

UNIVERGE SV9500

FP95-115 V5

UMGi Configuration and Maintenance Guide

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UNIVERGE SV9500 UMGi Configuration and Maintenance Guide

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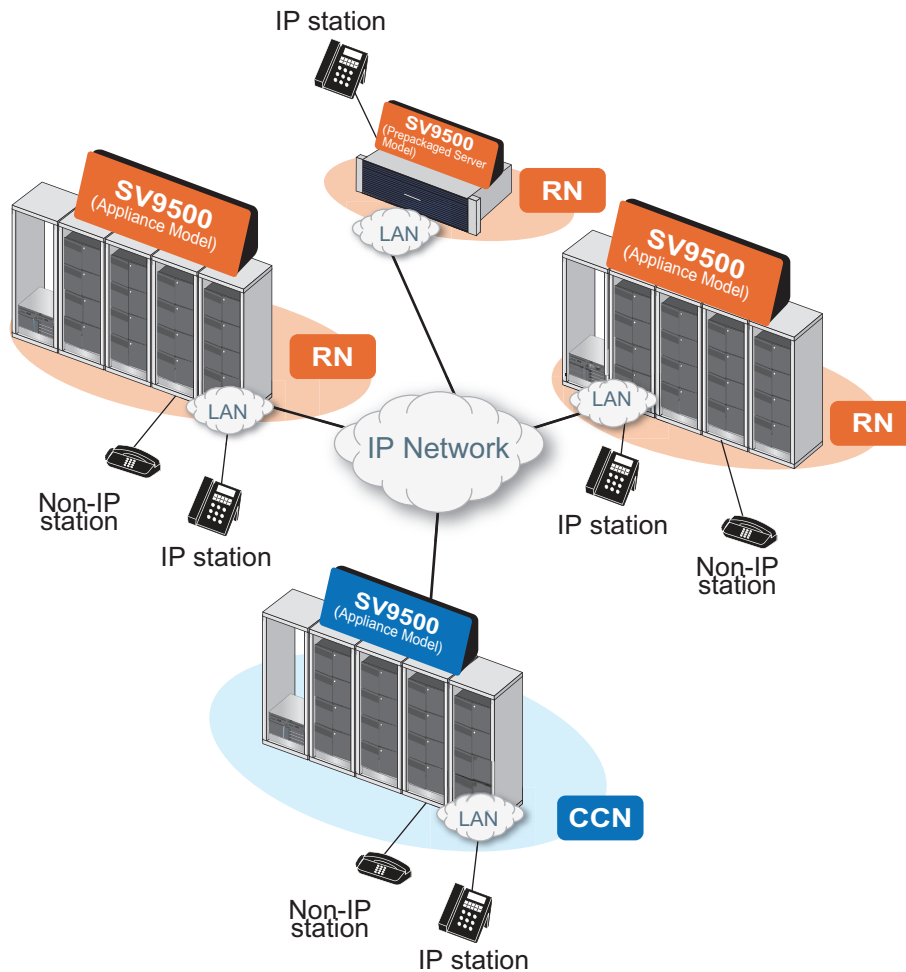
CHAPTER 1 GENERAL



1. What is SV9500 (UMGi)?

SV9500 Network-based Ultra Module Group (hereinafter called UMGi) is a high-capacity decentralized system which allows a maximum of 16,000 client ports. The UMGi system is configured of a Central Control Node (hereinafter called CCN) and Remote Nodes (hereinafter called RNs). They can be located in different locations and still function as a single system. The CCN monitors the operation of the entire UMGi system and performs necessary maintenance control, while the RNs operate under the control of the CCN.

Note: Until FP95-112 V2 the UMGi system is available only in North America. From FP95-113 V3 the UMGi system is also available in other countries.



Note: The figure above shows an example system configuration.

1.1 Modes Operation

The UMGi system varies in its operation depending on the mode:

- Normal Mode

When the system is working in normal mode, the CCN controls the entire system including the terminals accommodated in the RNs; the RNs, which are connected to the CCN, stand alone in case of a failure.

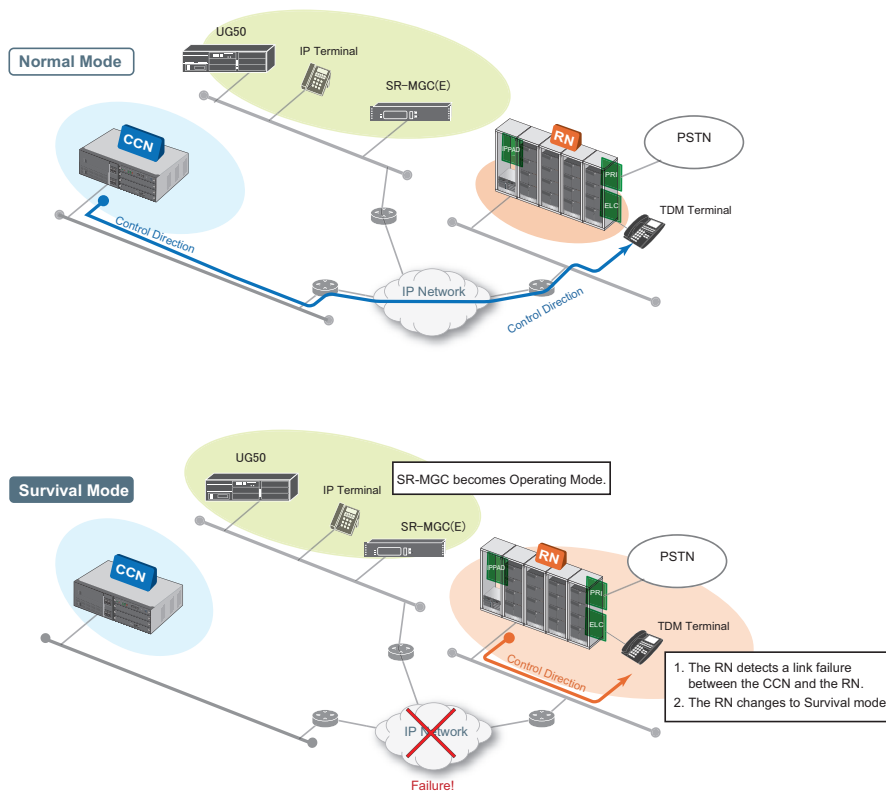
- Survival Mode

Once a failure causes a link down between the CCN and an RN, each node starts to operate independently to maintain the system operations. The RN controls accommodated terminals in its own node instead of the CCN so that the terminals can be used to make/receive calls as usual.

In normal mode, the RN monitors health check packets sent from the CCN on a regular basis. When a link down occurs and the health check packets do not arrive at the RN, the RN automatically starts to operate in survival mode as a stand alone system and enables communications for the terminals inside the RN. In survival mode, the RN regularly verifies whether communication with the CCN is available or not. When the connection with the CCN is considered to be available, the mode changes from survival mode to normal mode either manually or automatically (**Note 1**) and the link between the RN and CCN is recovered.

Note 1: You can specify the mode changeover method, either manual changeover or automatic changeover with the ARPM command.

Normal Mode and Survival Mode



Note: The figure above shows an example system configuration.

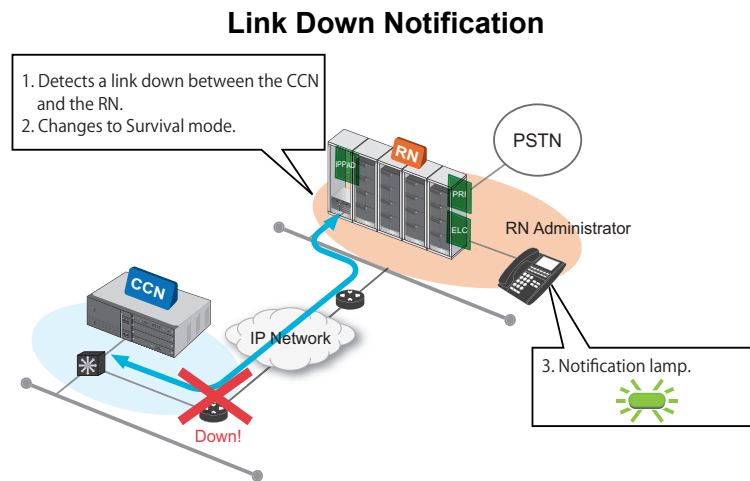
1.2 Features of Survival Mode

This section explains each feature in survival mode.

1.2.1 Link Down Notification

In survival mode, making a call to and receiving a call from a different node is not available. In such a case, a link down is notified with a lamp on designated desktop terminals.

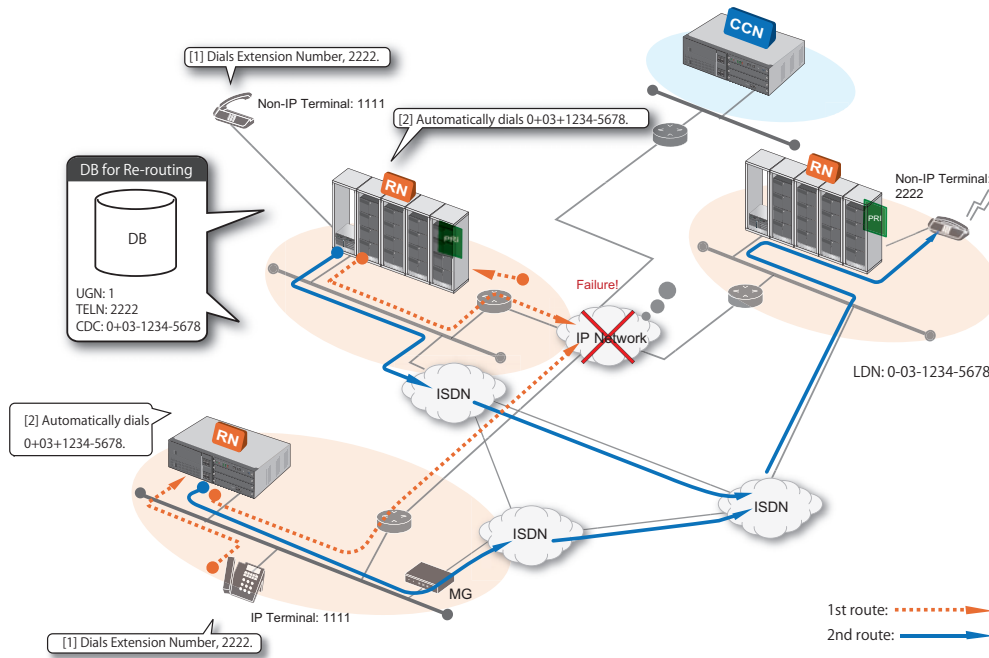
Note: Assign FKY=181 in the AKYD command to the terminals in the RN that will light to notify users of the link down. This key must be assigned prior to the link down, when the SV9500-UMGi is in Normal Mode.



1.2.2 Flexible Route Re-routing for UMGi in Survival Mode

If an RN changes to 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 UMGi in Survival Mode



Note: The figure above shows an example system configuration.

2. PBI and LP Numbers

2.1 PBI and LP Rule

PBI numbers and LP numbers need to be allocated in all nodes in the system.

PBIs of Appliance Model nodes are physically allocated by setting PBI No. switch on the EMA card and LPs are logically allocated by assigning the office data, according to the PBIs.

PBIs of Prepackaged Server Model nodes 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 the PBI setting method, refer to [4.4 Setting PBI No. Switch](#) and [5.3 Setting PBI Number](#). You can assign LP data with ASYD, SYS1, Indexes 198-205. For details, refer to [System Configuration Data Assignment](#).

In the UMGi system, all nodes are treated as a single system; it means that all frames and all PIRs are sequenced logically and technically. The first and last IMGs are determined according to the PBI and LP; they are designed to work as sequence numbers for PIRs. Each node must have a unique PBI range and the corresponding LP range assigned (a 2-PBI range corresponds to a 1-LP range). One MG (Module Group) requires a 2-PBI (1-LP) range to be installed; every IMG (frame) requires a 4-PBI (2-LP) range.

The table below shows PBI and LP ranges required to configure a node. While PBI is a hexadecimal number from 30 to 6F, LP is a decimal number from 00 to 31. For example, you can use a PBI range beginning with 0x40 to configure an RN in a four frame configuration, which would consume a PBI range 0x40 - 0x4F and LP range 08 - 15.

PBI and LP for Four Frame Configuration

Frame	Processor	Physical PBI Number	Logical PBI Number	
			System #0	System #1
IMG0	LP00	30	30	31
IMG1	-	-	34	35
IMG2	-	-	38	39
IMG3	-	-	3C	3D
IMG4	LP08	40	40	41
IMG5	-	-	44	45
IMG6	-	-	48	49
IMG7	-	-	4C	4D
IMG8	LP16	50	50	51
IMG9	-	-	54	55
IMG10	-	-	58	59
IMG11	-	-	5C	5D
IMG12	LP24	60	60	61
IMG13	-	-	64	65
IMG14	-	-	68	69
IMG15	-	-	6C	6D

PBI and LP for Two Frame Configuration

Frame	Processor	Physical PBI Number	Logical PBI Number	
			System #0	System #1
IMG0	LP00	30	30	31
IMG1	-	-	34	35
IMG2	-	-	38	39
IMG3	-	-	3C	3D
IMG4	LP08	40	40	41
IMG5	-	-	44	45
IMG6	LP12	48	48	49
IMG7	-	-	4C	4D
IMG8	LP16	50	50	51
IMG9	-	-	54	55
IMG10	LP20	58	58	59
IMG11	-	-	5C	5D
IMG12	LP24	60	60	61
IMG13	-	-	64	65
IMG14	LP28	68	68	69
IMG15	-	-	6C	6D

Note: The CCN is fixed to PBI number=30 and only a four frame configuration is allowed.

Note: The Prepackaged Server Model can only use virtual PIRs in a four-frame configuration per node.

Note: The PBI range for each RN must start with one of the following PBI numbers: 40, 48, 50, 58, 60, 68.

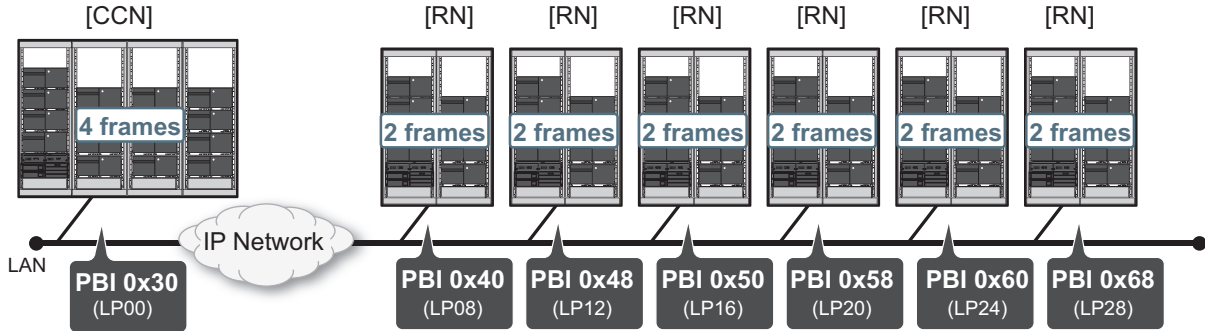
Note: LPs are ranged according to PBIs; however, set only LPs that have corresponding modules installed need to be assigned.

2.2 System Configuration based on PBI and LP Rules

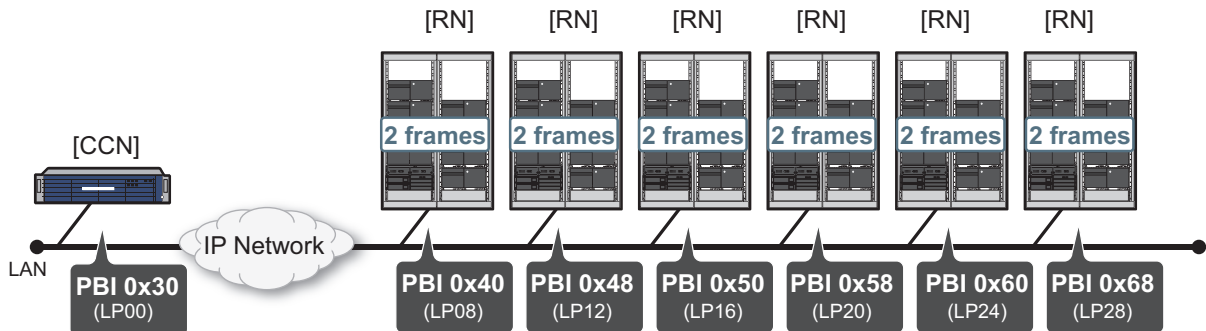
(1) The following are configuration examples (basic) based on the preceding configuration rules.

- CCN/4 frames × 6 RNs/2 frames

Example when all nodes are Appliance Model

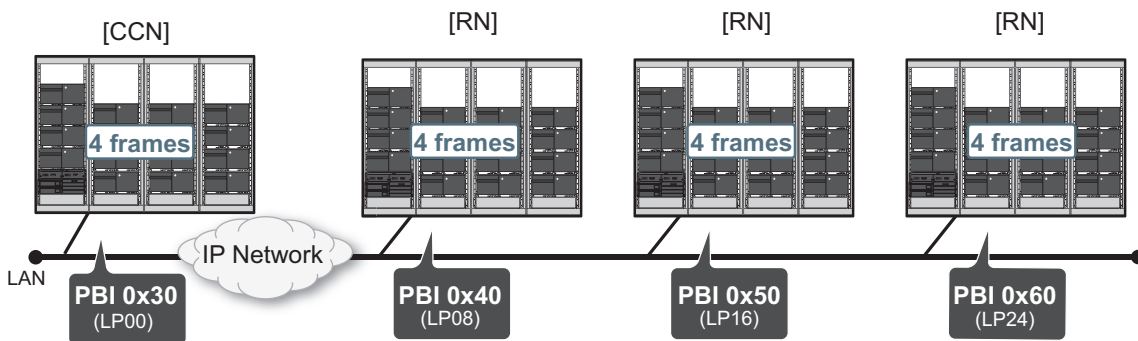


Example when CCN is Prepackaged Server Model and all RNs are Appliance Model

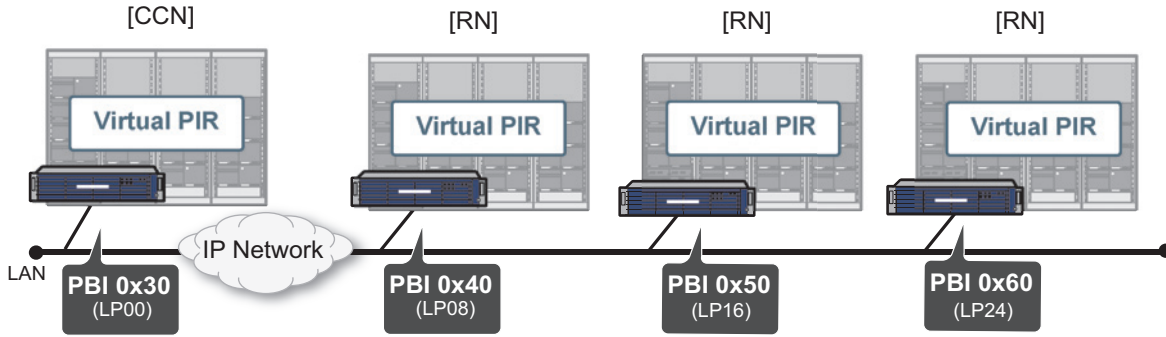


- CCN/4 frames × 3 RNs/4 frames

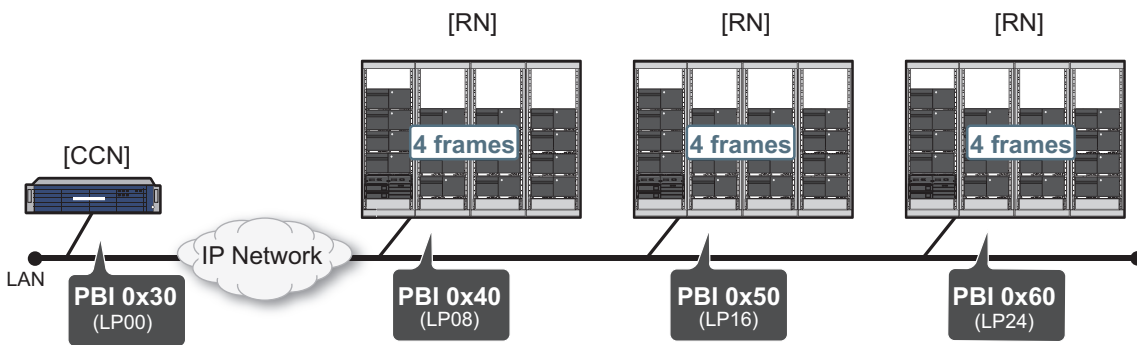
Example when all nodes are Appliance Model



Example when all nodes are Prepackaged Server Model

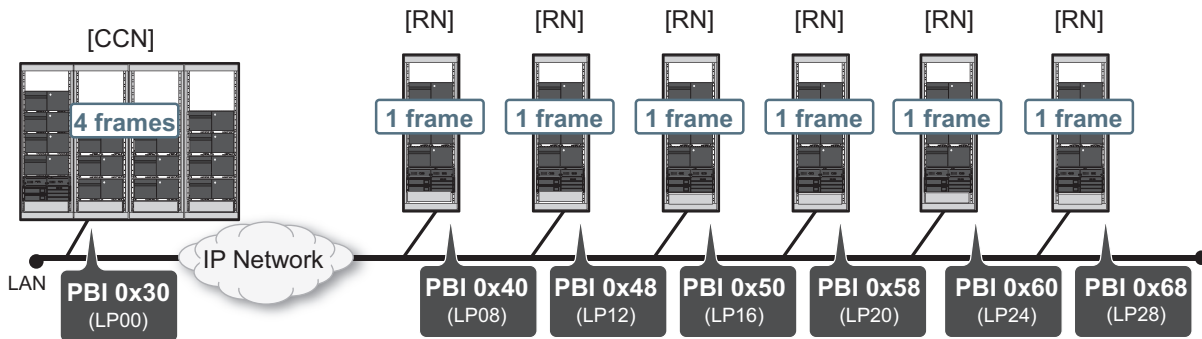


Example when CCN is Prepackaged Server Model and all RNs are Appliance Model

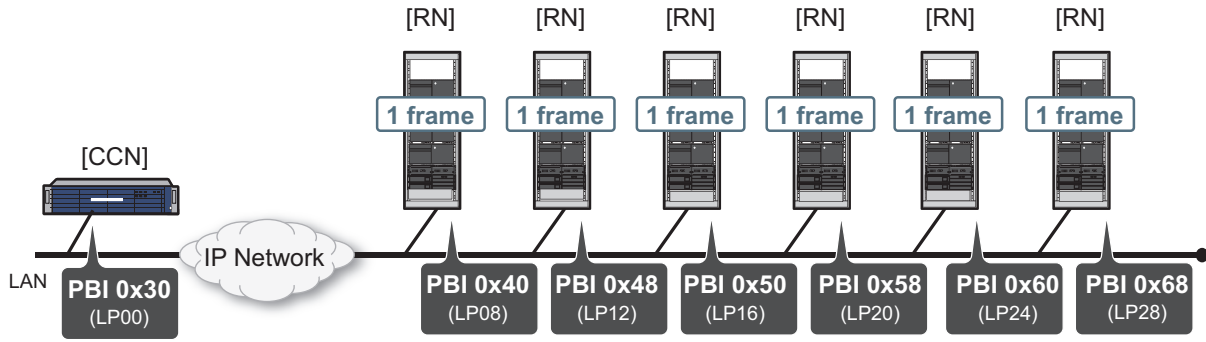


- CCN/4 frames × 6 RNs/1 frame

Example when all nodes are Appliance Model

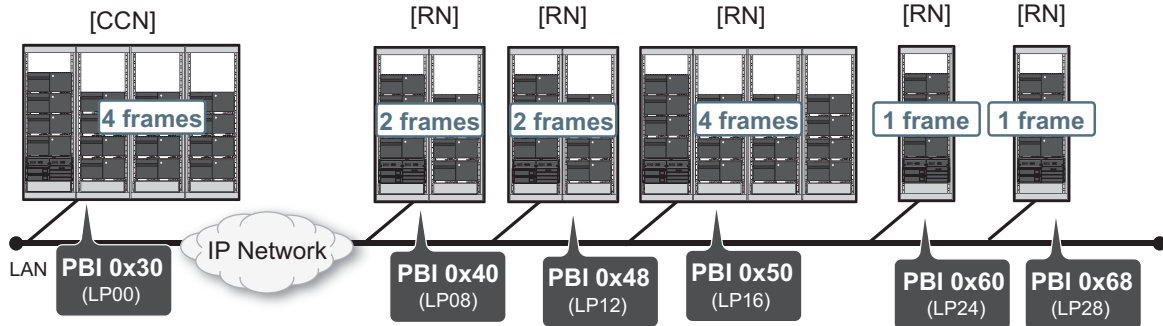


Example when CCN is Prepackaged Server Model and all RNs are Appliance Model

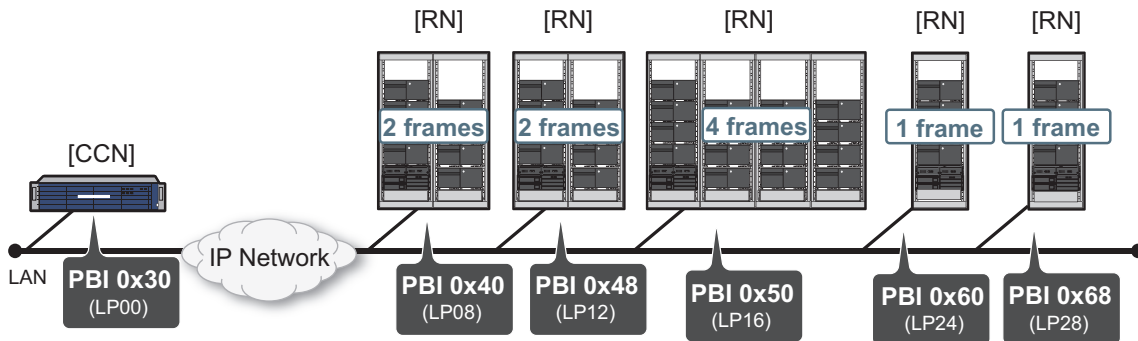


(2) The preceding configurations are only part of available configurations; any other configurations are available as long as they meet the configuration rules. The following available and unavailable configuration examples (customized).

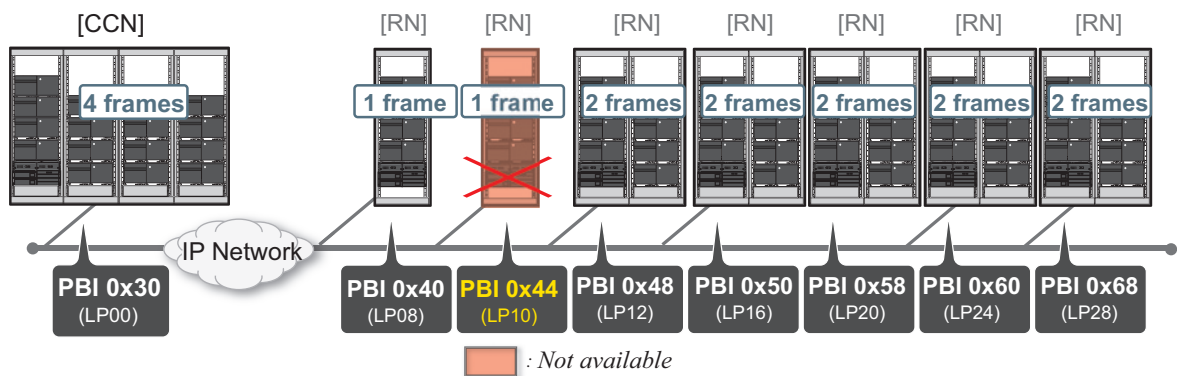
- Available Configuration (Example when all nodes are Appliance Model)



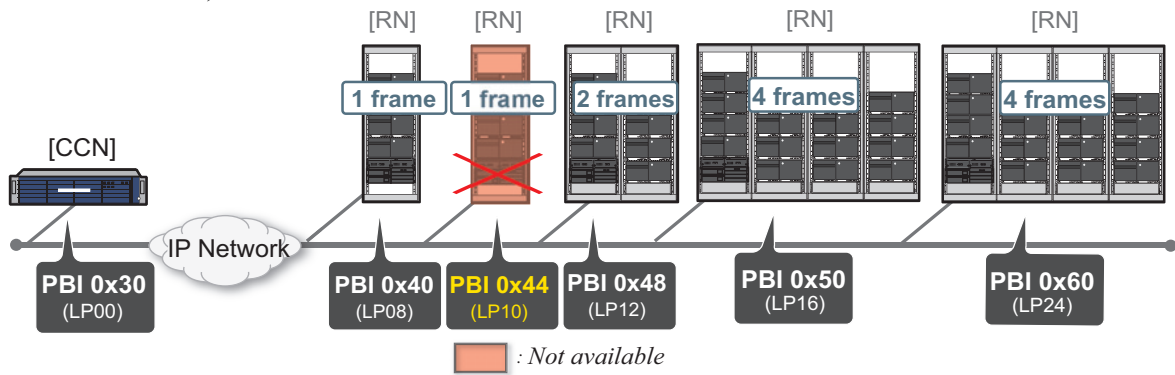
- Available Configuration (Example when CCN is Prepackaged Server Model and all RNs are Appliance Model)



- Unavailable Configuration (Example when all nodes are Appliance Model)



- Unavailable Configuration (Example when CCN is Prepackaged Server Model and all RNs are Appliance Model)



3. IP Devices

3.1 Registration Destination of IP Devices/Stations

The following lists which IP addresses of the CCN or the RN need to be assigned to each IP device/station as its registration destination. The IP address varies depending on several conditions, consisting of PH kind that handles the device/station, protocol mode in which the device/station operates, and configuration of the CCN or the RN. The table below specifies the IP address necessary for each IP device/station.

Device/Station	IP Address of Registration Destination	
	Single Configuration	Dual Configuration
SIP Handler Controlled SIP Terminal	Accommodating LP LAN1 IP Address 2 (ACT)	
SP Controlled SIP Terminal Note 1 Note 2	Accommodating LP LAN1 IP Address (ACT)	
WLAN Handset (MH Series) Note 1		
Analog 2MC Note 3	CCN LAN1 IP Address (ACT)	
MC&MG-COT (MC part) Note 4		
VS32 (Proprietary Protocol Mode)		
IP terminal Note 5		
Softphone (Proprietary Protocol Mode)		
MC&MG-COT (MG part) Note 6		
MG-COT (Proprietary Protocol Mode) Note 7		
MG(BRI) (Proprietary Protocol Mode)		
MG(SIP)		
MG(PRI) (Proprietary Protocol Mode) Note 1 Note 8		
SIP Multiple Line terminal	Accommodating LP LAN1 IP Address (ACT)	
Softphone (SIP Mode)	Accommodating LP LAN1 IP Address (ACT)	
MG-COT (SIP Mode) Note 9		
MG(BRI) (SIP Mode)		
MG(PRI) (SIP Mode) Note 10		
8LC Card Note 11		
VS32 (SIP Mode)	Accommodating LP LAN1 IP Address (System #0) /(System #1)	

Note: Device/terminal names in the table are general terms. For the formal names, refer to the Terms in Manuals section in Chapter 2: Various Information for SV9500 of System Description.

Note: MG-T1(SIP) is not supported by UMGi system.

- Note 1:** It must be accommodated in the CCN.
- Note 2:** Note that connection test is required when using Standard SIP terminals.
- Note 3:** UG50 (LC) [Proprietary Protocol], UG50-IPG (Analog) and UG50-2MC are included.
- Note 4:** UG50-4LC2COTA (COT) (MC part) and UG50-4LC2COTA (PGT) (MC part) are included.
- Note 5:** UG50 (DLC) and UG50-IPG (Digital) are included.
- Note 6:** UG50-4LC2COTA (COT) (MG part) and UG50-4LC2COTA (PGT) (MG part) are included.
- Note 7:** UG50 (COT-TYPE1), UG50 (COT-TYPE2) [Proprietary Protocol], UG50-6COT [Proprietary Protocol], UG50 (PGT-TYPE1), and UG50 (PGT-TYPE2) [Proprietary Protocol] are included.
- Note 8:** UG50 (PRT 1.5M) [Proprietary Protocol], UG50 (PRT 2M) [Proprietary Protocol], UG50-24PRIA [Proprietary Protocol] and UG50-30PRIA [Proprietary Protocol] are included.
- Note 9:** UG50 (COT-TYPE2) [SIP] and UG50 (PGT-TYPE2) [SIP] are included.
- Note 10:** UG50 (PRT 1.5M) [SIP], UG50 (PRT 2M) [SIP], UG50-24PRIA [SIP] and UG50-30PRIA [SIP] are included.
- Note 11:** UG50 (LC) [SIP] and UG50-8LC are included.

3.2 Node Accommodation of IP Devices/Stations

The following lists the nodes to be assigned to each IP device/station and the health checks destinations.

