDL: LAN information (LDM)

<Internal PHE Accommodation data>

PH LENS: Specify an even-numbered Group No. other than 24 to 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.

PH TYPE: Internal PHE

REGMAX: Registration capacity [1-6144]

<MPH Accommodation data>

PH LENS: Specify an even-numbered Group No. other than 24 to 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.

PH TYPE: MPH

MPH-ID: MPH identification number

PH Kind: PHD

Use this PH: Check the box and specify the following parameters.

PH LENS: MPH accommodation location [5-digit number (MG/U/G)]

Note: You cannot duplicate the LENS number for Internal PHE.

REGMAX: Registration capacity [1-4095]

Note: Note the following conditions:

- To decrease an assigned value of REGMAX, first delete the registered data and assign a new value; to increase, no data deletion is required.
- If SP-PHD and SP-PHI are both accommodated on a single Telephony Server, the following data is also required: "PH Kind: PHI". You can assign on REGMAX the maximum capacity of each PH (no limitation for the total).

MGC PORT: Control port for TP [1-65535 (default: 64102)]

TERM PORT: Control port for IP devices [1-65535 (default: 60090)]

Note: MGC PORT and TERM PORT cannot have the same port number.

Step3: ASDIL/ASDIN: SIP domain name index data

Assign all the domain names controlled by the Telephony Server. Up to 1020 domains can be registered per system. **Note 1**

SIP Server ID: Displays the SIP Server ID assigned with the ASSDL/ASSDN command.

Domain Name: Domain name consisting of up to 128 alphanumeric characters (including dot (.) and hyphen (-))

Note 1: SIP terminals use SIPURIs as their identifications, which are similar to extension numbers. The SIPURI format is “*extension-number@domain-name*”. The following examples may help you to design domain names.

- If using a single domain name in the entire system
All the SIP terminals use a single domain name, which makes the management easier.
e.g. *extension-number@SIPSERVER-Hostname.com*
- If using several domain names in the system
It enables grouping domains according to the positions of SIP terminal users.
e.g. *extension-number@xxx.yyy.zzz.com*, *extension-number@vvv.yyy.zzz.com*

Step4: ASSDL/ASSDN: SIP server operating data

Note: Assign virtual speech channels on a LENS range where consecutive four or more Groups are not in use.

When PHC has been registered already, check the condition of the registered virtual speech channels before assigning *CHANNEL* of the ASSDL/ASSDN command. If the LENS range where the virtual speech channels are registered does not reach consecutive four Groups, perform the ATRK command to assign four Groups in advance. Also when registering PHC on the system where you have already assigned *CHANNEL* of the ASSDL/ASSDN command, perform the ATRK command so that the virtual speech channels are assigned on consecutive four Groups.

Assign office data for the SIP server.

FPC: Fusion Point Code [1-253] (only for ASSDN)

SIP Server ID: Unique SIP Server ID [1-127]

Note: Must be the same value as the SIP server ID to be assigned with the ASPC command later.

<BASE DATA tab>

CHANNEL: Number of speech channels between TP and SP [3-1200]

If neither of WLAN Handsets (MH Series) nor standard SIP terminals are used, assign the minimum number of channels (3), if used, assign multiples of 3 (if 4 or 5 is assigned, 6 is automatically set).

Up to 402 channels can be set on each 2-MG unit (**Note 2**). If you want to set more than 402 channels, first enter “402” and set; then change the MG, enter the number of channels you want to set, and click the Modify button.

Refer to [\[Configuration Example for Setting the Minimum Number of Virtual Speech Channels \]](#).

Note 2: Note the following conditions:

- A 2-MG unit uses either of the following combinations: MG00-MG01, MG02-MG03, MG04-MG05, MG06-MG07.
- When SIP Wireless Terminal Backup [S-154] is in service, up to 804 channels

can be set on each 2-MG unit (as for a single SIP server ID, though, up to 402 channels can be set on each 2-MG unit).

If the number of speech channels are changed during operation, the Telephony Server needs to be initialized. After initialization, a terminal is disabled to make and receive a new call until the terminal sends a REGISTER message to, and get registered on SP again: Initialize (turn off and on) terminals as well.

NAME: SIP server name (up to 16 alphanumeric characters)

SIP server name helps manage and identify SP parts.

TN: Tenant Number [1-63]

LENS: Accommodated location of the SIP server

MG: START and END points of the MG range to be registered

UNIT: START and END points of the UNIT range to be registered

GROUP: START and END points of the GROUP range to be registered

LEVEL: START and END points of the LEVEL range to be registered (only "0" and "4" can be specified)

Assign on virtual speech channels, that is, on virtual PIRs where no stations and trunks are accommodated. You cannot overwrite stations and trunks which have been already registered.

DETAIL: Detailed settings on SP

No settings are required.

[Configuration Example for Setting the Minimum Number of Virtual Speech Channels]

The following is a configuration example where three virtual speech channels are assigned on LENS 021000 to 021007.

Step1: Assign virtual speech channels on system #0.

CHANNEL: 3

LENS: Accommodated location of the SIP server

MG: Module Group (START=2, END=2)

UNIT: UNIT (START=1, END=1)

GROUP: GROUP (START=0, END=0)

LEVEL: LEVEL (START=0, END=0)

Step2: Assign virtual speech channels on system #1.

CHANNEL: 3

LENS: Accommodated location of the SIP server

MG: Module Group (START=2, END=2)

UNIT: UNIT (START=1, END=1)

GROUP: GROUP (START=0, END=0)

LEVEL: LEVEL (START=4, END=4)

<DOMAIN tab>

Register the domain names of domains controlled by the specified SP. On the “DOMAIN NAME LIST” window (list of all the domain names the CPU card permits connection), click the Addition button; the “DOMAIN NAME Selection LIST” window appears to show domain names registered with ASDIL/ASDIN command; select and set domains to be controlled by the Telephony Server.

<PRESENCE SERVER tab>

No settings are required.

<REDUNDANCY tab>

Register the SIP server ID of the paired CPU card if the Telephony Server is built with dual CPU cards (not used when SIP Wireless Terminal Backup [S-154] is not in service).

Pair SIP Server ID: SIP server ID of the paired CPU card [1-127]

Note: Note the following conditions:

- Must be set when the Telephony Server is built with dual CPU cards. If an SR-MGC connects to the Telephony Server built with dual CPU cards, operation switching to the SR-MGC occurs only when both of systems #0 and #1 fail.
- Once changed, the data are notified to SP. If the notification cannot be performed because of any causes such as no operation of SP or network conditions, data discrepancy in the system occurs. In this case, it is required to initialize the Telephony Server.
When data change cannot be notified to SP, PCPro displays “There is no response from SP.”
- To check the SP's operating state and the channel settings in the system, use the COSSL/COSSN command. For details, refer to the Command Manual.

13.4.2 If using SP Controlled SIP Terminal and WLAN Handset (MH Series)

Step1: ASYDL: System data (LDM)

Assign the memory block required to save registered data. A single memory block is 2Mbytes.

SYS1, Index 513 = LDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 514 = NDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 880, Bit 3 = 1 (Internal PHE is valid)

Step2: ASYD: System data

SYS1, Index 30 = 0x06 (Mounting capacity of DM)

SYS1, Index 186, Bit 6 = 1 (CCIS is in service)

SYS1, Index 220, Bit 6 = 0 (ISDN is in service)

The system data for CCIS and ISDN need to be enabled though optional software for CCIS and ISDN. The software is not required if these services are not used.

SYS1, Index 420, Bit 0 = 1 (Access code operation by preset dialing from a PS)

Step3: ALOCL: IP location ID data (LDM)

Assign the ToS value for the interface between TP and SP.

IP ADDRESS = 0.0.0.0 **Note 1**

LOC-ID = 0 (set automatically.)

Check the Signal Packet box, and assign the ToS value for SP. (Default: "IP PRECEDENCE", Priority (PRECEDENCE /DSCP) = "6")

Note 1: Perform the ADPM command to initialize Internal PHE after changing the data.

Note: The ToS value is set on messages from TP to SP, from SP to TP, and from SP to SIP terminals, but not set on messages from SIP terminals to SP.

Step4: ADTM: TCP/IP module-related data

Assign the port number of Internal PHE.

Note: Not required if you use the default port number.

Step5: ALIDL: LAN information (LDM)

Assign the accommodated location of Internal PHE.

PH LENS: Specify an even-numbered Group No. other than those 24 through 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.

PH TYPE: Internal PHE

REGMAX: Registration capacity (1-6144)

Note: Four ports need to be assigned per three speech channels set between TP and SP.

Step6: ADPM: PH module-related data

Initialize Internal PHE.

PH Type: Internal PHE

Menu: Module Initialize

Step7: ASDIL/ASDIN: SIP domain name index data

Assign all the domain names controlled by the Telephony Server. Up to 1020 domains can be registered per system. **Note 2**

SIP Server ID: Displays the SIP Server ID assigned with the ASSDL/ASSDN command.

Domain Name: Domain name consisting of up to 128 alphanumeric characters (including dot (.) and hyphen (-))

Note 2: SIP terminals use SIPURIs as their identifications, which are similar to extension numbers. The SIPURI format is "extension-number@domain-name". The following examples may help you to design domain names.

- If using a single domain name in the entire system.

All the SIP terminals use a single domain name, which makes the management easier.

e.g. *extension-number@SIPSERVER-Hostname.com*

- If using several domain names in the system.

It enables grouping domains according to the positions of SIP terminal users.

e.g. *extension-number@xxx.yyy.zzz.com*, *extension-number@vvv.yyy.zzz.com*

Step8: ASSDL/ASSDN: SIP server operating data

Note: Assign virtual speech channels on a LENS range where consecutive four or more Groups are not in use.

When PHC has been registered already, check the condition of the registered virtual speech channels before assigning *CHANNEL* of the ASSDL/ASSDN command. If the LENS range where the virtual speech channels are registered does not reach consecutive four Groups, perform the ATRK command to assign four Groups in advance.

Also when registering PHC on the system where you have already assigned *CHANNEL* of the ASSDL/ASSDN command, perform the ATRK command so that the virtual speech channels are assigned on consecutive four Groups.

Assign office data for the SIP server.

FPC: Fusion Point Code [1-253] (only for ASSDN)

SIP Server ID: Unique SIP Server ID [1-127]

Note: Must be the same value as the SIP server ID to be assigned with the ASPC command later.

<BASE DATA tab>

CHANNEL: Number of speech channels between TP and SP [3-1200]

Assign multiples of the minimum value “3” (if 4 or 5 is assigned, 6 is set).

Up to 402 channels can be set on each 2-MG unit (**Note 3**). If you want to set more than 402 channels, first enter “402” and set; then change the MG, enter the number of channels you want to set, and click the Modify button.

Refer to [\[Configuration Example for Setting the Maximum Number of Virtual Speech Channels \]](#).

Note 3: Note the following conditions.

- A 2-MG unit is either of the following combinations: MG00-MG01, MG02-MG03, MG04-MG05, MG06-MG07.
- When SIP Wireless Terminal Backup [S-154] is in service, up to 804 channels can be set on each 2-MG unit (as for a single SIP server ID, though, up to 402 channels can be set on each 2-MG unit).

If the number of speech channels is changed during operation, the Telephony Server needs to be initialized. After initialization, a terminal is disabled to make and receive a new call until the terminal sends a REGISTER message to, and get registered on SP again: Initialize (turn off and on) terminals as well.

NAME: SIP server name (up to 16 alphanumeric characters)

SIP server name helps manage and identify SP parts.

TN: Tenant Number [1-63]
LENS: Accommodated location of the SIP server
MG: START and END points of the MG range to be registered
UNIT: START and END points of the UNIT range to be registered
GROUP: START and END points of the GROUP range to be registered
LEVEL: START and END points of the LEVEL range to be registered (only “0” and “4” can be specified)

Assign on virtual speech channels, that is, on virtual PIRs where no stations and trunks are accommodated. You cannot overwrite stations and trunks which have been already registered.

DETAIL: Detailed settings on SP

The terminal authentication per call is omitted:

Disables the setting of SIP terminals registered on the Telephony Server being authenticated every time a call is made from the terminal. Authentication is enabled by default to prevent unauthorized terminals from connecting.

Change in SIP Server port number:

Used to change the port number of SP (default: 5060). *Initialize the Telephony Server after changing SP's port number.

[Configuration Example for Setting the Maximum Number of Virtual Speech Channels]

The following is a configuration example where 1200 virtual speech channels are assigned.

Step1: Assign the first 402 channels.

CHANNEL: 402
LENS: Accommodated location of the SIP server
MG: Module Group (START=2, END=3)
UNIT: UNIT (START=1, END=3)
GROUP: GROUP (START=0, END=23)
LEVEL: LEVEL (START=0, END=4)

Step2: Assign up to 804 channels.

CHANNEL: 804
LENS: Accommodated location of the SIP server
MG: Module Group (START=4, END=5)
UNIT: UNIT (START=1, END=3)
GROUP: GROUP (START=0, END=23)
LEVEL: LEVEL (START=0, END=4)

Step3: Assign up to 1200 channels.

CHANNEL: 1200

LENS: Accommodated location of the SIP server
MG: Module Group (START=6, END=7)
UNIT: UNIT (START=1, END=3)
GROUP: GROUP (START=0, END=23)
LEVEL: LEVEL (START=0, END=4)

Perform the following Steps specifying the SIP server ID of the paired CPU card (register to the SIP server ID of CPU for SYS1) if using SIP Wireless Terminal Backup [S-154].

Step4: Assign the first 402 channels.

CHANNEL: 402
LENS: Accommodated location of the SIP server
MG: Module Group (START=2, END=3)
UNIT: UNIT (START=1, END=3)
GROUP: GROUP (START=0, END=23)
LEVEL: LEVEL (START=0, END=4)

Step5: Assign up to 804 channels.

CHANNEL: 804
LENS: Accommodated location of the SIP server
MG: Module Group (START=4, END=5)
UNIT: UNIT (START=1, END=3)
GROUP: GROUP (START=0, END=23)
LEVEL: LEVEL (START=0, END=4)

Step6: Assign up to 1200 channels.

CHANNEL: 1200
LENS: Accommodated location of the SIP server
MG: Module Group (START=6, END=7)
UNIT: UNIT (START=1, END=3)
GROUP: GROUP (START=0, END=23)
LEVEL: LEVEL (START=0, END=4)

<DOMAIN tab>

Register the domain names of domains controlled by the specified SP. On the “DOMAIN NAME LIST” window (list of all the domain names SP permits connection), click the Addition button; the “DOMAIN NAME Selection LIST” window appears to show domain names registered with ASDIL/ASDIN command; select and set domains to be controlled by the Telephony Server.

<PRESENCE SERVER tab>

Assign SIP presence server data. (When any cooperating presence server does not exist, data assignment is not required.)

IP Address: IP address of the cooperating presence server

Port Number: Port number the cooperating presence server uses

<REDUNDANCY tab>

Register the SIP server ID of the paired CPU card if the Telephony Server is built with dual CPU cards (not used when SIP Wireless Terminal Backup [S-154] is not in service).

Pair SIP Server ID: SIP server ID of the paired CPU card [1-127]

Note: Note the following conditions:

- Must be set when the Telephony Server is built with dual CPU cards. If an SR-MGC connects to the Telephony Server built with dual CPU cards, operation switching to the SR-MGC occurs only when both of systems #0 and #1 fail.
- Once changed, the data are notified to SP. If the notification cannot be performed because of any causes such as no operation of SP or network conditions, data discrepancy in the system occurs. In this case, it is required to initialize the Telephony Server.
When data change cannot be notified to SP, PCPro displays "There is no response from SP."
- To check the SP's operating state and the channel settings in the system, use the COSSL/COSSN command. For details, refer to the Command Manual.

13.4.3 If using SIP Handler Controlled SIP Terminal

Step1: ASYDL: System data (LDM)

Assign the memory block required to save registered data. A single memory block is 2Mbytes.

SYS1, Index 513 = LDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 514 = NDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 880, Bit 3 = 1 (Internal PHE is valid)

SYS1, Index 880, Bit 5 = 1 (SIP Handler activation is valid) **Note 1**

SYS1, Index 811 (Tone Code by countries) **Note 2**

SYS1, Index 1353, Bit 1=1: Enable Software Digital Tone Generator (IP-DTG) **Note 3**

Note 1: After enabling SIP Handler, execute Program Non Load Initialization with the ADPM command or System Initialization with the SINZ command to start SIP Handler operation.

Note 2: IP-DTG sends tones of Tone Code assigned with this system data to Standard SIP terminals.

Note 3: After changing Index 1353 from Bit 1=0 (Disabled) to Bit 1=1 (Enabled), execute System Initialization with the SINZ command to apply the data change.

Step2: ALOCL: IP location ID data (LDM)

Assign the ToS value for packets sent from SIP Handler such as SIP messages, preparation completion, and DRS messages.

IP ADDRESS = 0.0.0.0

LOC-ID = 0 (set automatically.) **Note 4**

Check the Signal Packet box, and assign the ToS value for SP. (Default: "IP Precedence", Priority (PRECEDENCE /DSCP) = "6")

Note: After changing the data, execute either of the following operations.

- Execute Non Load Initialization with the ADPM command.
- Initialize TCP/IP Module with the ADTM command.
- Execute System Initialization with the SINZ command.

Note 4: LOC-ID = 0 is set in common with other Internal PHs and IPPAD, so executing System Initialization with the SINZ command is recommended after data change.

Step3: ADTM: TCP/IP module-related data

Assign the port number of Internal PHE and SIP Handler. **Note 5, Note 6**

Assign IP Address 2 (ACT). **Note 7, Note 8**

CCN/LP: LP

Select LAN Interface: LAN1

Click the Get button.

Click the IP Address tab.