Device/Station	Accommodating Node	Handler Protocol	Health Check
SIP Handler Controlled SIP Terminal	CCN or RN	Internal SIP Handler	CCN or RN of accommodation
SP Controlled SIP Terminal Note 1 Note 2	CCN	Internal PHE	CCN
WLAN Handset (MH Series) Note 1			
Analog 2MC Note 3	CCN or RN	Internal PHE	CCN or RN of accommodation
MC&MG-COT (MC part) Note 4			
VS32 (Proprietary Protocol Mode)			
IP terminal Note 5			
Softphone (Proprietary Protocol Mode)			
MC&MG-COT (MG part) Note 6			
MG(BRI) (Proprietary Protocol Mode)			
MC&MG-COT (MG part) Note 6			
MG(BRI) (Proprietary Protocol Mode)			
MG-COT (Proprietary Protocol Mode) Note 7			
MG(SIP)			
MG(PRI) (Proprietary Protocol Mode) Note 1 Note 8	CCN	Internal PHI-PRI (Proprietary Protocol)	CCN
SIP Multiple Line terminal	CCN or RN	SP-PHD (SIP)	CCN or RN of accommodation
Softphone (SIP Mode)			
MG-COT (SIP Mode) Note 9		SP-PHI (SIP)	
MG(BRI) (SIP Mode)			
MG(PRI) (SIP Mode) Note 10			
8LC Card Note 11			
VS32 (SIP Mode)			
SR-MGC (E)	CCN or RN assigned with CMNT	-	CCN

Note: Device/terminal names in the table are general terms. For the formal names, refer to the Terms in Manuals section in Chapter 2: Various Information for SV9500 of System Description.

Note: MG-T1(SIP) is not supported by UMGi system.

Note 1: It must be accommodated in the CCN.

- Note 2:** Note that connection test is required when using Standard SIP terminals.
- Note 3:** UG50 (LC) [Proprietary Protocol], UG50-IPG (Analog) and UG50-2MC are included.
- Note 4:** UG50-4LC2COTA (COT) (MC part) and UG50-4LC2COTA (PGT) (MC part) are included.
- Note 5:** UG50 (DLC) and UG50-IPG (Digital) are included.
- Note 6:** UG50-4LC2COTA (COT) (MG part) and UG50-4LC2COTA (PGT) (MG part) are included.
- Note 7:** UG50 (COT-TYPE1), UG50 (COT-TYPE2) [Proprietary Protocol], UG50-6COT [Proprietary Protocol], UG50 (PGT-TYPE1), and UG50 (PGT-TYPE2) [Proprietary Protocol] are included.
- Note 8:** UG50 (PRT 1.5M) [Proprietary Protocol], UG50 (PRT 2M) [Proprietary Protocol], UG50-24PRIA [Proprietary Protocol] and UG50-30PRIA [Proprietary Protocol] are included.
- Note 9:** UG50 (COT-TYPE2) [SIP] and UG50 (PGT-TYPE2) [SIP] are included.
- Note 10:** UG50 (PRT 1.5M) [SIP], UG50 (PRT 2M) [SIP], UG50-24PRIA [SIP] and UG50-30PRIA [SIP] are included.
- Note 11:** UG50 (LC) [SIP] and UG50-8LC are included.

3.3 Registration Destination

In normal mode, each IP device/station (Proprietary Protocol Mode) accommodated in an RN registers to the CCN. Each IP device/station (SIP Mode) accommodated in an RN registers to CCN via the SIP server of RN. IP device/stations accommodated in CCN register directly to CCN.

After the registration, even if an RN changes from survival mode to normal mode, the IP devices/stations (excluding MG-PRI (Proprietary Protocol Mode) and SP Controlled SIP Terminal) accommodated in the RN can continue to be used without re-registration.

When the CCN is turned off and on or restarted individually due to system initialization, system initialization of each RN is executed along with the mode change from survival mode to normal mode and re-registration of devices/stations in each RN is necessary (during re-registration calls in progress will be disconnected).

When an RN is in survival mode, an SR-MGC takes control of new registrations or re-registrations of IP devices/stations. (**Note 1**)

Even if the RN's IP address is assigned as the secondary/tertiary/fourth DRS address in the IP devices/stations, new registrations or registrations to the RN will not work when it is in survival mode.

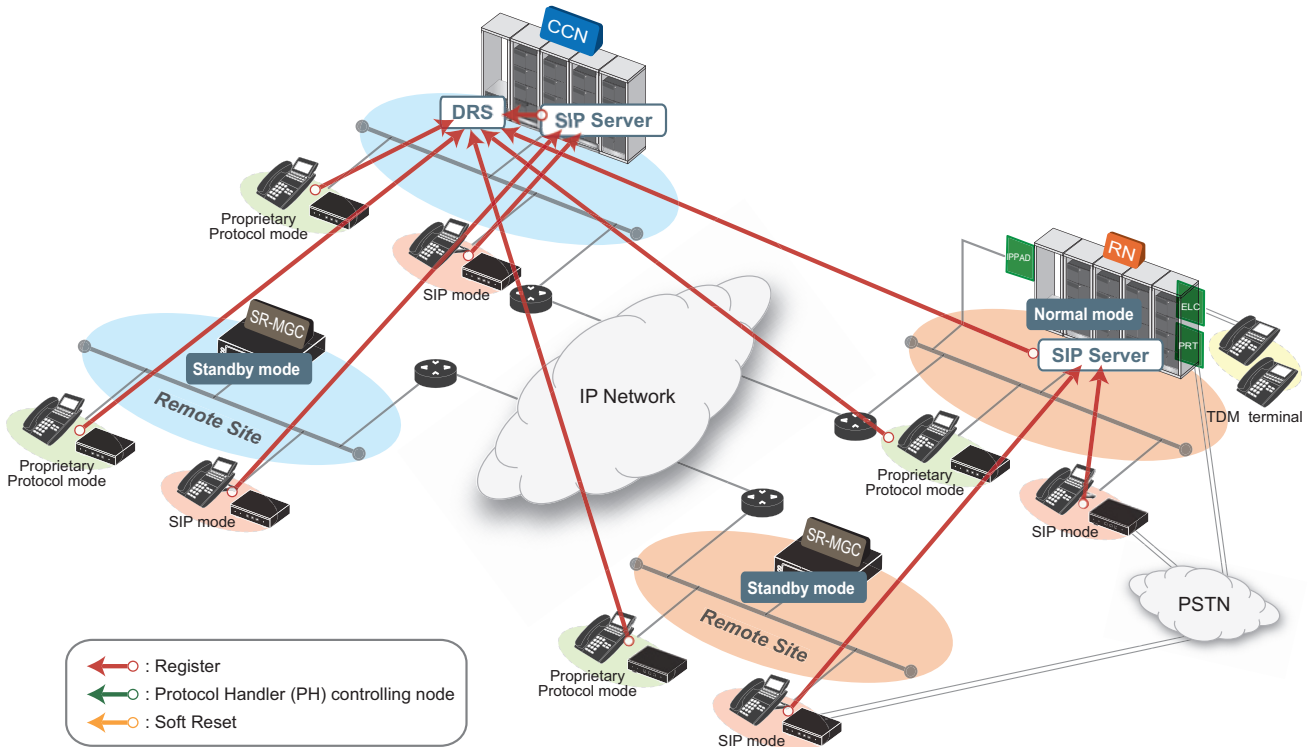
Note 1: There are cases where the control of IP devices/stations may not be taken depending on the location where a failure occurs. For more information, refer to [3.4 Detailed Explanation of Registration Destination Operations](#) and the section of SR-MGC.

3.4 Detailed Explanation of Registration Destination Operations

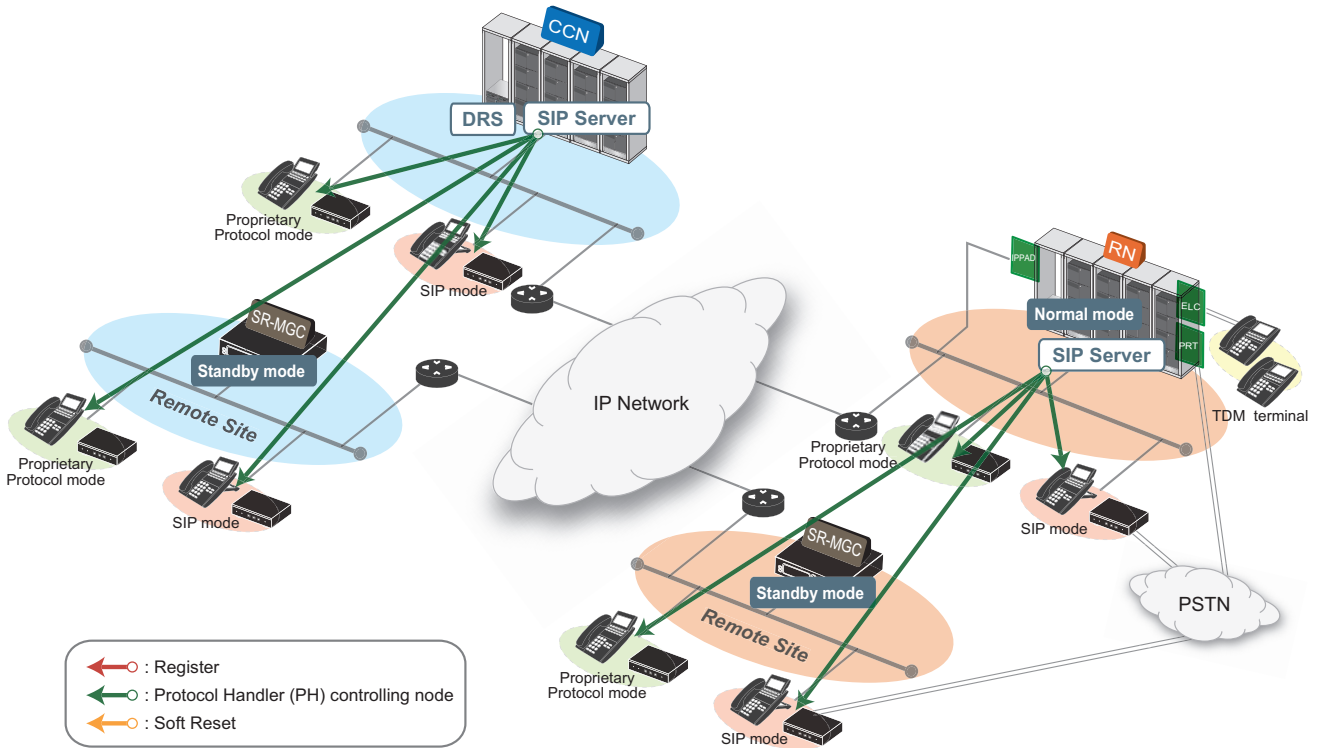
This section explains the operations of registration in normal mode and when there is a failure in some part of the system.

- [\(1\) Office data copy](#)
- [\(2\) The system operating normally \(after the registration to CCN is completed\)](#)
- [\(3\) In case of a failure in the CCN](#)
- [\(4\) After the CCN recovers from the failure](#)
- [\(5\) In case of a failure in the SP of the CCN](#)
- [\(6\) After the SP of the CCN recovers from the failure](#)
- [\(7\) In case of a failure in the CCN side of the network](#)
- [\(8\) After the CCN side network recovers from the failure](#)
- [\(9\) In case of a failure in the RN](#)
- [\(10\) After the RN recovers from the failure](#)
- [\(11\) In case of a failure in the SP of the RN](#)
- [\(12\) After the SP of the RN recovers from the failure](#)
- [\(13\) In case of a failure in the RN side of the network](#)
- [\(14\) After the RN side of the network recovers from the failure.](#)
- [\(15\) In case of a failure in the network of a remote site](#)
- [\(16\) After the network of the remote site recovers from the failure](#)

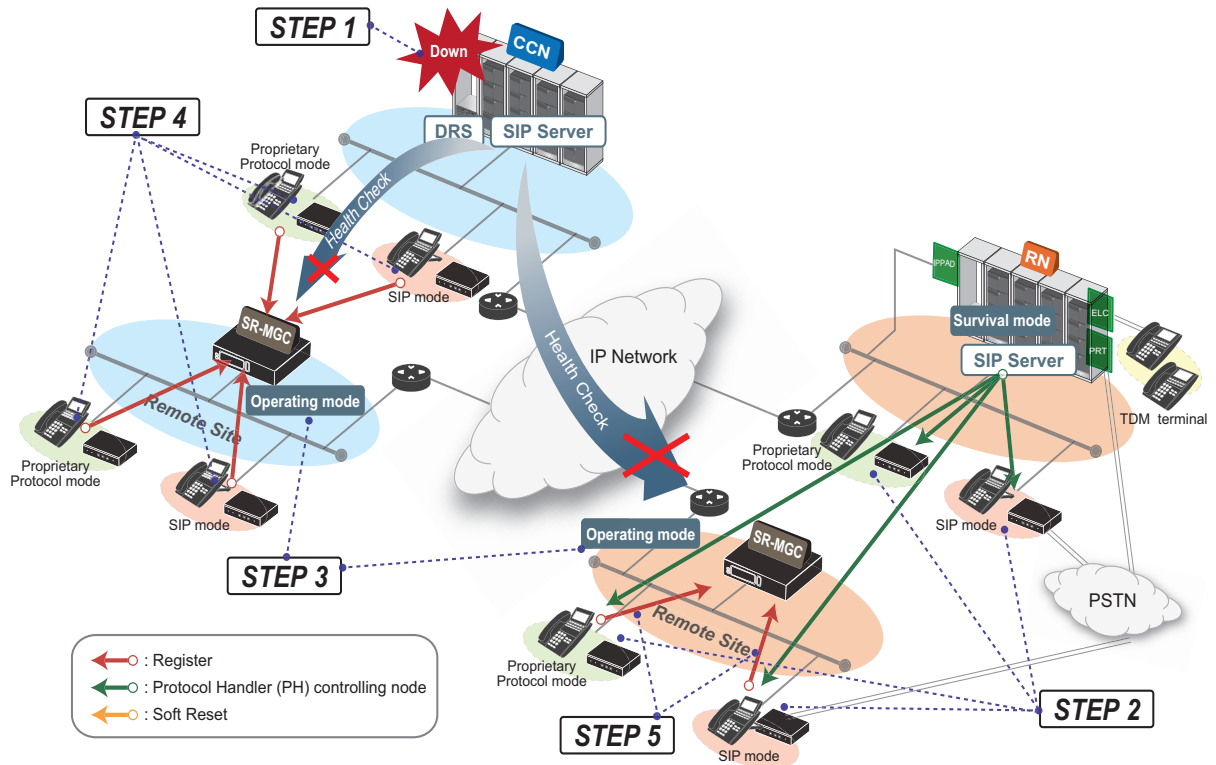
(1) IP devices/stations register to the CCN (Primary DRS/SIP server)



(2) The system operating normally (after the registration to CCN is completed)

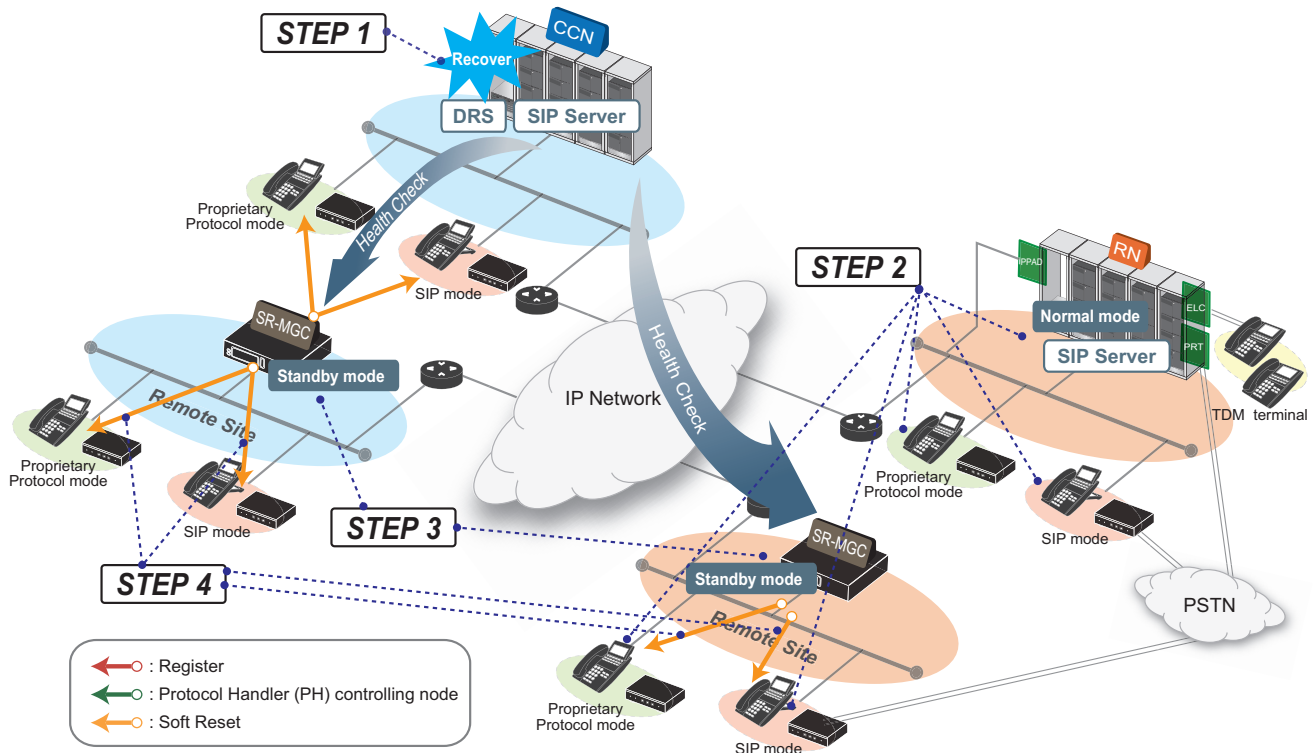


(3) In case of a failure in the CCN



- Step1:** The failure happens.
A time-out of Health Check occurs due to the disconnection of the communication between the IP devices/stations and PH in the CCN.
- Step2:** RN changes from normal mode to survival mode after detecting Health Check NG between CCN and RN.
Calls between RNs are disconnected. Internal calls in RN are maintained. Calls can be made/received within the Self RN without re-registration (other than MG (PRI) in Proprietary Protocol mode).
- Step3:** SR-MGC change from standby mode to operating mode after a time-out occurred in Health Check from CCN.
- Step4:** The IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the disconnection of the IP devices/stations with the DRS of the CCN.
- Step5:** New registrations and re-registrations in the RN are performed by the SR-MGC.

(4) After the CCN recovers from the failure



Step1: CCN recovers and Health Check is resumed.

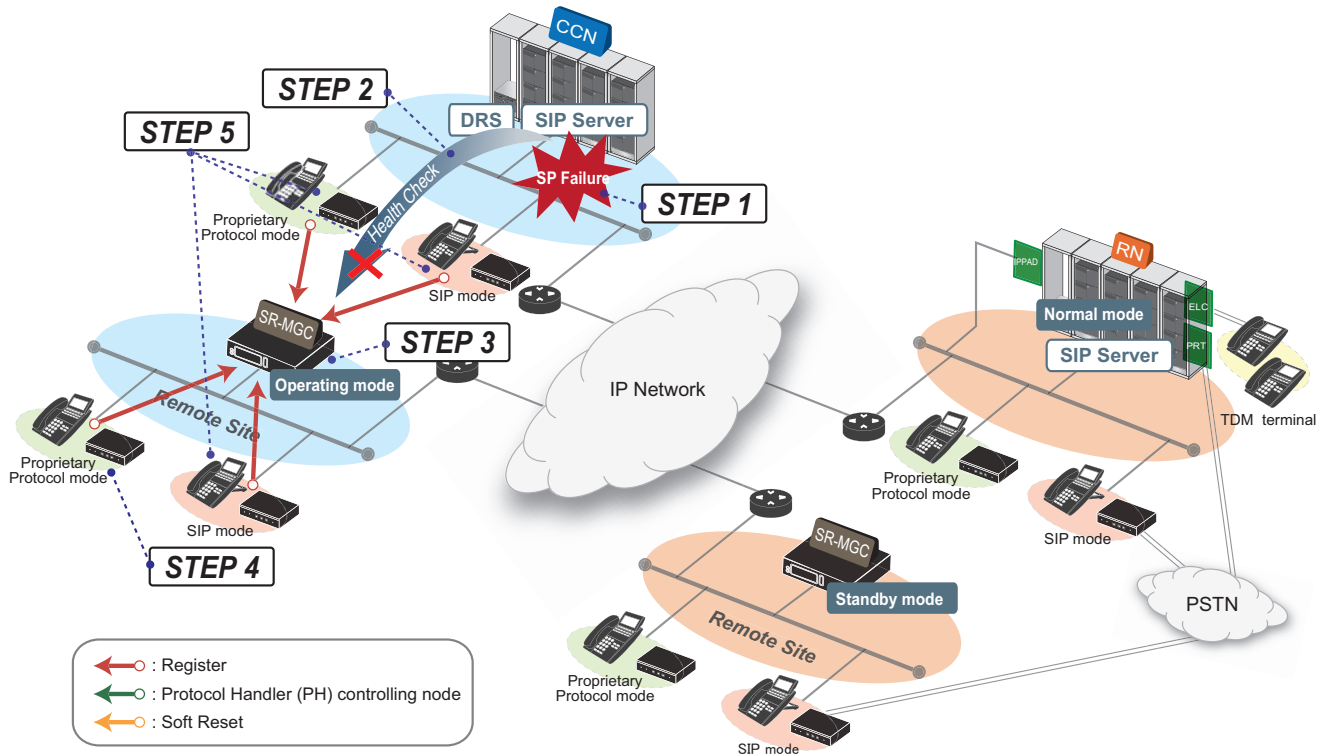
Step2: RN is initialized with a changing from survival mode to normal mode. Communication between the IP devices/stations and PH in RN is disconnected due to the RN system initialization. The IP devices/stations are rebooted and register to Primary DRS/SIP server.

Step3: Health Check from CCN is resumed and SR-MGC changes from operating mode to standby mode.

Step4: Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC (including new registrations in the RN side). After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

(5) In case of a failure in the SP of the CCN

Note: ASYDL SYS1 Index 843 Bit 0 and 1 must be set to 0 (default value).



Step1: The failure happens.

Step2: CCN stops sending Health Check packets after detecting an SP failure in CCN.

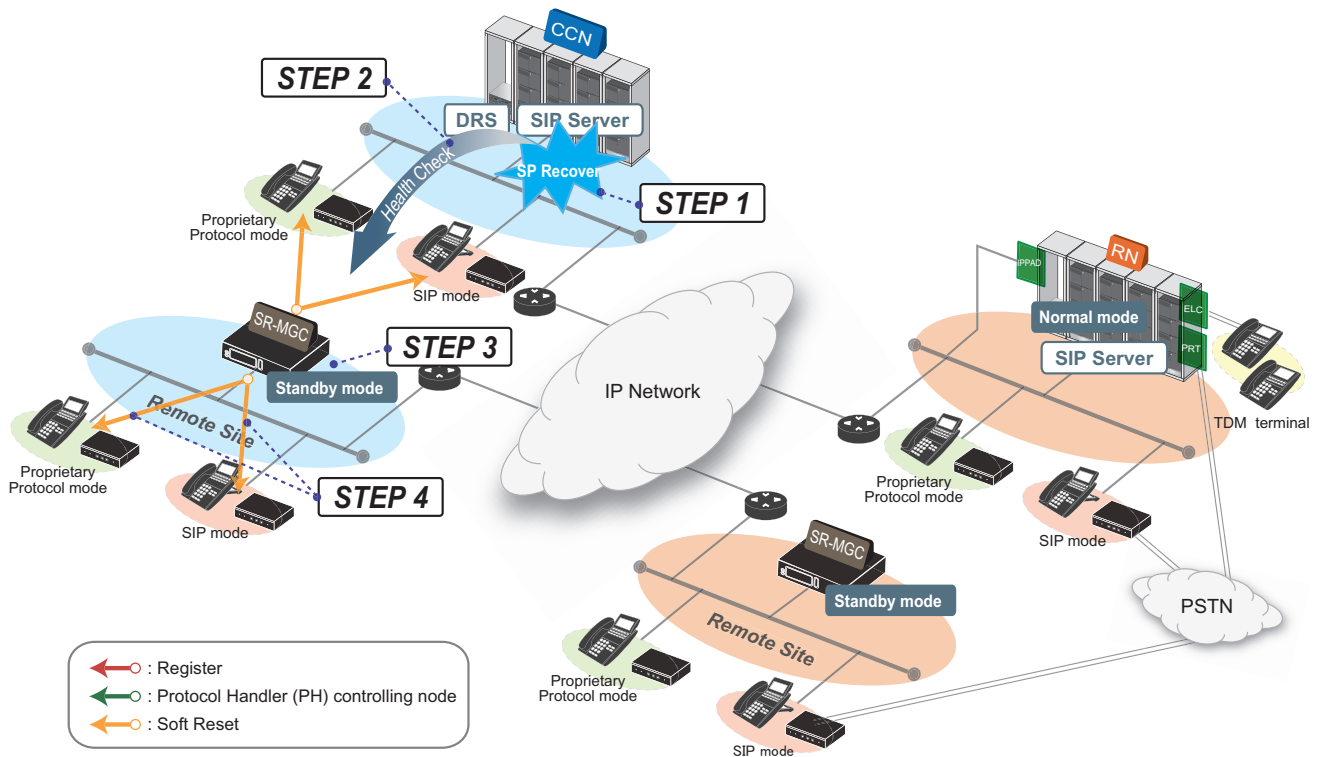
Step3: SR-MGC changes from standby mode to operating mode after a time-out occurred in Health Check from CCN.

Step4: Proprietary Protocol IP devices/stations in the remote site detect the SP failure and PH hunt becomes NG. The IP devices/stations register to SR-MGC (the secondary DRS/SIP server).

Step5: Time-out of Health Check occurs due to the disconnection of the communication between the IP devices/stations and PH in the CCN and the IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the failure of the SP of the CCN.

(6) After the SP of the CCN recovers from the failure

Note: ASYDL SYS1 Index 843 Bit 0 and 1 must be set to 0 (default value).



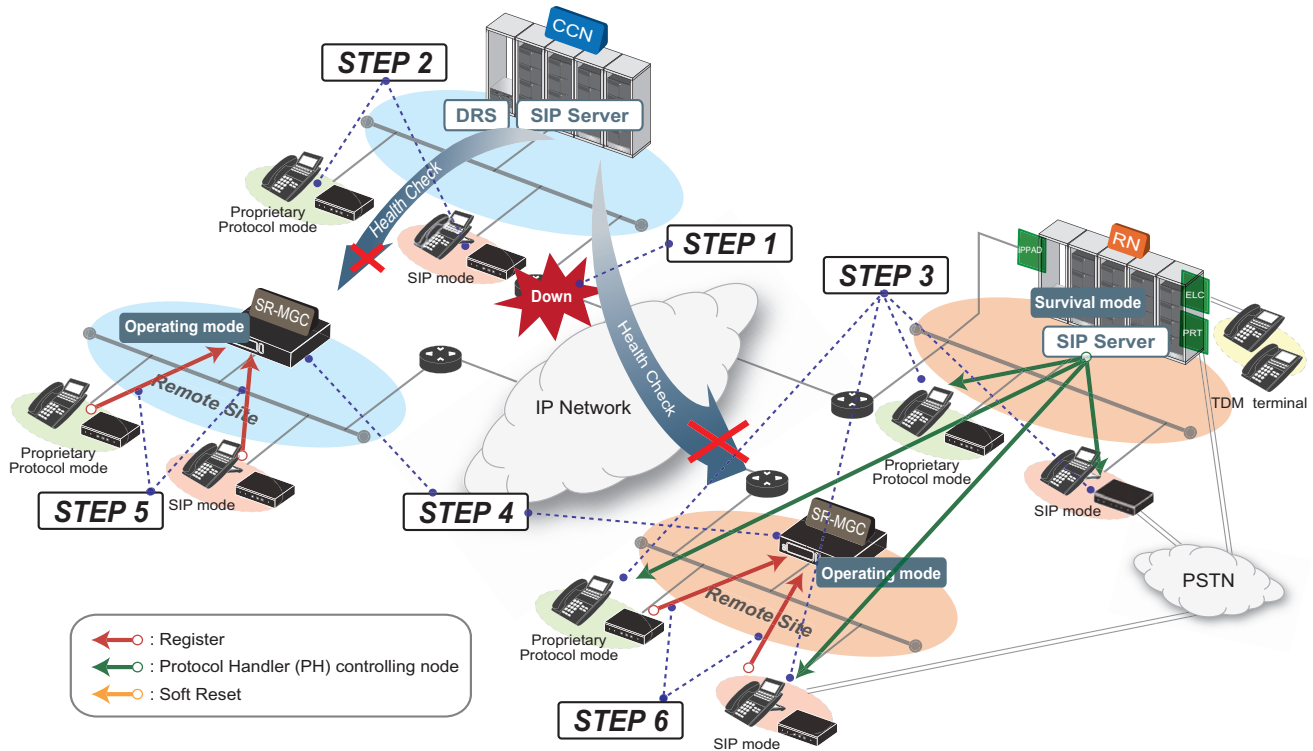
Step1: SP of the CCN recovers.

Step2: CCN sends again Health Check packets to SR-MGC after recovering from the SP failure.

Step3: SR-MGC changes from operating mode to standby mode.

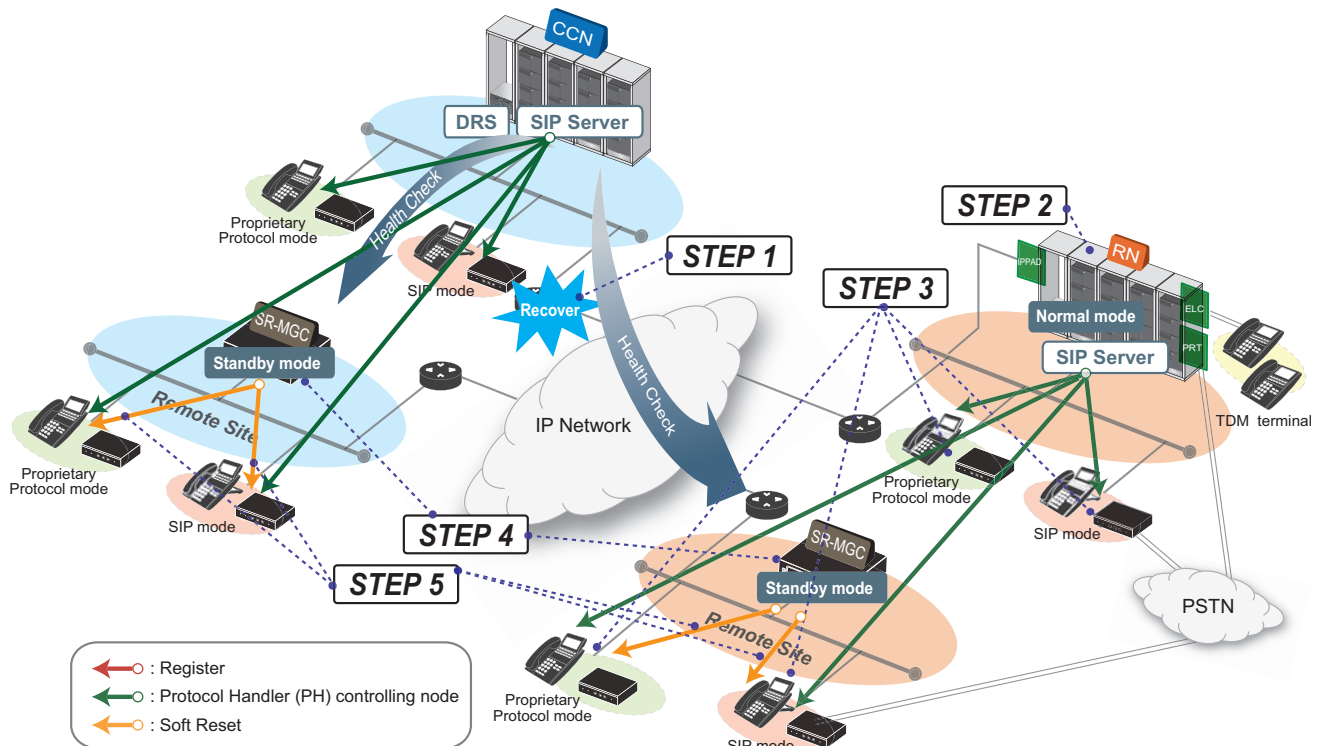
Step4: Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC. After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

(7) In case of a failure in the CCN side of the network



- Step1:** The failure happens.
A time-out of Health Check occurs due to the disconnection of the communication between the IP devices/stations and PH in the CCN.
- Step2:** CCN calls are maintained and new calls can be received/sent.
- Step3:** RN changes from normal mode to survival mode after detecting Health Check NG between CCN and RN.
Calls between RNs are disconnected. Internal calls in RN are maintained. Calls can be made/received within the Self RN without re-registration (other than MG (PRI) in Proprietary Protocol mode).
- Step4:** SR-MGC changes from standby mode to operating mode after a time-out occurred in Health Check from CCN.
- Step5:** The IP devices/stations register to SR-MGC (the secondary DRS/SIP server) after communication between the IP devices/stations and CCN is disconnected.
- Step6:** New registrations and re-registrations in the RN are performed by the SR-MGC.

(8) After the CCN side network recovers from the failure



Step1: CCN side network recovers and Health Check is resumed.

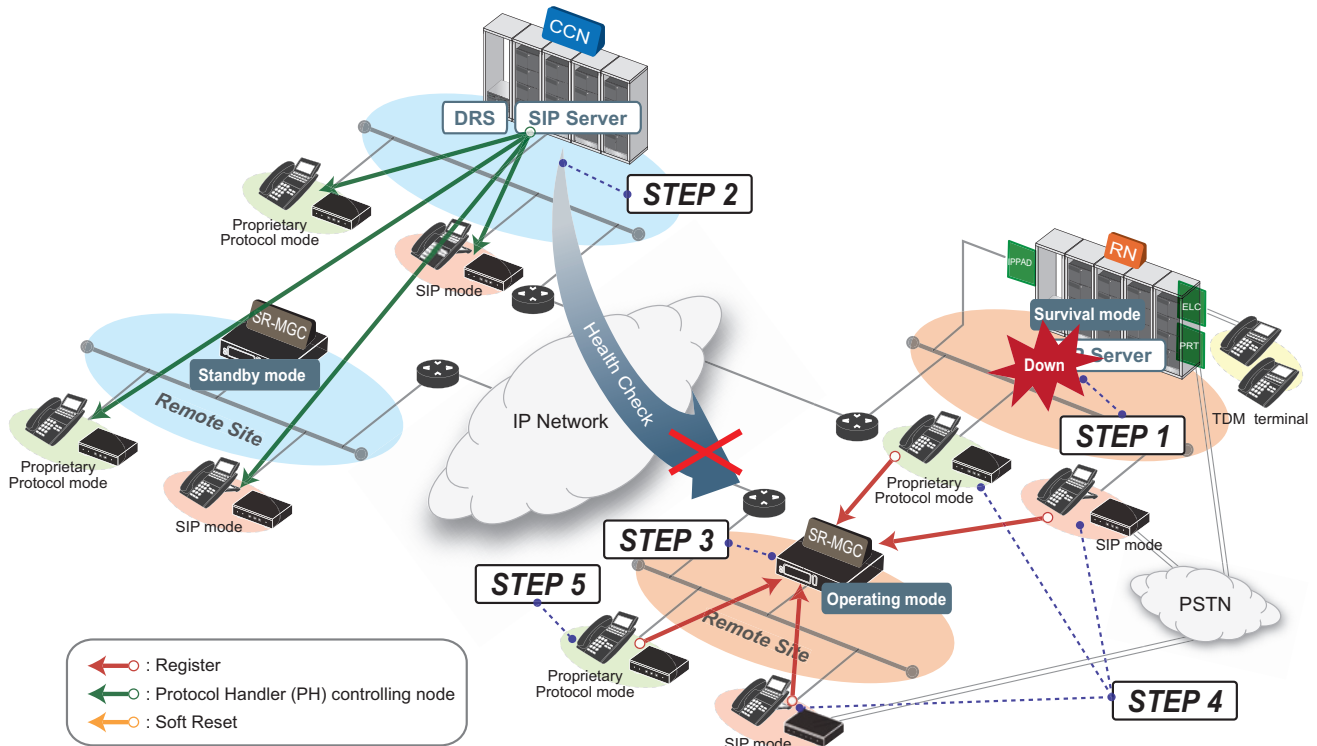
Step2: RN changes from survival mode to normal mode after CCN is recovered (if a difference is detected in the CCN and RN office data, RN changes to normal mode performing system initialization).

Step3: Internal calls in RN are maintained. Calls can be made/received within the Self RN without re-registration (only in case it changes to normal mode without performing a system initialization).

Step4: Health Check from CCN is resumed and SR-MGC changes from operating mode to standby mode.

Step5: Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC (including new registrations in the RN side). After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

(9) In case of a failure in the RN



Step1: The failure happens.

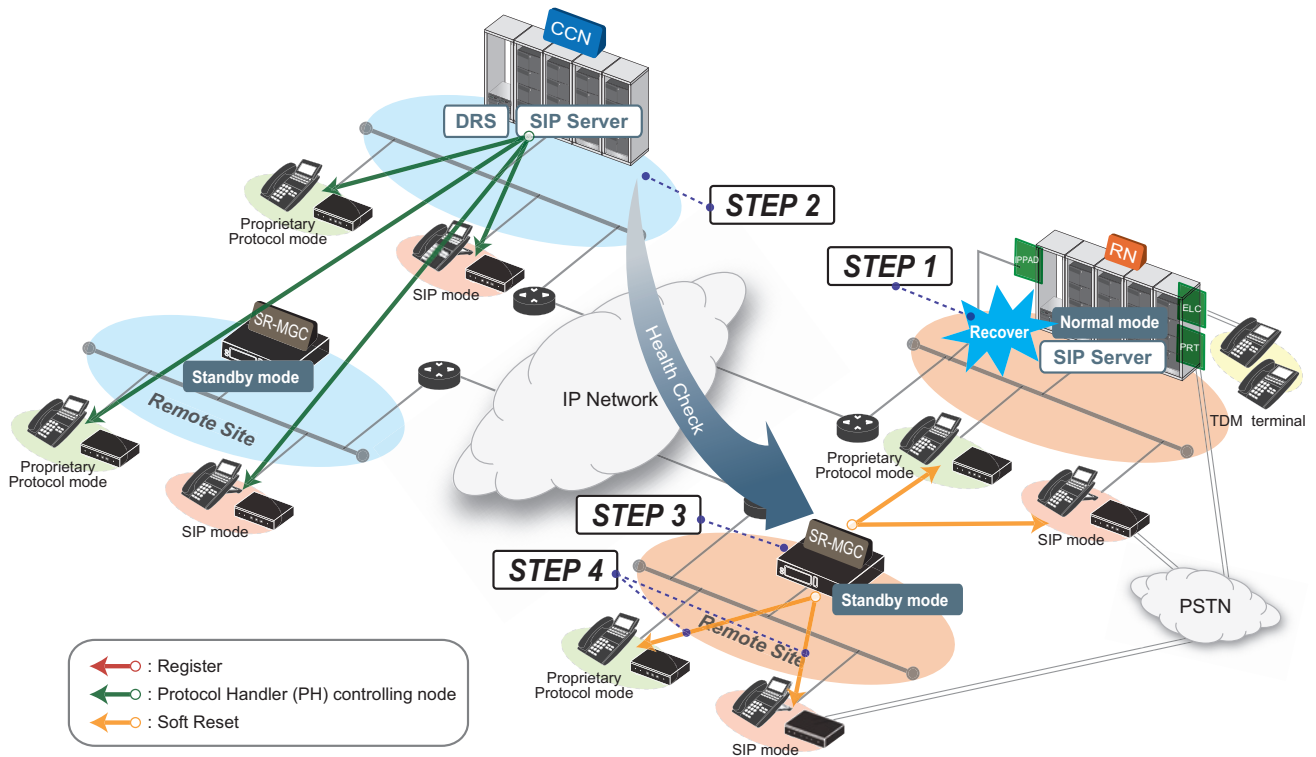
Step2: CCN stops sending Health Check packets after detecting Health Check NG between CCN and RN.

Step3: SR-MGC changes from standby mode to operating mode after a time-out occurred in Health Check from CCN.

Step4: A time-out of Health Check occurs due to the disconnection of the communication between the IP devices/stations and PHs in the RN and the IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the failure of the RN.

Step5: Proprietary Protocol IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the RN failure.

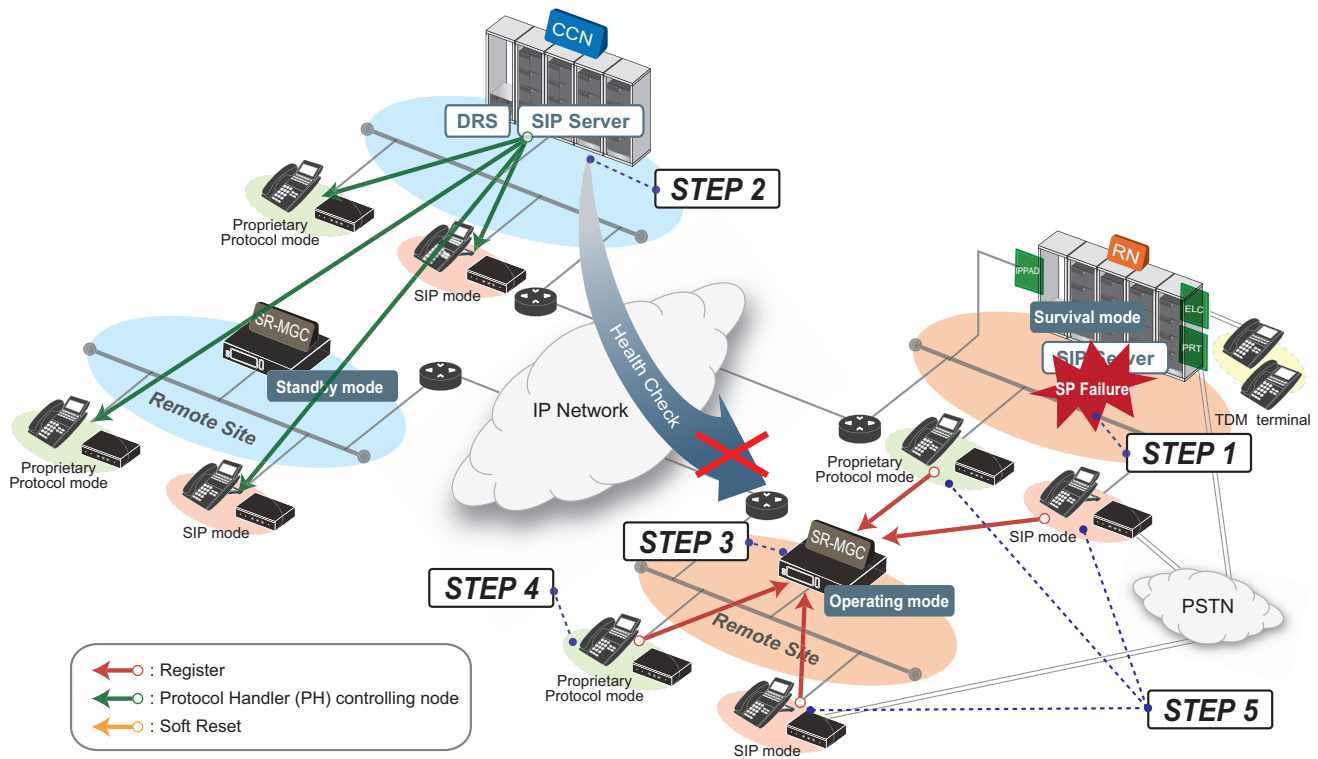
(10) After the RN recovers from the failure



- Step1:** RN recovers and changes from survival mode to normal mode (if a difference is detected in the CCN and RN office data, RN changes to normal mode performing system initialization).
- Step2:** Health Check between CCN and RN is resumed. CCN sends again Health Check packets to SR-MGC.
- Step3:** Health Check from CCN is resumed and SR-MGC changes from operating mode to standby mode.
- Step4:** Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC. After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

(11) In case of a failure in the SP of the RN

Note: ASYDL SYS1 Index 843 Bit 0 and 1 must be set to 0 (default value).



Step1: The failure happens.

Step2: CCN stops sending Health Check packets to SR-MGC after detecting an SP failure in the RN.

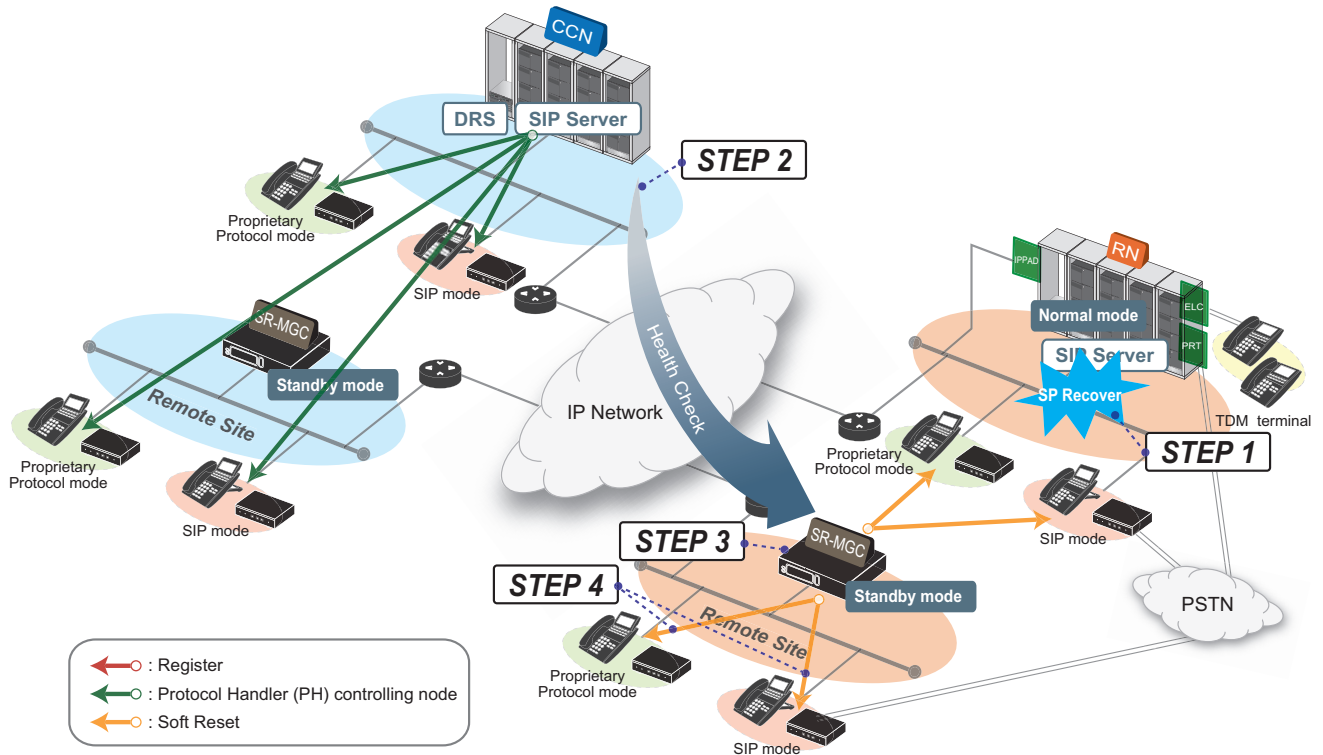
Step3: SR-MGC changes from standby mode to operating mode after a time-out occurred in Health Check from CCN.

Step4: Proprietary Protocol IP devices/stations in the remote site detect the SP failure and PH hunt becomes NG. The IP devices/stations register to SR-MGC (the secondary DRS/SIP server).

Step5: Time-out of Health Check occurs due to the disconnection of the communication between the IP devices/stations and PH in the RN and the IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the failure of the SP of the RN.

(12) After the SP of the RN recovers from the failure

Note: ASYDL SYS1 Index 843 Bit 0 and 1 must be set to 0 (default value).



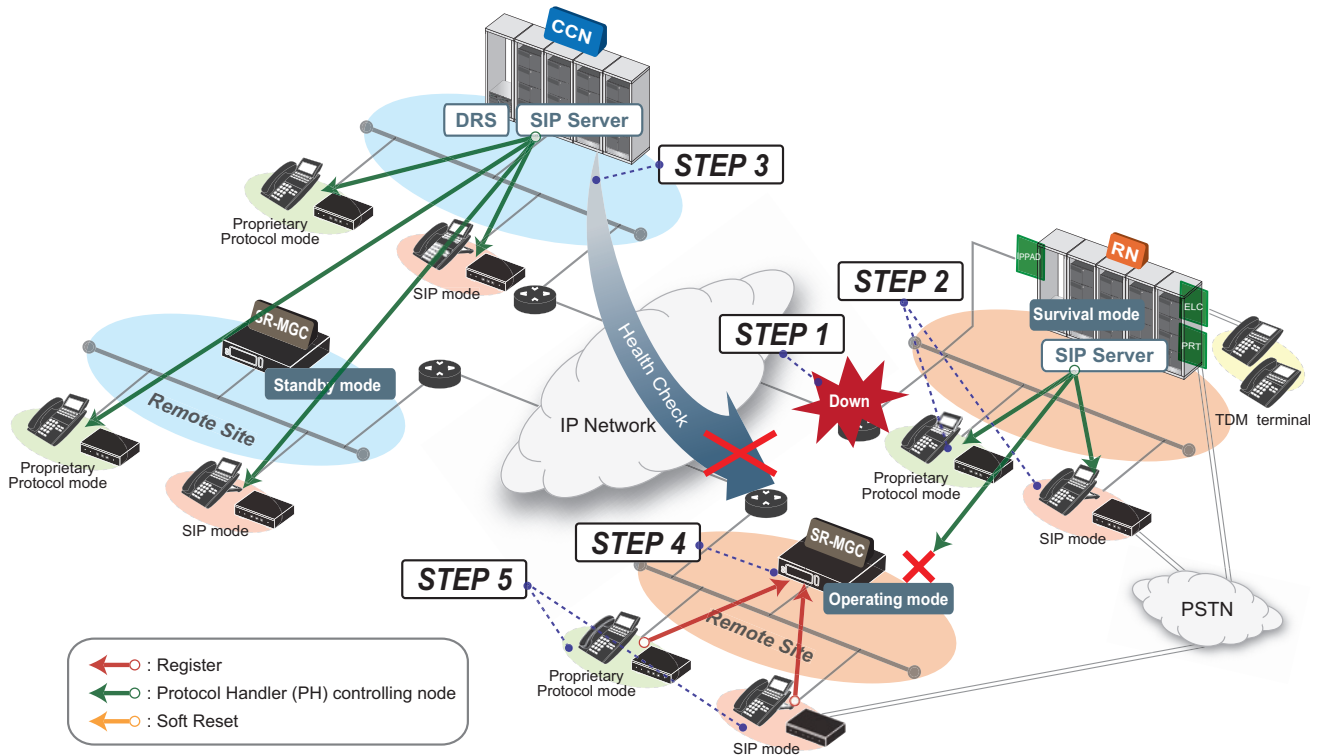
Step1: SP of the RN recovers.

Step2: CCN sends again Health Check packets to SR-MGC after the recovering from the SP failure.

Step3: Health Check from CCN is resumed and SR-MGC changes from operating mode to standby mode.

Step4: When the SR-MGC reverts to standby mode, Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC. After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

(13) In case of a failure in the RN side of the network



Step1: The failure happens.

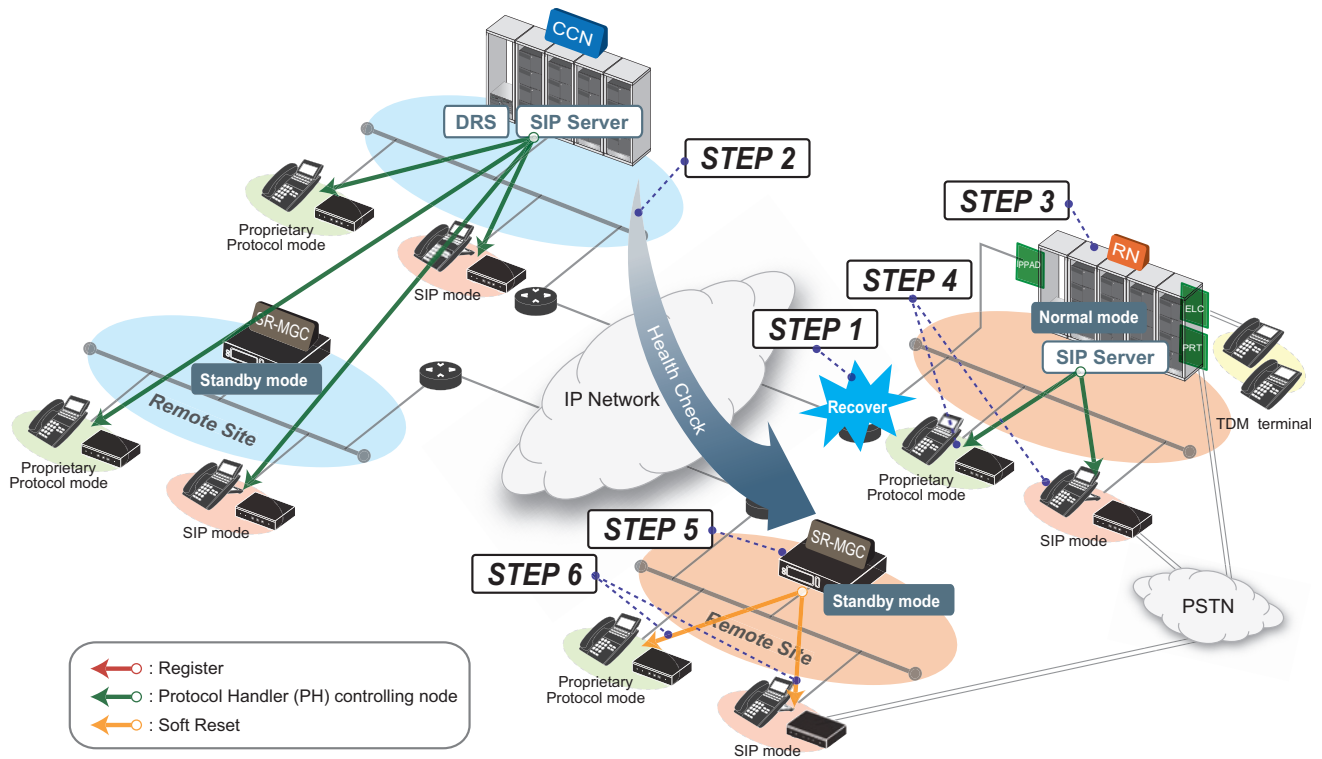
Step2: Calls between RNs are disconnected. Internal calls in RN are maintained. Calls can be made/received within the Self RN without re-registration (other than MG (PRI) in Proprietary Protocol mode).

Step3: CCN stops sending Health Check packets to SR-MGC after detecting Health Check NG between CCN and RN.

Step4: SR-MGC changes from standby mode to operating mode after a time-out occurred in Health Check from CCN.

Step5: Proprietary Protocol IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the disconnection of the CCN with the RN. A time-out of Health Check occurs due to the disconnection of the communication between the SIP mode IP devices/stations and PH in the RN and the IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the failure of the RN.

(14) After the RN side of the network recovers from the failure.



Step1: RN side network recovers.

Step2: Health Check is resumed.

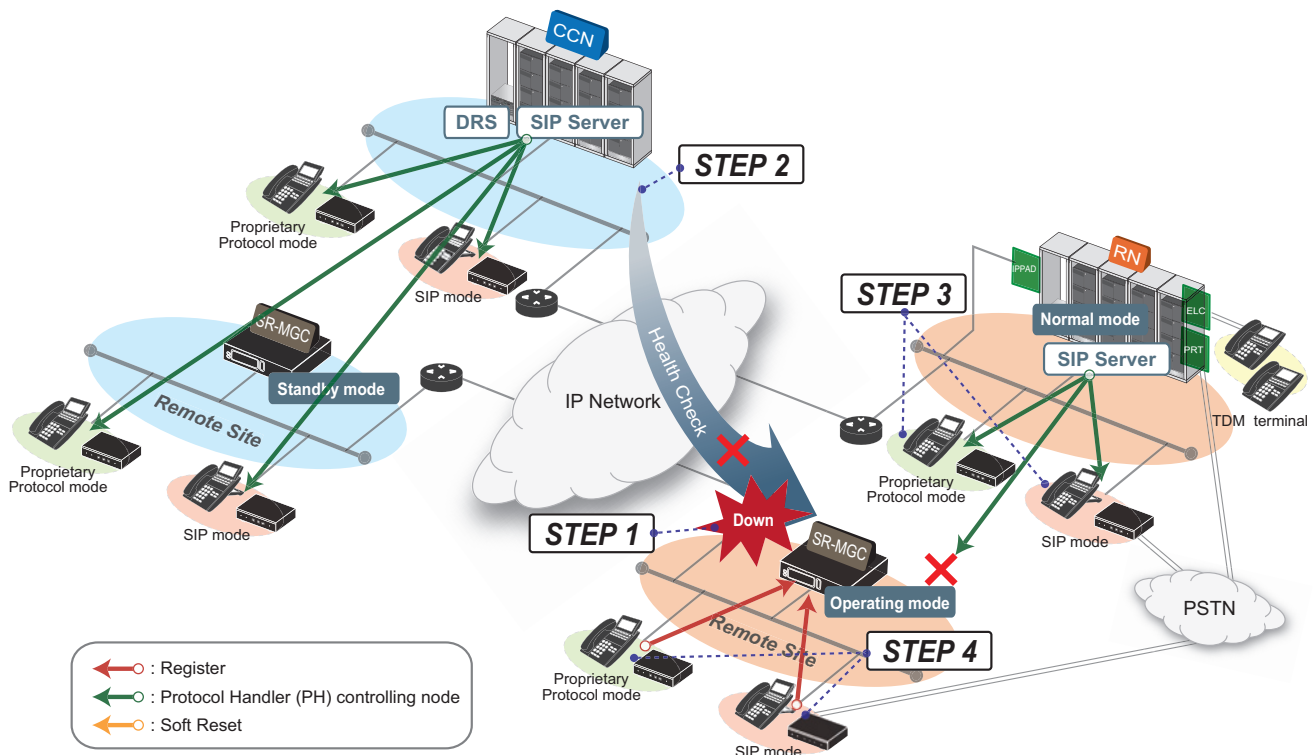
Step3: RN changes from survival mode to normal due to the network restoration with CCN (if a difference is detected in the CCN and RN office data, RN changes to normal mode performing system initialization).

Step4: Calls can be sent and received without re-registration (only in case it changes to normal mode without performing a system initialization).

Step5: SR-MGC changes from operating mode to standby mode.

Step6: Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC. After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

(15) In case of a failure in the network of a remote site



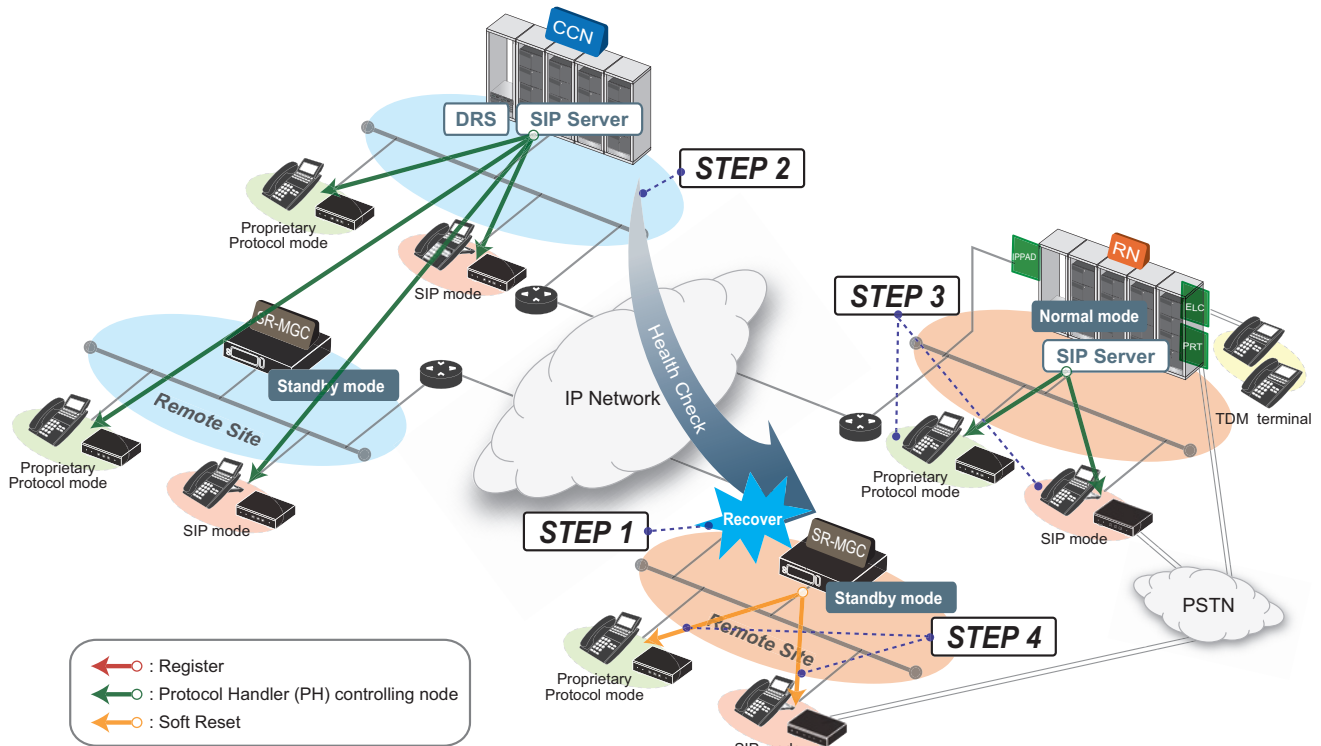
Step1: The failure happens.

Step2: SR-MGC changes from standby mode to operating mode after a time-out occurs in Health Check from CCN.

Step3: IP devices/stations registered in normal mode (the IP devices/stations are controlled by each type of PH accommodated in the RN).

Step4: Proprietary Protocol IP devices/stations in the remote site register to SR-MGC (the secondary DRS/SIP server) due to the disconnection with the DRS of the CCN. A time-out of Health Check occurs due to the disconnection of the communication between the SIP mode IP devices/stations in the remote site and PH in the RN and the IP devices/stations register to SR-MGC (the secondary DRS/SIP server) due to the failure of the Remote Site network.

(16) After the network of the remote site recovers from the failure



Step1: Remote Site network recovers.

Step2: Health Check is resumed. SR-MGC changes from operating mode to standby mode.

Step3: IP devices/stations registered in normal mode (the IP devices/stations are controlled by each type of PH accommodated in the RN).

Step4: Soft Reset packets are sent to IP devices/stations that registered to the SR-MGC. After that, the IP devices/stations are rebooted and register to Primary DRS/SIP server.

3.5 SR-MGC Operations

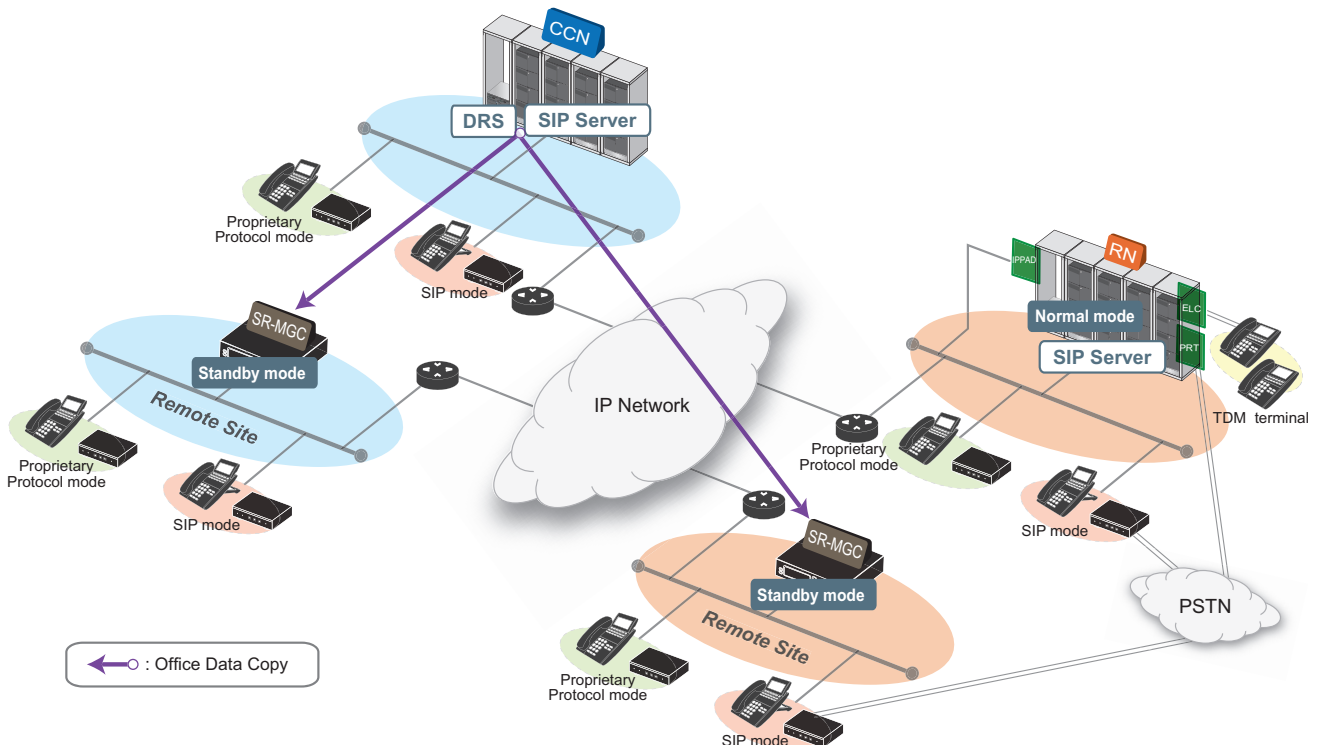
This section explains the operations of SR-MGC in the UMGi system.