Place a check mark to the Add IP Address (ACT) check box.

IP Address 2 (ACT): Assign IP Address 2 (ACT).

Click the Apply button.

Note: Perform the ADPM command to initialize Internal PHE after changing LAN port, Application port, and IP address2 (ACT) used for SIP Handler while operating SIP Handler.

Note 5: Not required if you use the default port number.

Note 6: We recommend to use the default LAN port and port number for SIP Handler. If this data is changed, Initializing TCP/IP Module is required.

Note 7: After this data is changed, TCP/IP Module is initialized.

Note 8: The IP Address2 (ACT) data assignment is available only from PCPro in the CCN side. PCPro in the RN side only displays the IP Address2 (ACT) assigned from PCPro in the CCN side. You cannot assign the IP Address2 (ACT) from PC-Pro in the RN side.

Step4: ALIDL: LAN information (LDM)

Assign the accommodated locations of Internal PHE, SIP Handler and IP-DTG.

PH LENS: Specify an even-numbered Group No. other than those 24 through 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.

<Internal PHE>

PH TYPE: Internal PHE

REGMAX: Registration capacity (1-6144)

<SIP Handler>

PH TYPE: Internal SIP Handler

REGMAX: Registration capacity (1-4095)

<IP-DTG>

PH TYPE: IP-DTG

DTG-ID: IP-DTG Identification Number (1-16)

Single-CPU System: Assign DTG-ID = 1 (fixed)

Dual-CPU System: Assign DTG-ID = 1 and 2 (fixed)

MAX_CONN: Maximum Number of Concurrent Connections (1-4095 (default: 256))

Step5: ADPM: PH module-related data

Initialize Internal PHE and SIP Handler.

<Internal PHE>

PH Type: Internal PHE

Menu: Module Initialize

<SIP Handler>

PH Type: Internal SIP Handler

Menu: Program Non Load Initial

14.Backup of Office Data (2) - CCN/RN

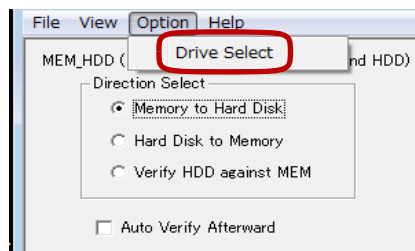
This section explains how to back up the office data to a CF card with the MEM_HDD command.

- 1 Launch the PCPro and connect the CCN to the PCPro using the connection account assigned for the IP address (ACT side) of LAN2 connector of the CCN.

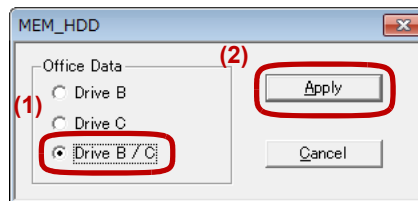
Point: For procedure to connect to the PCPro, refer to “Communication Link with the Telephony Server” in Chapter 3: Setting Up PCPro in PCPro Setup Manual.

- 2 Execute the **MEM_HDD** command.

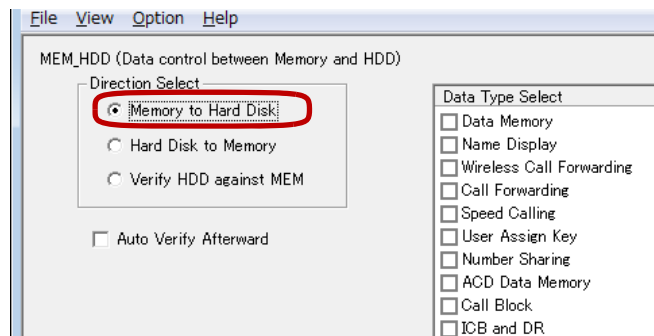
- 3 Select **Drive Select** from the **Option** menu.



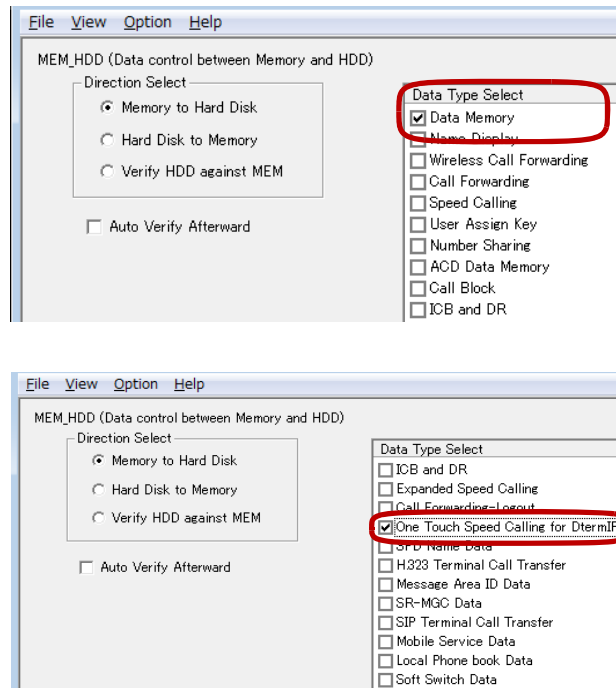
- 4 (1) Select **Drive B / C** for **Office Data**.
(2) Click the **Apply** button.



- 5 Select **Memory to Hard Disk** for **Direction Select**.

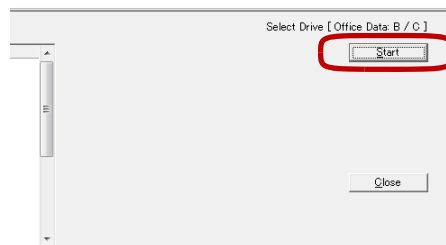


6 Select **Data Memory** and **One Touch Speed Calling for DtermIP** for **Data Type Select**.

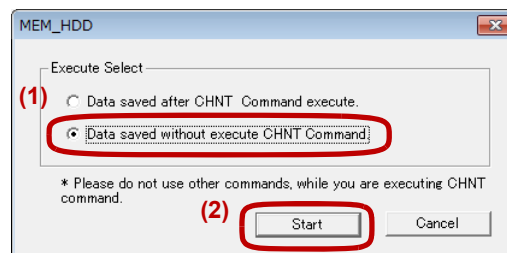


Note: Select **Data Memory** and **One Touch Speed Calling for DtermIP** regardless of performing Data Load of One-Touch Speed Call Memory in the previous section.

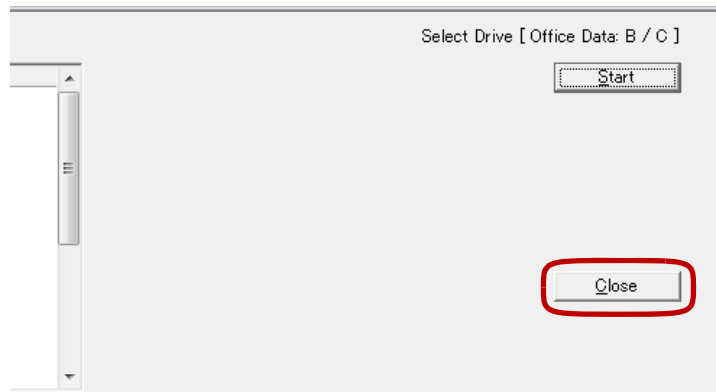
7 Click the **Start** button. The backup process starts.



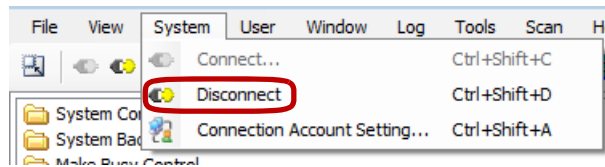
- 8 (1) Select **Data saved without execute CHNT Command** for **Execute Select**.
- (2) Click the **Start** button.
The data backup begins.



- 9 After the backup is completed, click the **Close** button to exit the MEM_HDD command.



- 10 Disconnect PCPro from the system.



Point: For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

The office data backup (2) is complete.

15.Deletion of One Touch Speed Calling Data for DtermIP

In an existing IPX system or an RNIP system with FP95-111 V1 or earlier software, the One Touch Speed Calling Data for DtermIP, the EVLOG command data and the One-Time Password data in the ASECL command are backed up in the GPSP01.DAT and the GPSP02.DAT files with the MEM_HDD command. Those backup data can be loaded to a different memory area and reused by an RNIP system with FP95-112 V2 or later software.

This section explains the procedure to delete GPSP01.DAT and GPSP02.DAT files. It is recommended to delete the files with the DHDF command after starting up the RNIP system with FP95-112 V2 or later is completed.

1 Execute the **DHDF** command.

- 2**
- (1) Select **System 0** for **System Select**.
 - (2) Select **29 - One Touch Speed Calling Data for DtermIP** for **Data Select**.
 - (3) Select either of **Drive B** or **Drive C** for **Drive Select**.
 - (4) Click the **Get** button. Files from **GPSP01.DAT** to **GPSP08.DAT** are displayed in **File List**.

3 Select **GPSP01.DAT** and **GPSP02.DAT**.

[File List]				
#	File Name	Date Modified	File Size(byte(s))	
1	\GPSP\00\GPSP01.DAT	07/22/2000 09:20:25	1051790	
2	\GPSP\00\GPSP02.DAT	07/22/2000 09:20:34	1051790	

4 Click the **DEL** button. **GPSP01.DAT** and **GPSP02.DAT** will be deleted.

5 When the system is a dual configuration system. Select **System 1** for **System Select**.

6

Repeat from [STEP 2](#) to [STEP 4](#).

Deletion of One Touch Speed Calling Data for DtermIP is complete.

16. Additional Data Assignment

The following describes some additional data assignment which may be necessary depending on the system environment.

16.1 For Accommodation Inheritance from IPX to CCN

Here describes how to inherit server-side interfaces for IP equipment accommodation and/or CCIS over IP/FCCS over IP network communication from the existing IPX system to the RNIP system. The basic idea of accommodation inheritance is this: when migrating the system from IPX to RNIP, reuse the interface information in the existing system as much as possible to minimize peripheral resettings including configuration setting of IP equipment and office data assignment in other nodes in CCIS over IP/FCCS over IP network. Before performing the following steps, make sure of the conditions stated in [Conditions for LAN Interface Switching](#).

16.1.1 Inherit IP Address

1

Execute the ADTM command to allocate the existing IPX addresses to CCN's LAN2 and the existing SIP BOX addresses to CCN's LAN1 respectively.

The following are recommended inheritance, but assign them according to your environment. For details on the ADTM command, refer to the ADTM command in UNIVERGE SV9500 Command Manual.

IP Address Inheritance from IPX to CCN

Existing IPX/SIP BOX Address	→	New IP Address
IPX (ACT)	→	CCN LAN2 (ACT)
IPX (STBY)	→	CCN LAN2 (#0/#1) Note 1
SIP BOX (ACT)	→	CCN LAN1 (ACT) Note 2
SIP BOX (#0)	→	CCN LAN1 (#0)
SIP BOX (#1)	→	CCN LAN1 (#1)

Note1: One of #0 and #1 IP addresses is to be newly assigned.

Note2: To be newly assigned if SIP Wireless Terminal Backup [S-154] has not been used in the existing system.

In the case of above setting, the following apply.

- SIP mode equipment
 - (1) IP equipment in SIP mode would be accommodated in a SIP BOX in the existing system.
 - (2) IP equipment in SIP mode is to be accommodated in CCN's LAN1 in the RNIP system.
 - (3) The SIP BOX and CCN's LAN1 have the same IP addresses, so IP equipment in SIP mode does not need to change its registration destination.

- Proprietary Protocol mode equipment
 - (1) IP equipment in Proprietary Protocol mode would be accommodated in an IPX in the existing system.
 - (2) IP equipment in Proprietary Protocol mode is to be accommodated in CCN's LAN1 in the RNIP system.
 - (3) The IPX and CCN's LAN1 have different IP addresses, so IP equipment in Proprietary Protocol mode has to change its registration destination.
- CCIS over IP
 - (1) An IP address of an IPX would be allocated for its own PC (Point Code) in the existing system.
 - (2) An IP address of CCN's LAN2 is to be allocated for its own PC in the RNIP system.
 - (3) The IPX and CCN's LAN2 have the same IP addresses, so all counter nodes connecting to the CCN via CCIS over IP do not need to change the destination address.
- FCCS over IP
 - (1) An IP address of an IPX would be allocated for its own FPC (Fusion Point Code) in the existing system.
 - (2) An IP address of CCN's LAN1 is to be allocated for its own FPC in the RNIP system.
 - (3) The IPX and CCN's LAN1 have different IP addresses, so NCN has to change the CCN's IP address allocated for the FPC.

For now, settings for IP equipment in Proprietary Protocol mode and FCCS over IP have to be reconfigured.

16.1.2 Switch LAN Interface to be used

1

IP equipment in Proprietary Protocol mode is configured to use the IP address of CCN LAN2 interface as the destination of registration. Also, the NCN in FCCS over IP network has the IP address in the setting as destination address to the CCN's FPC. However SV9500 cannot accommodate the IP equipment's registration and FCCS over IP connection by default because LAN1 is configured to accommodate them, but not LAN2. So execute the ADTM command to switch LAN interface for them from LAN1 to LAN2. For detailed procedure of the assignment, refer to the ADTM command in UNIVERGE SV9500 Command Manual.

Note: This step changes LAN interface settings, which is not recommended. Unless you never want to change IP equipment's settings or office data settings in other nodes, do not perform this step. In the case of above setting, the following apply.

LAN Interface Switch

Application	LAN Interface to be used	Remarks
Internal PHF	LAN2	Set for inheritance of FCCS over IP setting.
DRS (Registration)	* Use the same LAN interface between them.	Set for inheritance of IP equipment in Proprietary Protocol mode accommodation.
Internal PHE		
Internal PHI-BRI		
SR-MGC/NMS		

In the case of above setting, the following apply.

- SIP mode equipment
 - (1) IP equipment in SIP mode would be accommodated in a SIP BOX in the existing system.
 - (2) IP equipment in SIP mode is to be accommodated in CCN's LAN1 in the RNIP system.
 - (3) The SIP BOX and CCN's LAN1 have the same IP addresses, so IP equipment in SIP mode does not need to change its registration destination.
- Proprietary Protocol mode equipment
 - (1) IP equipment in Proprietary Protocol mode would be accommodated in an IPX in the existing system.
 - (2) IP equipment in Proprietary Protocol mode is to be accommodated in CCN's LAN2 in the RNIP system.
 - (3) The IPX and CCN's LAN2 have the same IP addresses, so IP equipment in Proprietary Protocol mode does not need to change its registration destination.
- CCIS over IP
 - (1) An IP address of an IPX would be allocated for its own PC (Point Code) in the existing system.

- (2) An IP address of CCN's LAN2 is to be allocated for its own PC in the RNIP system.
- (3) The IPX and CCN's LAN2 have the same IP addresses, so all counter nodes connecting to the CCN via CCIS over IP do not need to change the destination address.
- FCCS over IP
 - (1) An IP address of an IPX would be allocated for its own FPC (Fusion Point Code) in the existing system.
 - (2) An IP address of CCN's LAN2 is to be allocated for its own FPC in the RNIP system.
 - (3) The IPX and CCN's LAN2 have the same IP addresses, so NCN does not need to change the CCN's IP address allocated for the FPC.

16.2 For Message Center Interface (Serial Connection) Use

If you want to use an MCI with serial connection (RS-232C), assign the following. Also, make sure of the conditions stated in [Interactions with Other Features](#); [Message Center Interface](#).

- ASYDL, SYS1, Index 833:
 - Bit 0: Interface type for MCI (Message Center Interface)
0/1 = RS-232C interface/LAN interface
- ASYDL, SYS1, Index 1221:
 - Bits 0-7: Physical PBI number of IOC accommodation, specify MC's PBI.

Note: Available only when the following system data is set: ASYDL, SYS1, Index 833 Bit 0=0.

- AIOC - Assign appropriate data in the following parameters.
 - PORT No.: 0-7 (Enter the same port No. which has been assigned in Index 36.)
 - TERMINAL: PRINTER
 - SPEED: Assign appropriate data which conforms to protocol of the printer.
 - PARITY BIT: Assign appropriate data which conforms to protocol of the printer.
 - CHARACTER BIT: Assign appropriate data which conforms to protocol of the printer.

16.3 For Hotel Service Use

For Hotel-service use in the RNIP system using Appliance Model CCN, the data below can extend PMS transmit sequence numbers. Also, make sure of the conditions stated in [Hotel Services](#).

- AHSY, Index 534:
 - Bit 5: PMS transmit sequence number extension.
0/1: Out of service/In service

Note: Hotel services are not supported by the RNIP system using Prepackaged Server Model CCN.

16.4 For Station Message Detail Recording (SMDR) Use

In the RNIP system, one node (CCN or RN) is selected for the storage of the SMDR data of all the nodes collected in a centralized billing. As for the connection between SMDR and the node, CCN and RN support RJ-45 interface (LAN connection) and RS-232C interface (Serial connection) (**Note 1**). Both of CCN and RN can store up to 47000 calls of SMDR data.

Note: For information on SMDR message format and details on transmission data, see UNIVERGE SV9500 Operations and Maintenance Manual.

Note: For information on SMDR data assignment, see UNIVERGE SV9500 Data Programming Manual - Business; Station Message Detail Recording (SMDR) [S-10].

Note: If a LAN connection is used for the connection with SMDR, CCN performs the polling process for billing in the entire RNIP system.

Note 1: If you use serial connection for SMDR, the system data assignment (ASYDL, SYS1, Index 1221) is necessary. Through this system data assignment, specify a PBI number of a node which you connect with SMDR. The node for such PBI number will pool the SMDR data. If no node is selected (=00) or a non-existent number is selected, CCN pools the information. While operating a system, any change in the data of the connection between SMDR and the node will be immediately reflected.