The CMNT command assigns the SR-MGCs to each CCN/RNs. SR-MGC number is assigned to the LP number of the node system.

- [\(1\) Office data copy](#)
- [\(2\) Health checks](#)
- [\(3\) Operations when there is a failure in the CCN](#)
- [\(4\) Operations when there is a failure in the SP of the CCN](#)
- [\(5\) Operations when there is a failure in an RN](#)
- [\(6\) Operations when there is a failure in the SP of an RN.](#)

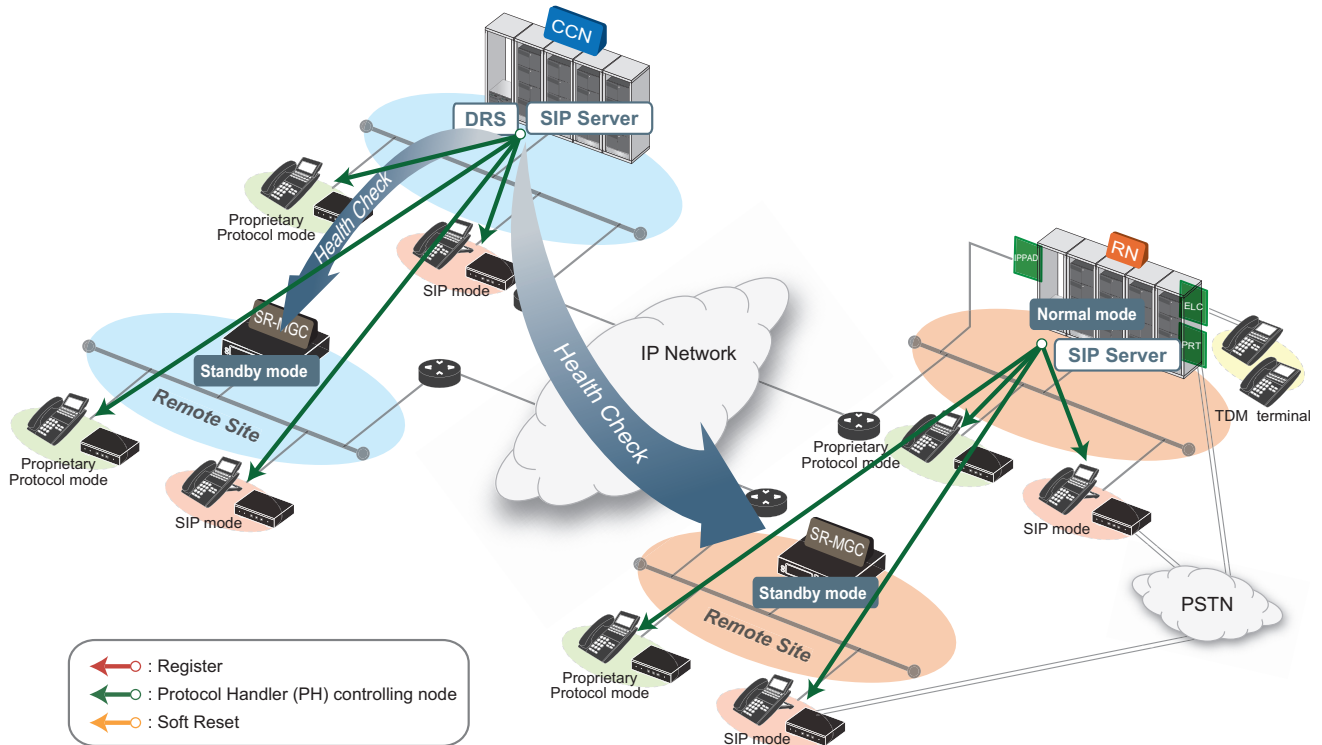
(1) Office data copy

Office data is copied from CCN to SR-MGCs.



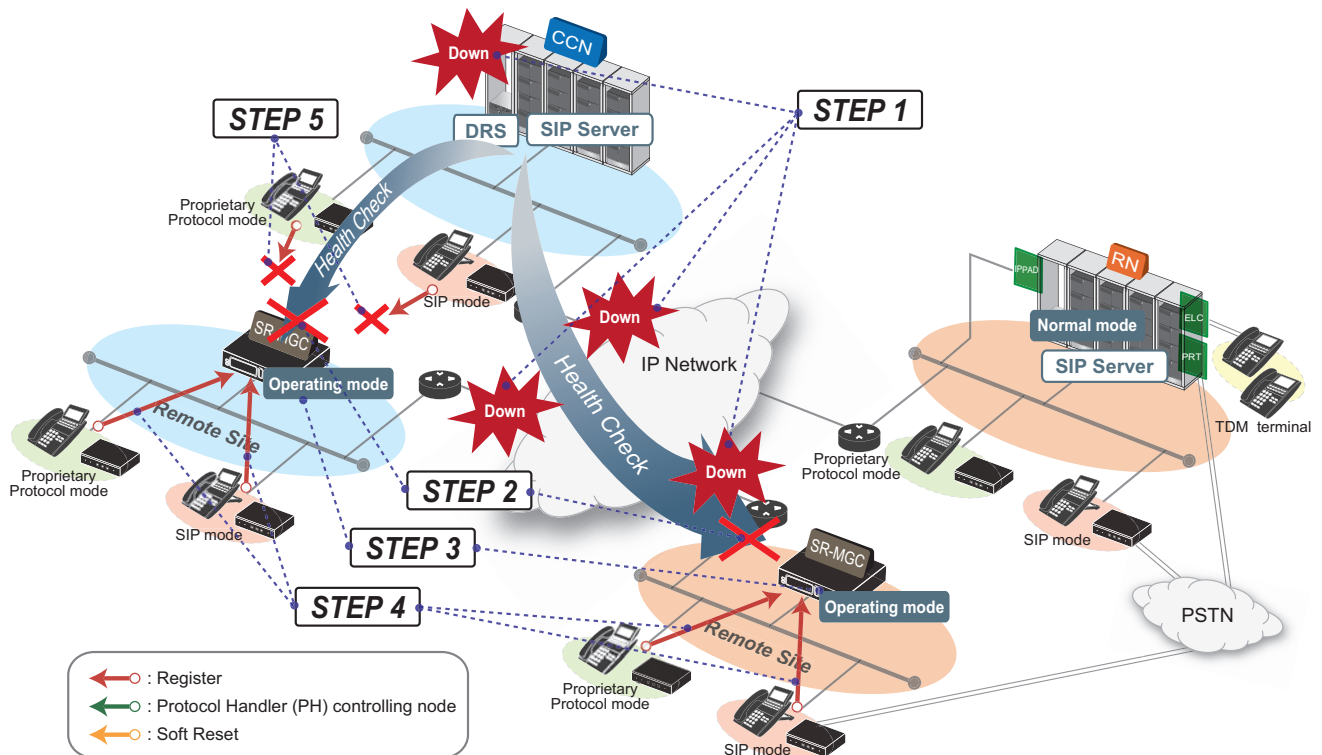
(2) Health checks

Health checks are performed between CCN and SR-MGCs. Health checks are not performed between RNs and SR-MGCs.



(3) Operations when there is a failure in the CCN

In case of a failure in the CCN, each SR-MGCs starts to operate.



Step1: The failure in the CCN side happens.

Step2: A time-out occurs in Health Check from CCN.

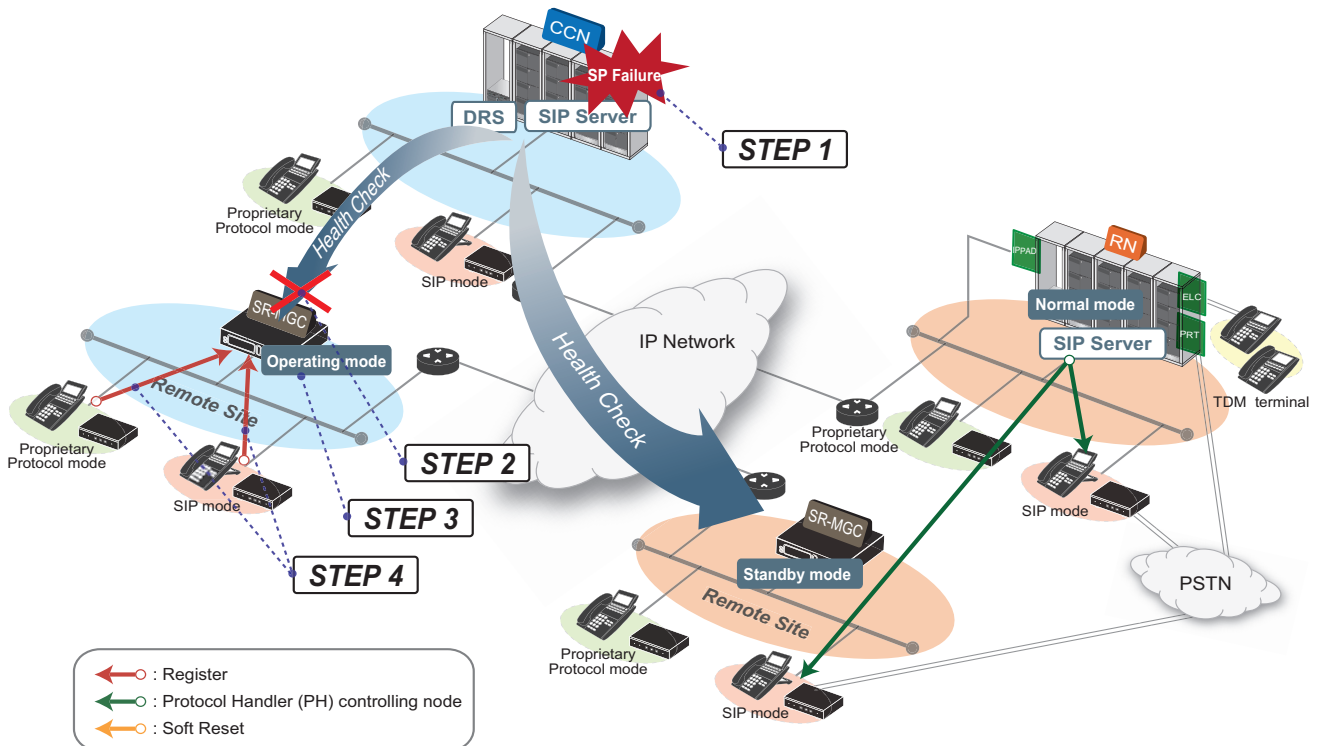
Step3: SR-MGC changes from standby mode to operating mode.

Step4: IP devices/stations register to SR-MGC. (In this state re-registration and registration of new IP devices/stations is performed by the SR-MGC.)

Step5: IP devices/stations in the CCN node that cannot connect with the SR-MGC because of a networking down in step1 cannot register with the SR-MGC.

(4) Operations when there is a failure in the SP of the CCN

In case of a failure in the SP of the CCN, the SR-MGC assigned to the CCN starts to operate.



Step1: The failure in the SP happens.

Step2: A time-out occurs in Health Check from CCN. (Health checks with the SR-MGC assigned to RN are maintained.)

Step3: SR-MGC changes from standby mode to operating mode.

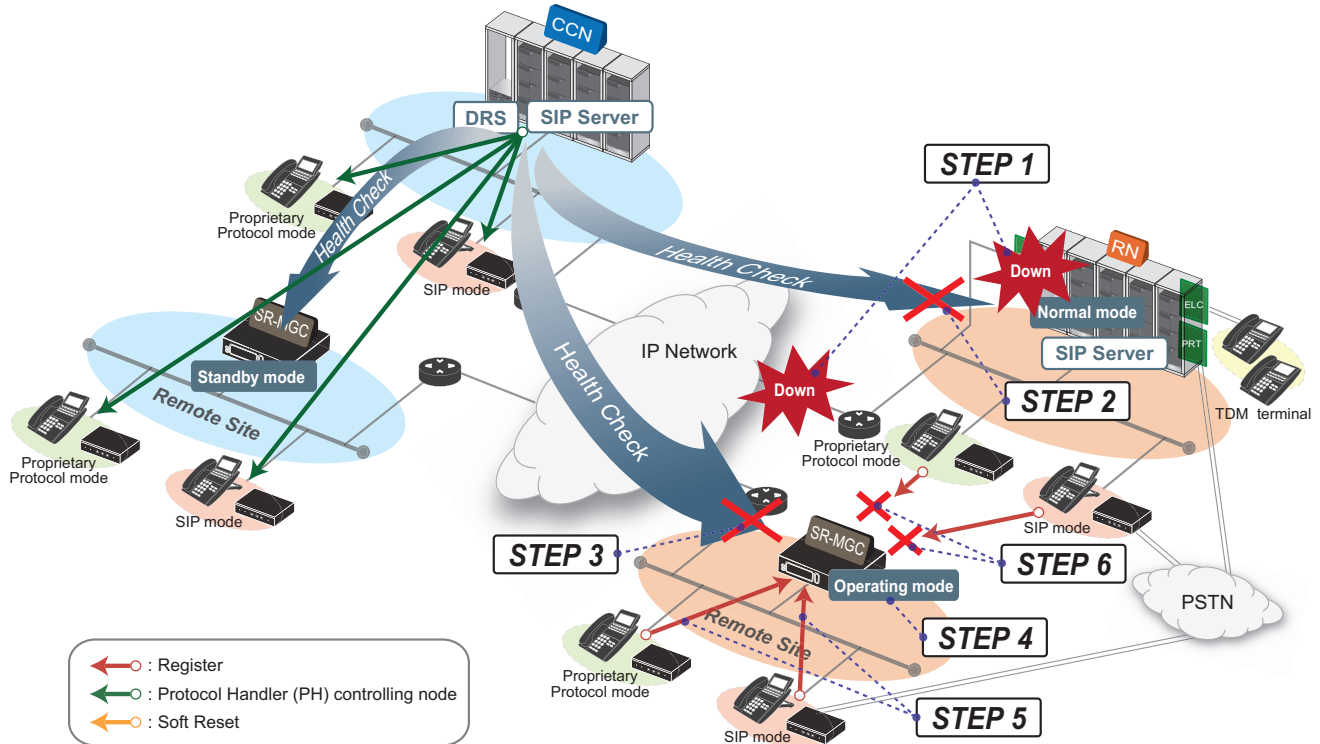
Step4: IP devices/stations register to SR-MGC. (In this state re-registration and registration of new IP devices/stations is performed by the SR-MGC.)

Note: When there is a failure in the SP of the CCN, the system message 10-F (MGC - SR-MGC Network Failure) [0AH] (Switch generation in SR-MGC, due to SP Failure Detection in RN) is issued. (the message is issued also in case of the CCN.)

(5) Operations when there is a failure in an RN

If there is a failure in an RN, the SR-MGC assigned to the RN starts to operate.

CCN monitors the health checks with the RNs and even if there is not any problem in the health checks of CCN with the SR-MGCs, if an anomaly is detected in the health checks of CCN with a failed RN, CCN stops the health checks with the assigned SR-MGC and the SR-MGC starts to operate.



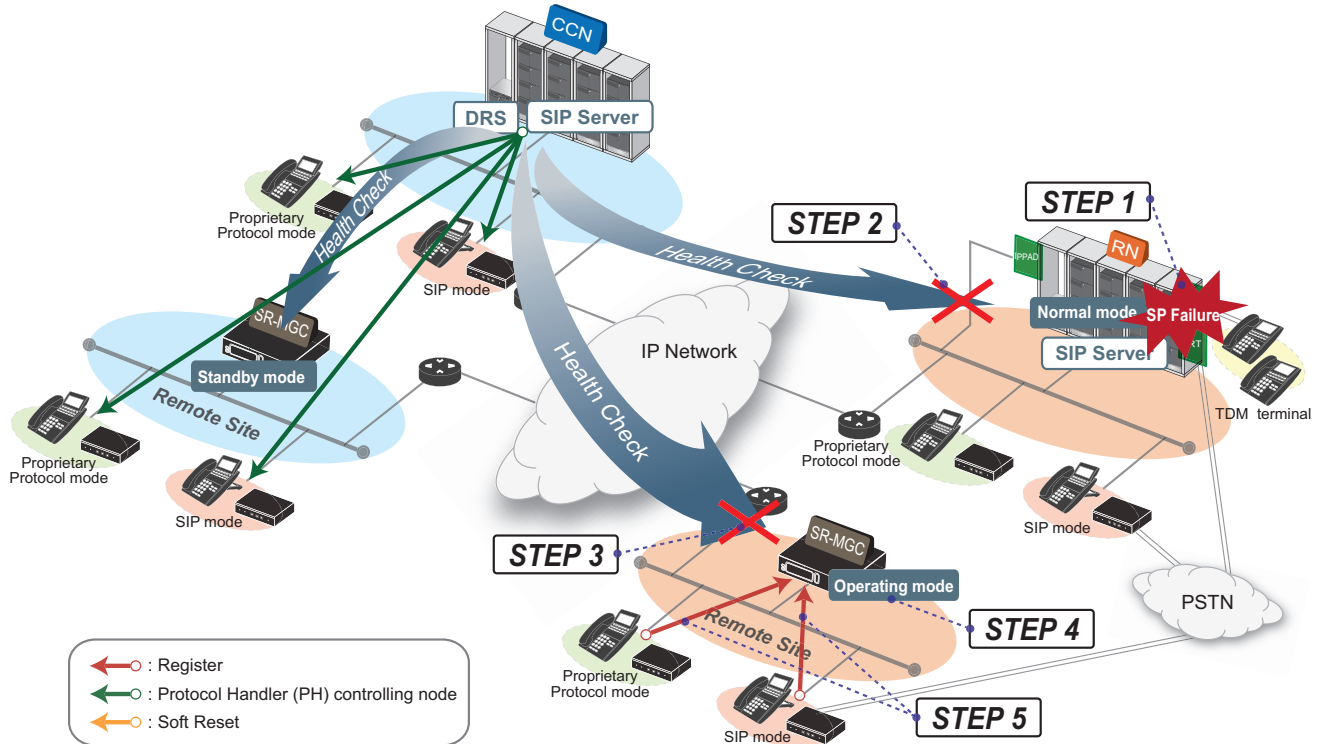
- Step1:** The failure in the RN side happens. (The network failure)
- Step2:** A time-out occurs in Health Check of CCN with RN.
- Step3:** CCN stops sending health checks to the SR-MGC assigned to the failed RN. (CCN continues sending health checks to other SR-MGCs).
- Step4:** SR-MGC changes from standby mode to operating mode.
- Step5:** IP devices/stations register to SR-MGC.(In this state re-registration and registration of new IP devices/stations is performed by the SR-MGC.)
- Step6:** IP devices/stations in the RN node that cannot connect with the SR-MGC because of a networking down in step1 cannot register with the SR-MGC.

Note: When there is a failure between the CCN and an RN, the system message 10-F (MGC - SR-MGC Network Failure) [0AH] (Switch generation in SR-MGC, due to SP Failure Detection in RN) is issued.

(6) Operations when there is a failure in the SP of an RN.

If there is a failure in the SP of an RN, the SR-MGC assigned to the RN starts to operate.

The CCN monitors the SPs of the RNs and even if there is not any problem in the health checks of CCN with the RNs and the SR-MGCs, in case of a failure in the SP part of an RN, CCN stops the health checks with the assigned SR-MGC and the SR-MGC starts to operate.



Step1: The failure in the SP of the RN happens.

Step2: CCN detects the SP failure in the RN.

Step3: CCN stops sending health checks to the SR-MGC assigned to the failed RN. (CCN continues sending health checks to other SR-MGCs).

Step4: SR-MGC changes from standby mode to operating mode.

Step5: IP devices/stations register to SR-MGC.(In this state re-registration and registration of new IP devices/stations is performed by the SR-MGC.)

Note: When there is a failure in the SP of the RN, the system message 10-F (MGC - SR-MGC Network Failure) [0AH] (Switch generation in SR-MGC, due to SP Failure Detection in RN) is issued.

4. Peer to Peer CCIS

(1) Office Data Registration

When using this feature in a UMGi, Virtual Signaling Channel for the Internal PHC can only be accommodated in the CCN (LP00). Virtual Speech Channels can be registered to both CCN and RNs. Set the CCN (LP00) IP address in the destination office to the PC of the UMGi.

(2) Receiving and originating CCIS Networking via IP calls from stations accommodated in an RN in survival mode

Stations or trunks accommodated in a RN that is in survival mode cannot receive or originate a CCIS Networking via IP call.

(3) Originating CCIS Networking via IP calls

- Virtual Speech Channels registered to the CCN/RN and used for call originating terminal are seized preferentially
- Calls are originated via Virtual Signaling Channel (Internal PHC) registered to the CCN.

(4) Receiving CCIS Networking via IP calls

- Calls arrive using the Internal PHC of the CCN (LP00).
- The IP address of the CCN is registered as the counter IP address for the Counter Office.
- Stations accommodated in the RN when in survival mode cannot receive a CCIS Networking via IP call (the caller hears ROT).
- Stations in the RN can receive a CCIS Networking via IP call through the PBUS over IP (**Note 1**).

Note 1: PBUS over IP: An interface for sending/receiving IP packets between CCN and RN or between RNs.

(5) Client licenses for CCIS Networking via IP calls

The client licenses are used for CCIS Networking via IP calls starting with the ones installed in CCN.

5. System Specifications

The following table shows system specifications of the UMGi system.

System Specifications

Item	Specifications	Remarks	
Configuration	SV9500 (Appliance Model) SV9500 (Prepackaged Server Model)		
Number of Controlled Frames	CCN and max. 6 RNs		
PIR	Max. 16 PIRs per node	SV9500 (Prepackaged Server Model) cannot accommodate PIRs.	
Accommodated Terminals	IP/SIP/Digital/Analog		
Rack Configuration	19-inch rack-mountable		
Power Supply	DC (dual) or AC (external battery module) is selectable		
TDM Connection	IPPAD		
CPU	<ul style="list-style-type: none"> SV9500 (Appliance Model) Refer to UNIVERGE SV9500 Appliance Model Installation Manual SV9500 (Prepackaged Server Model) Refer to UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual 		
IOC Card Usage	Available	SV9500 (Prepackaged Server Model) cannot use IOC card.	
Inter-Processor Communication	PBUS over IP		
Line Capacity	Number of Stations	16,000	
	Number of IP Clients	16,000	Max. 4000 per node.
	Number of CO Lines	1,530	
	Number of Attendant Consoles	IMG: 8 MMG: 32	
	Number of PS Terminals (Including SP Controlled Standard SIP Terminals)	4,000	Only accommodable in CCN.
	Capacity Expansion	FCCS: 192,000	
FCCS Support	FCCS Networking via IP (Peer-to-Peer) support only		

System Specifications

Item		Specifications	Remarks
ACD	Number of ACD tenants	9	
	Number of ACD agent positions	2,000	
	Number of ACD lines	6,000	
	Number of ID Code Kinds	10,000	
	Number of Monitor Number Kinds	4,000	
Hotel	Number of Guest/Administration Stations	16,000	
	Number of Groups	2,048	
	Digits of Guest Station Number	6	

6. Conditions

6.1 General Conditions

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

- (1) All nodes must be SV9500 (Appliance Model) or SV9500 (Prepackaged Server Model).
- (2) Both the CCN and RNs must have the same version and issue of SV9500 software (FP95-112 V2 or later **Note 1**). Other software will not be supported.

Note: If the software and issue versions of the CCN and the RN are not the same, the RN cannot change to normal mode.

Note 1: In countries other than North America from FP95-113 V3.

- (3) Country codes must be the same among nodes.
- (4) 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 initially boots up during normal mode.
- (5) The Appliance Model CCN and RNs require flash cards.
- (6) Communications between CCN-RN and RN-RN are performed by using LAN1.
- (7) The network between a CCN and each RN must support the use of UDP and it is recommended to use a closed network with a guaranteed bandwidth. See [Conditions for TCP/IP Environment](#).
- (8) In the case of 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.
- (9) The CCN manages the data of all the nodes. However, an RN only manages its basic office data when in survival mode.
- (10) In normal mode, system messages are mainly output from the CCN (a few messages can be output from the RN side). For an explanation of the messages output, see [System Messages Output](#) in the Operations and Maintenance chapter.
- (11) IP devices/stations registered via the CCN will continue making and receiving calls even if the RN changes to survival mode. However, new registration via the CCN will not be possible for stations for the RN and any new registration in the RN can only be performed by the SR-MGC.

- (12) An SR-MGC is subordinated to each CCN and RN and performs a health check between the SR-MGC and the CCN. The CCN monitors the health check and if it detects a network failure notification, it puts the SR-MGC in operating mode. The CCN also monitors health checks between the CCN and the RN. If a network failure notification is detected, the CCN stops the packets sending for the health check with the SR-MGC subordinated to the RN and puts the SR-MGC in operating mode.
- (13) The following are conditions for a node using a Prepackaged Server Model:
- Virtual machines usage in SV9500 (Prepackaged Server Model) CCN or RN is detailed in the table below. For an explanation of the machines, see Prepackaged Server Model Installation and Operation Manual.

Name	CCN	RN	Description
vCenter Server Appliance (vC-SA)	X	X	
VMware Tools	X	X	
SV9500	X	X	
FT Management Appliance Server	X	X	Only for the Prepackaged FT Server Model. Note: If the virtual machine on which FT Management Appliance Server is installed stops operation due to problems, it automatically reboots approximately after 20 minutes.
Software-based MG-SIP	X	X	
UC Application Server	X	-	
Other advanced communication services	X	-	

X: Available, -: Not Available

- The use in a node of the snapshot feature of the Prepackaged Server Model can cause call loss in each node or the detection of a communication failure between nodes.
 - Conditions and limitations of the SV9500 (Prepackaged Server Model) stated in the Prepackaged Server Model Installation and Operation Manual apply for a node using Prepackaged Server Model.
- (14) Leave the CPU configuration setting unchanged when one CPU is extracted from the chassis due to a failure. If the CPU configuration setting is changed (from dual CPU to single CPU configuration), the IP address of the Telephony Server needs to be reassigned in each IP terminal.
- (15) Up to six RNs can be installed. The number of RNs changes depending on combinations of IMG or MMG models.

- (16) Conditions for terminal accommodation are as follows.

Terminal Accommodation

Terminal Type	CCN	RN
TDM terminal (Analog telephone, Digital terminal and ISDN terminal, etc.)	Supported Note 2	Supported Note 2
IP terminal (IP station and MG, etc.)	Supported Note 3	Supported

Note 2: In case of Prepackaged Server model, it is not supported.

Note 3: In the DtermIP menu “Primary DRS Address” is the CCN’s IP address, not the RN’s.

- (17) PHS/PCS features can be provided only in CCN.
- (18) When using the PHS/PCS System or accommodating SP Controlled SIP terminal under the UMGi system, module allocations must be carefully considered, since the Wireless System and SP Controlled SIP terminal uses 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 PSs or the ASPO command data for SP Controlled SIP terminals, the system automatically assigns any physically-existing port, from MG20-MG31. The first PS/SP Controlled SIP terminal is assigned to the last number LENS of 313237 (MG=31, U=3, G=23, Lv=7) as the PHIN, and then the second terminal is assigned to the next to last number LENS of 313236 (MG=31, U=3, G=23, Lv=6). A maximum of 4000 PS terminals (including 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 PIR that Can Be Mounted by System Note 4
0 ~ 768	MG31	62 PIRs (IMG0 ~ 15)
769 ~ 1536	MG30 ~ 31	60 PIRs (IMG0 ~ 14)
1537 ~ 2304	MG29 ~ 31	58 PIRs (IMG0 ~ 14)
2305 ~ 3072	MG28 ~ 31	56 PIRs (IMG0 ~ 13)
3073 ~ 3840	MG27 ~ 31	54 PIRs (IMG0 ~ 13)
3841 ~ 4000	MG26 ~ 31	52 PIRs (IMG0 ~ 12)

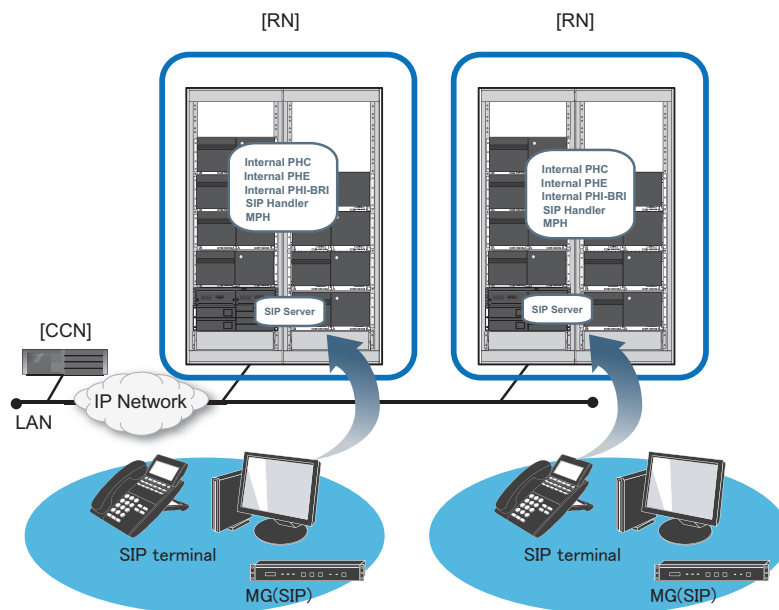
Note 4: When PHIN is assigned in any MG, the system cannot use the PIRs for that MG. (Therefore, the PIRs for that MG are not mounted.)

- (19) Licenses are assigned separately to the System #0/System #1 of 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.
- (20) 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 a UMGi system is configured with a Prepackaged 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.)

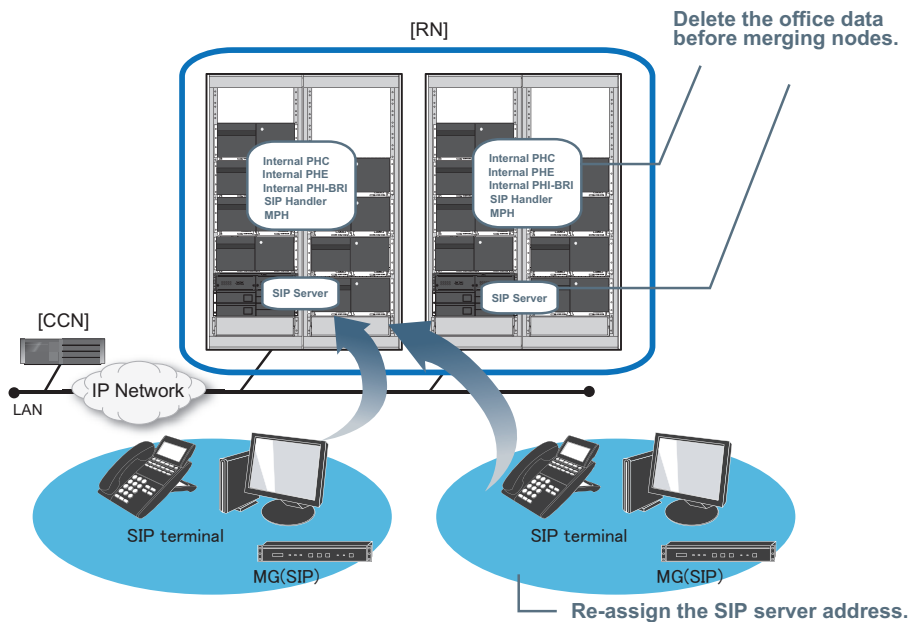
Number of Mounting PLO Cards	ASYD SYS1 Index 91			
	Bit 7	Bit 6	Bit 5	Bit 4
When a PLO card is to be mounted	0	1	0	0
When two PLO cards are to be mounted	1	1	0	0

- (21) When two RNs (each of them consisting of two frames) are going to be managed as one RN with four IMGs, delete all the protocol handler (Internal PHC, Internal PHE, Internal PHI-BRI and MPH) and SIP server office data of one of the original RNs before they are unified. If IP equipment uses the SIP Server Address of the node being deleted from the office data, re-assignment of the SIP Server Address is required.

■ Before merging two RNs



■ After merging two RNs



- (22) See [Chapter5 System Time Setting](#) for the nodes clock synchronization.
- (23) Prepackaged Server model of CCN and RN 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) in the UMGi system must be the same in the CCN and the RNs. Take this in consideration for a system that uses Appliance Model with dual CPU/TSW configuration and Prepackaged Server Model. For the CPU data setting see [6.2 Conditions for CPU Configuration](#).
- (24) When a dual TSW configuration (ASYD SYS1 Index 3) is set in the UMGi system, TSW changeover is not performed in a Prepackaged Server model of CCN or RN during a periodic health check.
- (25) When you make or receive calls via Software-based MG-SIP, the following client licenses are used:
- In normal mode: client licenses in CCN will be used.
 - In survival mode: client licenses in RN will be used.