16.4.1 Billing Information During Survival Mode

If survival mode prevents a node from transmitting billing information to an SMDR-collecting node, the node will store the information in its buffer. The node will transmit the stored billing information to the SMDR-collecting node after they become able to communicate with each other.

The amount of billing information a node's buffer can store depends on call frequency. Buffer with full of data discards new billing information while keeps old one. The table below shows the relationship between call frequency per hour and period of time buffer can keep to store up new billing information.

Billing Information can be Stored

Calls per Hour	Period of Time which Buffer Can Keep to Store up Billing Information
5000	9.40h
10000	4.70h
15000	3.13h
20000	2.35h
25000	1.88h
30000	1.56h

16.4.2 Obtain SMDR Information

The DLSD command allows you to display SMDR information. In normal mode, you can get all the information through the PCPro in the CCN. For an RN in survival mode, you have to log in to the RN through the PCPro to get the information of the RN. For details on the DLSD command, refer to the DLSD command in UNIVERGE SV9500 Operations and Maintenance Manual.

16.4.3 To Use an IOC Card to Output SMDR Information

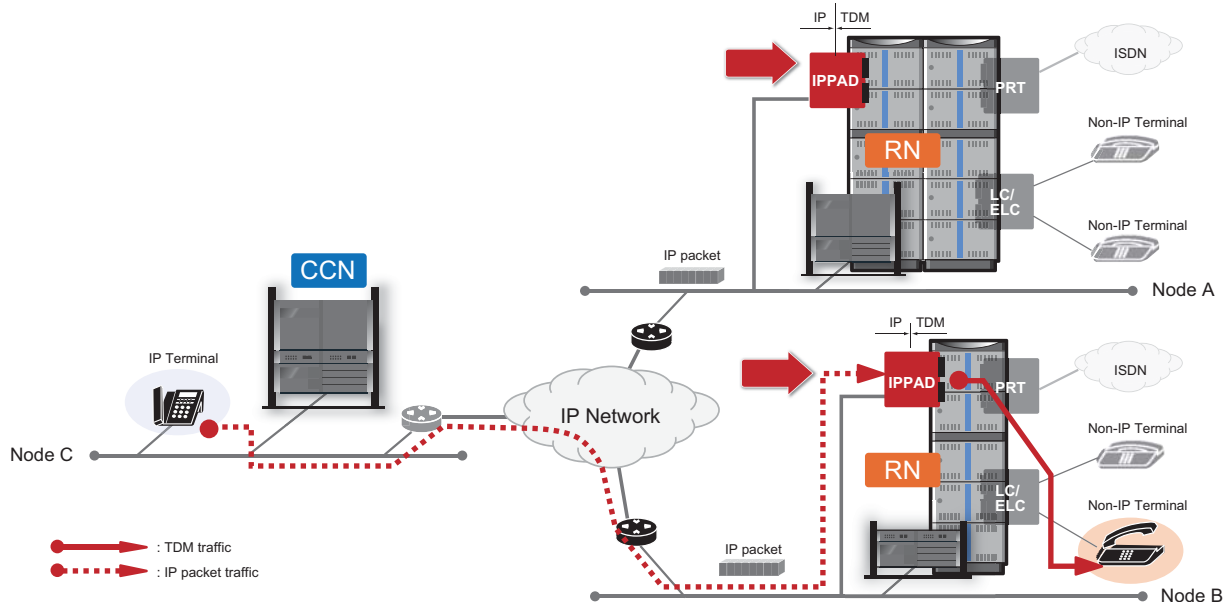
If you use an IOC card to output SMDR information, assign the data below. For more information about SMDR, refer to Station Message Detail Recording (SMDR) [S-10] in UNIVERGE SV9500 Data Programming Manual - Business.

- ASYDL, SYS1, Index 576:
 - Bit 2: As SMDR interface type, specify serial connection.
0/1: Serial Connection/LAN interface
 - ASYDL, SYS1, Index 1221:
 - Bits 0-7: Physical PBI number of IOC accommodation, specify MC's PBI.
- Note:** Note the following conditions:
- Assign a physical PBI number (example: assign "30" for 0x30).
 - When no data is changed (default setting) or unknown number is assigned, CCN performs the polling process for billing.
 - If data is changed while the system is operating, it is reflected immediately.
- AIOC - Assign appropriate data in the following parameters.
 - PORT No.: 0-7 (Enter the same port No. which has been assigned in Index 36.)
 - TERMINAL: PRINTER
 - SPEED: Assign appropriate data which conforms to protocol of the printer.
 - PARITY BIT: Assign appropriate data which conforms to protocol of the printer.
 - CHARACTER BIT: Assign appropriate data which conforms to protocol of the printer.

16.5 IPPAD Related Data

The following describes the procedures for IPPAD data programming. An IPPAD is used for an RN in the system: an IPPAD enables non-IP/SIP terminals in an RN to communicate with terminals in other nodes.

Communication between IP and non-IP terminals with IPPAD



Note: This figure shows an example when an Appliance Model CCN is used.

Step1: Execute the ALIDL command to assign detailed data of an IPPAD card such as line equipment number, IP address, jitter buffer, and payload type/size.

- PH LENS: Specify the location where an IPPAD card is accommodated with a number consisting of five digits: first two for MG (module group); next one for U (unit); last two for G (group).
- PH TYPE: Select IPPAD.
- IPPAD IP: Enter the IP address of the IPPAD card.
- MASK BIT: Enter a Mask Bit for the preceding address.
- PORT: Enter a Port Number for Call Control. (61010 by default)
- DEF GW IP: Enter an IP address of a default gateway.

Note: The maximum number of Default Gateway IP addresses varies depending on the firmware equipped on the IPPAD.

Note: The following items become available by checking the IPPAD detail data Settings check box.

- NTP IP: Enter an IP address of an NTP server
- FAX DET: Specify Fax Error Detection Timer
- FAX ECM: Specify Fax ECM mode.

- FAX TYP: Specify Fax Mode Control Precedence
- FAX RATE: Specify Fax Transmission Rate (bps)
- RTCP PTN: RTCP Pattern
- RTCP CYC: RTCP Cycle

Step2: Execute the ACRD command to assign route class data of speech routes: “CDN20 LMG” is required to use IPPAD for Connection between TDM terminals.

- CDN20: Represent IPPAD for Connection between TDM terminals.
0/1=Out of service/In service

Note: This parameter is associated with the system data: ASYDL, SYS1, Index 1225, Bits 1, 2. IPPAD operation varies depending on the combination. See the following:

IPPAD Operation

ASYDL Index 1225		ACRD CDN20	
Bit 2	Bit 1	0	1
0	0	TDM-TDM & IP-TDM	TDM-TDM & IP-TDM
0	1	IP-TDM	TDM-TDM
1	0	TDM-TDM & IP-TDM Note 1	TDM-TDM
1	1	Not used (operate as TDM-TDM & IP-TDM if assigned).	Not used (operate as TDM-TDM if assigned).

TDM-TDM: Available for a connection between a TDM terminal and another in different nodes.
IP-TDM: Available for a connection between a IP terminal and a TDM terminal.

Note 1: This setting represents an IPPAD basically only for IP-TDM. This IPPAD allows TDM-TDM connection only if all of other IPPADs connecting TDM-TDM are not available.

Step3: Execute the ACTK command to assign connection trunk data of an IPPAD: connection route; connection trunk; line equipment number.

Step4: Execute the AFPC command to assign the following:

- FPC: Assign 0 (for IPPAD circuit card).
- C_RT: Specify an IPPAD connection route assigned by the ACRD.
- FCCH: Assign 0.
- P_ROUTE: Assign 0.
- FCHN/FPCN: Assign 0.

Step5: Execute the MBCT command to make the connection trunk data assigned in the previous step unbusy.

Step6: Execute the ALOCL command to assign a Location ID to a network address, PC or FPC; specify the connection route to be used for IPPADs.

Note: Use this command to limit the number of channels to be used for IPPADs.

Note: When not assigning connection route in ALOCL command, the connection routes' order assigned in the AFPC command is used for IPPADs.

[When assigning a Location ID to a network address]

- Type: Select "Network Address".
- IP ADDRESS: Enter the IP address.
- MASK BIT: Assign the mask bit(s) in the range 1-31.
- LOC-ID: Assign a Location ID to the network address in the range of 1-4095.
- IPPAD CONNECTION ROUTE ASSIGNMENT: Place a checkmark in the checkbox.
- C_RT: Specify a connection route used for IPPADs.

[When assigning a Location ID to a PC (Point Code)]

Note: The IPPAD connection route assigned in the C_RT parameter is used for all CCIS over IP calls originated to the appropriate PC.

- PC: Enter a Point Code.
- LOC-ID: Assign a Location ID to the PC in the range of 1-4095.
- IPPAD CONNECTION ROUTE ASSIGNMENT: Place a checkmark in the checkbox.
- C_RT: Specify a connection route used for IPPADs.

[When assigning a Location ID to an FPC (Fusion Point Code)]

Note: The IPPAD connection route assigned in the C_RT parameter is used for all FCCS over IP calls originated to the appropriated FPC.

- FPC: Enter an Fusion Point Code.
- LOC-ID: Assign a Location ID to the FPC in the range of 1-4095.
- IPPAD CONNECTION ROUTE ASSIGNMENT: Place a checkmark in the checkbox.
- C_RT: Specify a connection route used for IPPADs.

Note: Refer to the following manuals in addition to above data assignment:

- For the procedure of PAD/EC Control, refer to "PAD/EC Control IP/PHC Support" in UNIVERGE SV9500 Data Programming Manual - Business.
- For the procedure of PAD Control on a Location ID Basis, refer to "PAD/EC Control on a Location ID" in UNIVERGE SV9500 Data Programming Manual - Business.
- For the procedure of Bandwidth Control, refer to Peer to Peer Bandwidth Control [P-75] in UNIVERGE SV9500 Data Programming Manual - Business.
- For the procedure of Traffic Measurement, refer to "TRAFFIC MANAGEMENT" in UNIVERGE SV9500 Operations and Maintenance Manual.

16.6 Flexible Route Re-routing for RNIP in Survival Mode Data

This section explains how to assign Flexible Route Re-routing for RNIP in Survival data. Follow the procedure below.

Step1: Assign the following system data as required with the ASYD/ASYDL/ASYDN command.

- ASYD, SYS1, Index 5:
 - Bits 1-3: Maximum number of times for Multiple Call Forwarding-All Calls/Busy Line/Logout occurrence (1-5 times)

How to Set the Number of Times for Multiple Call Forwarding

Bit 3	Bit 2	Bit 1	Number of Times	Bit 3	Bit 2	Bit 1	Number of Times
0	0	0	once	1	0	0	four times
0	0	1		1	0	1	five times
0	1	0	twice	1	1	0	
0	1	1	three times	1	1	1	

Note 1: Set twice or more for this feature.

- ASYD, SYS1, Index 69:
 - Bit 7: Multiple Call Forwarding - Busy Line/All Calls/Logout
0/1: Out of service/In service

Note 2: Set this bit only when you want to change the number of times for Multiple Call Forwarding.

- ASYDL, SYS1, Index 640:
 - Bits 0-7: Fusion Point Code (FPC) of the node providing Attendant Console **Note 11**
- ASYDL, SYS1, Index 688:
 - Bit 0: Hunting/PS Out of Zone Processing when called PS is Out of Zone
0/1: Hunting/PS Out of Zone Processing.

Note 3: Processing when a network failure is found at PS which has Station Hunting. If a network failure is found at a PS when selecting "PS Out of Zone Processing" the call is forwarded according to bandwidth congestion forwarding data that has been set to the PS. Note that this system data is shared with behavior pattern of general PS Out of Zone Processing.

- ASYDL/ASYDN, SYS1, Index 1125:
 - Bit 1: Re-routing calls placed to a legacy terminal/IP Station in the event of a network failure. **Note 4, Note 5**
0/1: Disabled/Enabled
 - Bit 2: Re-routing calls placed to a PS/SP Controlled SIP terminal in the event of a network failure. **Note 6, Note 7**
0/1: Disabled/Enabled

- Bit 3: Generate a beep when a legacy terminal/IP terminal call or PS call is automatically rerouted in the event of a network failure. **Note 4, Note 6, Note 8**
0/1: Disabled/Enabled
- Bit 4: Re-routing calls placed on a virtual line in the event of a network failure. **Note 5**
0/1: Disabled/Enabled
- Bit 6: Re-routing incoming tie line calls in the event of a network failure. **Note 9**
0/1: Disabled/Enabled
- Bit 7: Re-routing incoming central office line calls in the event of a network failure. **Note 10**
0/1: Disabled/Enabled

Note 4: Set this bit to enable this feature for legacy/IP terminals.

Note 5: Set this bit to enable this feature for virtual lines.

Note 6: Set this bit to enable this feature for PS.

Note 7: Set this bit to enable this feature for SP Controlled SIP terminals.

Note 8: Not available for SP Controlled SIP terminals and VS32.

Note 9: Set this bit to enable this feature for TIE Line (CDN:6 (TCL) of ARTD/ARTDN is 4 - 31).

Note 10: Set this bit to enable this feature for CO Line (CDN:6 (TCL) of ARTD/ARTDN is 1 - 3).

- ASYDL/ASYDN, SYS1, Index 1133:
 - Bit 0: Flexible Route Re-routing For Network Failure
0/1: Disabled/Enabled
 - Bit 1: Flexible Route Re-routing For Network Failure - Attendant
0/1: Disabled/Enabled **Note 11**
 - Bit 2: Flexible Route Re-routing For Network Failure - FCCS link all busy
0/1: Disabled/Enabled

Note 11: Set this to enable this feature for calls terminated to an attendant.

- ASYDL/ASYDN, SYS1, Index 1134, 1135:

- MA-ID of the attendant
[example: MA-ID=16]
Index 1134=10 (Hex)
Index 1135=00 (Hex)

- ASYDL/ASYDN, SYS1, Index 1225:
 - Bit 5: Flexible Route Re-routing for RNIP in Survival Mode
0/1: Disabled/Enabled

Step2: Assign the flexible rerouting data with the AFRRL/AFRRN command.

- When TYPE=TELN (Telephone Number)
 - UGN: User Group Number
 - TELN: Assign Telephone Number (maximum 16 digits) for call forwarding source.
 - CFD (Call Forwarding Destination Number): Assign the call forwarding destination number (0-9, *, maximum 24 digits). **Note 12, Note 15**
Enter a Public Network number (all digits) including the Trunk Access Code and Area Code.
 - Called Party Subaddress: **Note 14, Note 15**
Check the checkbox when adding the called party Sub-address, and then select either Automatic Addition Digit Code or Manual Input Digit Code.
 - Address Specification Method:
 - Automatic Addition Digit Code **Note 16**: Telephone Number/Private Number Code of the destination is automatically added as the called party Sub-address.
 - Manual Input Digit Code: Uses the data entered in IDC as the called party Sub-address.
 - IDC (Input Digit Code): Called Party Sub-address [0-9, *, maximum 24 digits (“#” is not used)]
- When TYPE=MA-ID
 - MA-ID: Charged Area ID (0000-9999)
 - CFD (Call Forwarding Destination Number): Assign the call forwarding destination number (0-9, *, maximum 24 digits). **Note 12, Note 15**
Enter a Public Network number (all digits) including the Trunk Access Code and Area Code.
 - Called Party Subaddress: **Note 14, Note 15**
Check the check box when adding the called party Sub-address, and then select either Automatic Addition Digit Code or Manual Input Digit Code.
 - Address Specification Method:
 - Automatic Addition Digit Code **Note 16**: Telephone Number/Private Number Code of the destination is automatically added as the called party Sub-address.
 - Manual Input Digit Code: Uses the data entered in IDC as the called party Sub-address.
 - IDC (Input Digit Code): Called Party Sub-address [0-9, *, maximum 24 digits (“#” is not used)]

Note 12: You can assign the called number (remote access number) and called party sub-address (ID code plus called party number) which are used in “Automated Attendant [A-82]”/“Remote Access to System [R-2]” as a destination number.

<Without ID code>

Called number (Remote access number) plus called subaddress (Called party number).

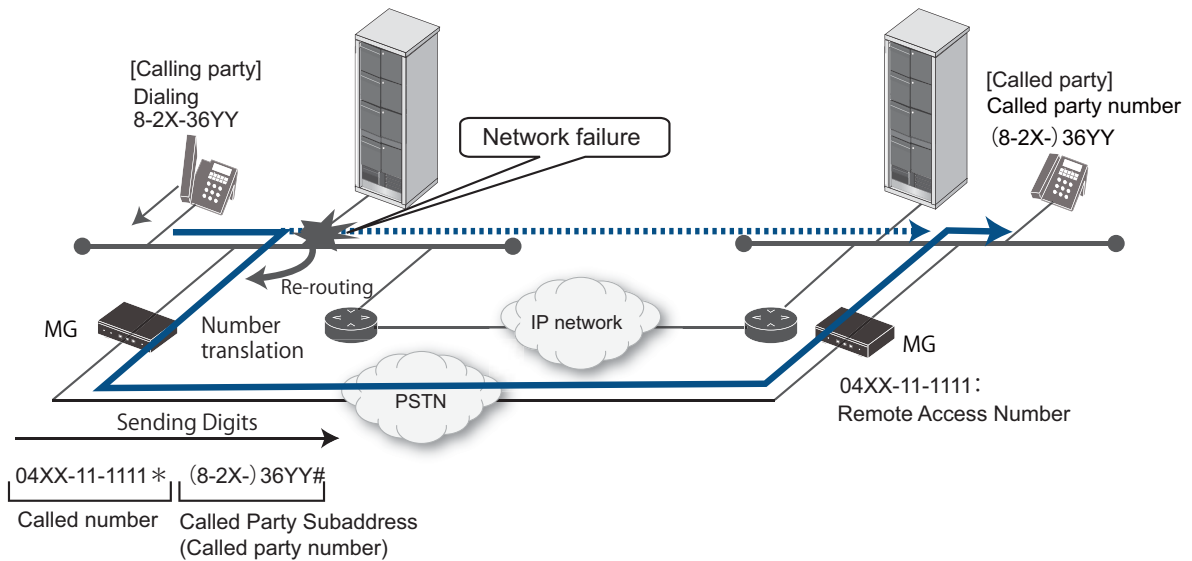
(Example)

- UGN: 1

- TELN: 3683

- CFD: 0 (Access code) 04XX 11 1111 (Called number (1111=Remote access code))

- Called Party Subaddress: Address Specification Method=Automatic Addition Digit Code



<With ID code>

Called number (Remote access number) plus called subaddress (ID code plus called party number).

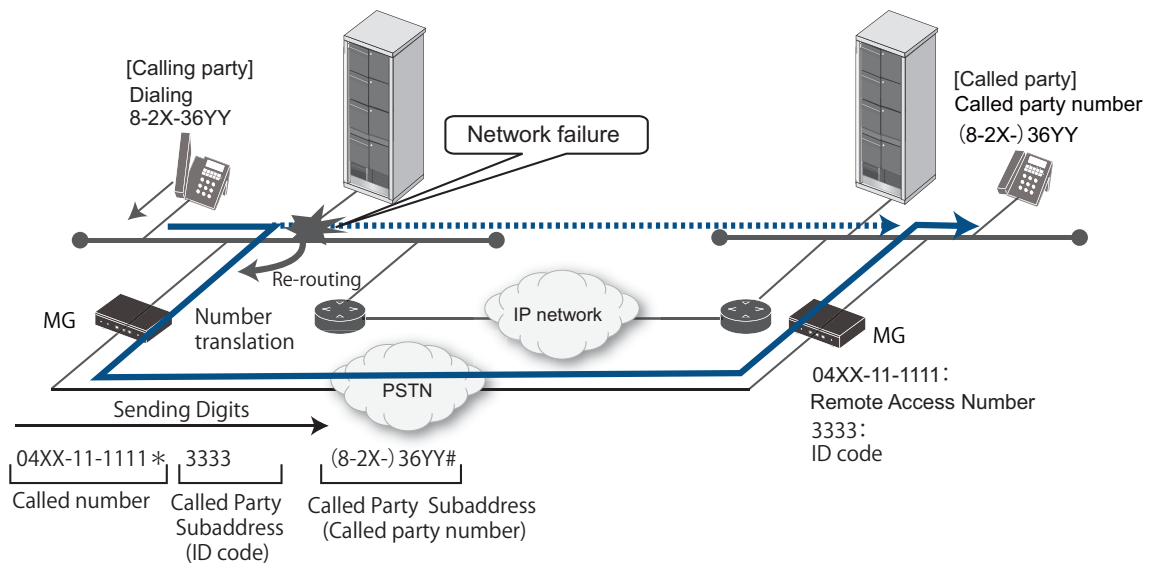
(Example)

- UGN: 1

- TELN: 3683

- CFD: 0 (Access code) 04XX 11 1111 (Called number (1111=Remote access code)) *3333 (ID code)

- Called party subaddress: Address Specification Method=Automatic Addition Digit Code



Note 13: Called party subaddress (ID code) is assigned as a destination number, note the following.

- Assign outside line access codes used in re-routing for destination number with and without ID code respectively.
- Assign the total digits of ID code and called subaddress according to the maximum digits indicated in “Maximum Digits for called party subaddress Information” table.

[Example]

CFD: Call Forwarding Destination Number				Called Party Subaddress	
0	04XX-11-1111	*	3333	*	12345678901234
Access Code	Called Number 1111: Remote access code		ID code	(Automatic addition)	Called Party Subaddress



Maximum digits for called party subaddress

ARTD/ARTDN CDN65 (INT)	Interface Specification for ISDN (0-15)	Maximum Digits
1	N-ISDN2	20
2	Australia	20
3	INS 1500(NTT)	19
4	ITU(CCITT), ETSI(PRI)	20
5	AT&T(#4/#5 ESS)	20
6	INS 64(NTT), ETSI(BRI)	19
7	NT DMS100/DMS250	Not available
9	TTC Q931 a protocol Tie Line (JAPAN)	19
10	QSIG (ETS 300 172)/IS-11572	19

Note 14: Do not add the called party subaddress when “#” is included in the Telephone Number/Private Number Code of the destination.

Note 15: When you add the called party subaddress, the number of digits for CFD assigned by AFRRL/AFRRN must be the same as NND assigned by AMND/AMND/AMNDN.

Set “Out of Service” for SUB (Sub Address Dialing) of ASPA/ASPAL/ASPN used for the trunk access code included in CFD assigned by AFRRL/AFRRN.

When the setting of the Subaddress is required for a normal call origination to an outside line, the trunk access code used for the normal call origination must be different from the one used for re-routing.

Note 16: Automatic Addition Digit Code

- When the AFRRRL command is used, the Telephone Number (LDM) is added.
- When the AFRRN command is used and Dial Plan to support IP Centrex Functionality is disabled (ASYDN SYS1 Index 818 Bit 5=0), the Telephone Number (NDM) is added.
- When the AFRRN command is used and Dial Plan to support IP Centrex Functionality is enabled (ASYDN SYS1 Index 818 Bit 5=1), Private Number Code (**Note 17**) + Telephone Number (NDM) are added.

Note 17: "Private Number Code" means a private number code which is assigned to UGN with the AUPVN command.

Step3: Assign the MA-ID and Area Name with the AMAIL/AMAIN command.

- MA-ID: Message Area ID (0000-9999) 4digits (fixed)
- AREA NAME: Area Name (8-digit indication, 16-digit indication)

Note: For SP Controlled SIP terminals, set Message Area also for MA-ID.

Step4: Assign MA-ID allocation data for each terminal and trunk with the AMAA command.

- KIND: Select a kind.
- LENS: Assigned to the originating.
- Network: Assigned to a network.

Note: Considerations should be taken for the following when setting these parameters.

[For SP Controlled SIP terminal]

- Be sure to select KIND=Network and assign MA-ID.
- The MA-ID of KIND=Network is applied at the time of the SP Controlled SIP terminal REGISTER. If MA-ID has not been assigned, MA-ID=0 will be applied.
- The MA-ID registered at the time of REGISTER will be retained when the terminal performs UNREGISTER.
- If a call terminates on UN-REGISTER-state SP Controlled SIP terminal, which has not performed REGISTER after the system startup, MA-ID=0 will be applied.
- This feature cannot be used if KIND=Network has been set for equipment other than SP Controlled SIP terminal.
- If MA-ID is assigned to the station number of SP Controlled SIP terminal, the registration result will not be displayed in the setting data of the AMAA command.

[For PS]

- Assign MA-ID to CS.
- Be sure to select KIND=LENS and FUNCTION=CS when assigning MA-ID.

- PS acquire MA-ID of CS at the time of location registration and the MA-ID is automatically applied to PS (There is no need to assign MA-ID to PS using the AMAA command). When a call is placed from PS or handed over to another base station, PS acquire MA-ID for CS newly, and the MA-ID is applied to PS. If MA-ID is not assigned to CS, MA-ID=0 will be applied to PS.
 - When PS is in out of zone, the MA-ID applied to PS is retained.
 - If a call is placed to out-of-zone-state PS, which has not performed REGISTER after the system startup, MA-ID=0 will be applied.
 - If MA-ID is registered to station number of PS, the registration result is not displayed in the setting data of the AMAA command.
- When KIND=LENS, FUNCTION=Station: Used when specifying terminal type of terminal you want to set data by Station.
 - DETAIL: Select a type where MA-ID is to be set (STN/TELN (NDM)/TELN (LDM))
 - TYPE: Select whether STN is set individually or collectively (Individual/Collective)
 - FPC: Fusion Point Code (when DETAIL=STN or DETAIL=TELN(LDM))
 - TN: Tenant Number (when DETAIL=STN)
 - UGNN/L: User Group Number (when DETAIL=TELN (NDM)/TELN (LDM))
 - STN: Station Number (when DETAIL=STN, TYPE=Individual)
 - TELNN/L: Telephone Number (when DETAIL=TELN (NDM) or TELN (LDM) and TYPE=Individual)
 - STN START-END: Specify the range of Station Number (when DETAIL=STN, TYPE=Collective)
 - TELNN/L START-END: Specify the range of Telephone Number (when DETAIL=TELN (NDM) or TELN (LDM) and TYPE=Collective)
 - MA-ID: Message Area ID (0 - 9999)
 - When KIND=LENS, FUNCTION=Trunk: Used when specifying terminal type of terminal you want to set data by Trunk.
 - DETAIL: Select a type where MA-ID is to be set (RT/LGRT)
 - TYPE: Select whether RT/LGRT is set individually or collectively (Individual/Collective)
 - FPC: Fusion Point Code (when DETAIL=RT)
 - RT: Route Number (when DETAIL=RT, TYPE=Individual)
 - LGRT: Logical Route Number (when DETAIL=LGRT, TYPE=Individual)
 - RT START-END: Specify the range of Route Number (when DETAIL=STN, TYPE=Collective)
 - LGRT START-END: Specify the range of Logical Route Number (when DETAIL=LGRT and TYPE=Collective)
 - MA-ID: Message Area ID (0 - 9999)
 - When KIND=LENS, FUNCTION=CS: Used when specifying terminal type of terminal you want to set data by CS.
 - When selecting TYPE=Individual
 - PCN: PHS Community Number
 - ERN: Calling Area Number
 - GRN: Group Number
 - CSN/ZTN: CS/ZT Number
 - MA-ID: Message Area ID (0 - 9999)

- When selecting TYPE=Collective
- PCN: PHS Community Number
- ERN START-END: Specify the range of Calling Area Number
- GRN START-END: Specify the range of Group Number
- CSN/ZTN START-END: Specify the range of IP-BS Number
- MA-ID: Message Area ID (0 - 9999)
- When KIND=LENS, FUNCTION=LENS: Used when specifying terminal type of terminal you want to set data by LENS.
 - TYPE: Select whether LENS is set individually or collectively (Individual/Collective)
 - FPC: Fusion Point Code
 - LENS: Line Equipment Numbers (when TYPE=Individual)
 - LENS START-END: Specify the range of LENS (when TYPE=Collective)
 - MA-ID: Message Area ID (0 - 9999)
- When KIND=Network: Used when allocating MA-ID to SIP Terminal.
 - FPC: Fusion Point Code
 - IP Address: IP address of the node
 - MASK BIT: MASK BIT of the node
 - MA-ID: Message Area ID (1 - 9999) **Note 18**

Note 18: Assign the Message Area ID within the range from 1 to 9999. When 0 is assigned, the MA-ID is cleared.

16.7 For Link Down Notification of RN's Transition to Survival Mode

Step1: Execute the AKYD command to set programmable Line/Feature key as link down notification:

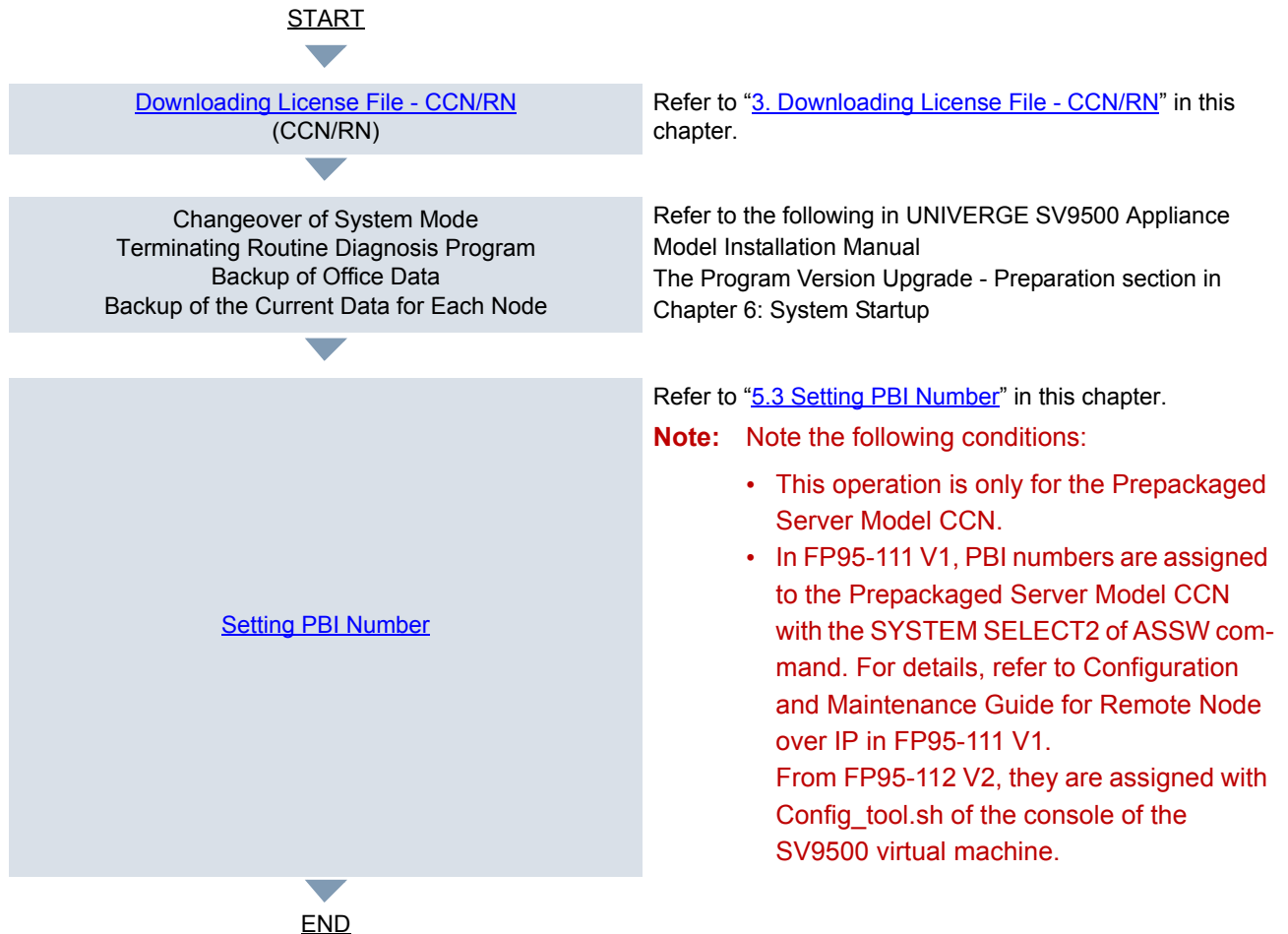
- KYN: Key Number (1-40)
- KYI: 1 (Function Key)
- FKY: 181 (Link Down Notification)

Note: The link down notification feature notifies the terminal user of RN's transition to survival mode with a lamp on the terminal.

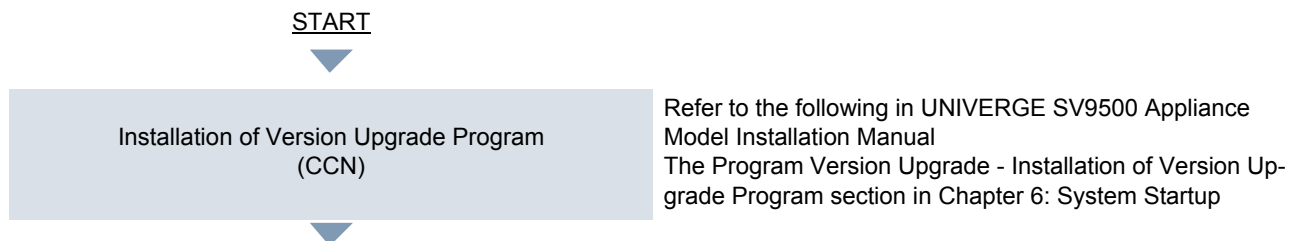
17. System Program Upgrade Procedure

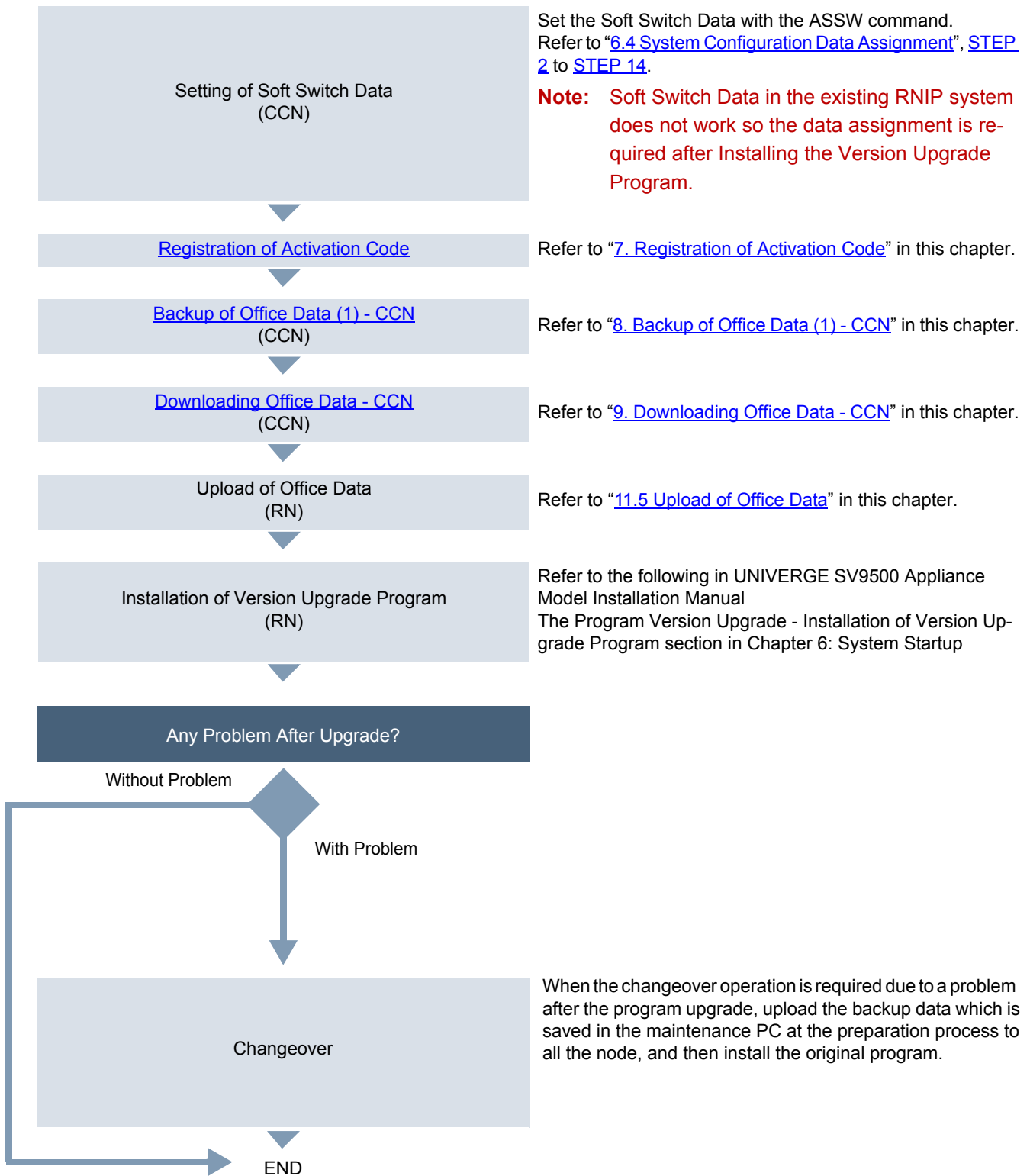
The following shows the procedure to upgrade the RNIP system program to FP95-112 V2 or later.