6.2 Conditions for CPU Configuration

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

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

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

- (2) 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.
- (3) Follow this point conditions 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 changing the IP address of one node, it is necessary in the following IP devices to change the registered Telephony Server address:
 - MG(BRI) [SCA-2BRIA/MG-2BRIA/SCA-2BRIA-B]
 - MG(PRI) (1.5M) [SCA-24PRIA/MG-24PRIA]
 - MG(PRI) (2M) [SCA-30PRIA/MG-30PRIA]
 - MG-COT Card [SCA-6COTA/SCA-6COTB/SCA-6COTC]
 - 8LC Card [SCA-8LCA/SCA-8LCA-EMEA/SCA-8LCC/SCA-8LCC-EMEA]
 - UG50 (LC) [SIP]
 - UG50 (PRT 1.5M) [SIP]
 - UG50 (PRT 2M) [SIP]
 - UG50 (COT-TYPE2) [SIP]
 - 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 of Appliance Model, use CPU #0 (the system cannot operate with CPU #1).

6.3 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 UMGi system.

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

Connection Network Requirements

Requirement		Condition	Remark
Protocol		UDP traffic must be allowed.	-
Acceptable Delay Time	Normal	One-way: 30 ms (Max) Round-trip: 60 ms (Max)	* In the network including Peer-to-Peer FCCS, the total delays inside the UMGi system and inside Peer-to-Peer FCCS must be within these values.
	When using encryption	One-way: 20 ms (Max) Round-trip: 40 ms (Max)	
	When using analog line	One-way: 20 ms (Max) Round-trip: 40 ms (Max)	
	When using Three-way Conference with encryption	One-way: 17 ms (Max) Round-trip: 34 ms (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 UMGi system, default IP addresses of each node vary depending on the environment. Make sure that all the addresses are unique in your network:

Appliance Model CCN Default IP Addresses

CCN IP Address Information in ADTM Note 1	CCN's LP IP Address Information in ADTM Note 2	CCN Default IP Address	
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 Note 4
		LAN2 IP address (System-1):	172.16.253.1/16 Note 4
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 Note 4
		LAN2 IP address (System-1):	172.16.253.1/16 Note 4

Prepackaged Server Model CCN Default IP Addresses

CCN IP Address Information in ADTM Note 1	CCN's LP IP Address Information in ADTM Note 2	CCN Default IP Address	
Registered Note 3	Registered Note 3	Registered IP addresses	
Registered	No Data	Registered IP addresses	
No Data	Registered	LAN1 IP address	192.168.1.11/16
		LAN2 IP address	192.168.1.12/16
No Data	No Data	LAN1 IP address	192.168.1.11/16
		LAN1 IP address	192.168.1.12/16

Appliance Model RN Default Addresses

CCN IP Address Information in ADTM Note 1	RN's LP IP Address Information in ADTM Note 5	RN Default IP Address
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 Note 4 LAN2 IP address (System-1): 172.16.253.1/16 Note 4
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 Note 4 LAN2 IP address (System-1): 172.16.253.1/16 Note 4

Prepackaged Server Model RN Default IP Addresses

CCN IP Address Information in ADTM Note 1	RN's LP IP Address Information in ADTM Note 5	RN Default IP Address
Registered	Registered	Registered IP addresses
Registered	No Data	LAN1 IP address 192.168.1.11/16 LAN2 IP address 192.168.1.12/16
No Data	Registered	Registered IP addresses
No Data	No Data	LAN1 IP address 192.168.1.11/16 LAN1 IP address 192.168.1.12/16

Note: LAN2 default addresses are common for all the nodes of the UMGi 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 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 match exactly with each other.

Note 4: Only CPU with dual configuration.

Note 5: 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. drop down box.

- (5) When you want to change a node's addresses, perform the procedure stated in [Change IP Address](#); make sure of the following conditions as well:
- Log in to the RN node that is having the IP Address changed and in ADTM assign the same IP Address as it appears in ADTM from the CCN (for the matching LP number).
 - Disable the Office Data Periodic Refresh by setting the following before changing an IP address: ASYDL, SYS1, Index 805, Bit 0=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 addresses from the CCN, PCPro will not be disconnected.
 - If you log in to an RN and change an RN's IP address to which you are logged in to, PCPro will be disconnected from the RN. If you change a CCN's IP address from the RN, PCPro will not be disconnected.
 - IP address changes cause the UMGi system to go into survival mode temporarily.
 - The UMGi system cannot operate with default IP addresses that a CCN or an RN (SV9500 server) originally have. Execute the ADTM command to register new IP addresses.

6.4 Interactions with Other Features

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

6.4.1 Operation Status of Other Features

The following table shows operation status of other features.

Operation Status of Other Features

Feature	CCN	RN	
		Normal Mode	Survival Mode
FCCS Networking (IP Peer to Peer)	X	X	Not supported
Attendant Console Note 1 Note 2	X	X	C
OAI Client/ACD agent position	X	X	Not supported Note 3
Hotel service	X	X	Not supported Note 4
PHS/PCS	X	Not supported	Not supported
SP Controlled SIP terminal	X	Not supported	Not supported
CCIS (by DTI)	X	X	X
CCIS (by PHC)	X	X	Not supported
SMDR Note 5	X	X	X
MCI Note 6	X	X	Not supported Note 7
PCPro Connection (RS232C) Note 8	X	X	X
PCPro Connection (LAN)	X	X	X
Office Data Change from PCPro	X	C Note 9	C Note 9
SNMP Note 12	X	X	X
System Failure Output	X	Not supported Note 10	X Note 11

X: Available, C: Configurable (There are some conditions.), -: Not applicable

Note 1: It is available only when accommodating all the attendant consoles in only one node.

Note 2: Because a console in an RN in survival mode cannot resend calls to other nodes, it is highly recommended to install the consoles in the CCN.

Note 3: An Internal ACDP/IP is installed in the CCN. OAI Clients and ACD agent positions cannot be controlled by an RN in survival mode.

Note 4: Hotel services are not supported by RNs in survival mode.

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- Note 5:** It is highly recommended to output billing information from a CCN.
- Note 6:** It is highly recommended to output MCI messages from a CCN.
- Note 7:** MCI message outputs from an RN in survival mode will be discarded.
- Note 8:** Only Appliance Model CCN can use the connection. IOC card can be accommodated only in one node.
- Note 9:** It is restricted by default to assign office data from the RN using PCPro regardless of whether the RN is in normal mode or survival mode. If you want to remove the restriction, assign the system data: ASYDL, SYS1, Index 1225, Bit 0=1 (0/1=Writing or deleting from the RN using PCPro is Restricted/Not restricted). If you assign office data from an RN using PCPro and the RN is put into normal mode, office data from the CCN will be transferred so the data assigned with PCPro from the RN may be lost.
- Note 10:** Output from a CCN in normal mode.
- Note 11:** System Message output is available only from each RN in survival mode.
- Note 12:** The settings of SNMP must be performed using a PCPro logged in to CCN.

6.4.2 Attendant Console

The following are conditions for attendant consoles used in the UMGi 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 cannot accommodate them.
- (2) The UMGi system has the following capacity to accommodate attendant consoles.
 - Accommodate all the attendant consoles in only one node (if the consoles are accommodated in several nodes, operations cannot be guaranteed.). It is highly recommended to accommodate the consoles in the CCN (a console in an RN in survival mode cannot resend calls to other nodes).
 - A node that uses SV9500 PIRs can accommodate 8 attendant consoles per IMG, but up to 32 in the case of 4-IMG.
 - In case you have to accommodate the consoles in an RN, the lowest numbered RN to which a trunk of RT:901 (Attendant Console Route Number) is registered with the ATRK command is considered to be the accommodation node for the attendant consoles. Do not register a trunk of RT:901 to any other RN other than the RN accommodation node for the attendant consoles.
- (3) 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).
- (4) If another FPC terminal calls to an attendant console for an RN in survival mode, the terminal (calling party) will hear Reorder Tone (ROT).

- (5) If a terminal from an RN in survival mode calls to another FPC attendant console, the terminal (calling party) will hear Reorder Tone (ROT).
- (6) 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.
- (7) Busy Lamp Field - Flexible [B-2] is available with stations in a node accommodating attendant consoles.
- (8) Busy Lamp Field - Flexible [B-2] is unavailable between stations over the FCCS network.

6.4.3 Day/Night Mode

The following are conditions for the day/night mode change function used in the UMGi 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 the 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) It is recommended to divide tenants on a node basis.
- (4) If the day/night mode change by using IP stations is assigned to a TN, using the ADNM command also executes the day/night mode change in the TN.
- (5) Between a CCN and an RN in survival mode, an Attendant Console cannot control the day/night mode status of the other node.
- (6) When an RN returns from survival mode to normal mode, the RN receives the day/night mode information from the CCN. If you use an external key, it may cause a difference of the day/night mode status between the external key and the system; adjust it with the external key.
- (7) 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.
- (8) You can assign the day/night mode change function to multiple Desktop terminals.
To enable the day/night mode change in each survival mode RN, it is recommended to separate the tenant which enables the mode change from the other tenants which do not in an RN. In the tenant for the day/night mode change, the mode change operating Desktop terminals and terminals whose modes to be changed should coexist.

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- (9) 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 station to change the day/night mode status.
 - (10) The ADNM command cannot change the day/night mode status of an RN in survival mode.

6.4.4 Message Center Interface

The following are conditions for a message center interface (hereinafter called MCI) used in the UMGi 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) Interface connections are as follows:
 - 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 Appliance Model RN can use an MCI only with serial connection (RS-232C).
 - A Prepackaged Server Model RN cannot use an MCI with serial connection (RS-232C) or LAN connection (RJ-45).
 - (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, SYS 1, Index 1221. **Note 1.**
If the above system data is not assigned (= 00) or a non-existent PBI Number is designated, CCN will be connected with MC.

Note 1: ASYDL SYS 1 Index 1221 is for billing of UMGi 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 MC 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 UMGi system. However, the MCs cannot be installed in separated nodes. If you install two MCs, do it in the CCN or one of the RNs.
 - (7) The UMGi system can use either serial connection or LAN connection for MCIs, but not both.
-

6.4.5 Hotel Services

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

Note: Hotel services are not supported by Prepackaged Server Model.

- (1) The UMGi system provides you with a function to extend PMS transmit sequence numbers. For the data assignment, see [For Hotel Service Use](#).
- (2) PMS is not available between a CCN and an RN in survival mode.
- (3) 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.
- (4) The following are service conditions specific to Group Services: Group Restriction [G-21], Group Service through PMS [G-4].
 - RN changeover to survival mode influences the following:

Survival Mode Influence against Hotel Features

Feature Name	Actions	Setting/Canceling 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
X: Available N/A: Not available -: Not applicable		

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 conditions: 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.

6.4.6 Station Message Detail Recording (SMDR)

The following are SMDR-related conditions only specific to the UMGi 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 UMGi 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 UMGi 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 UMGi 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. Also, serial connection can be used only with Appliance Model):
 - 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 (Appliance Model) 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 (both Appliance Model) 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:
- Within the UMGi system the CCN collects all the billing information and then the information is sent to the main node (the node with the Centralized Billing Center) of the CCIS system.
 - If an RN is the node connected to the main node of the CCIS system and the RN enters in survival mode, it will not be able to receive the billing information from the CCN and therefore the information will not be sent to the main node of the CCIS system.
 - Do not assign the UMGi system as the main node of the CCIS system. If an RN transits to survival mode, it can receive the billing information from other CCIS satellite nodes but it will not be able to transfer such information to the CCN and it will discard it.
- (10) The following are FCCS centralized billing-related conditions:
- If you assign the UMGi 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 UMGi 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 UMGi 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 a UMGi system, the billing time will be that of the node of the call receiving terminal.
- (13) When a node receives a trunk call and resends it to another node or a call from another node is resent as a trunk call, 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.

6.4.7 ACD/OAI Services

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

- (1) An Internal ACDP/IP should be installed in a CCN.
- (2) MIS/OAI servers can connect only to a CCN, not to RNs.
- (3) ACD/OAI features are not available between a CCN and an RN in survival mode. ACD agent positions and OAI terminals under an RN remain in the status before changing to survival mode. LCD or LED indications may also remain the status before changing to survival mode.
- (4) When RNs cannot communicate with a CCN or are in survival mode, a backup-UCD group can receive ACD Pilot Number at RNs. When the backup-UCD function is disabled, the caller receives a ROT.
- (5) 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 disables backup-UCD function to maintain calls in progress.
- (6) Do not register a group of ACD agent positions across multiple RNs to prevent them from the following:
 - Restart processing of RN is performed asynchronously so ACD agent positions under the RN cannot receive calls during the restart processing.
 - After calls are distributed to ACD agent positions, if an RN mode changes to survival mode, the calls cannot be recovered even by Call Recover - ACD [C-191A].
- (7) The UMGi 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.
 - When the UMGi system is not included in an FCCS network, FCCS settings: ASYDL, SYS1, Indexes 512 (Fusion Point Code of self node) and 533 (FPC number of the node that has the C-VNDM) are not required.
 - When the UMGi system is included in an FCCS network, FCCS settings: ASYDL, SYS1, Indexes 512 (Fusion Point Code of self node) and 533 (FPC number of the node that has the C-VNDM) are required.
- (8) The priority for VNDM transfer processing depends on the node kind of the UMGi system:
 - When the UMGi system functions as a Local Node, VNDM belonging to a Center Node takes higher priority than one belonging to the UMGi system.
 - When the UMGi system functions as a Center Node, VNDM belonging to the UMGi system takes higher priority than one belonging to any other systems.

- (9) When an RN transits from survival mode to normal mode, VNDM in CN 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.

- (10) 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.

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

- (12) Depending on the restart timing, the ACD agent positions under the system may be displayed as R.I.P 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.

- (13) The following shows conditions for the OAI Service Set Facility (SSF).

- (a) To enable eight ports for Service Status Facility Monitoring (SSFM) and Service Status Facility Notification (SSFN), assign “1” for 8 ports in the following data assignment:

ASYDL Sys 1, Index 1187 Bit 4 (SSFM/SSFN Port expansion): 0/1 = 2 Ports/8 Ports

- (b) After changing the number of ports, system initialization is unnecessary but assign the monitoring data from the application again is necessary.

- (c) Close the application before changing the number of ports.

- (d) When you disconnect the application without deleting the SSF monitoring information, assign “1” in the following data assignment to invalid the SSF Monitoring Information Clear when the application is disconnected:

ASYDL/ASYDN SYS 1, Index 1185 Bit 4 (SSF Monitoring Information Clear when the application is disconnected): 0/1 = Valid/Invalid

- (e) When the number of ports is changed without closing the application and changed again while operating, system initialization is required.
 - (f) When the number of ports is changed in the system which disables the SSF Monitoring Information Clear when the application is disconnected (ASYDL/ASYDN SYS 1, Index 1185 Bit 4 = 0) and changed again while operating, the system initialization is required.
 - (g) If a communication failure occurs between a CCN and RNs, SSF from the application in connection with the CCN does not work for terminals in RNs (Return Error: 0x12, 0x00 Service Status Facility Monitoring (SSFm)).
- (14) To enable Automatic VNDM Reestablishment, the following system data assignment is required:
ASYDL/ASYDN SYS 1, Index 1186 Bit 4 = 0 (Automatic VNDM Reestablishment)
- (15) The following describes status of ACD/OAI when the UMGi 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).

6.4.8 SIP Terminal Authentication

When RN is changed to normal mode, the One Time Password data registered in the CCN will be reflected to RN. In that case, PCPro logged in to the RN can run the ASECL command to display the One Time Password data but cannot overwrite it.

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

6.4.9 IP Gateway (IPG)

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

6.4.10 One Touch Speed Calling Data for IP Stations

- (1) One Touch Speed Calling data settings and making calls with Speed Calling features is available regardless of being in normal or survival mode.

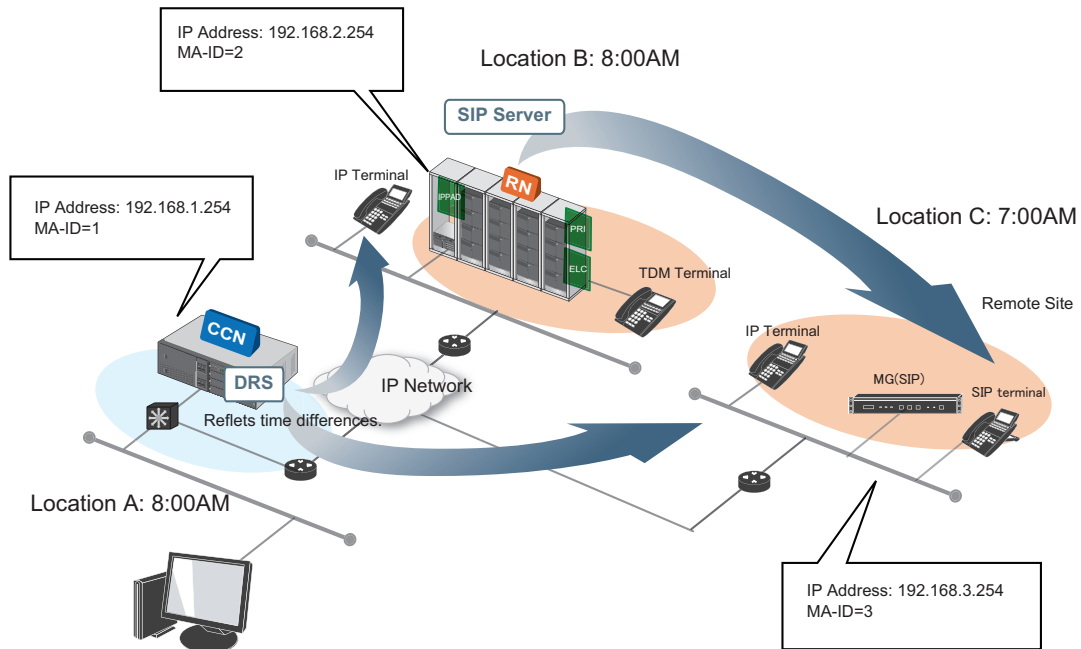
- (2) Regarding the One Touch Speed Calling data backup, the following applies:
- When an RN is in normal mode, any SPD data setting of the IP stations in the RN side will be managed by CCN. To maintain the One Touch Speed data, it is necessary to backup One Touch Speed Calling for DtermIP SPD data with the MEM_HDD command of PCPro logged in to CCN.
 - When a UMGi system is in survival mode, any One Touch Speed Calling data change from IP stations in the RN side is not reported to the CCN. When the UMGi 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.

6.4.11 One Touch Calling Name Information

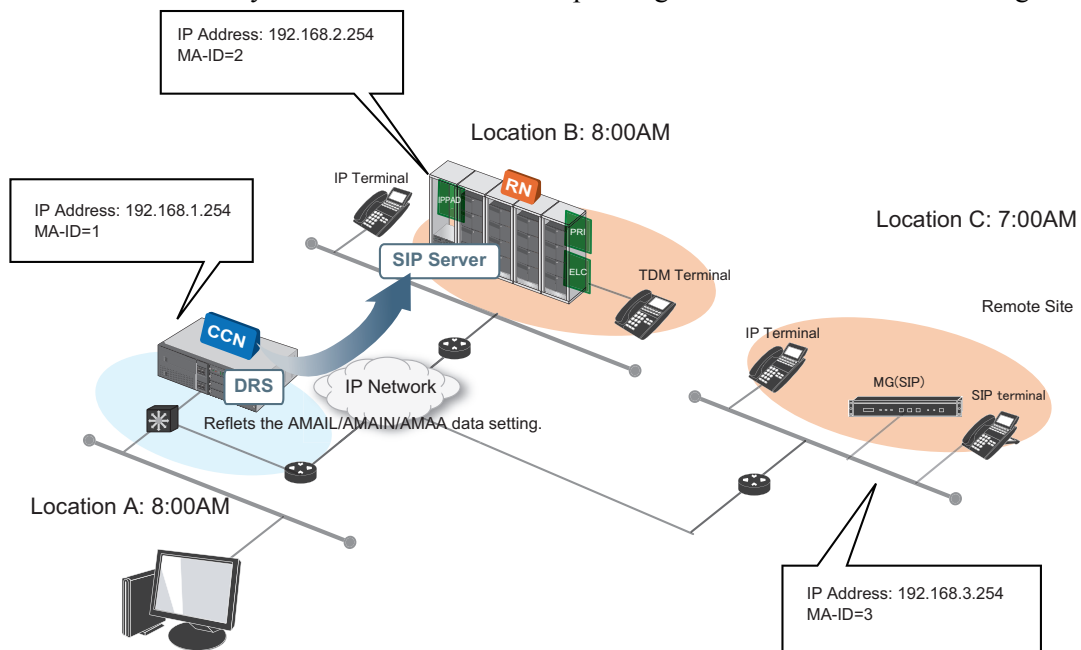
- (1) One Touch Calling Name Information registration and display can be performed only in normal mode.
- (2) Regarding the data backup, the following applies:
- When in normal mode, any One Touch Calling Name Information setting of the IP stations in the RN side will be administered by CCN. When performing data maintenance, it is necessary to perform a backup of SPD Name data done with the MEM_HDD command of PCPro logged in to CCN.
 - Any settings change the One Touch Calling Name Information data of IP stations of 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 in 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.

6.4.12 Multiple Time Zone

- (1) Time zone differences are reflected to terminals in the following way.
- IP terminals
Using a CCN system clock as a MGC time zone, time differences on a MA-ID base is reflected to a time display on each IP terminal LCD.
 - SIP Multiline terminals
Using a node system clock as a MGC time zone, time differences on a MA-ID base are reflected to a time display on each SIP Multiline terminal LCD.



- (2) The AMAIL/AMAIN and AMAA commands data set through a PCPro in the CCN will be reflected to each RN automatically. Ensure that all RNs are operating in normal mode before setting the data.



- (3) When a CCN belongs to an FCCS network as an LN, before setting the Multiple Time Zone data with the AMAIN/AMAA command, ensure that a transmission path failure does not occur between an NCN and each LN. In normal operation, the AMAIN/AMAA command data set through a PCPro in the NCN is reflected to each LN. If a transmission path failure occurs between the NCN and one of LNs, the AMAIN/AMAA command data set to the NCN will not be reflected to LNs.

Note: Even when an RN (one of LNs in UMGi system) operates in survival mode, the system cannot regard it as a transmission path failure.

6.4.13 Others

- (1) We strongly recommend assigning a unique LOC-ID on each node, which means assigning different network addresses. This allows appropriate settings such as call Codec of IPPADs.
- (2) Expanded Multiple Line Operation - D [E-26D] is available only within a node.
- (3) Set routing of a trunk in a node differently from that in other nodes.
- (4) It is not available to set different numbering plans on nodes respectively.
- (5) Available FCCS for UMGi system 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.
- (6) If there is a terminal or trunk connected to Hold tone or announcement service in a node, is directly connected to the sound source (external music-on hold) within the node with a TDSW connexion.
- (7) The number of stations that can use the Phonebook [P-83] (DT800/DT700/DT400/DT300 series) is up to 4000 units.
- (8) The following services are not supported.
 - Call Pickup - One Touch Key [C-207]
 - Location Diversity [L-55]
 - Trunk Group Busy Lamp [T-9]
 - Terminal Power Save Mode [T-69]
 - ACDP Quick Initialization
 - IPv6 connection
- (9) In the following cases, it is recommended to separate tenants on a node basis.
 - Trunk origination
Normally, all terminals use the same access code to make a call. To separate originating trunk routes on a node basis, use Tenant Data Table Development or Least Cost Routing for MG-PRI [L-54].

Note: A Hotel system does not support Tenant Data Table Development.

- (10) For the maximum number of PSs and SP Controlled SIP Terminals to be accommodated in a system, refer to [5. System Specifications](#).
- (11) Although virtual speech channels of CCIS Networking via IP (Peer-to-Peer) can be assigned across CCN and RNs, virtual signaling channels (Internal PHC) can be assigned only to CCN (cannot be assigned to RN).

6.5 Conditions for Non-IP Equipment

The following are conditions for non-IP equipment.

- (1) Check circuit cards available for the UMGi system referring to UNIVERGE SV9500 Circuit Card Description.
- (2) You need to accommodate DCH, CCH and DTI circuit cards in the same node.
- (3) Only one of the nodes (a CCN or an RN) can accommodate an IOC card. If the CCN is Appliance Model, accommodate the IOC card to the CCN regardless of the RNs type.
- (4) If a Zone Transceiver (ZT)/Cell Station (CS) is accommodated, it is highly recommended to do it in the CCN. If it is accommodated in an RN and the RN enters into survival mode, re-registration of position information is necessary because of the PHS/PCS being turned off and on.

6.6 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 a case 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 requested Health Check 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 requested Health Check 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 requested Health Check 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 requested Health Check 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.
- 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 an ISDN line based on the Flexible Network Rerouting [F-41] feature may occur.
- (6) The following are conditions for Link Down Notification.
 - (a) Link Down Notification is available only for desktop terminals. Single-line terminals, ISDN terminals and attendant consoles cannot use it.
 - (b) Link Down Notification button can be registered as Line/Feature Key. It cannot be registered as a Soft Key.
 - (c) 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.
- (7) If an RN transits to survival mode, the following restrictions apply.
 - (a) When the following services were set while RN was in normal mode, they become unavailable after RN transits to survival mode.
 - 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

- (b) Incoming and outgoing calls that uses MG-PRI on proprietary protocol mode and SP Controlled SIP terminal are not available.
 - (c) A call from a CCN cannot terminate to attendant consoles; the calling party receives Reorder Tone (ROT). However, if Night Attendant Transfer [A-19] is in service, the call can be transferred.
 - (d) Local Phone Book is not available.
 - (e) FCCS Networking via IP (Peer-to-Peer), PHS, ACD/OAI, Hotel features and CCIS Networking via IP (PHC) over IP are not available in the RN.
 - (f) 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)
 - (g) By default, assigning office data with PCPro to an RN is restricted regardless of whether the RN is in normal mode or survival mode. 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 logging in to the RN in survival mode. However, after the RN is put to normal mode, office data from the CCN will be transferred so the data assigned to the RN with PCPro may be lost.
- (8) 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.
- (9) When an RN confirms that the communication is recovered during survival mode, it is possible to get the RN back to normal mode automatically by default. With the ARPM command data setting, you can change the RN to normal mode manually with the COPM command.
- (10) If you manually change an RN to survival mode with the COPM command, automatic changeover will not function. Execute the COPM command again to change the RN back to normal mode.
- (11) Manual changeovers are available only when a Health Check time-out has not been detected between a CCN and an RN.
- (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 in either case of manually and automatically, the RN is initialized automatically in the cases below. After the initialization, system messages 7-B (System Initialize) and 10-M (Remote Node State Notification) are issued in the RN side and all of the ongoing calls in the RN side are released.

- When a difference in the DM/LDM/NDM data of the CCN and RN was detected and the data of CCN was transferred to the RN.
- 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.	Default
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.

(14) The following table shows the behavior of each IP device accommodated in an RN when the RN changes to survival mode automatically due to a network failure between the CCN and the RN.

IP Device Behavior After Automatic Changeover to Survival Mode

State		IP Station				Analog MC		
		SIP Multiple Line Terminal	IP Terminal	Softphone	Standard SIP		8LC	Analog 2MC
					SP	SIP Handler		
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	Released						
Making a call	To stations/trunks within a self RN	Available						
	To a station/trunk in a different RN	Not available						
Receiving a call	From a station/trunk within a self RN	Available						
	From a station/trunk in a different RN	Not available						

State		MG						
		MG(SIP)	MG(PRI)	MG(BRI)		MC&MG-COT/ MG-COT	VS32	
		Proprietary Protocol	SIP	Proprietary Protocol	SIP	Proprietary Protocol	Proprietary Protocol	SIP
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	Released						
Making a call		Available						
Receiving a call		Available						

- (15) The following table shows the behavior of each IP device accommodated in an RN when the RN changes to normal mode automatically after the connection is recovered from a network failure between the CCN and the RN (in the case of changing to normal mode without system initialization).

IP Device Behavior After Automatic Changeover to Normal Mode

State		IP Station				Analog MC		
		SIP Multiple Line Terminal	IP terminal	Softphone	Standard SIP		8LC	Analog 2MC
					SP	SIP Handler		
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	-						
Making a call	To stations/trunks within a self RN	Available						
	To a station/trunk in a different RN	Not Available						
Receiving a call	From a station/trunk within a self RN	Available						
	From a station/trunk in a different RN	Not Available						

State		MG						
		MG(SIP)	MG(PRI)	MG(BRI)		MC&MG-COT/ MG-COT	VS32	
		Proprietary Protocol	SIP	Proprietary Protocol	SIP	Proprietary Protocol	Proprietary Protocol	SIP
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	Released						
Making a call		Available						
Receiving a call		Available						

- (16) The following table shows the behavior of each IP device accommodated in an RN when the RN changes to survival mode by the manual changeover operation with the COPM command due to a network failure between the CCN and the RN.

IP Device Behavior After Manual Changeover to Survival Mode

State		IP Station				Analog MC		
		SIP Multiple Line Terminal	IP Terminal	Softphone	Standard SIP		8LC	Analog 2MC
					SP	SIP Handler		
In a registration state		Continued						
A call is on-going	Within a self RN	Continued						
	Between different RNs	Released						
Making a call	To stations/trunks within a self RN	Available						
	To a station/trunk in a different RN	Not Available						
Receiving a call	From a station/trunk within a self RN	Available						
	From a station/trunk in a different RN	Not Available						

State		MG						
		MG(SIP)	MG(PRI)	MG(BRI)		MC&MG-COT/ MG-COT	VS32	
		Proprietary Protocol	SIP	Proprietary Protocol	SIP	Proprietary Protocol	Proprietary Protocol	SIP
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	Released						
Making a call		Available						
Receiving a call		Available						

(17) The following table shows the behavior of each IP device accommodated in an RN when the RN changes to normal mode by the manual changeover operation with the COPM command after the connection is recovered from a network failure between the CCN and the RN.

IP Device Behavior After Manual Changeover to Normal Mode

State		IP Station				Analog MC		
		SIP Multiple Line Terminal	IP terminal	Softphone	Standard SIP		8LC	Analog 2MC
					SP	SIP Handler		
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	-						
Making a call	To stations/trunks within a self RN	Available						
	To a station/trunk in a different RN	Not Available						
Receiving a call	From a station/trunk within a self RN	Available						
	From a station/trunk in a different RN	Not Available						

State		MG						
		MG(SIP)	MG(PRI)	MG(BRI)		MC&MG-COT/ MG-COT	VS32	
		Proprietary Protocol	SIP	Proprietary Protocol	SIP	Proprietary Protocol	Proprietary Protocol	SIP
In a registration state		Continued						
A call is ongoing	Within a self RN	Continued						
	Between different RNs	-						
Making a call		Available						
Receiving a call		Available						

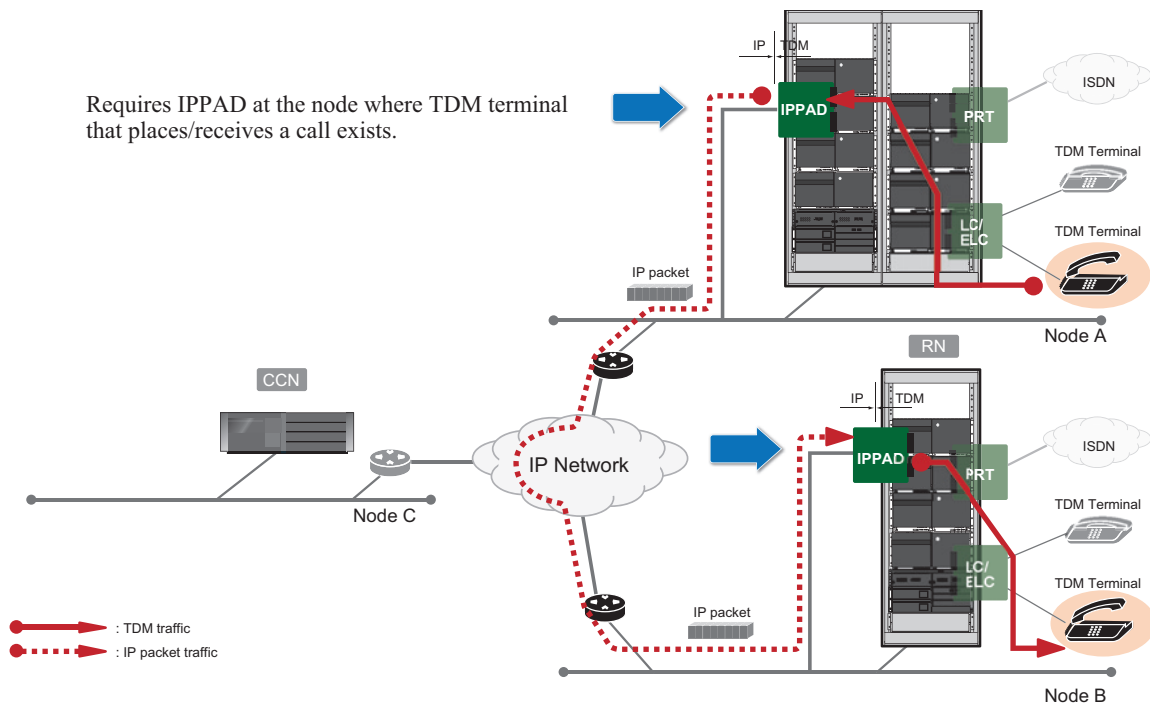
6.7 Conditions for Calls in UMGi

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

6.7.1 Calls Between TDM Terminals at Different Nodes

Make sure of the following to use terminals in nodes.