Preparation



RNIP System Program Upgrade Procedure

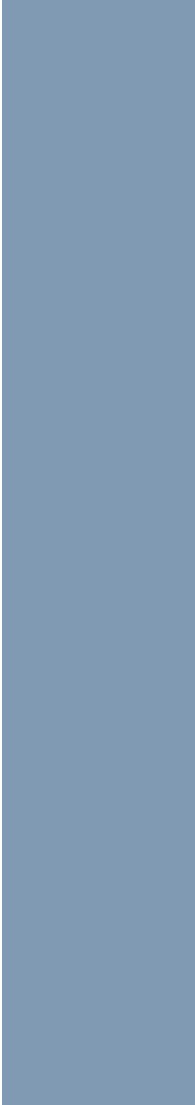






CHAPTER 4

INSTALLATION TEST

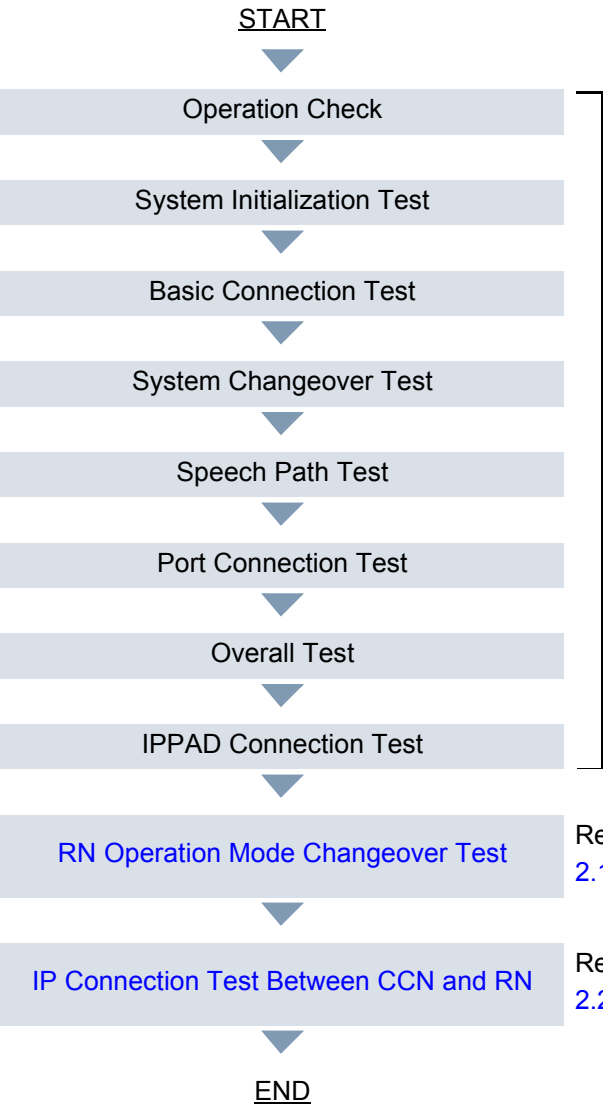




1.General

This chapter explains the installation test procedure to check that the CCN and each RN operates normally and connections between stations/trunks have been established. After starting up the system, establish some basic connections and verify that the system operates normally.

Installation Test Procedure



Refer to the following in UNIVERGE SV9500 Appliance Model Installation Manual:

- For the check and test procedure, refer to Chapter 7: Installation Test
- For the Fault Recovery During Tests, refer to Chapter 8: Fault Recovery During Tests

Refer to the following in this chapter:
[2.1 RN Operation Mode Changeover Test](#)

Refer to the following in this chapter:
[2.2 IP Connection Test Between CCN and RN](#)

Note: Operation tests concerning circuit card are supposed to be performed on the SV9500 system with PIR.

2. Installation Tests Specific to RNIP system

This section explains installation tests specific to RNIP system. Perform these tests after finishing the check that the Telephony Server operates properly and the connection between stations/trunks have been established.

2.1 RN Operation Mode Changeover Test

Check whether an RN can be changed from normal mode to survival mode.

[Test Procedure]



Step1: Execute the ARPM command:

- (1) Enter the LP number to **LP No.** and click **Get**.
- (2) After the information of RN is displayed, select “Manual” from **Changeover Mode** tab
- (3) Click **Set**.

Step2: Execute the COPM command:

- (1) Enter the LP number to **LP No.**
- (2) Select “Changeover Mode (Normal Mode - Survival Mode)” from **Operation Mode Changeover** tab.
- (3) Click **Execute**.

Step3: Verify the RN changes from normal mode to survival mode by performing one of the following:

- (a) The programmable Line/Feature key assigned for the link down notification by **AKYD** command is turned on.
- (b) Check the status of RN by using DRPM command. Refer to the DRPM command in UNIVERGE SV9500 Operations and Maintenance Manual for the detail.
- (c) Check the status of RN with the system message “10-M Remote Node Status Notification” that has been output to both CCN and RN.

[If the operation mode of RN is changed normally]

Change over the RN mode to normal mode again by using the COPM command and return the Changeover Mode to “Automatic” by using the ARPM command.

[If the operation mode of RN is not changed normally]

Check the Data Assignment for CCN.

Check the status of RN by using the DRPM command.

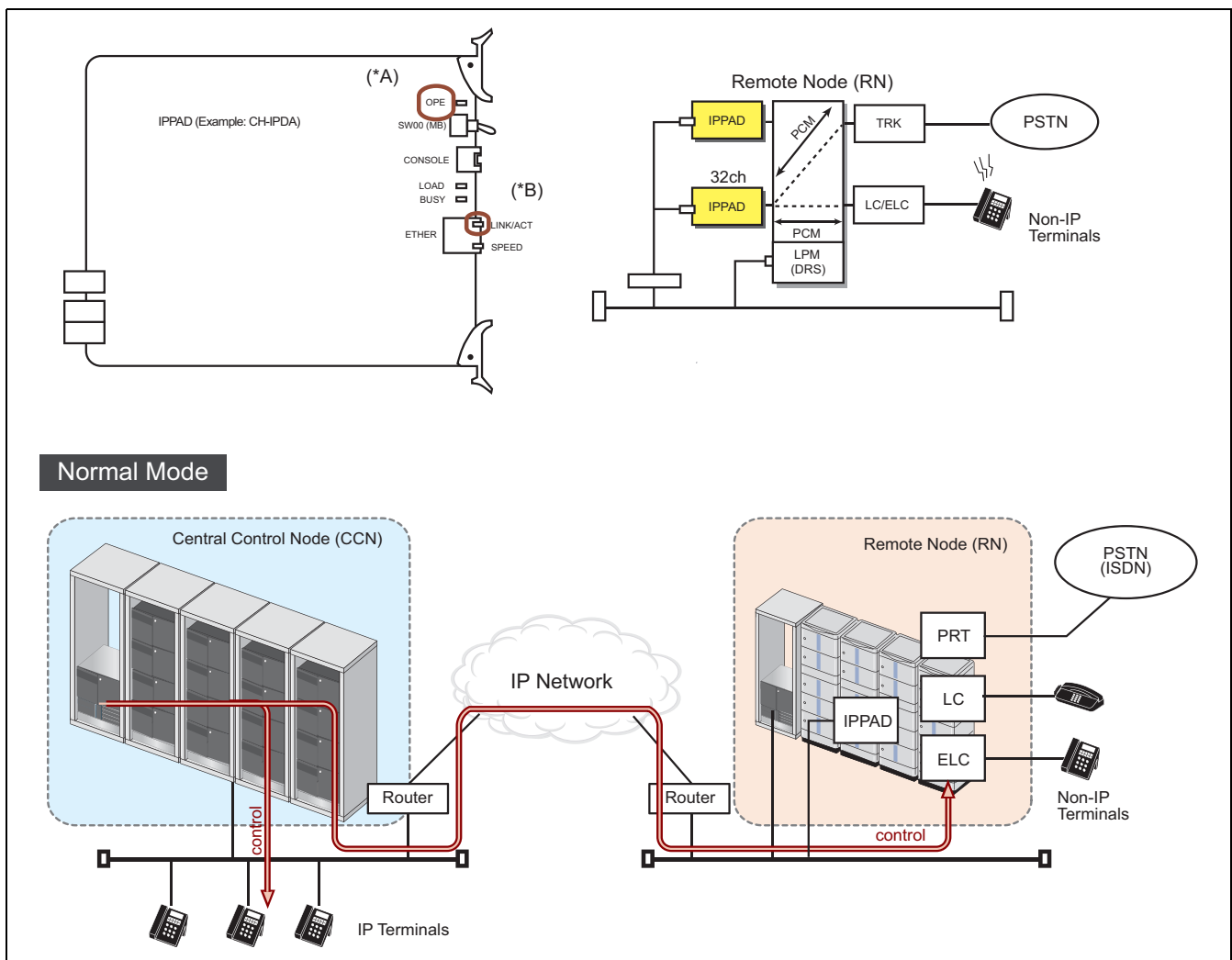
2.2 IP Connection Test Between CCN and RN

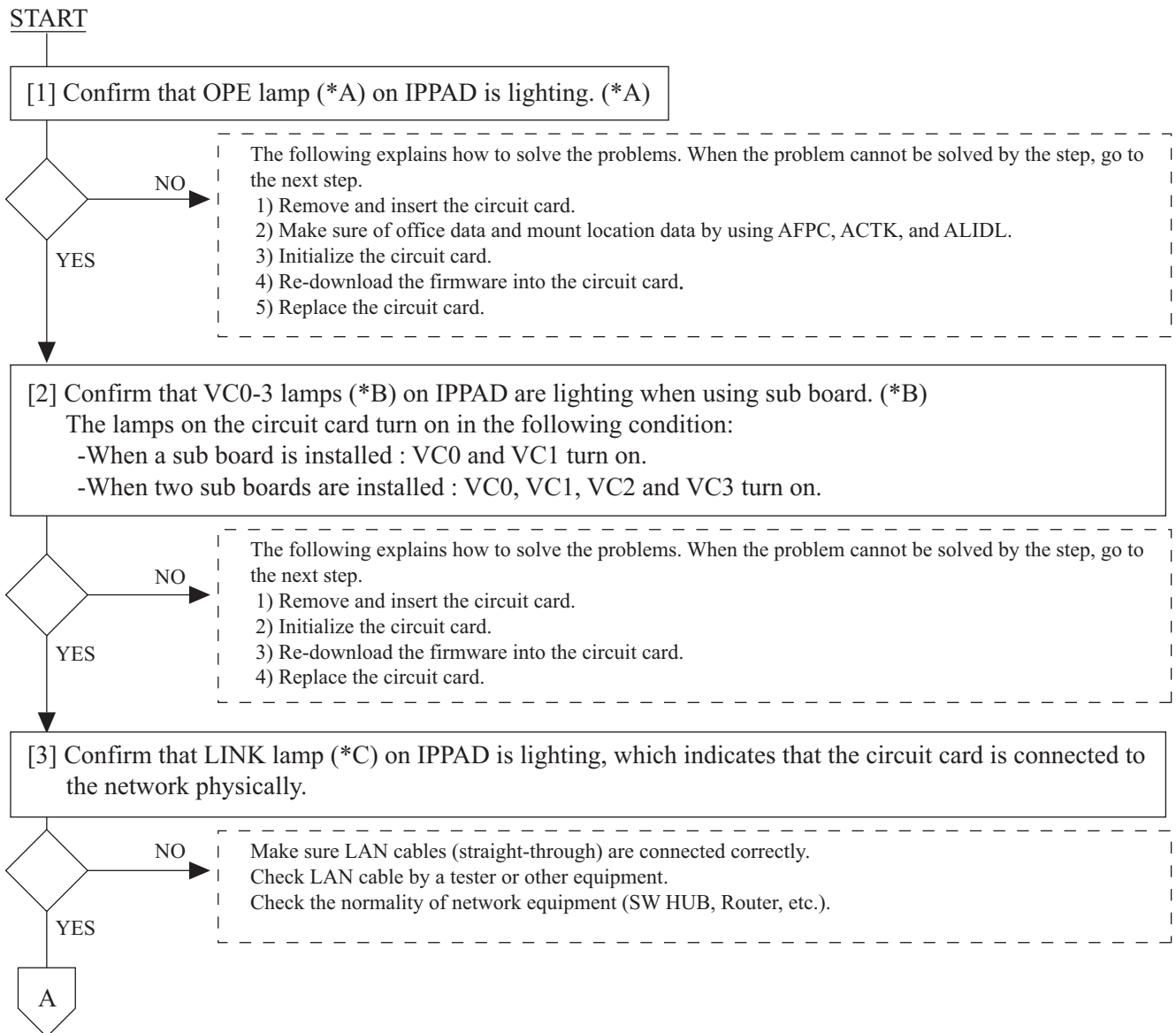
The following describes the procedure for confirming the normality of IPPAD in the case of being in normal mode. This describes the procedure for performing connection test between an IP terminal and a TDM-based terminal (a Digital terminal and an analog terminal) or an existing trunk (COT, TLT, and so on). Perform the test with the other combinations of terminals, as needed.

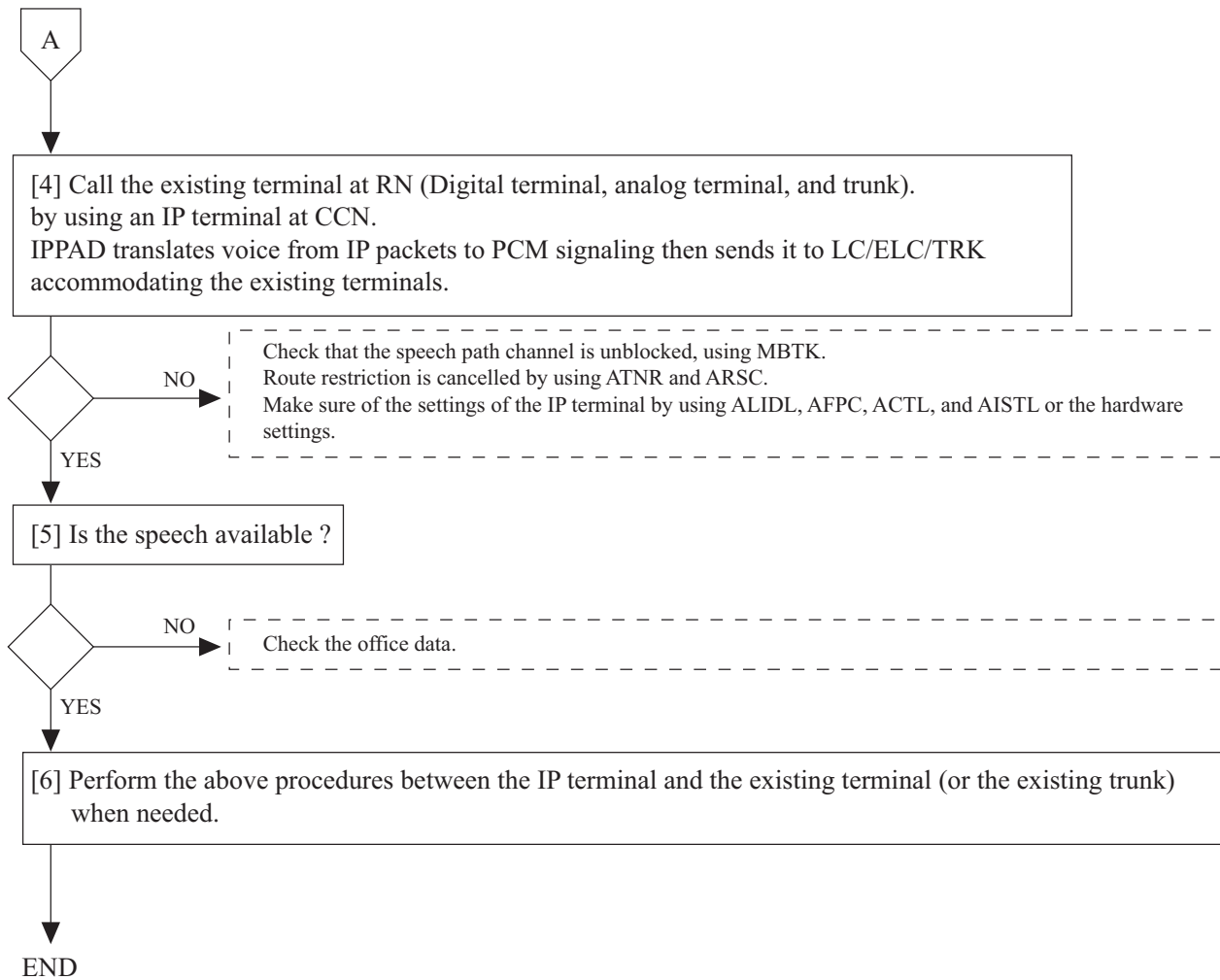
Note: Note the following conditions:

- It is essential that each RN (IPX or SV8500) and the controlled LC/TRK are in normal condition.
- Perform the test after confirming that PHD/PHA is working normally by using the proper tests.