- (1) If you call using a TDM terminal to another node, 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 UMGi 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: The figure above shows an example system configuration.

- (2) 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	
Bit 2	Bit 1	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	TDM-TDM & IP-TDM	TDM-TDM Note 2

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

- (3) 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.
- (4) 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.
- (5) If an IPPAD establishing an ongoing call is initialized, the call is not released but no tone is returned.
- (6) If an RN having an ongoing call transits to survival mode, the call will be released by Audit Reports.

6.7.2 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 node 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.

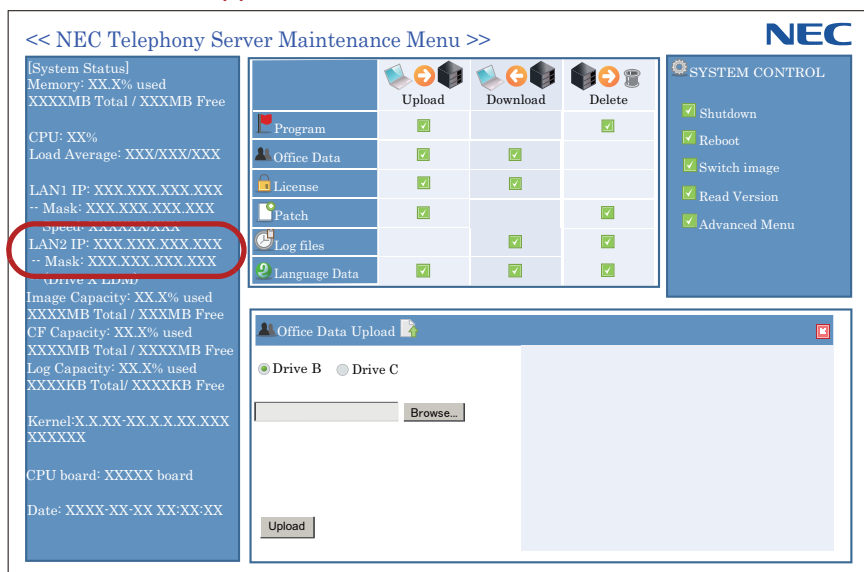
- (2) If a call cannot use a sender, the call is restricted. As for a Desktop terminal, the terminal will display BUSY on the LCD.
- (3) This condition (same node for the outgoing call trunk and sender) is for the sender RT905 (sender trunk).
- (4) This condition (same node for the outgoing call trunk 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.
 - [I-4] Individual Trunk Access.
 - [I-19] 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)
 - [T-23] Trunk Line Appearance

6.8 Conditions for Maintenance

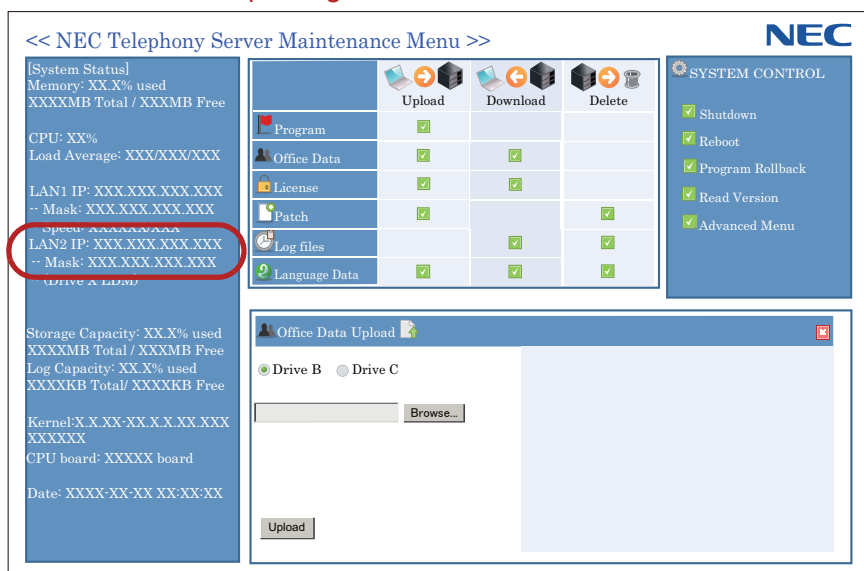
The following are conditions for maintenance including command use in the UMGi system.

- (1) In the UMGi system, you are supposed to use Telephony Server Maintenance Menu. For Telephony Server Maintenance Menu, refer to the Telephony Server Maintenance Menu section in UNIVERGE SV9500 Appliance Model Installation Manual/Prepackaged Server Model Installation and Operation 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.
- When the RN is Appliance Model



- When the RN is Prepackaged Server Model



- (2) An RN can connect to PCPro via RS-232C (in this case only for Appliance Model) or LAN though any commands other than ones for start-up and some maintenance commands (restricted in PCPro).
- (3) Make sure of conditions for maintenance applications to install and run PCPro. For more information about PCPro, see UNIVERGE SV9500 PCPro Setup Manual.
- (4) You can log in to a CCN using PCPro and assign the office data, but not to an RN.
- (5) The commands shown below have parameters and conditions specific to UMGi system. For details on those parameters and conditions, refer to Command Manual and Operations and Maintenance Manual.

Business Command

Command	Login Destination Node		
	CCN	RN Note 1	
		Survival Mode	Normal Mode
ACRD	Available	Available	Available
ADPM	Available	Conditional	Conditional
ADSL	Conditional	Not available	Not available
ADTM	Available	Conditional	Conditional
AGIP	Available	Not available	Not available
AIOC	Available	Not available	Not available
ALIDL	Available	Not available	Not available
ANTPL	Conditional	Not available	Not available
ARPM	Available	Not available	Not available
APDIL	Available	Available	Available
ASPC	Available	Not available	Not available
ATIFD	Available	Not available	Not available

Maintenance Command

Command	Login Destination Node		
	CCN	RN Note 1	
		Survival Mode	Normal Mode
ASECL	Available	Conditional	Conditional
ASSW	Available	Not available	Not available
ATDL	Available	Not available	Not available
CFCS	Available	Available	Available
CMNT	Available	Not available	Not available
CMOD	Available	Available	Available
COPM	Available	Not available	Not available
CPDM	Available	Not available	Not available
CTSP	Conditional	Not available	Not available
DHDF	Available	Available	Available
DHDS	Available	Available	Available
DIMG	Conditional	Conditional	Conditional
DISD	Conditional	Conditional	Conditional
DISS	Available	Available	Available
DMOS	Available	Available	Available
DRPM	Available	Not available	Not available
DSOS	Available	Available	Available
EVLOG	Available	Conditional	Conditional
IPAN	Conditional	Conditional	Conditional
IPDM	Not available	Not available	Not available
MEM_HDD	Conditional	Conditional	Conditional
RALM	Available	Available	Available
RALMN	Conditional	Not available	Not available
SINZ	Available	Conditional	Conditional

Note 1: The office data assignments from a PCPro logs in to RN are basically restricted. When you need to assign the office data at start-up time of the system, refer to [10. Command Restriction of Remote Node](#) in Chapter 5.

- (6) IPDM command cannot be used in the UMGi system.
- (7) SNMP [S-148] is available in all nodes (CCN/RN). However, SNMP settings should be done with a PC-Pro logged in to CCN.
- (8) A PCPro connection is possible with the CCN or RNs (in both cases to the active side).

- (9) 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.
- (10) After changing the office data through the PCPro in the CCN, execute the CPDM command to broadcast the changed data to RNs.
- (11) After changing one of the following, initialize the system with the SINZ command (TYPE: Restart).
 - PBI number **Note 2**
 - Change from 2-frame to 4-frame configuration and vice versa.

Note 2: When PBI number has been changed, the initialization of the system by pressing down the INIT switch (Appliance Model) activates Program & Office Data Load & System Initialization (not non-load initialization).

- (12) 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/TSWR) is restored, the TSW card will be initialized by Monitor Restart. The initialization will take about five seconds; therefore, congestion will occur in communications to the RN/TSWR mounting the TSW card during this period.

- (13) The DMOS: Display of Module Operation Status command displays the module operation status in the table below. This command displays only the status in CCN with PCPro logged in to the CCN side. Also displays only the status in RN with PCPro logged in to the RN side.

DMOS Command Display Condition

Parameters in DMOS		Display Condition	
		PCPro logged in to CCN Side	PCPro logged in to RN Side
TCP/IP Module Status		Status in CCN is displayed.	Status in RN is displayed.
PH Module Status	[TP Control]		
	Internal SIP Handler	Status in CCN is displayed.	Status in RN is displayed.
	SIP Transport Layer (TCP) Note 1		
	Internal PHI (BRI)		
	Internal PHI (PRI)		
	Internal PHE		
	Internal PHC		
	Internal PHF		
	Remote Node over IP		
	[SP Control]		
	MPH ID	Status in CCN is displayed.	Status in RN is displayed.
	MPH STATUS		
	MPH LENS		
	PH KIND		
	PH STATUS		
PH LENS			
SIP Server Condition		Status in CCN is displayed.	Status in RN is displayed.
SIP Server ID			
LINK			

Note 1: Available from FP95-114 V4.

- (14) The table below shows which data is saved to which node (CCN/RN) when backup command such as MEM_HDD is executed. (M: Master data, C: Copy data)

Data Type	Data ID	File ID	Data Management	CCN	RN
Data Memory	DM	-	CCN	M	C
Local Data Memory	LDM	-	CCN	M	
Network Data Memory	NDM	-	CCN	M	
Name Display	ND	-	CCN	M	
Wireless Call Forwarding	RCF	01	CCN	M	-
		02	CCN	M	
ACD Data Memory	ACDDM	-	CCN	M	-
Call Forwarding	CF	-	CCN	M	Note 1
SPD Name Data	SPD	-	CCN	M	Note 2
User Assign Soft Key	GPLP	01	CCN	M	Note 1
Number Sharing		02	CCN	M	
Call Block		03	CCN	M	
Individual Call Blocking Enhancement		04	CCN	M	
Expand Speed Calling		05	CCN	M	
Call Forwarding-Logout		06	CCN	M	
Mobility Access Data		07	CCN	M	
One-Touch Speed Calling for DtermIP	GPSP	01-02	-	-	-
One-Touch Speed Calling for DtermIP (UMGi)		03-08	CCN	M	Note 2
SR-MGC		09	-	-	-
Display Data for Programmable Key		10-12	CCN	M	Note 2
Password Data for Terminal Authentication		13-17	CCN	M	Note 2
Soft Switch Data		18	CCN	M	C
H.323 Terminal Call Transfer (Not used)	GPCM	01	CCN	M	
Message Area ID		02	CCN	M	
SIP Server Service CFD		03	CCN	M	
Day/Night Data		04	CCN	M	
Phone Book		05-18	CCN	M	-

Note 1: Each RN has a backup of its own data only.

Note 2: The data backup is performed; however, the data backup is null data, the CCN manages RN's data.

6.9 Conditions for LAN Interface Switching

A CCN has two LAN interfaces (LAN1, LAN2) to communicate with network applications. The UMGi 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.

LAN1/LAN2 Accommodation

Application	Protocol	Port No.	CCN	RN	IP Address
FCCS Cluster	TCP	60210	X	-	IP Address (ACT)
Internal PHF	UDP	60180	X	-	
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	X	
Internal PHI-BRI	UDP	64000	X	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	-	
X: Supported, -: Not supported					

- (1) 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: Note the following conditions:

- When the LAN interface is changed, execute the ADPM command to initialize TCP/IP module. When initialized, the IP equipment will restart.
- The application ports, DRS (Registration), Internal PHE, Internal PHI-BRI and SR-MGC/NMS can select only the same LAN interface.

- (2) 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.
- (3) 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.

- (4) This statement assumes that you have multiple systems networked, including the UMGi 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.

- (5) 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, 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) takes between 2 to 7 minutes.

6.9.1 SR-MGC

The following are conditions for SR-MGC, related only to when setting the 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] Survivable 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 rescued by 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 rescue 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 rescue LAN2. Assign the system data to rescue LAN1 as well as LAN2: ASYDL, SYS1, Index 846, Bit 2=1. Also, the IP equipment to be rescued needs to belong to the same LOC-ID with the SR-MGC.

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

LAN Port		Rescue 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 and rescue a LAN1 failure: ASYDL, SYS1, Index 843, Bit 0=0, Bit 1=0 (SP Failure Detection is valid). Also, the IP equipment to be rescued needs to belong to the same LOC-ID with the SR-MGC.

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

LAN Port		Rescue 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). Also, even if the SR-MGC (E) operates with LAN2, office data sent to SR-MGC (E) uses LAN1.
- (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) When a Softphone (Proprietary Protocol) has software version 16 or later, the SR-MGC can rescue the Softphone (Proprietary Protocol) registering to LAN2 if failure occurs only on LAN1.
- (10) If migrating from IPX or SV7000 with 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 UMGi system to the SR-MGC.
- (11) For other conditions, see the UNIVERGE SV9500 Data Programming Manual - Business; [S-141] Survivable Remote MGC.

6.10 Conditions for Flexible Route Re-routing for UMGi 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 UMGi in Survival Mode, the following system data must be assigned:

ASYDL SYS1 Index 1225, Bit 5: 0/1=Flexible Route Re-routing for UMGi in Survival Mode is disabled/enabled.

- (2) In a UMGi system, we recommend that unique Message Area ID (MA-ID) is assigned to each node.
 - (3) This feature is available under the following conditions:
 - (a) For communications between CCN and RN or between RNs in self node UMGi system
 - Route Re-routing operates when the call is placed between different nodes (CCN/RN) and when permanent PBUS communication failure is detected at the node that receives the call.
 - (b) For FCCS communications between different nodes in an FCCS network
 - When a call originating node is a node of an UMGi system
 - Route Re-routing works when a permanent PBUS communication failure is detected in the call originating node.
 - When a call originating node is a node of an UMGi system
 - Route Re-routing works when the call destination node is a UMGi system and a permanent PBUS communication failure is detected in the destination node.
 - When a call originating node is not a UMGi system
 - Route Re-routing works when the call destination node is a UMGi system and a permanent PBUS communication failure is detected in the destination node.
 - (4) This feature is only available for outgoing calls to a different node in a UMGi system. It is not activated by placing a call to a station in the same node.
 - (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, node-node 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	<ul style="list-style-type: none"> • Desktop Terminal • Analog Terminal • Virtual Line (Sub Line) • ISDN Terminal • SIP Handler Controlled SIP terminals 	<ul style="list-style-type: none"> • PS • WLAN Handset 	<ul style="list-style-type: none"> • Attendant Console
<ul style="list-style-type: none"> • Desktop Terminal • Analog Terminal • Virtual Line (Call Origination on a Sub Line) • ISDN Terminal • SIP Handler Controlled SIP terminals 	X	X	X
<ul style="list-style-type: none"> • PS, WLAN Handset • Direct Inward Dialing (DID) Line 	X	X	X
<ul style="list-style-type: none"> • 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.

6.11 Other Conditions

- (1) The following are conditions for the SV9500 software.
 - (a) A software key code must be assigned to the SV9500 software.
 - (b) When a software key code is changed due to software version up, etc., software authentication procedure is required again.
 - (c) When CPU is replaced with a new one, software authentication procedure is required again.
 - (d) When the system is reset (power OFF and ON) during its trial period, the trial period is also reset.
 - (e) Activation authentication is required for CCN only. It is not required for RN.
 - (f) A system message 10-C: System Activation Report (MJ) is issued immediately after initialization of an RN.
 - (g) If an RN is in survival mode after it passes 24:00, a system message 10-C: System Activation Report (MJ) will be generated at that time. “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 after it passes 24:00, a system message 10-C: System Activation Report (MJ) will not be issued at that time. “Certify OK” will be displayed for Certify Status in the AACT command window of the PCPro in the RN.
- (2) The following are conditions for accommodating IP equipment.
 - (a) SIP server which controls SP Controlled SIP Terminals outputs the system message 35-I: SP Process and repeats restart operation when RN transits to survival mode. When RN transits to normal mode, the system message 35-F: SP Process Information is output. Thus, you should use SIP Handler Controlled SIP Terminals because SP Controlled SIP Terminals become unavailable when RN transits to survival mode. When you use SP Controlled SIP Terminals, accommodate them to CCN.
 - (b) When the COPM: Change of Remote Node Operation Mode command is used to put an RN to survival mode, the LCD of the IP stations accommodated in such node and previously registered to CCN for Login authentication, will display the login screen. After several attempts to log in, the terminals will be registered in the SR-MGC.
 - (c) Accommodate MG (PRI), UG50 (PRT 1.5M), UG50 (PRT 2M), UG50-24PRIA and UG50-30PRIA only in CCN if they are in Proprietary Protocol Mode. If you accommodate them in an RN they cannot be used if the node changes to survival mode.

- (3) The following are conditions for SR-MGC.
- (a) When an MGC side is a UMGi system, the SR-MGC cannot take over the Wireless Call Forwarding (RCF) data.
 - (b) 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). Make sure to set 0 because Fixed to regular method (ASYDL, SYS1, Index 847, Bit 6=0) cannot be used.
 - (c) The SR-MGC cannot take over the control of SIP Handler Controlled SIP terminals.
 - (d) When an existing system accommodating SR-MGC is migrated to UMGi system, the SR-MGC data needs to be configured again by the CMNT command.



CHAPTER 2 INSTALLATION

1. General

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

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

1.1 Appliance Model CCN/RN

Follow the procedures below for the Appliance Model CCN/RN installation.

- [Installation of Racks](#)
- [Installation of Modules in Only 7U-PIR Configuration](#)
- [Installation of Modules in 7U-PIR and 8U-PIR Mixed Configuration](#)

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

Information	Refer to
For the information on equipment and terminals that can be accommodated in the system and procedures on how to use each manual.	UNIVERGE SV9500 System Description
For the general information on the 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

1.1.1 Installation Procedure

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:
“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

1.2 Prepackaged Server Model CCN/RN

Follow the procedures below for the Prepackaged Server Model CCN/RN installation.

- [Installation of Express Sever](#)

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

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

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



CHAPTER 3 SYSTEM STARTUP



1. General

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

2. System Startup Procedure

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

Startup Procedure for CCN and RN



[Setting Office Data \(2\) - CCN/RN](#)
(CCN/RN)

Refer to "[12. Setting Office Data \(2\) - CCN/RN](#)" in this chapter.

[Backup of Office Data \(2\) - CCN/RN](#)
(CCN/RN)

Refer to "[13. Backup of Office Data \(2\) - CCN/RN](#)" in this chapter.

END

3. Downloading License File - CCN/RN

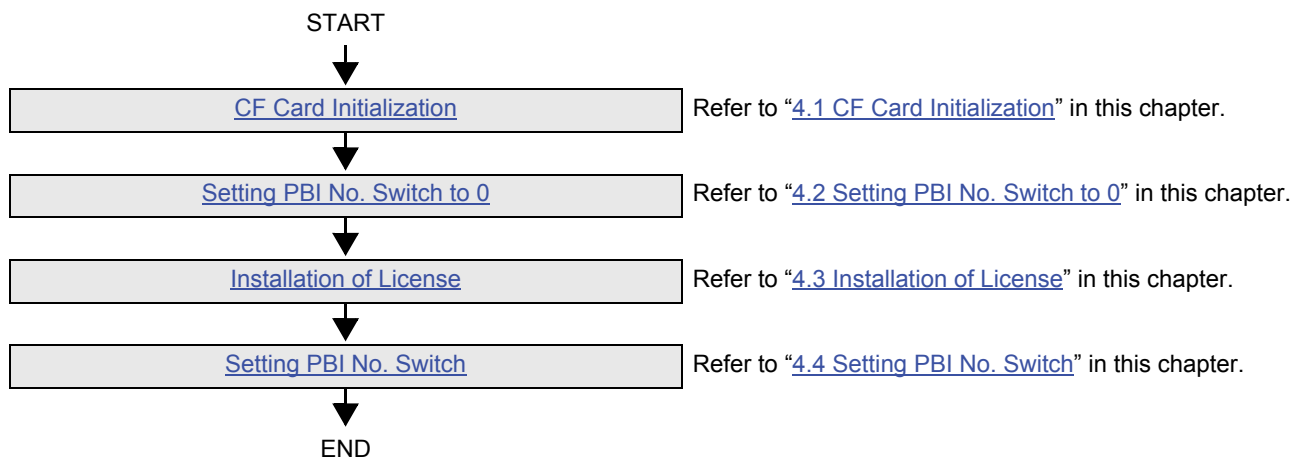
Login to the License Management Server (LMS) to download a license file (svi.zip) and obtain an Activation Code.

Note: Be sure to note the following conditions.

- A new Activation Code is necessary when the license is upgraded.
- The SVI file is downloaded in a zip format. Do not unzip the SVI file because this file is used as is.
- You can rename the saved SVI file, but do not change the extension of the file.

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 the CF card and install the OS, SV9500 program and the default Office Data to the card.

Note: For North America and Asia, the CF card is shipped pre-loaded. Only use this procedure when the CF card must be re-loaded. If this procedure is not required, skip this section and go to [4.2 Setting PBI No. Switch to 0](#).

1

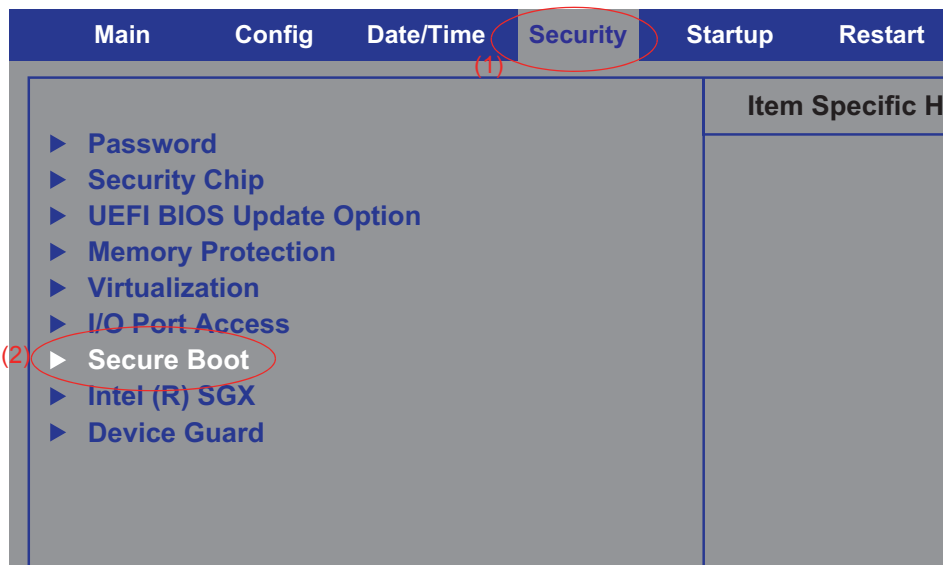
- (1) Turn on the maintenance PC to be used for CF card initialization.
- (2) Set the install DVD “GENERIC SOFTWARE” in the disk drive.
- (3) Insert CF card into PCMCIA card slot.
- (4) On Windows, open **ACTION CENTER** and select **All settings**.
- (5) Click **Update & security** on **Windows Settings**.
- (6) Click **Recovery** under **Update & security**.
- (7) Click **Restart now** under **Advanced startup**.
- (8) Select **Troubleshoot** on **Choose an option**.
- (9) Select **Advanced options** on **Troubleshoot**.
- (10) Select **UEFI Firmware Settings** on **Advanced options**.
- (11) Select **Restart** on **UEFI Firmware Settings**.
UEFI screen automatically displays after restart.

Note: If you can access the BIOS setting menu by pressing the key (such as F2) during boot in your PC, do the following:

- Select DVD drive as the first option in the boot priority order. If the boot mode is set to UEFI boot, change it to Legacy boot.
- Insert DVD and turn off PC.
- Insert CF card into PCMCIA card slot and turn on the PC.
- Then, go to [STEP8](#).

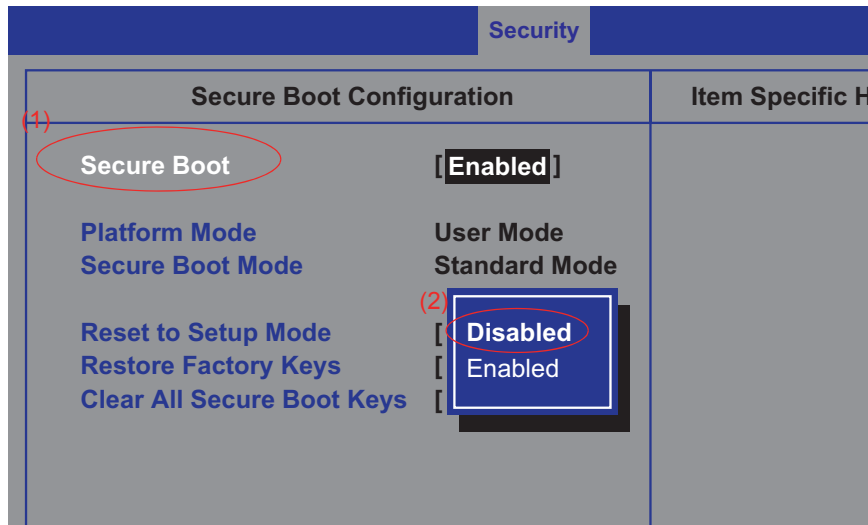
2

- (1) Click **Security** tab on **BIOS Setup**.
- (2) Click **Secure Boot** on **Security**.



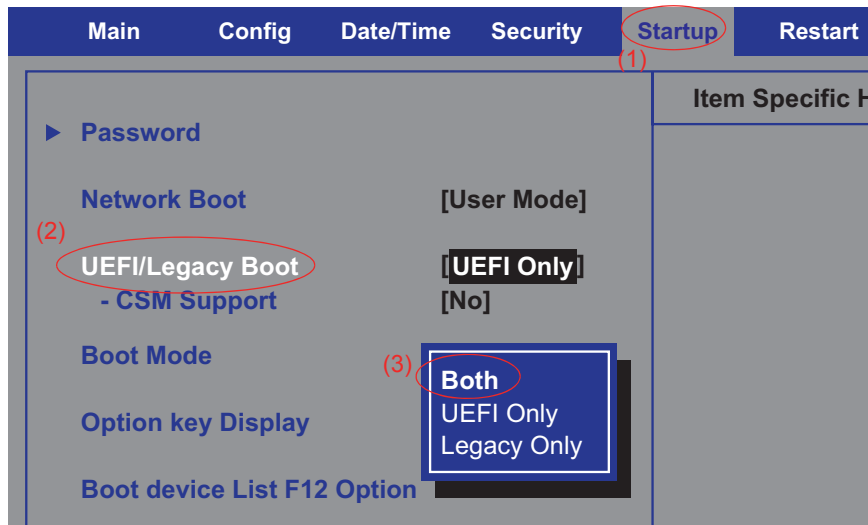
3

- (1) Select **Secure Boot** on **Secure Boot Configuration**.
- (2) Select **Disabled** on **Secure Boot**.
- (3) Press **ESC** key to return to the previous screen.

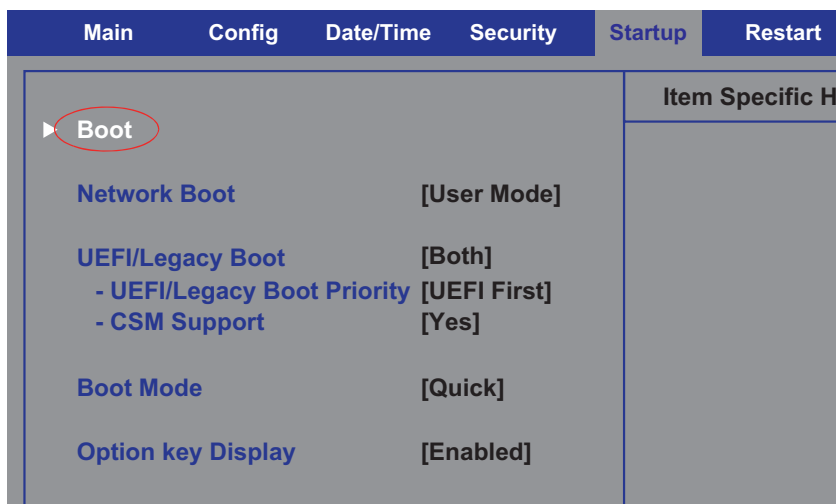


4

- (1) Select **Startup** tab.
- (2) Select **UEFI/Legacy Boot** on **Startup**.
- (3) Select **Both** on **UEFI/Legacy Boot**.



5 Select **Boot** on **Startup**.



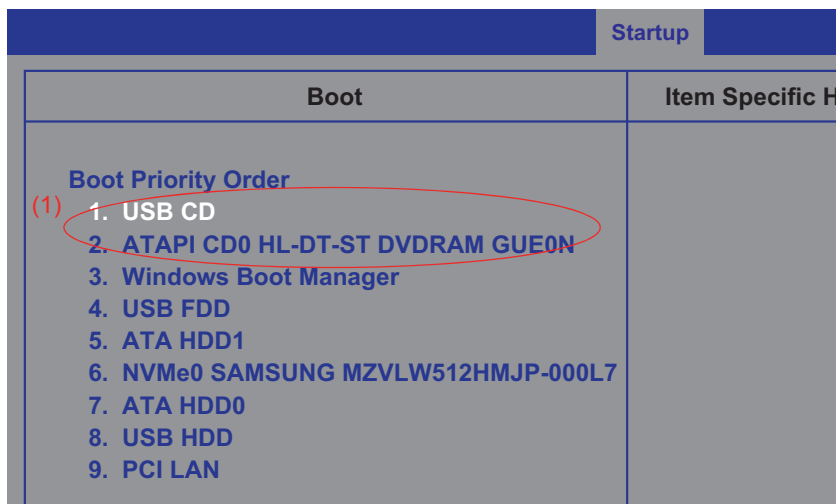
6 Determine the boot priority order for DVD drive in a PC that initializes CF.

(1) Specify the setting for restart (boot priority 1).

The settings varies, depending on the PC environment such as USB-connected DVD drive or embedded DVD drive. For example;

- Set **ATAPI CD...** to the top priority (1) if you intend to use an embedded DVD drive as boot drive.
- Set **UCB CD** to the top priority (1) if you intend to use USB-connected DVD drive as boot drive.

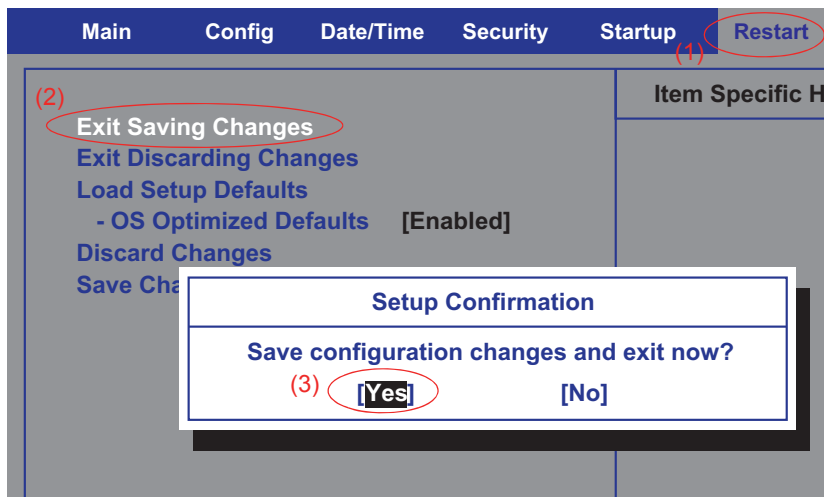
(2) Press **ESC** key to return to the previous screen.



Note: Be sure to set "1.USB CD" in the case of USB-connected DVD drive. The boot program may not run if USB -connected DVD drive is set as 2 or later in Boot Priority Order.

7

- (1) Select **Restart** tab.
- (2) Select **Exit Saving Changes** in **Restart**.
- (3) Select **Yes** in **Setup Confirmation**.