Diagram of IPPAD Connection Test for Normal Operation







2.3 Other Connection Test

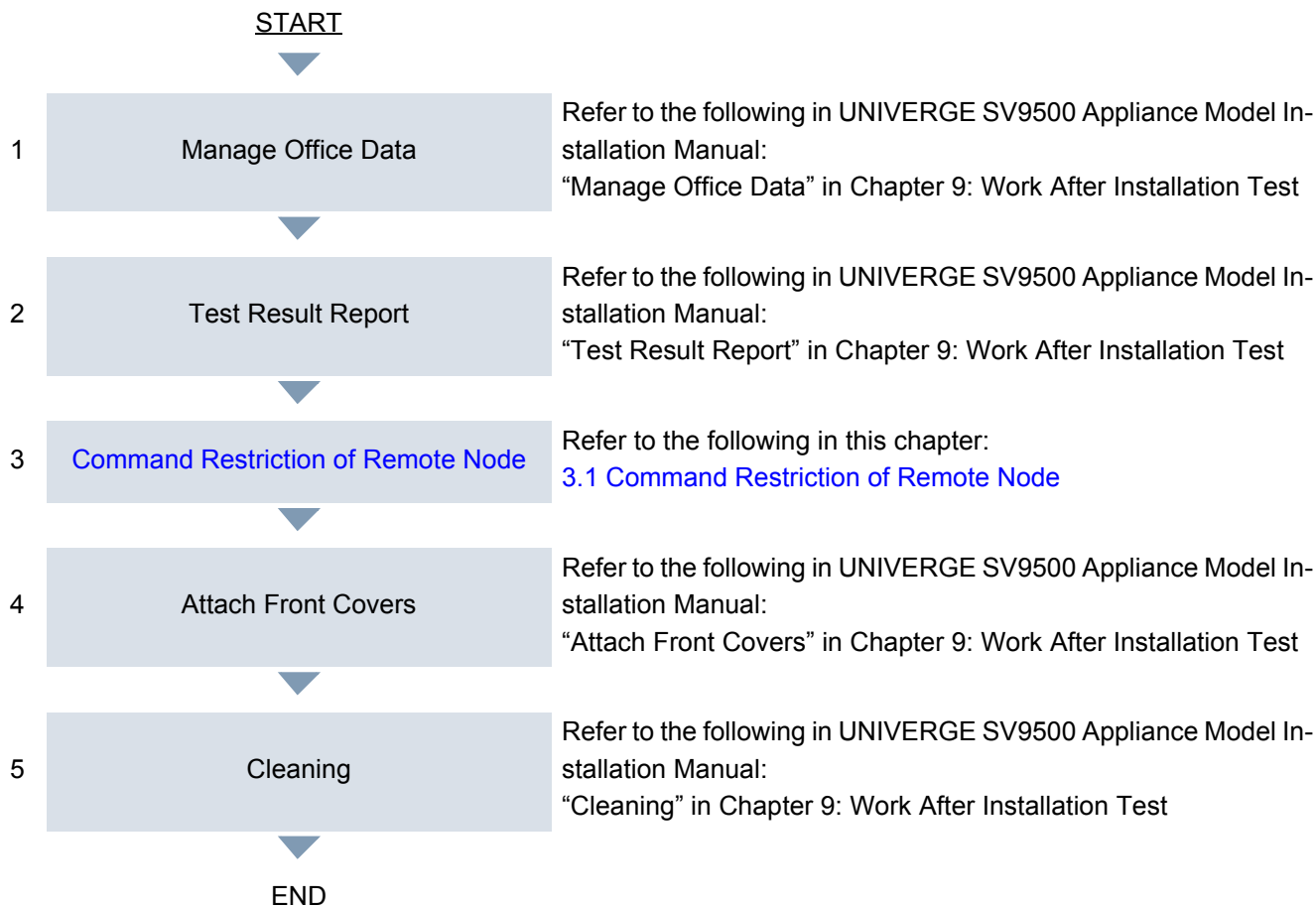
For more information about connection tests, refer to the following:

- Chapter 5: Installation Test Procedure in UNIVERGE NEAX2400 IPX Installation Manual
- Chapter 6 Installation Test in UNIVERGE SV8500 Installation Manual

3. Work After Installation Test

The following shows tasks and site cleaning that must be performed after all installation tests are completed.

Tasks and Site Cleaning Procedure



3.1 Command Restriction of Remote Node

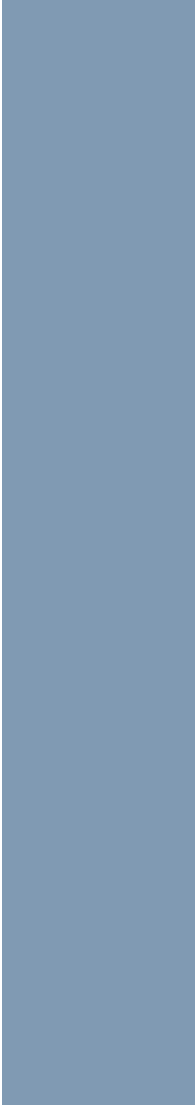
After the installation tests are completed, assign the following data to prevent the data in an RN from being overwritten and deleted.

ASYDL - SYS1, Index 1225, Bit0 (Command Restriction of RN)=0/1 (Enabled/Disabled)

Note: **ANDD command is not restricted regardless of the data assignment.**



CHAPTER 5 OPERATIONS AND MAINTENANCE



1. General

This chapter explains the procedures for operations and maintenance for RNIP. Before working on the system, make sure of the following to operate and maintain the system surely and safely.

- In principle, data assignment for the system should be done through the PCPro in the CCN, not an RN.
- If you want to reflect your data modification immediately on RNs, execute the CPDM command.
- While an RN is operating in survival mode, you cannot register line/trunk data.

This chapter only describes the information specific to the entirety of the RNIP system. See also the following manuals:

- For the information related only to an Appliance Model CCN, refer to UNIVERGE SV9500 Operations and Maintenance Manual.
- For the information related only to a Prepackaged Server Model CCN, refer to UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.
- For the information related only to an IPX-Frame RN, refer to UNIVERGE NEAX2400 IPX System Operations and Maintenance Manual
- For the information related only to a SV8500-Frame RN, UNIVERGE SV8500 Operations and Maintenance Manual.

2. System Time Setting

This section explains the system time setting.

- [RNIP System Using Appliance Model CCN](#)
- [RNIP System Using Prepackaged Server Model CCN](#)

2.1 RNIP System Using Appliance Model CCN

There are two ways to set the time using PCPro.

- Automatic Time Adjusting (SNTP setting by the ANTPL command)
Acquires the time information from a specified Simple Network Time Protocol server. The system time is automatically synchronized in an adjusted interval. It is required for SNTP to unblock port number 123. To establish an SNTP server with its domain name, execute the ADTM command to register a DNS server address.
- Manual Time Adjusting (Manual Setting by the ATIM command)
Uses the ATIM command where you assign a current year, month, day and time by hand.

The RNIP's system time is configurable only at a CCN; an RN is synchronized with the CCN. If an RN becomes unable to communicate with a CCN, the RN will go into a state where it uses an EMA circuit card to adjust the system time by itself; when the RN returns to normal mode, it re-synchronizes with the CCN.

Note: The RNIP system has a single system time during normal mode.

2.2 RNIP System Using Prepackaged Server Model CCN

Time synchronization of VMware ESXi is executed by using the NTP server, and then the clock of a guest OS (SV9500) is synchronized with that of VMware ESXi by using VMware Tools.

The clock of RNs is synchronized with that of a CCN at the following points:

- shifting to normal mode
- during a 30-second refreshing in normal mode

Note: For the Prepackaged Server Model CCN, note the following restrictions:

- The ANTPL command cannot be used.
- A time zone and Daylight Savings time setting can be performed with the ATIM command but a time setting cannot be performed.

Note: Also provide a time-synchronization (SNTP) service to CCN with the ANPTL command to adjust clocks in the entire RNIP system.

CCN/RN System Time Setting

C: Configurable, N: Not Configurable

		CCN		RN
		Appliance Model	Prepackaged Server Model	Appliance Model
Manual Time Adjusting (Manual Setting by the ATIM command)	System Date and Time	C	N (Synchronized with VMware ESXi clock)	C (Synchronized with CCN clock)
	Time Zone	C	C	N (Synchronized with the time zone setting of CCN)
	Daylight Savings Time	C	C	N (Synchronized with the daylight saving time setting CCN)
Automatic Time Adjusting (SNTP setting by the ANTPL command)	Start Time for time-synchronization (SNTP) service	C	Not used	N (Synchronized with CCN clock)

2.3 Time Display of IP Stations

Time displays of IP terminals and SIP Multiple Line terminals are synchronized with the following clocks:

Time Display of IP Terminal and SIP Multiple Line Terminal

Terminal	Synchronized with
IP terminal	Synchronized with CCN clock
SIP multiple line terminal	

3. Office Data Transfer

The office data between a CCN and RNs are periodically synchronized with each other. If there is any difference between their data, the CCN will automatically detect and transfer its own data to the RN. This function is called *periodic refresh*. A CCN executes periodic refresh at every eight seconds to verify the data.

3.1 Automatic Office Data Transfer

Step1: Activate the ASYDL command to set the following.

ASYDL SYS1 INDEX 805

Bit	Value: 0/1	Meaning
0	Enable/Disable	Periodic refresh for system data copy.
1	Enable/Disable	Partial copy is executed every time system data is assigned.
2	Disable/Enable	System message output (36-A: Office Data Copy Status Notification)

3.2 Manual Office Data Transfer

Step1: Activate the ARPM command to operate the following:

- (1) Select **Manual in the Transfer Mode** box.
- (2) Click the **Set** button.

Step2: Activate the CPDM command to set the following.

CPDM

Parameter	Values	Remarks
MODE	ALL/ONE	
KIND	DM/LDM, NDM, DM/LDM/NDM,CM,VNDM	VNDM is available when All is set in the MODE.
LP No.	0/4/8/12/16/20/24/28	Available when One is set in the MODE.
Interval	2-99 seconds	State readout interval (how often (in seconds) is the data transfer monitored)

Step3: Click the Execute button.

Note: If you want to change the mode to Automatic Transfer mode, execute the ARPM command; select Automatic in the Transfer Mode. This mode will change the RN's status if it detects a change by Health Check.

4. System Messages Output

System messages display events in routine diagnosis, system operation status control, and fault detection. A CCN usually collects RN-side system messages and output them to PCPro.

The place where system messages accumulate varies depending on the operation: normal mode or survival mode.

- (1) While an RN is operating in normal mode, the RN transmits its system messages to a CCN.
- (2) While an RN is operating in survival mode, the RN stores its system messages up to 512.
 - If you want to get the messages before the RN returns to normal mode, log in to the RN through the PCPro. **Note 1**
 - Even if the RN returns to normal mode, the RN will not transmit the stored system messages to a CCN. The system messages in RN need to be collected by PCPro in the RN.

Note 1: While an RN is operating in normal mode, its system messages are not available for PCPro in the RN. They are available only while an RN is in survival mode.

5. Alarm Indications

This section describes the alarm indication. If trouble occurs in the system, the system activates an appropriate remedial action such as system changeover, make-busy of the circuit card, or restart processing by executing the automatic diagnostic function. Results of the taken action and the faulty situation are displayed as an alarm indication and system messages (for system messages, refer to Chapter 3: System Messages in UNIVERGE SV9500 Operations and Maintenance Manual).

5.1 Kinds of Alarm Indications

The system will alert the maintenance personnel of any failure occurred in the system with the following indications.

(1) Alarm Lamps

- Front panel
Described in UNIVERGE SV9500 Operations and Maintenance Manual.
- Each circuit card
Described in UNIVERGE SV9500 Circuit Card Description.
- Each peripheral equipment
Described in the UNIVERGE SV9500 Peripheral Equipment Description.

(2) System Messages

- Displayed on PCPro.
Described in Chapter 3: System Messages in UNIVERGE SV9500 Operations and Maintenance Manual.

5.2 How to Delete Alarm Indications

Perform the following to delete an alarm indication after the failure is solved.

Step1: Execute the DFTD command to collect the recorded system messages.

Step2: Execute the RALM command to delete the alarm indications.

Note: The RALM command clears all the recorded system messages. Be sure to collect the system messages before performing the RALM command.

6. System Information Readout

You can see conditions for the RNIP system through the PCPro. Using PCPro, log in to a node on which you want to get the information, execute the ADTM command and select “**Retrieve Information**” from the **Options** tab. The ADTM command has the following items you can select:

ADTM Items

Items	Contents
MAC Address Read	Indicates MAC addresses of a CCN and RNs.
Log Information Read	Indicates log information.

Note: For more information on the ADTM command, refer to the ADTM command in UNIVERGE SV9500 Command Manual.

7. System Installing Status Display

You can see the mounting status of IMGs and unit information. Using PCPro, log in to a node which you want to get information and execute the DSOS command. This feature helps maintenance personnel to install/maintain the system and improves system maintainability. You can confirm the following information:

- Maximum of PIR numbers
- Maximum of MG numbers
- Mounting status of IMGs and unit information
- Information on the cause of errors in installation

Note that only installing status of the SV9500 that you directly log in to using PCPro is shown. The status of the RN belonging to the CCN (SV9500) cannot be displayed.

For more information on the DSOS command, refer to the DSOS command in UNIVERGE SV9500 Operations and Maintenance Manual.

8. System Control Procedures

Although the system is often maintenance free, maintenance technicians occasionally may confront a situation in which they have to manually control the system. This section describes system control procedures focusing on the following four items.

- Changeover (**Note 1**)/Make-busy/Make-busy Cancellation of Equipment

Described in UNIVERGE SV9500 Peripheral Equipment Description.

- Appliance Model CCN/RN Initialization

Described in UNIVERGE SV9500 Operations and Maintenance Manual.

- Prepackaged Server Model CCN Initialization

Described in UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.

- How to Turn On/Off Entire System

For RNIP system using Appliance Model CCN/Appliance Model RN:

Described in [How to Turn On/Off Entire System](#) in this chapter and Power ON/OFF Procedure in UNIVERGE SV9500 Appliance Model Installation Manual.

For RNIP system using Prepackaged Server Model CCN:

Described in [How to Turn On/Off Entire System](#) in this chapter and Power ON/OFF Procedure in UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual

- Canceling Command Restriction of RN

Described in the ASYDL command in UNIVERGE SV9500 Command Manual.

Note 1: Changeover of equipment is available for common control equipment that is provided in a dual configuration.

9. How to Turn On/Off Entire System

The following explains the turning on/off the RNIP system. You have to perform turning on/off procedures in the order below. For the specific procedures how to turn on each node, see each manual:

- For an Appliance Model CCN
See UNIVERGE SV9500 Appliance Model Installation Manual.
- For a Prepackaged Server Model CCN
See UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.
- For RNs
See UNIVERGE SV9500 Migration Guide.

9.1 Turn On the RNIP System

- [RNIP System Using Appliance Model CCN](#)
- [RNIP System Using Prepackaged Server Model CCN](#)

9.1.1 RNIP System Using Appliance Model CCN

- Step1:** Turn on CCN's TSWR.
- Step2:** Turn on CCN's PIRs beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.
- Step3:** Turn on CCN (SV9500) server.
- Step4:** Turn on PIMs/PIRs of the RN with the smallest PBI, beginning with IMG0 to IMG3: PIM0; PIM1; PIM2; PIM3.
- Step5:** Turn on RN (SV9500) server.
- Step6:** Repeat [Step4](#) and [Step5](#) from RN with the second smallest PBI and through all the PBIs till the highest in order.

9.1.2 RNIP System Using Prepackaged Server Model CCN

- Step1:** Turn on CCN (SV9500) server.
- Step2:** Turn on PIMs/PIRs of the RN with the smallest PBI, beginning with IMG0 to IMG3: PIM0; PIM1; PIM2; PIM3.
- Step3:** Turn on RN (SV9500) server.
- Step4:** Repeat [Step2](#) and [Step3](#) against RNs with the second smallest PBI and through all the PBIs till the highest in order.

9.2 Turn Off the RNIP System

- [RNIP System Using Appliance Model CCN](#)
- [RNIP System Using Prepackaged Server Model CCN](#)

9.2.1 RNIP System Using Appliance Model CCN

- Step1:** Turn off RN (SV9500) server with the highest PBI.
- Step2:** Turn off RN's PIMs/PIRs beginning with IMG3 to IMG0: PIM3; PIM2; PIM1; PIM0.
- Step3:** Repeat [Step1](#) and [Step2](#) against RNs with the second highest PBI and through all the PBIs till the smallest in order.
- Step4:** Turn off CCN (SV9500) server.
- Step5:** Turn off CCN's TSWR.
- Step6:** Turn off CCN's PIRs beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.

9.2.2 RNIP System Using Prepackaged Server Model CCN

- Step1:** Turn off RN (SV9500) server with the highest PBI.
- Step2:** Turn off RN's PIMs/PIRs beginning with IMG3 to IMG0: PIM3; PIM2; PIM1; PIM0.
- Step3:** Repeat [Step1](#) and [Step2](#) against RNs with the second highest PBI and through all the PBIs till the smallest in order.
- Step4:** Turn off CCN (SV9500) server.

10.Command Restriction of RN

An RN usually prevents you from writing and deleting data through the PCPro in the RN regardless of being in normal or survival mode. You can release this restriction in an RN in survival mode with the following system data setting:

Step1: Activate the ASYDL command to set the following:

- SYS1 1225 Bit 0=1 (command restriction of RN is canceled)

Note: Note the following conditions:

- When you have completed data settings in the RN, set this bit back to 0.
- When an RN enters into normal mode, CCN data is transferred to the RN. In that case the integrity of the changes made when the RN was in survival mode cannot be guaranteed.

11. Routine Diagnosis

For confirming its own servicing status, the RNIP system automatically executes self diagnosis every day as well as displays the result of the diagnosis as system messages. This function enables you to discover possible causes for trouble in an early stage and prevent them from remaining undetected.

11.1 Related System Data

The following introduces the system data related to the diagnosis:

- ASYD, SYS1, Index 86:
 - Bit 0: When routine diagnosis starts, and the result of the routine diagnosis is normal, the result is displayed as System Message [7-O].
Bit 0=0/1: Not displayed/Displayed
 - Bit 1: When the result of the routine diagnosis includes problems, the result is displayed as System Message [7-P].
Bit 1=0/1: Not displayed/Displayed
 - Bit 2, 3: Processing at the time when Trunk Ineffective Hold is detected (**Note 1**):

ASYD SYS1 INDEX 86 Bit 2 and Bit 3

Bit 3	Bit 2	The trunks being held at present are forcibly released Note 2	All trunks being held at the present are forcibly released	LENS of the detected trunk is displayed as System Message [7-P]
0	0	X	—	X
0	1	—	—	X
1	0	—	X	X

Note 1: Trunk Ineffective Hold is a continuous state other than idle state within a predetermined duration while routine diagnosis is in progress. Whether it is detected/not detected, it is assigned by ASYD, SYS1, Index 89.

Note 2: It excludes the trunks being held on two-way calls (station-to-station call, station-to-trunk, external trunk-to-external call).

Note: When Trunk Ineffective Hold on the FCCS Network is detected, setting of ASYD, SYS1, Index 86, Bit 2 and Bit 3 and SYS1, Index 89, Bit 4 and Bit 5 must be the same at all nodes on the network.

- ASYD, SYS1, Index 87, 88:
 - Index 87: Routine Diagnosis Start Time (hour): assign in a decimal number from 00 to 23.
 - Index 88: Routine Diagnosis Start Time (minute): assign in a decimal number from 00 to 59.

Note: We recommend to assign the time when your system has lowest traffic in a day.

Note: As an example, if you want to set the start time to 2:30 A.M., you assign the following: Index 87, 0x02; Index 88, 0x30.

Note: To stop the routine diagnosis, set 0xFF both to Index 87, 88.

- ASYD, SYS1, Index 89: Routine Diagnosis Items, the item corresponding to each bit is to be performed once a day.
 - Bit 1: Data Memory (DM) Check, this is to verify DM/LDM/NDM between memory and CF card, between CCN's memory and RN's memory. This function is performed while system is operating in normal mode.
Bit 1=0/1: No/Yes
 - Bit 2: TSW ACT/STBY Changeover for Dual Systems, this is to change over the TSW (Systems 0 and 1) if their state is in normal.
Bit 2=0/1: No/Yes
 - Bit 3: CPU ACT/STBY Changeover for Dual Systems, this is to change over the CPU (Systems 0 and 1) if their state is in normal.
Bit 3=0/1: No/Yes
 - Bit 4: Trunk Ineffective Hold Check, this is to save Idle/Busy information.
Bit 4=0/1: No/Yes
 - Bit 5: Trunk Ineffective Hold Detection, this is to check if the Trunk Ineffective Hold exists in the system. This verifies the current Idle/Busy information and the Idle/Busy information saved at Trunk Ineffective Hold Check.
Bit 5=0/1: No/Yes
 - Bit 6: Call Forwarding Memory Clear, this is to clear Call Forwarding Memory in all the accommodations.
Bit 6=0/1: No/Yes

Note: SYS1, Index 232, Bits 0,1 and 2 must also be set.

- ASYD, SYS1, Index 90:
 - Bit 1: Routine Backup.
Bit 1=0/1: No/Yes

Note: SYS1, Index 304, 305 and 306 must also be set.

- ASYD, SYS1, Index 232: Routine Diagnosis Items, the item corresponding to each bit is to be performed once a day.
 - Bit 0: Call Forward All Clear. Enabled when Index 89 Bit 6=1.
Bit 0=0/1: No/Yes
 - Bit 1: Call Forward Busy Clear. Enabled when Index 89 Bit 6=1.
Bit 1=0/1: No/Yes
 - Bit 2: Call Forward No Answer Clear. Enabled when Index 89 Bit 6=1.
Bit 2=0/1: No/Yes

11.2 Result for Routine Diagnosis

The result of routine diagnosis is displayed as the following system messages:

- When the system finishes diagnosis with no problem, it displays System Message [7-O]. See Chapter 3: System Messages in UNIVERGE SV9500 Operations and Maintenance Manual for details.
- When the system detects some problems, it displays System Message [7-P] (**Note 1**, **Note 2**). See Chapter 3: System Messages in UNIVERGE SV9500 Operations and Maintenance Manual for details.

In case that you get a [7-P] message, perform the necessary procedure explained in Chapter 6: Routine Maintenance Procedure in UNIVERGE SV9500 Operations and Maintenance Manual.

Note 1: When a dual CPU configuration (ASYD, SYS1, Index 58, Bit 0=1) is assigned for an Appliance Model CCN, an Appliance Model RN in a single CPU configuration and a Prepackaged Server Model CCN, System Message [7-P] (Cyclic Diagnosis Information (Error Detected), 41H:CPU ACT/STBY Changeover Failure (Single CPU System)) is output.

Note 2: When a dual CPU configuration (ASYD, SYS1, Index 58, Bit 0=1) is assigned and there is some failure in the routine backup of the routine diagnosis, an error occurs in the routine diagnosis of the system changeover and System Message [7-P] (Cyclic Diagnosis Information (Error Detected), 42H:CPU ACT/STBY Changeover Failure (DM Verification NG)) is output.

12.Data Backup (Memory to CF Card)

Each node has data including the office data in its memory as well as in its CF card. While a node is in service, it operates with the office data stored in the memory; if failure causes contents of the office data to be destroyed, the node will load the data from the CF card into the memory to restart its operation.

12.1 Data Type and Node Type

A node periodically backs up the office data to its CF card. It depends which node backs up which data. The following table details the information.

Data Type Backed Up in Each Node

Data Type	Data ID	File ID	Data Management	CCN	RN
Data Memory	DM	-	CCN	Original backup data	Copied backup data
Local Data Memory	LDM	-			
Network Data Memory	NDM	-			
Name Display	ND	-			
Wireless Call Forwarding	RCF	01			
ACD Data Memory	ACDDM	-			-
Call Forwarding	CF	-			Note 1
SPD Name Data	SPD	-			Note 2
User Assign Key	GPLP	01			Note 1
Number Sharing		02			
Call Block		03			
Individual Call Blocking Enhancement		04			
Expand Speed Calling		05			
Call Forwarding-Logout		06			
Mobility Access Data		07			
One-Touch Speed Calling for DtermIP	GPSP	01-02	CCN	Note 2	
SR-MGC		09	SR-MGC Only		
Display Data for Programmable Key		10-12	CCN	Original backup data	Note 2
Password Data for Terminal Authentication		13-17			
Soft Switch Data		18	Each Node	Note 3	Note 3
H.323 Terminal Call Transfer (Not used)	GPCM	01	CCN	Original backup data	Copied backup data
Message Area ID		02			
SIP Server Service CFD		03			
Day/Night Data		04			
Phone Book		05-18			-

Note 1: Each RN has a backup of own data only.

Note 2: The data backup is performed; however, the data backup is null data, the CCN manages RN's data.

Note 3: Each data saved in CCN and RN is used.

12.2 Periodic Data Backup (Automatic Data Backup)

Periodic data backup is performed to save the data running on the memory into a CF card automatically at a certain period of time. The following explains the system data which enables/disables periodic data backup; what is more, you can do that on a data type basis as well.

Note: Also, the time to perform periodic data backup is configurable: ASYD, SYS1, Indexes 87 and 88. For details, see [Routine Diagnosis](#).

- ASYD, SYS1, Index 90:
 - Bit 1: Periodic Data Backup (see Indexes 304, 305, and 306)
Bit 1=0/1: No/Yes
- ASYD, SYS1, Index 304:
 - Bit 0: Individual Speed Calling Data Save
Bit 0=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 1: Call Forwarding Data Save
Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 2: PS Data Save
Bit 2=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 3: Name Display Data Save
Bit 3=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 4: User Assign Soft Key Data Save
Bit 4=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 5: Number Sharing Data Save
Bit 5=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 6: Call Block Data Save
Bit 6=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)

- ASYD, SYS1, Index 305:
 - Bit 1: Call Forwarding-Logout (CFL) Data Save
 Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 2: DtermIP SPD (One-Touch Speed Calling) Data Save
 Bit 2=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 3: DM/LDM/NDM Data Save
 Bit 3=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 4: H.323 Terminal Transmitting Data Save
 Bit 4=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 5: MA-ID Data Save
 Bit 5=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 6: Mobility Access Data Save
 Bit 6=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 7: H.323 Terminal Transmitting Data Save
 Bit 0=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
- ASYD, SYS1, Index 306:
 - Bit 0: Phone Book Data Saving
 Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)

12.3 Manual Data Backup

You can back up the office data manually through the PCPro in the CCN with the MEM_HDD or MEM_HDD_N command. The following sections describes the procedure. For details on parameters of the commands, refer to the MEM_HDD and MEM_HDD_N commands in UNIVERGE SV9500 Operations and Maintenance Manual.

12.3.1 For non-FCCS network (Using MEM_HDD command)

Step1: Using PCPro, log in to a CCN.

Step2: Execute the CPDM command to transfer the office data to an RN.

- To back up the Data Memory, select **DM/LDM** in **KIND**.
- To back up Name Display, Wireless Call Forwarding, H.323 Terminal call transfer, Message Area ID, or SIP terminal call transfer, select **CM** in **KIND**.
- To back up other than the above, skip this step.

Step3: Execute the MEM_HDD command:

- (1) Select **Memory to Hard Disk** in **Direction Select**.
- (2) Check the **Auto Verify Afterward** box.
- (3) If you want to back up data in a specific RN or CCN, select One in Mode and specify the LP number.
- (4) Select items you want to back up in **Data Type Select**.
- (5) Click the **Start** button to back up the data. The data running on memory of the selected ones are copied to the Hard Disk; the data are verified.

12.3.2 For FCCS network (Using MEM_HDD_N command)

Note: The MEM_HDD_N command cannot back up data running on an RN. If you intend to back up data in an RN, log in to the RN using PCPro to execute the MEM_HDD command and follow the preceding steps.

Step1: Using PCPro, log in to an NCN.

Step2: Execute the MEM_HDD_N command:

- (1) Select **Memory to Hard Disk** in **Direction Select**.
- (2) Check the **Auto Verify Afterward** box.
- (3) If you want to back up data stored in a specific CCN, select One in Mode and specify the LP number.
- (4) Select items you want to back up in **Data Type Select**.

- (5) Click the **Start** button to back up data; the data running on memory of the selected ones are copied to the Hard Disk; the data are verified.

12.4 Data Restoration

The data once saved in node's hard disk can be restored onto the memory with the MEM_HDD command. The following describes the procedure. For details on parameters of the command, refer to the MEM_HDD command in UNIVERGE SV9500 Operations and Maintenance Manual.

Step1: Using PCPro, log in to a node (CCN or RN) of which you intend to restore data.

Step2: Execute the MEM_HDD command:

- (1) Select **Hard Disk to Memory** in **Direction Select**.
- (2) Specify the appropriate LP Number.
- (3) Click the Start button to restore data. The data saved in the hard disk is copied onto the memory.

13.Operation Mode Changeover

The following describes data assignment necessary for RN's operation mode changeover: normal mode to survival mode, survival mode to normal mode. For details on each mode, refer to [Normal Mode and Survival Mode](#).

The mode can be changed both automatically and manually. The data assignment for each change is shown below:

Note: When an RN transits to survival mode due to communication failure, the RN can notify IP terminal users that the transit has occurred with specific programmable keys lighting green (requires data assignment).

13.1 Automatic Changeover Data Assignment

If you want to establish automatic changeover, execute the following:

Step1: Execute the ASYDL command to specify CCN-RN Health Check conditions that determine if an RN transits to survival mode:

ASYDL, SYS1, Index 1222:

- Bits 0-3: Period of Time for performing Health Check between a CCN and RNs [1 - F]
A value will be multiplied by 2 seconds; the value 0 is considered two seconds.
- Bits 4-7: Detection timer for Health Check NG between a CCN and RNs [1 - F]
A value will be multiplied by 30 seconds; the value 0 is considered 30 seconds.

13.2 Manual Changeover Data Assignment

If you want to establish manual changeover, execute the following:

Step1: Execute the ARPM command:

- (1) Specify an LP No. of an RN which you want to set to manual changeover.
- (2) Click the **Get** button.
- (3) Enter the office name for **Office Name**.
- (4) Select **Manual** in **Changeover Mode**.
- (5) Click the **Set** button.

Step2: Execute the COPM command:

- (1) Specify the RN's LP No.
- (2) Select **Changeover Mode**.
- (3) Click the **Execute** button.

Note: If you want to change the mode to Automatic Changeover, execute the ARPM command and select Automatic in the Changeover Mode. This setting will change the RN's mode if the system detects a problem with Health Check.

14.TCP/UDP Port in RNIP

The RNIP system uses proprietary TCP/UDP port numbers for applications. You can check as well as modify them with the ADTM command.

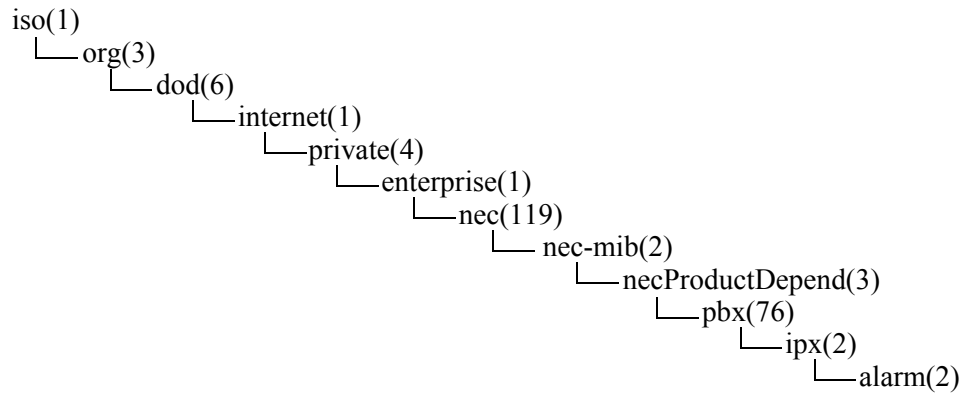
A CCN or an RN has two LAN interfaces to operate these applications: LAN1 and LAN2. You can assign each application to either of the interfaces depending on your environment. This setting is also available with the ADTM command. For details on the ADTM command, see the ADTM command in UNIVERGE SV9500 Command Manual.

15.SNMP

The RNIP system supports Simple Network Management Protocol (SNMP). A CCN supports Standard MIB (RFC compliance) and NEC Private MIB. RN supports the Standard MIB and a part of NEC Private MIB, that is, alarm information.

For details on SNMP, see SNMP [S-148] in UNIVERGE SV9500 Data Programming Manual - Business. For SNMP setting procedure with VMware used for a Prepackaged Server Model CCN, see SNMP setting in UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual. The following shows NEC Private MIB tree for an RN.

NEC Private MIB Tree for RN



16. Hardware Replacement

When you replace hardware in the RNIP system using Appliance Model CCN, perform the procedure referring to UNIVERGE SV9500 Operations and Maintenance Manual.

When you replace hardware in the RNIP system using Prepackaged Server Model CCN, perform the procedure referring to Maintenance Guide attached to your Express server.

17. Install Additional RN

This section explains how to install additional RNs in the RNIP system that is in operation. There are two procedures to complete it: time-saving procedure and normal procedure.

In the time-saving procedure, a CCN forwards the office data to additional RNs. The more differences exist between databases, the longer it takes to transfer the data from the CCN to RNs. Manually copying data to match in advance can reduce the time.

17.1 Time-Saving Procedure

Step1: Using PCPro, log in to a CCN and modify the following system data:

- ASYD, SYS1, Index 0: specify the number of MGs.
- ASYD, SYS1, Indexes 198-205, Bits 0, 1, 4, 5 (each index): specify LP mounting status.
- ASYDL, SYS1, Indexes 556-563: specify PIR/PIM mounting status.
- ASYDL, SYS1, Indexes 1026-1033: specify PIR/PIM usage.