8

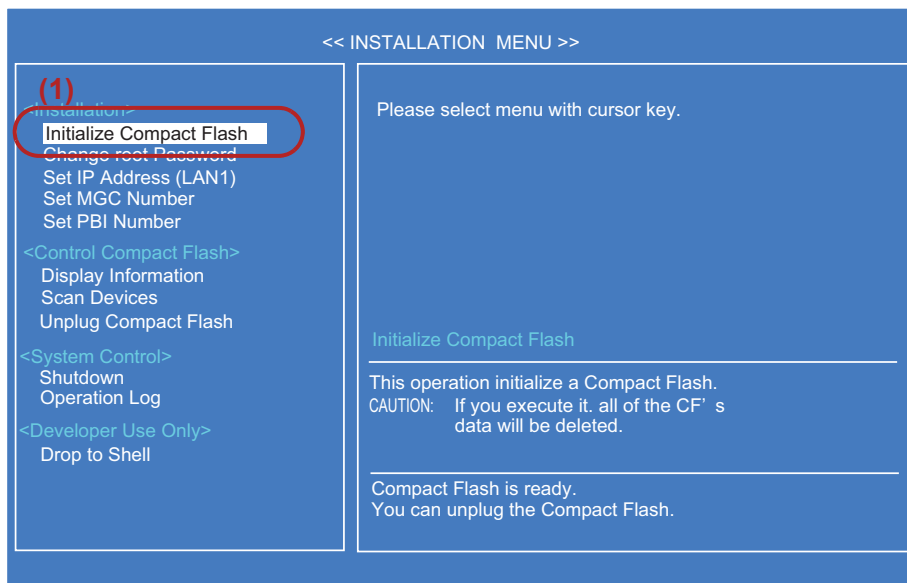
INSTALL DVD BOOT OPTIONS MENU screen appears. Select **2. Auto (Keyboard: US)** and then press the Enter key.

9

- (1) **SV9500 INSTALL MENU** screen appears after a few minutes. 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**.

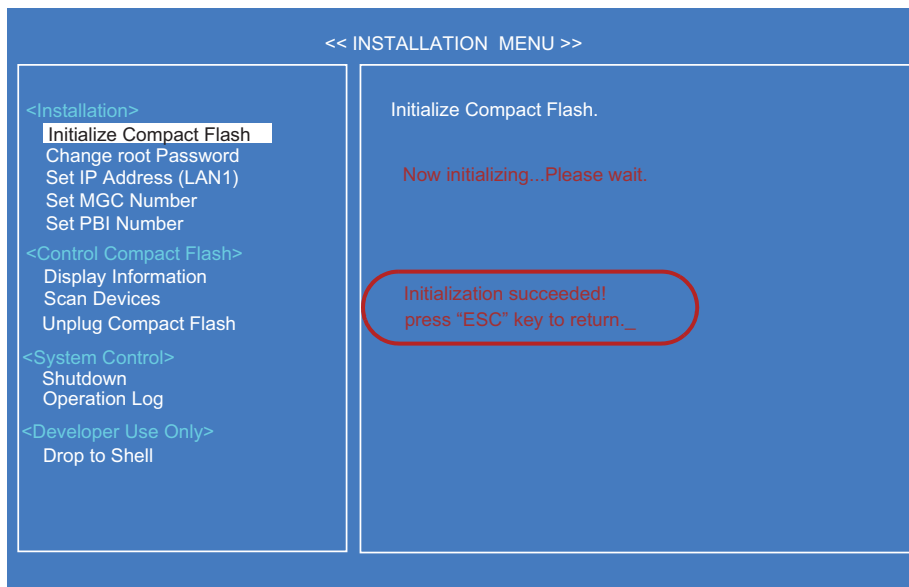


Note: If your PC is slow for the CF card writing speed, an error may occur. If an error occurs during the installation, the following action is required:

- 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.

10

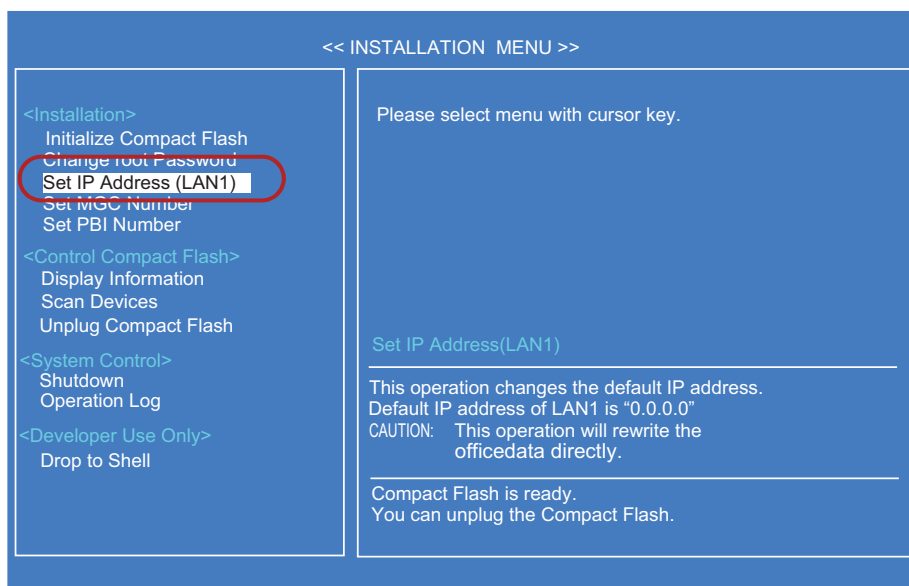
- (1) When the initialization is complete, the message “Initialization succeeded! press ESC key to return” is displayed. It takes about 20 minutes to complete the initialization.
- (2) Press the ESC key.



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

11

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



12

- (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.

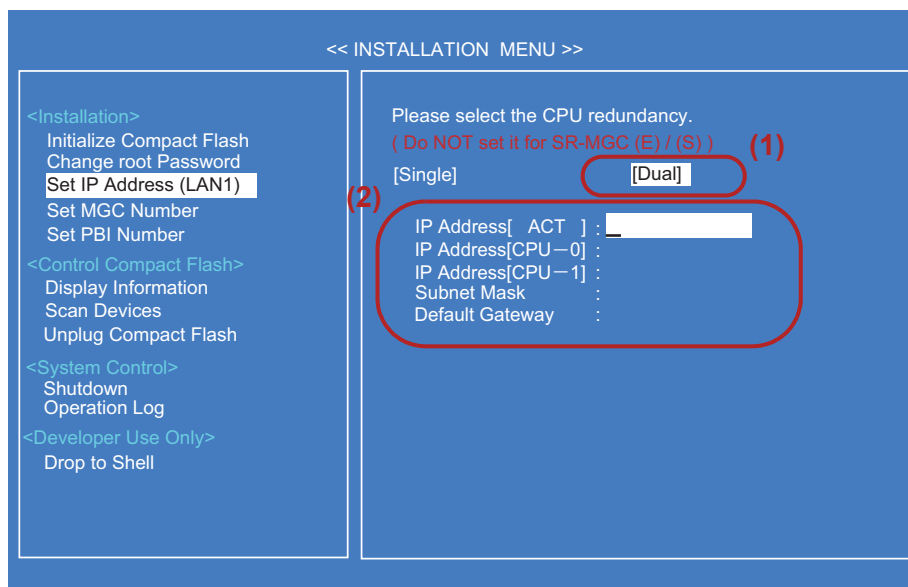
Setting Items for Single Configuration

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.



13

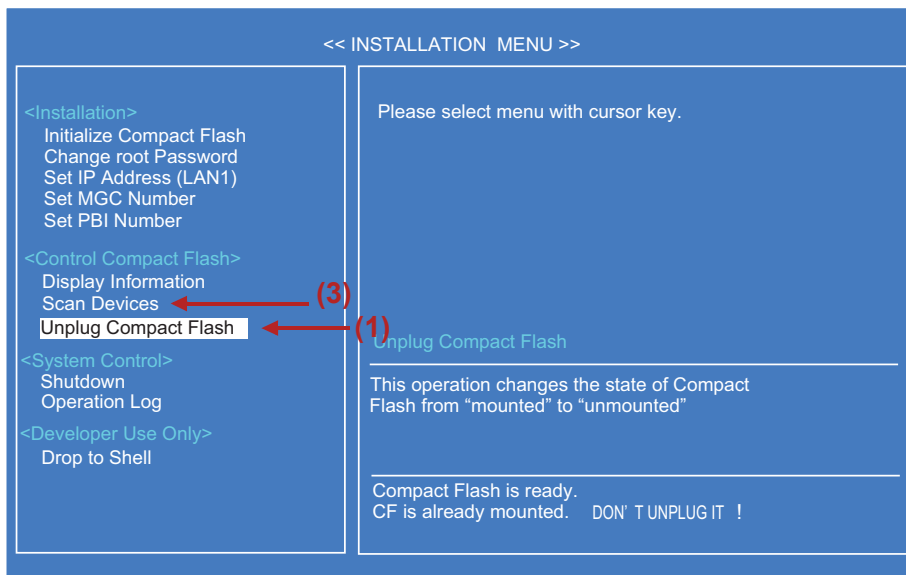
- (1) Select **Unplug Compact Flash** under <Control Compact Flash> by using the arrow keys on the keyboard and then press the Enter key.

Note: Procedure below from (2) to (4) is required only for a dual configuration system. Skip the following steps when your system is in single configuration.

- (2) Remove the inserted CF card from the slot and then insert the second CF card into the slot.

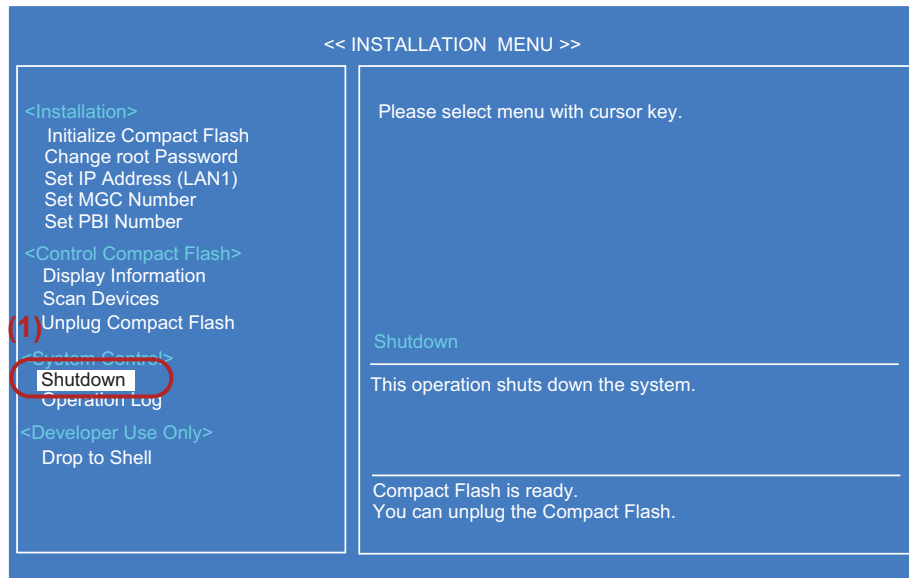
Note: When the maintenance PC has two PCMCIA slots, use the same slot for both the first card and the second card. If different slots are used, CF card may not be detected.

- (3) Select **Scan Devices** under <Control Compact Flash> to have the card detected.
- (4) Repeat the procedure in [STEP9](#) to [STEP12](#).



14

- (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.



15

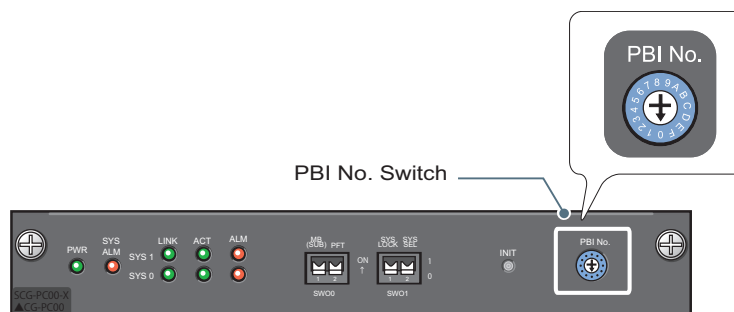
When you have changed any settings of the maintenance PC through [STEP1](#) to [STEP7](#), restore the original settings.

Note: When you can access the BIOS setting menu by pressing the key (such as F2), if you have changed the original BIOS settings to the following ([STEP1](#)), restore the original settings.

- DVD is selected as the top priority for boot.
- The boot mode is set to Legacy boot.

4.2 Setting PBI No. Switch to 0

Temporarily set the PBI No. switch on the EMA card to 0 before uploading license file for the UMGi system.



4.3 Installation of License

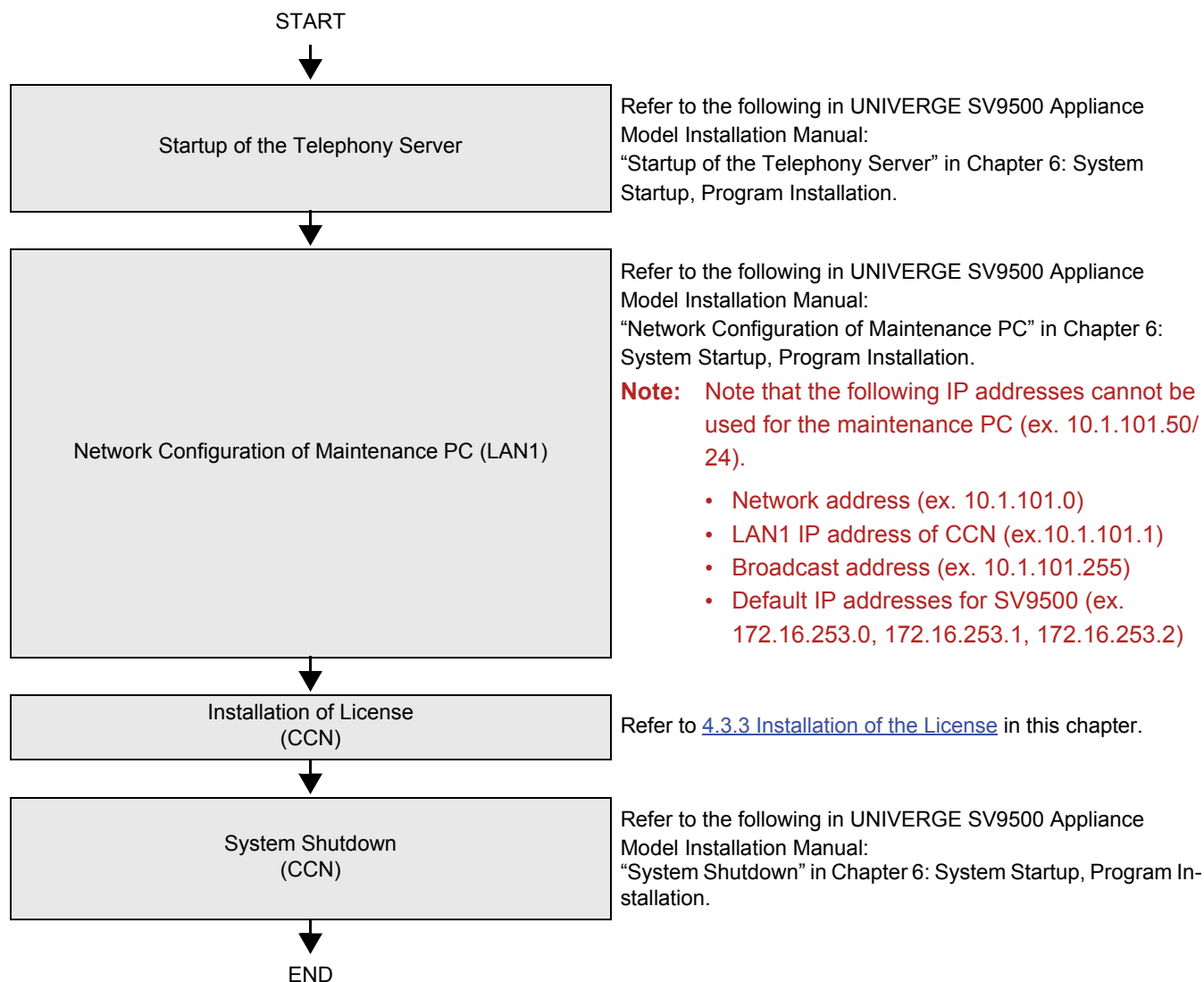
Connect a maintenance PC to the Telephony Server to install the license which was downloaded in [3. Downloading License File - CCN/RN](#) into the CF card.

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

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

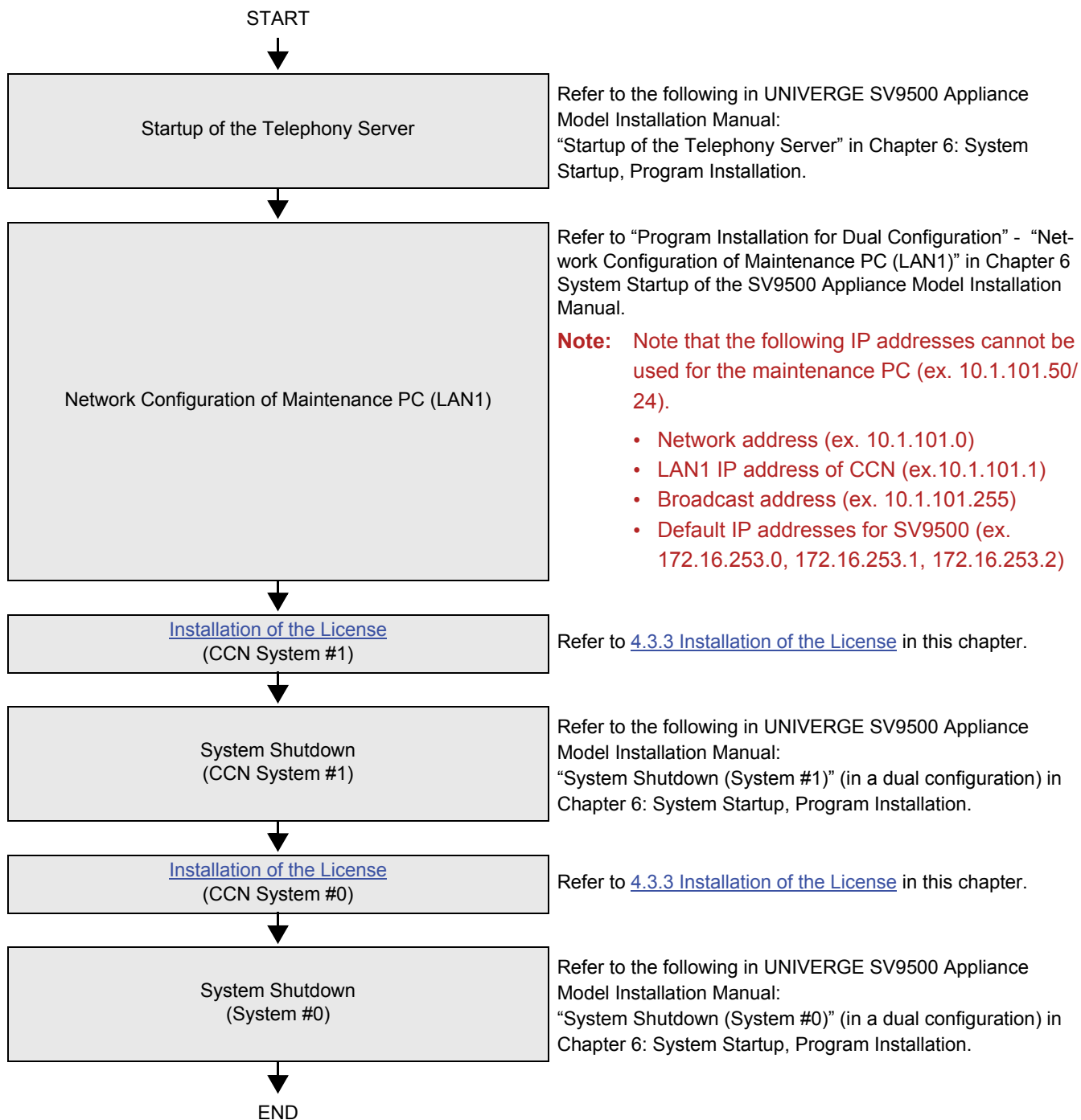
4.3.1 Single Configuration

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.



4.3.3 Installation of the License

This section explains the procedure to upload the license from the maintenance PC to the 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 [STEP12](#) in [4.1 CF Card Initialization](#) section.

Note:

- For North America, refer to the SV9500-UMGi training material supplied by NEC NTAC.
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2

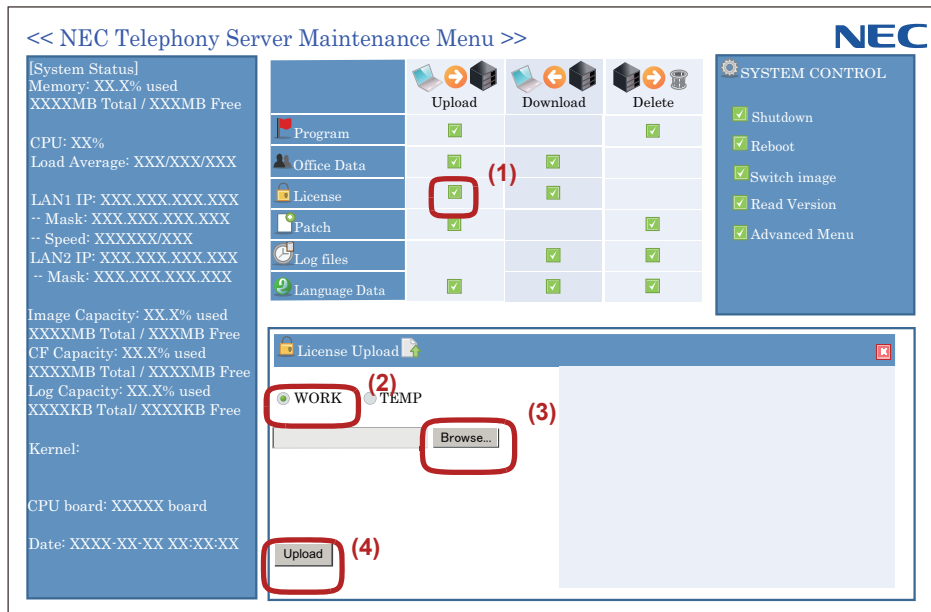
- (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
- (2) Click **OK** to log into **Telephony Server Maintenance Menu**.

Note:

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



Note: 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.

4.4 Setting PBI No. Switch



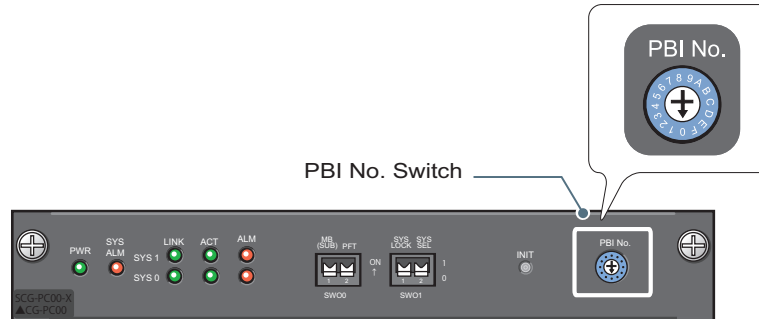
Before setting up a CCN and RNs, set a PBI number for each node.

1

Set the PBI No. switch on the EMA 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 [2. PBI and LP Numbers](#) in Chapter 1.



- PBI No. Switch on EMA Card (CCN Side)

Switch No.	PBI No.	Processor
	1	0x30
		LP00

Note: CCN PBI No. should be fixed to 0x30.

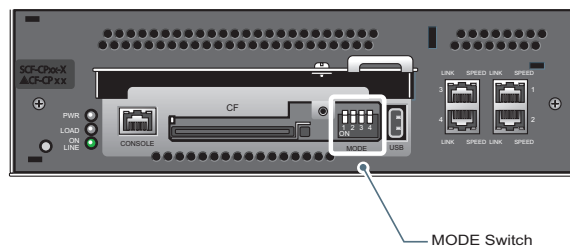
- PBI No. Switch on EMA Card (RN Side)

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



2 Set the MODE switch on the CPU card:

MODE Switch on CPU Card

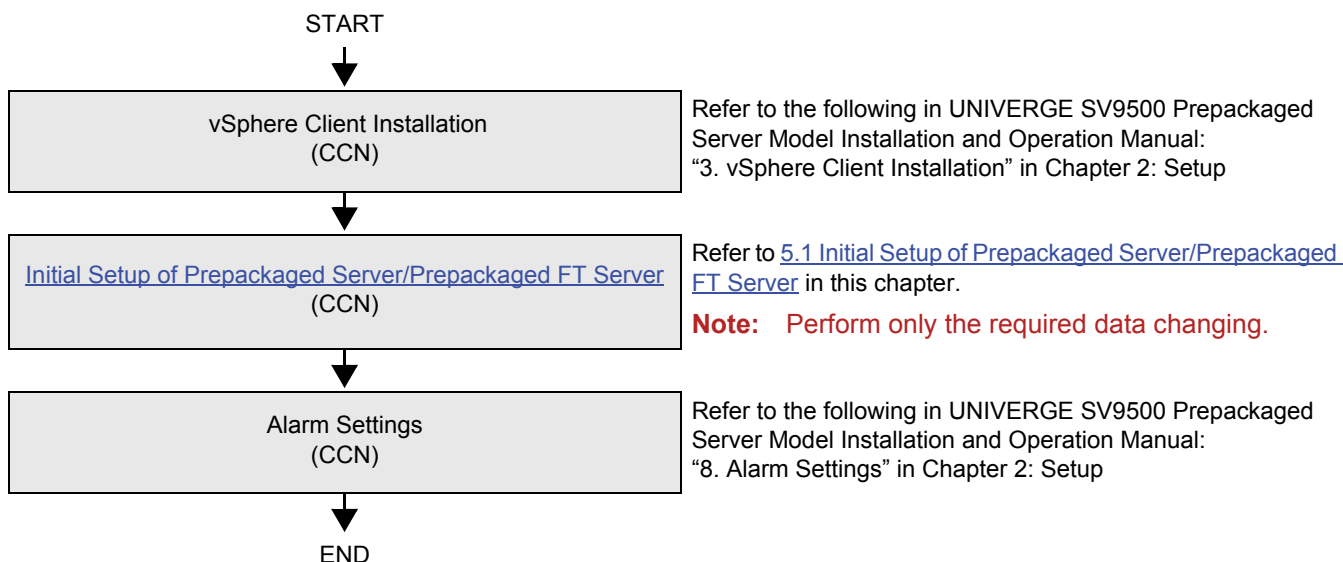


Switch No.	Settings	Remarks
1	ON	Enable FTP, Telnet
	OFF	Disable FTP, Telnet
2	ON	Fixed to OFF.
	OFF	
3	ON	Fixed to OFF.
	OFF	
4	ON	CPU Make Busy ON
	OFF	CPU Make Busy OFF



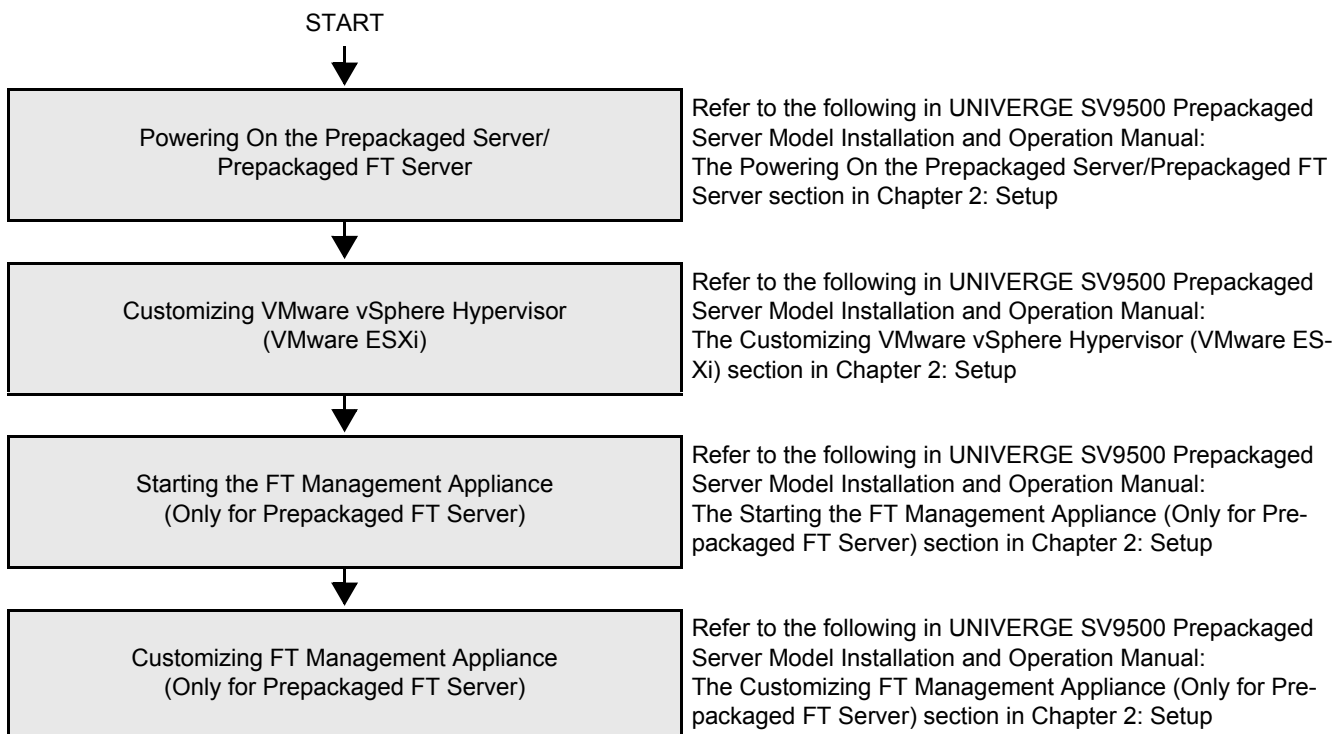
5. Initial Startup of Prepackaged Server Model CCN

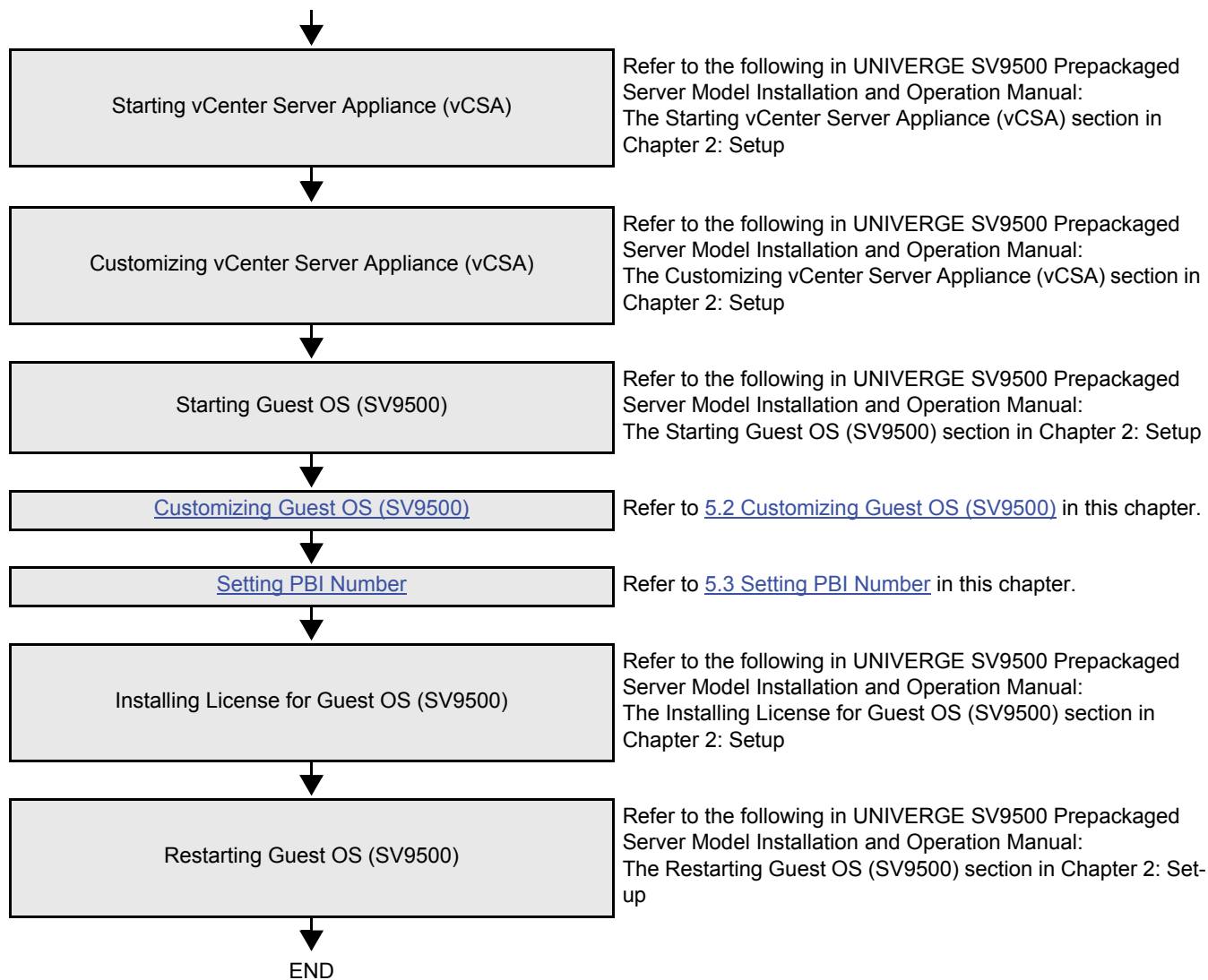
This section explains the initial startup procedure of a Prepackaged Server Model CCN.