Note: For details, refer to the ASYD/ASYDL commands in UNIVERGE SV9500 Command Manual.

Step2: Execute the AUNT command to modify unit data.

Step3: Execute the ASSW command to set Soft Switch Data for each added RN.

(1) Set the following for System 0:

- Click **LP** in **Node Specification**, and then enter the LP No. of the RN to be added in the **LP No.** box.
- Click **System 0** in **System Select**.

The following SYSTEM SELECT 0-3 images are displayed. Set the following data.

- SYSTEM SELECT1 SW1=ON (LAN connector 3 not detect fault)
- SYSTEM SELECT1 SW4=ON (LAN connector 4 not detect fault)
- SYSTEM SELECT3 SW7=OFF/ON (OFF/ON=Four-Frame/Two-Frame)
- SYSTEM SELECT3 SW8=ON (RN)

(2) Set the following for System 1:

- Click **LP** in **Node Specification**, and then enter the LP No. of the RN to be added in the **LP No.** box.
- Click **System 1** in **System Select**.

The following SYSTEM SELECT 0-3 images are displayed. Set the following data.

- SYSTEM SELECT1 SW1=ON (LAN connector 3 not detect fault)
- SYSTEM SELECT1 SW4=ON (LAN connector 4 not detect fault)
- SYSTEM SELECT3 SW7=OFF/ON (OFF/ON=Four-Frame/Two-Frame)
- SYSTEM SELECT3 SW8=ON (RN)

- Step4:** Execute the ADTM command to assign IP addresses to additional RNs' LPs.
- Step5:** Execute the ARPM command to assign the RN Information.
- Step6:** Execute the MEM_HDD command and back up the Data Memory and the Soft Switch Data from CCN's memory to a CF card.
- Step7:** See [Downloading Office Data - CCN](#) in Chapter 3 and execute Telephony Server Maintenance Menu to copy the Office Data and the license file from the CCN's CF card to a maintenance PC. See [CF Card Initialization](#) in Chapter 3 and initialize the CF card of the added RN.

Note: In the Installation Menu, register the IP address of the RN LAN1.

- Step8:** Set PBI No. switch of the RN, referring to [Setting PBI No. Switch](#) in Chapter 3 and then power on the RN as a CCN.
- Step9:** See [Assignment of Initial Data](#) in Chapter 3 and install the CCN's office data and the license file downloaded to the maintenance PC to the RN's CF card with Telephony Server Maintenance Menu.
- (1) Download the license and office data from the CF card of the CCN.
 - (2) Log in to the RN using the Telephony Server Maintenance Menu.
 - (3) Upload to the RN the license and office data previously downloaded from the CCN.
 - (4) Restart the RN.
- Step10:** Restart the RN referring to [Reboot of RN](#) in Chapter 3. Connect the RN to the actual network.
- Step11:** The RN automatically transits from survival mode to normal mode with being initialized.

17.2 Normal Procedure

Step1: Using PCPro, log in to a CCN and modify the following system data:

- ASYDL, SYS1, Index 512: specify the FPC. **Note 1**
- ASYD, SYS1, Index 0: specify the number of MGs. **Note 1**
- ASYD, SYS1, Indexes 198-205, Bits 0, 1, 4, 5 (each index): specify LP mounting status.
- ASYDL, SYS1, Index 513: specify the LDM usage. **Note 1**
- ASYDL, SYS1, Index 514: specify the NDM usage. **Note 1**
- ASYDL, SYS1, Indexes 556-563: specify PIR/PIM mounting status.
- ASYDL, SYS1, Index 957: specify the NDM usage. **Note 1**
- ASYDL, SYS1, Indexes 1026-1033: specify PIR/PIM usage.

Note: For details, refer to the ASYD and ASYDL commands in UNIVERGE SV9500 Command Manual.

Note 1: Set the data according to the system data of the CCN.

Step2: Execute the AUNT command to modify unit data.

Step3: Execute the ADTM command to assign IP addresses (LAN1/LAN2) to additional RNs' LPs.

Step4: Execute the ARPM command to assign the RN Information.

Step5: Execute the MEM_HDD command and back up the office data from CCN's memory to a CF Card.

Step6: Perform the added RN's CF Card Initialization referring to [CF Card Initialization](#) in Chapter 3.

Note: Assign with the Installation Menu the RN's LAN1 IP address as the RN's IP address.

Step7: Set PBI No. switch of each RN, referring to [Setting PBI No. Switch](#) in Chapter 3 and then turn on switches of the RNs.

Step8: Upload the license file downloaded from the CCN's CF card to each RN.

- (1) Download the license file from the CCN's CF card.
- (2) Using **Telephony Server Maintenance Menu**, log in to an RN.
- (3) Upload the license file downloaded from the CCN's CF card to the RN referring to [Uploading License \(from PC to RN\)](#) in [Installation of RN Initial Setting Data](#).
- (4) Reboot the RN.

Note: The RN will be momentarily connected to the local network.

Step9: Using PCPro, log in to each RN with the default LAN2 ACT IP address (172.16.253.0).

Step10: Modify the following system data to each added RN:

- ASYDL, SYS1, Index 512: specify the FPC. **Note 2**
- ASYD, SYS1, Index 0: specify the number of MGs. **Note 2**
- ASYD, SYS1, Indexes 198-205 Bits 0, 1, 4, 5 (each index): specify LP mounting status.
- ASYDL, SYS1, Index 513: specify the LDM usage. **Note 2**
- ASYDL, SYS1, Index 514: specify the NDM usage. **Note 2**
- ASYDL, SYS1, Indexes 556-563: specify PIR/PIM mounting status.
- ASYDL, SYS1, Index 957: specify the NDM usage. **Note 2**
- ASYDL, SYS1, Indexes 1026-1033: specify PIR/PIM usage.
- ASYDL, SYS1, Index 1225 Bit 0=1 (Writing or deleting to RN from PCPro is not restricted)

Note: For details, refer to the ASYD and ASYDL commands in UNIVERGE SV9500 Command Manual.

Note 2: Set the data according to the system data of the CCN.

Step11: Execute the AUNT command to modify unit data for each RN.

Step12: Execute the ASSW command to set RN and Four-Frame/Two-Frame for each RN.

(1) Set the following for System 0:

- Click **LP** in **Node Specification**, and then enter the LP No. of the RN to be added in the **LP No.** box.
- Click **System 0** in **System Select**.

The following SYSTEM SELECT 0-3 images are displayed. Set the following data.

- SYSTEM SELECT1 SW1=ON (LAN connector 3 not detect fault)
- SYSTEM SELECT1 SW4=ON (LAN connector 4 not detect fault)
- SYSTEM SELECT3 SW7=OFF/ON (OFF/ON=Four-Frame/Two-Frame)
- SYSTEM SELECT3 SW8=ON (OFF/ON=CCN/RN)

(2) Set the following for System 1:

- Click **LP** in **Node Specification**, and then enter the LP No. of the RN to be added in the **LP No.** box.
- Click **System 1** in **System Select**.

The following SYSTEM SELECT 0-3 images are displayed. Set the following data.

- SYSTEM SELECT1 SW1=ON (LAN connector 3 not detect fault)
- SYSTEM SELECT1 SW4=ON (LAN connector 4 not detect fault)
- SYSTEM SELECT3 SW7=OFF/ON (OFF/ON=Four-Frame/Two-Frame)
- SYSTEM SELECT3 SW8=ON (OFF/ON=CCN/RN)

Step13: Execute the SINZ command to each RN.

- (1) Click **LP** in **Node Specification**, and then enter the LP No. of the RN to be added in the **LP No.** box.
- (2) Click **System Initialize** for **Process Kind Select**.
- (3) Click the **Execute** button. The node will activate as RN.

Step14: Using PCPro, log in to each RN with the LAN2 ACT IP address (172.16.253.0) again.

Step15: Using PCPro, log in to each RN and execute the ADTM command. Assign the RN's LP data including IP addresses and then assign CCN's LP data including IP addresses.

- (1) Execute the ADTM command to set the following.
 - Check **LP** for **Select target data**.
 - Specify **LP No.** corresponding to the RN you are going to configure.
 - Select **LAN1** for **Select LAN Interface**.
 - Assign the various information to LAN1.
- (2) Repeat the preceding step until you finish configuring all RNs.
- (3) Make sure the preceding IP addresses are set properly: set the maintenance PC environment to enable it to access the nodes; execute ping command to each.
- (4) Execute the ADTM command to set the following.
 - Check **CCN** for **Select target data**.
 - Select **LAN1** for **Select LAN Interface**.
 - Open **IP Address** tab and then set the following:
 - (a) IP Address (ACT)
 - (b) IP Address (System-0) **Note 3**
 - (c) IP Address (System-1) **Note 3**
 - (d) Subnet Mask

Note 3: For dual-CPU configuration only.

Step16: Connect the RN to the actual network.

Step17: The RN receives the office data from the CCN and automatically changes from survival mode to normal mode after being initialized.

Step18: Using the PCPro, log in to the CCN and activate the CPDM command to set the following.

CPDM

Parameter	Values
MODE	ONE
KIND	DM/LDM/NDM,CM
LP No.	0/4/8/12/16/20/24/28
Interval	2-99 seconds

Step19: Click the **Execute** button.

Step20: Execute the MEM_HDD command to back up the Data Memory and the Soft Switch Data.

- (1) Click **Memory to Hard Disk** for **Direction Select**.
- (2) Click **Data Memory** and **Soft Switch Data** for **Data Type Select**.

Note: Back up the following data also if the system uses:

- Name Display
- Wireless Call Forwarding
- H.323 Terminal Call Transfer
- SIP Terminal Call Transfer
- Message Area ID Data

Step21: In the case of a dual-CPU configuration for the added RN, execute the SINZ command.

- (1) Click **LP** in Node Specification, and then enter the **LP No.** in the **LP No.** box.
- (2) Click **Restart** for **Process Kind Select**.
- (3) Click the **Execute** button.

18. Installation of RN Initial Setting Data

This section explains the procedure to install the initial data, which was imported from CCN to the maintenance PC, to RN's CF card.

Note: For details on Telephony Server Maintenance Menu, refer to Chapter 6: System Startup in UNIVERGE SV9500 Appliance Model Installation Manual.

18.1 Uploading Office Data (from PC to RN)

Step1: Type "http://xxx.xxx.xxx.xxx:9801/" into the address bar to access Telephony Server Maintenance Menu. **Telephony Server Maintenance Menu Login** screen appears. After the login, **Telephony Server Maintenance Menu** screen appears.

Note: "xxx.xxx.xxx.xxx" can be LAN1 IP address of the destination RN (example: 10.1.101.30).

Step2: Click the **Upload** button for **Office Data** on **Telephony Server Maintenance Menu** screen. The **Office Data Upload** dialog box appears in the lower right portion of the screen.

Step3: Choose a destination drive (Drive B or Drive C).

Step4: Click the **Browse** button on the dialog box and specify the Office Data file which you want to upload.

Step5: Click the **Upload** button on the **Office Data Upload** dialog box to upload the specified data. When the uploading is complete, "Operation successfully completed" will be displayed. Click **OK**.

Step6: When the RN is a dual configuration system, repeat the procedure from [Step1](#) to [Step5](#) for System #1 of the RN.

18.2 Uploading License (from PC to RN)

Step1: Type "http://xxx.xxx.xxx.xxx:9801/" into the address bar to access Telephony Server Maintenance Menu. **Telephony Server Maintenance Menu Login** screen appears. After the login, **Telephony Server Maintenance Menu** screen appears.

Note: "xxx.xxx.xxx.xxx" can be LAN1 IP address of the destination RN (example: 10.1.101.30).

Step2: Click the **Upload** button for License on **Telephony Server Maintenance Menu** screen. The **License Upload** dialog box appears in the lower right portion of the screen.

- Step3:** Select **TEMP** on the **License Upload** dialog box.
- Step4:** Click the **Browse** button in the dialog box and specify the license file on the maintenance PC.
- Step5:** Click the **Upload** button. When the uploading is complete, "Operation successfully completed" will be displayed. Click **OK**.
- Note:** When the switching ends in failure, "An error occurred! Please check the logs." is displayed and the details are displayed in the lower right portion of the screen.
- Step6:** When the RN is a dual configuration system, repeat the procedure from [Step1](#) to [Step5](#) for System #1 of the RN.

18.3 Switching between TEMP and WORK

File storages of programs, licenses, and patches for Telephony Server Maintenance Menu are divided into WORK side and TEMP side. The files used for current operation are stored in the WORK side and the temporary files are stored in the TEMP side. When those files are uploaded into TEMP side, the following procedure is required.

- Step1:** Click the **Switch** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears in the lower right portion of the screen.
- Step2:** Click the **Switch image** button in the dialog box.
- Step3:** A confirmation message appears. Click **OK** to switch between WORK and TEMP.
- Step4:** The Telephony Server will be automatically restarted. The message "Operation successfully completed. Please close the browser." appears, click **OK** to exit from the Telephony Server Maintenance Menu.
- Step5:** Verify that ON LINE lamp on the front panel of CPU card changes in the following order.
[1] OFF → [2] flash fast → [3] flash slowly → [4] ON

Note: When the switching ends in failure, "An error occurred! Please check the logs." is displayed and the details are displayed in the lower right portion of the screen.

19.Change IP Address

When you change an IP address of a node, follow this procedure. Note the conditions stated in [2.6 Conditions for TCP/IP Environment](#) in Chapter 1: General.

19.1 Change CCN Address during Normal Mode

Step1: Using PCPro, log in to a CCN.

Step2: On the PCPro log in to the CCN, execute the DRPM command to confirm that each RN is in the following status:

- Operation Status: Normal Mode
- Office Data Status: No Difference (**Note 1**)

Note 1: If Office Data Status is different, perform the following: forward the CCN's office data to the RN with the CPDM command; save the RN's office data with the MEM_HDD command

Step3: On the PCPro log in to the CCN, execute the COPM command to switch all RNs to survival mode.

Step4: On the PCPro log in to the CCN, execute the DRPM command to confirm that each RN is in the following status:

- Operation Status: Survival Mode (Instruction from MAT) (1)

Step5: On the PCPro log in to the CCN, execute the ADTM command to set IP addresses of the CCN. The PCPro will be disconnected.

Note: To open CCN's IP address fields, there is an alternative: click LP in the CCN/LP box; specify CCN's LP. But if you set data in the fields opened by specifying CCN in the CCN/LP box, the data is synchronized to the preceding fields: you do not need to repeat the data assignment.

Step6: Using PCPro, log in to each RN.

Step7: On the PCPro log in to the RN, execute the ADTM command to set IP addresses of the CCN as you operated through the PCPro in the CCN in the preceding step.

Step8: Using PCPro, log in to the CCN again.

Step9: On the PCPro log in to the CCN, execute the COPM command to switch all RNs back to normal mode.

Note: Before switching modes of RN, confirm that the RN is in survival mode: Operation Status is Survival Mode (Instruction form MAT) (1) in the DRPM command.

Step10: On the PCPro log in to the CCN, execute the DRPM command to confirm that each RN status transits as the following:

- Operation Status: from Registering to Normal Mode
- Office Data Status: No difference (**Note 2**).

Note 2: If Office Data Status is Difference, perform the following: forward the CCN's office data to the RN with the CPDM command; save the RN's office data with the MEM_HDD command.

19.2 Change RN Address during Normal Mode

Step1: Using PCPro, log in to a CCN.

Step2: On the PCPro log in to the CCN, execute the DRPM command to confirm that each RN is in the following status:

- Operation Status: Normal Mode
- Office Data Status: No Difference (**Note 1**)

Note 1: If Office Data Status is different, perform the following: forward the CCN's office data to the RN with the CPDM command; save the RN's office data with the MEM_HDD command.

Step3: On the PCPro log in to the CCN, execute the COPM command to switch an RN of which you want to change an IP address to survival mode.

Step4: On the PCPro log in to the CCN, execute the DRPM command to confirm that the RN is in the following status:

- Operation Status: Survival Mode (Instruction from MAT) (2)

Step5: On the PCPro log in to the CCN, execute the ADTM command to set IP addresses of the RN by specifying its LP.

Step6: Log in to the RN.

Step7: On the PCPro log in to the RN, execute the ADTM command to set IP addresses of the RN as you did through the PCPro in the CCN in the preceding step. The PCPro will be disconnected.

Step8: Using PCPro, log in to a CCN.

Step9: On the PCPro log in to the CCN, execute the COPM command to switch the RN back to normal mode.

Note: Before switching modes of RN, make sure that the RN is in survival mode: Operation Status is Survival Mode (Instruction form MAT) (1) in the DRPM command.

Step10: On the PCPro log in to the CCN, execute the DRPM command to confirm that the RN status transits as the following:

- Operation Status: from Registering to Normal Mode
- Office Data Status: No Difference (**Note 2**)

Note 2: If Office Data Status is different, perform the following: forward the CCN's office data to the RN with the CPDM command; save the RN's office data with the MEM_HDD command.

19.3 Change Address during Survival Mode

If you intend to change an IP address when an RN is in survival mode, perform the following:

- As for a CCN
Perform the preceding steps.
- As for an RN in survival mode
Step 1: Log in to the RN through the PCPro.
Step 2: Execute the ADTM command and change the address data.

20. Routine Maintenance Procedure

Even if the system is operating normally, it is necessary to perform a routine check to prevent a fault occurrence before it is too late to discover any latent cause of a fault.

Please perform the routine maintenance of the SV9500 server referring to Chapter 6: Routine Maintenance Procedure in UNIVERGE SV9500 Operations and Maintenance Manual.

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