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.



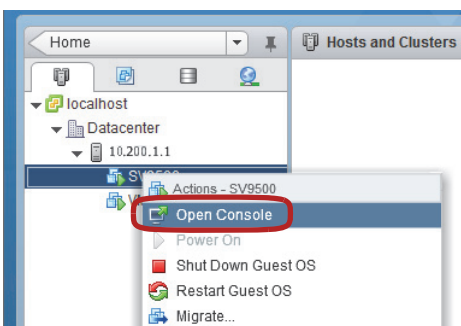


5.2 Customizing Guest OS (SV9500)

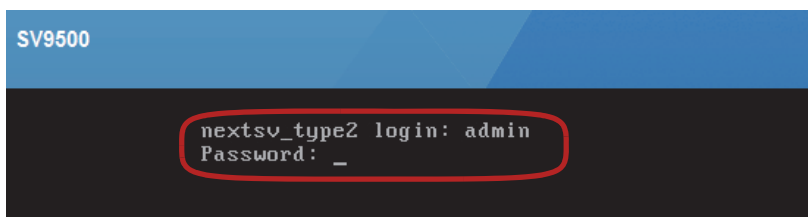
This section explains the procedure for configuring the network settings for a SV9500 (guest OS), such as the password and IP address information.

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**.

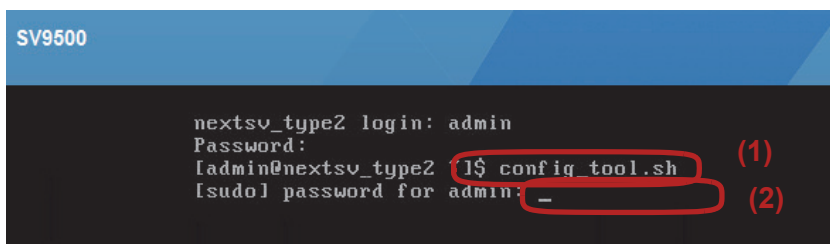


3 Log into the SV9500 using **admin** for the login.



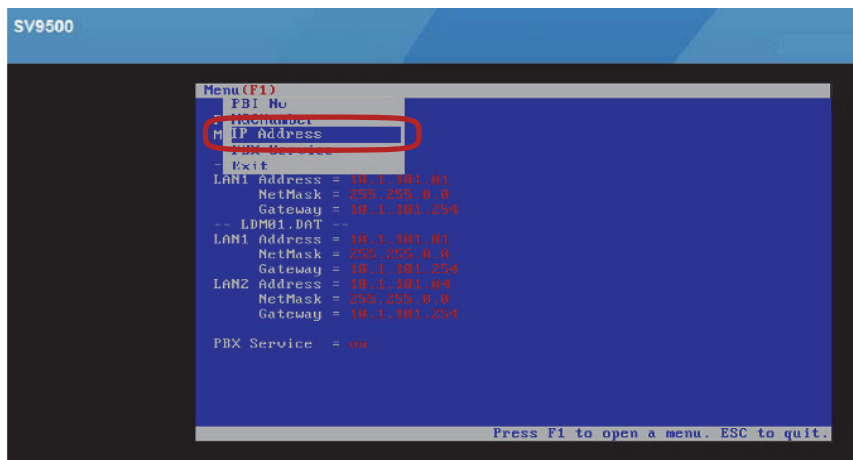
Note: Ask NEC maintenance personnel for the password.

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 respectively, proceed as follows.

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



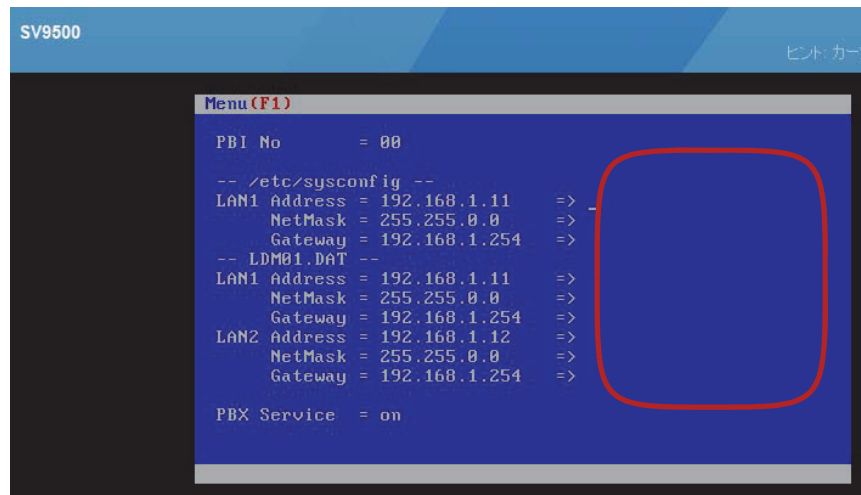
Note: Do not assign a PBI number here. The PBI number should be assigned after restarting the SV9500 (guest OS) in [STEP8](#).

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	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
	LAN2 Note 1	LAN2 Address	LAN2 IP address	10.1.101.4	10.1.101.33
		NetMask	Subnet Mask	255.255.255.0	255.255.255.0
		Gateway	Default Gateway	10.1.101.254	10.1.101.254

Note1: When Config_tool.sh is executed after restarting the SV9500 (guest OS), "--LDM01.DAT--" displays the data set with CCN.

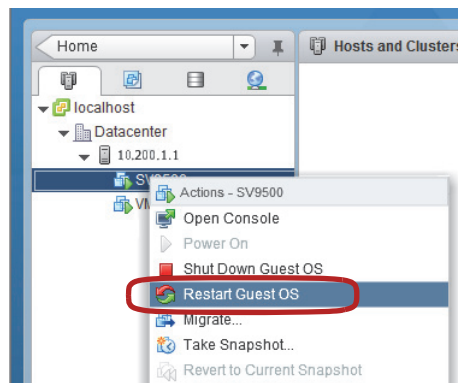
- (2) After entering the **Gateway** data, press the Enter key



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 Guest OS**.



- 9 Change the IP address of the maintenance PC to connect to the network of the LAN1 IP address from [STEP6](#).

- 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 the 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 in to 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**.

<< NEC Telephony Server Maintenance Menu >>

NEC

SYSTEM CONTROL

- Shutdown
- Reboot
- Program Rollback
- Read Version
- Advanced Menu**

	Upload	Download	Delete
Program	<input checked="" type="checkbox"/>		
Office Data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
License	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (1)
Patch	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Log files		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Language Data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Advanced Menu (2)

- Change Maintenance Menu's Password**
- Change root password
- Show Memory Details
- Remove host keys
- Lock release of Maintenance Menu

System Status

Memory: XX.X% used
XXXXMB Total / XXXMB Free

CPU: XX%
Load Average: XXX/XXX/XXX

LAN1 IP: XXX.XXX.XXX.XXX
-- Mask: XXX.XXX.XXX.XXX
-- Speed: XXXXXX/XXX

LAN2 IP: XXX.XXX.XXX.XXX
-- Mask: XXX.XXX.XXX.XXX
-- (Drive X LDM)

Storage Capacity: XX.X% used
XXXXMB Total / XXXMB Free
Log Capacity: XX.X% used
XXXXKB Total / XXXKB Free

Kernel: X.X.XX.XX.X.X.XX.XXX
XXXXXX
CPU board: XXXXX board

Date: XXXX-XX-XX XX:XX:XX

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

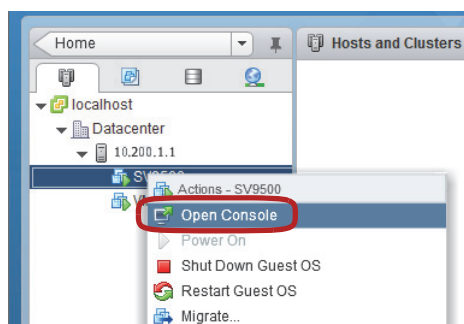
This section explains how to set a PBI number. Set a PBI number to each node using the SV9500 virtual machine.

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 into the SV9500 using **admin** for the login.

```
SV9500
nextsv_type2 login: admin
Password: _
```

Note: Ask NEC maintenance personnel for the password.

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

```
SV9500
nextsv_type2 login: admin
Password:
[admin@nextsv_type2 ~]$ config_tool.sh (1)
[sudo] password for admin: _ (2)
```

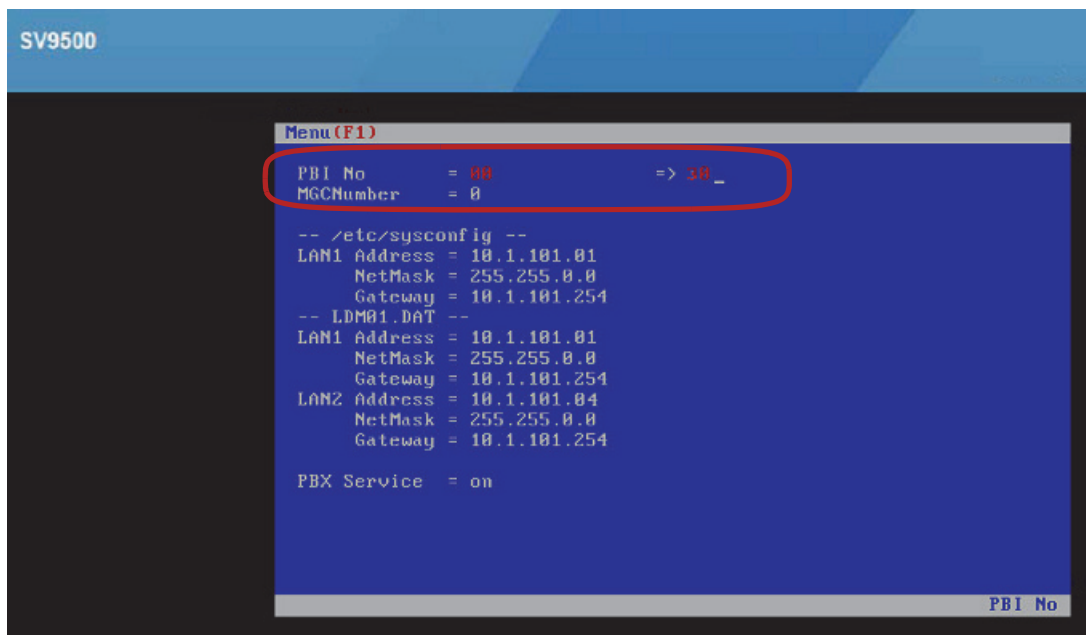
- 5 To modify the IP address of LAN 1 and LAN 2 respectively, proceed as follows.

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

```
SV9500
Menu(F1)
PBI No
P PGNumber
M IP Address
PBX Service
- Exit
LAN1 Address = 19.1.101.01
NetMask = 255.255.0.0
Gateway = 19.1.101.254
-- LDM01.DAT --
LAN1 Address = 19.1.101.01
NetMask = 255.255.0.0
Gateway = 19.1.101.254
LAN2 Address = 19.1.101.01
NetMask = 255.255.0.0
Gateway = 19.1.101.254
PBX Service = on
Press F1 to open a menu. ESC to quit.
```

6

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



- PBI No (CCN Side)

PBI No (CCN Side)

PBI No.	Processor
0x30	LP00

Note: The CCN PBI No. is fixed to 0x30.

- PBI No (RN Side)

PBI No (RN Side)

PBI No.	Processor
0x40	LP08
0x50	LP16
0x60	LP24

Note: Prepackaged Server Model does not allow to set 0x48, 0x58 or 0x68.

The monitor returns back to the previous screen.

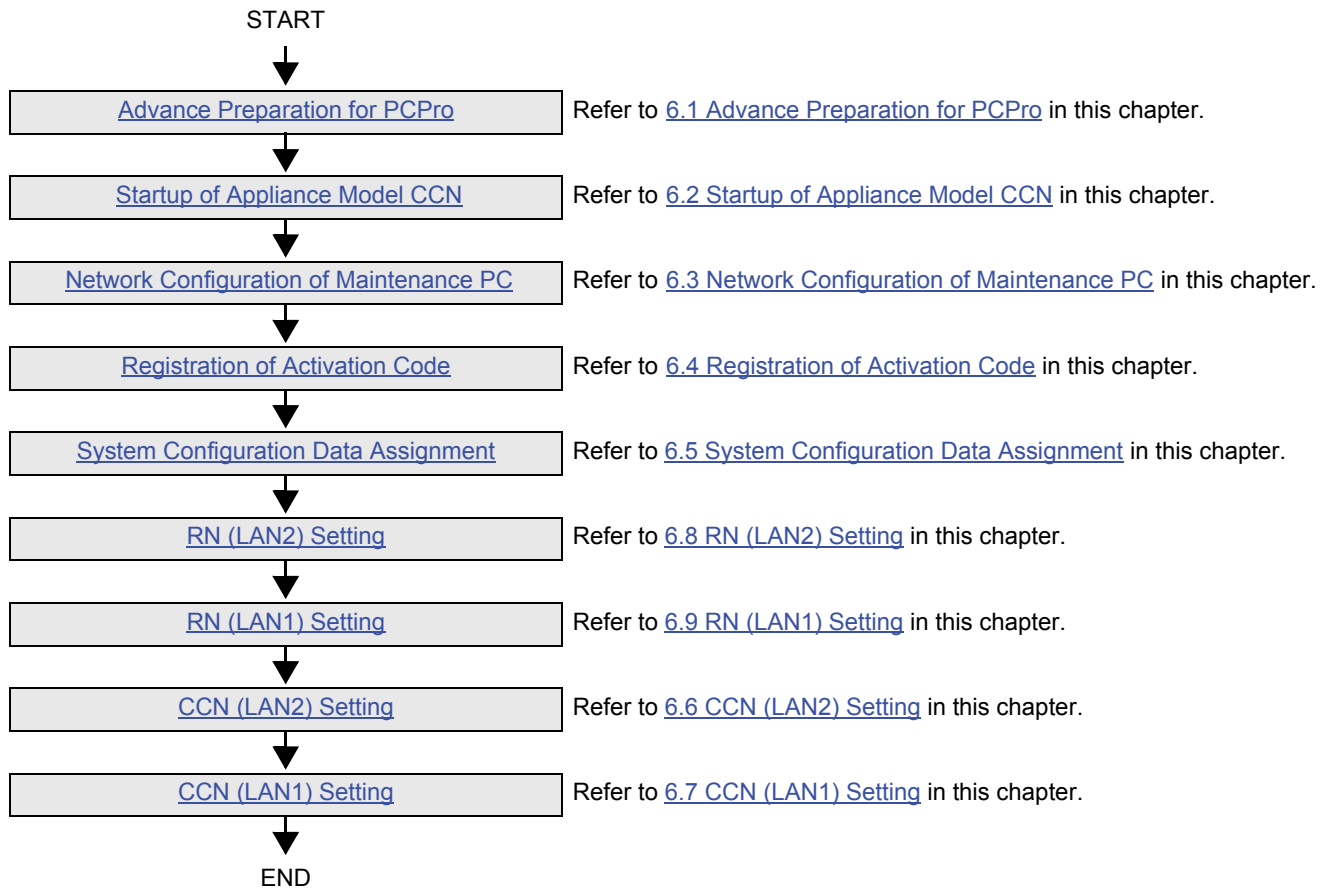
7

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

Note: Setting the PBI number is also required after program version upgrade.

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

Note: 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

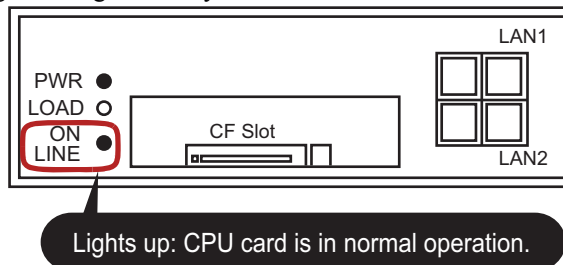
This section explains how to start up the Telephony Server (Appliance Model CCN) which is required as a first step when assigning the office data.

Note: This section is only for Appliance Model CCN. Skip this section in the case of Prepackaged Server Model CCN.

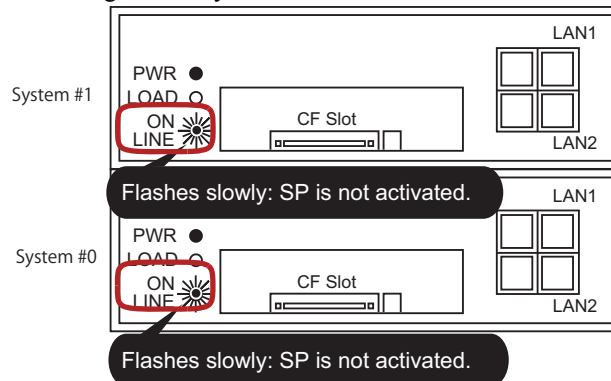
1 Turn on the power switch on the rear panel of the Telephony Server.

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



Note: 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 the CCN.

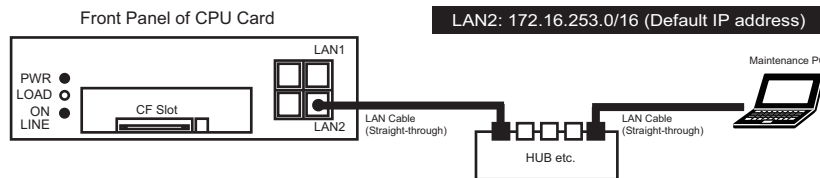
- 1 Assign an IP address to the maintenance PC so that it is in the same network segment as the active (ACT) interface for LAN 2.

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

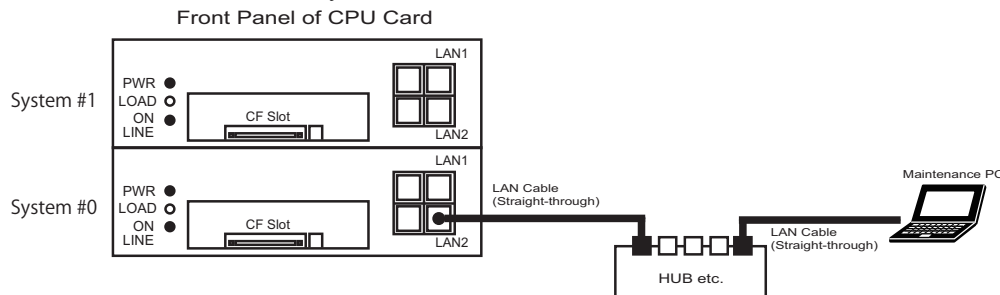
Note: IP addresses listed in the table below cannot be assigned to the maintenance PC. The table below is an example when the IP address used as ACT side of the existing system is “10.1.101.4/24”.

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



- In the case of Appliance Model Dual Configuration System
Connect LAN2 connectors for CCN System #0 and the maintenance PC with a LAN cable.



Note: Do not connect cables 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 the cable connection.

6.4 Registration of Activation Code

Register the activation code you have received from the License Management Server (LMS).

For the 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:

- An Activation Code is required only for the CCN. It is not required for RNs.
- In the case of the Prepackaged Server Model CCN, register the Activation Code after you assign the LAN1 IP address for the Prepackaged Server Model. If you change the IP address of LAN1 active side after the 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.

6.5 System Configuration Data Assignment

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

1

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

- ANTPL - SNTP Setting

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

The IP address of DNS server needs to be assigned by the ADTM command when SNTP is registered by the 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 the Operations 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.

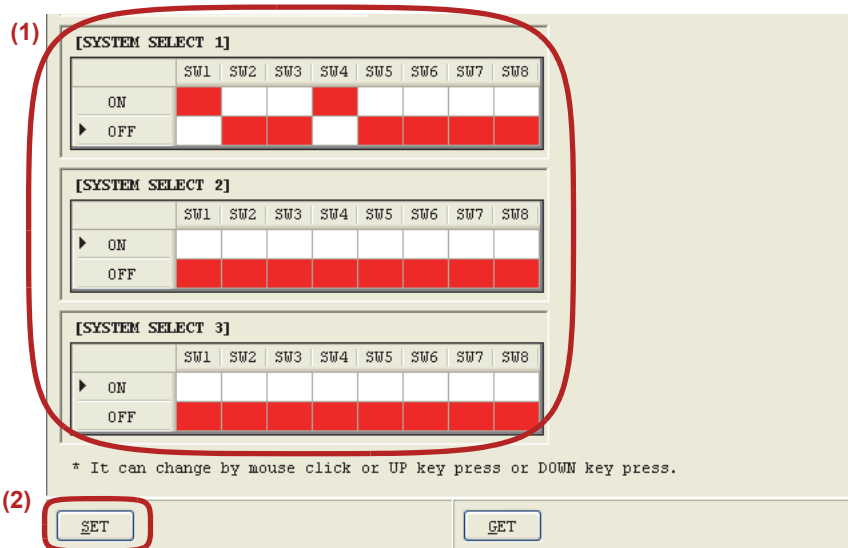
2 Execute the ASSW command to set Soft Switch Data for CCN System 0.

- 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.



When the system is a single configuration, go to [STEP9](#).

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

- 6**
- (1) Click **CCN** in **Node Specification**.
 - (2) Click **System 1** in **System Select**.
 - (3) 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) [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

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

(1)

(2)

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

When the system is single configuration system, skip [STEP12](#) to [STEP14](#).

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

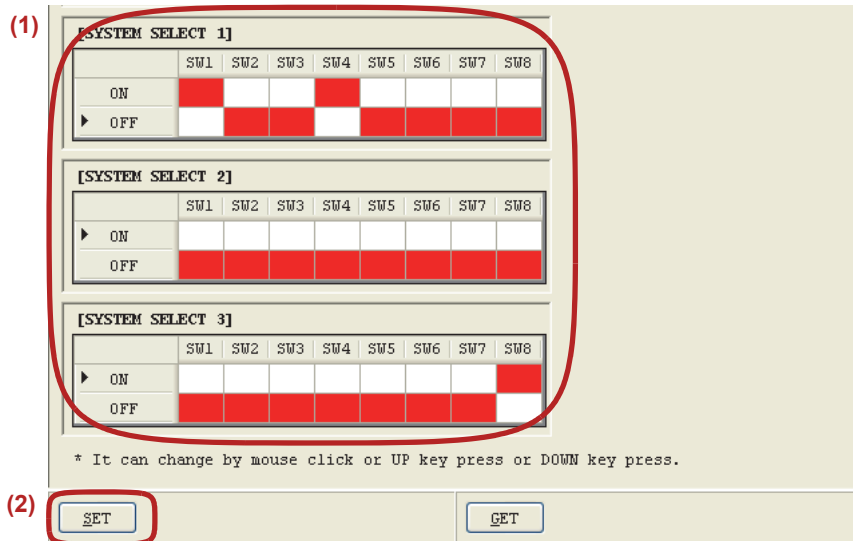
- 13**
- (1) Click **LP** in **Node Specification**.
 - (2) Enter a LP number in **LP No.** box.
 - (3) Click **System 1** in **System Select**.
 - (4) Click **Get** button.

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.



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	
30		Mounting capacity of Data Memory (1-6 Mbyte) Normally assign "0x06".	See "PHIN Assignment Pattern" in Conditions for CPU Configuration , chapter 1.

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks	
31		Mounting capacity of Common Memory (1-4 Mbyte) Normally assign "0x02".	<ul style="list-style-type: none"> Assign 0x04 if you use the following: <ul style="list-style-type: none"> 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 UMGi system, all the CPUs in all nodes are in single configuration 1=Dual Configuration Within the UMGi 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		
86	0	Routine Diagnosis Program Information (System Message "7-O") 0/1=Not register/Register		
	1	Routine Diagnosis Program Information (System message "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")		

ASYD SYS1

Index	Bit(s)	Detailed Information	Remarks
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.	When both Index 87 and Index 88 are assigned data FF HEX, the Routine Diagnosis Program is not executed
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.
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	6, 7	PLO mounting condition bit 6=1 bit 7=0: System#0-PLO card is to be mounted. bit 6=0 bit 7=1: System#1-PLO card is to be mounted. bit 6=1 bit 7=1: Both Side PLO cards are to be mounted.	
192	2	CCN (No.0 System) Mounting Status 0/1=Not mounted/Mounted (Always assign "1")	Note: 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	<p>Note: Note the following to assign the LP number.</p> <ul style="list-style-type: none"> • Those values will vary depending on your system configuration. • For the LP number, refer to PBI and LP Numbers. <p>Note: See System Data Assignment for CPU Single Configuration/Dual Configuration].</p>
	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	
	1	Local Partition 04 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
	4	Local Partition 06 (No 0 System) Mounting Status 0/1=Not mounted/Mounted	
	5	Local Partition 06 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	
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	<p>Note: Note the following to assign the LP number.</p> <ul style="list-style-type: none"> • Those values will vary depending on your system configuration. • For the LP number, refer to PBI and LP Numbers. <p>Note: See System Data Assignment for CPU Single Configuration/Dual Configuration].</p>
	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	IOCO 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	
	7	Call Block Individual Data Save 0/1=Out/In service Note: Only for North America.	
305	0	Expanded Speed Calling Data Save 0/1=Out/In service Note: Only for North America.	This data is valid when SYS1, Index 90, Bit 1=1.
	1	CFL (Call Forwarding-Logout) Data Save 0/1=Out of service/In service	
	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	
	7	Mobility Access Data Save 0/1 = Out of service/In service	
306	0	Local Phone book Data Save 0/1=Out of service/In service	This data is valid when SYS1, Index 90, Bit 1=1.
	1	ACD DM 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).	
556	0	PIR mounting status of PIR0 in IMG0. 0/1=Mounted/Virtual PIR is used	Assign the PIR mounting status for each node accordingly to your system configuration.
	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 each node accordingly to your system configuration.
	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	

ASYDL SYS1

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 each node accordingly to your system configuration.
	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 each node accordingly to your system configuration.
	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 each node accordingly to your system configuration.
	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 each node accordingly to your system configuration.
	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 each node accordingly to your system configuration.
	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 each node accordingly to your system configuration.
	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	Note: “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		<p>Network Data Memory (NDM) expanded memory block usage. Assign “1 (the memory block is used)” to the corresponding bit.</p> <table border="1"> <thead> <tr> <th>bit</th> <th>Memory Block</th> </tr> </thead> <tbody> <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> </tbody> </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	<p>Note: Note the following conditions:</p> <ul style="list-style-type: none"> 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 border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </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.
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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 border="1"> <thead> <tr> <th>Bit 2</th> <th>Bit 1</th> <th>Bit 0</th> <th>Value</th> </tr> </thead> <tbody> <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> </tbody> </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	1	0	2048 ms
		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.																																	

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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.		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 UMGi 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		Note3: 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 due 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 3		
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																																																																	
<p>Note: System Changeover Time depending on Index 958 and 1344 setting data:</p> <table border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </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.
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[System Data Assignment for CPU Single Configuration/Dual Configuration]

Set the system data for each node CPUs as follows:

Note: These Indexes were also covered in the previous section and pertain only to the CPU Configurations.

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

ASYD SYS1 Index 192

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						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	Local Partition 00 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	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	-	-	-	-	1 (Fixed)
	5	Local Partition 02 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	-	-	-	-	0 (Fixed)
199	0	Local Partition 04 (No.0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1	-	-	-	-	1 (Fixed)
	1	Local Partition 04 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	-	-	-	-	0 (Fixed)
	4	Local Partition 06 (No 0 System) Mounting Status 0/1=Not mounted/Mounted	0/1 Note 1	0/1 Note 1	-	-	-	-	1 (Fixed)
	5	Local Partition 06 (No.1 System) Mounting Status 0/1=Not mounted/Mounted	0 (Fixed)	0/1 Note 1	-	-	-	-	0 (Fixed)

ASYD SYS1 Index 200 - 201

Index	Bit(s)	Detailed Information	Appliance Model RN						Prepackaged Server Model RN
			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)
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 RN						Prepackaged Server Model RN
			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)
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 RN						Prepackaged Server Model RN	
			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)	
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.

6.6 CCN (LAN2) Setting

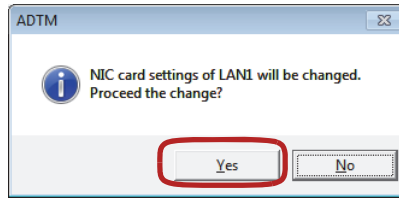
- 1 (1) Execute the ADTM command to assign necessary network data of CCN (LAN2).
- (2) Select **CCN** for **CCN/LP**.
- (3) Select **LAN2** for **Select LAN Interface**.
- (4) Click **Get** button.

- 2 (1) Click the **Routing** tab.
- (2) Select **Use Default Gateway** and set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click the **Apply** button.

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

Note: Set to Auto Negotiation (10Mbps-1Gbps) for a Prepackaged Server Model.

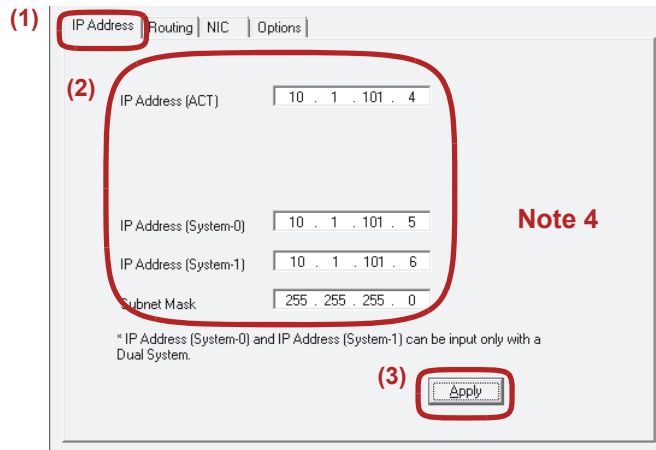
4 The confirmation message is displayed. Click the **Yes** button to apply the change.



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 longer after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter to 30 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.

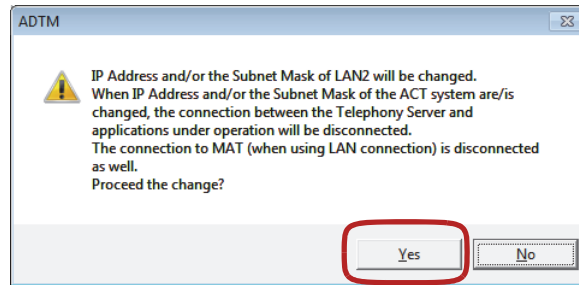
- 5**
- (1) Click the **IP Address** tab.
 - (2) Set the following corresponding to your actual network environment.
 - IP Address (ACT)
 - IP Address (System-0) *Only for a dual CPU configuration system
 - IP Address (System-1) *Only for a dual CPU configuration system
 - Subnet Mask
 - (3) Click the **Apply** button.



Note4: 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.

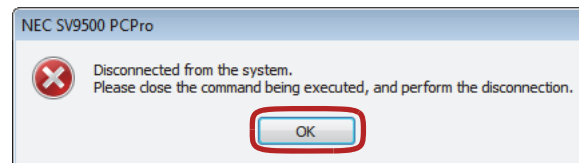
- IP address (System-0)
- IP address (System-1)

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



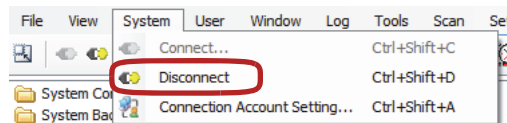
Note: The connection to PCPro will be disconnected when the data is modified.

- 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.



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

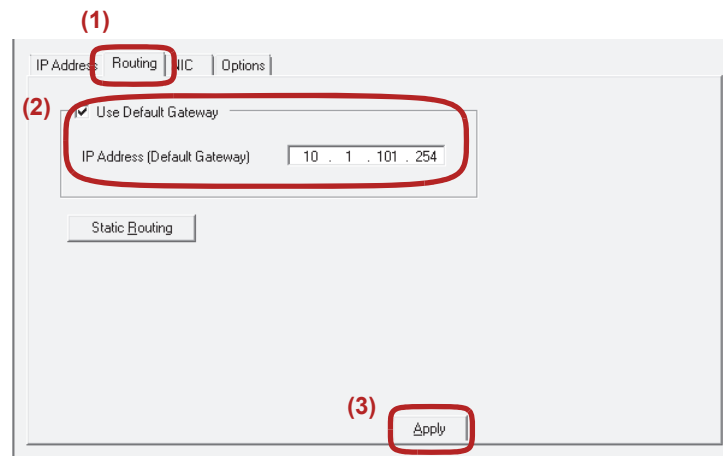
6.7 CCN (LAN1) Setting

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

- 2
- (1) Execute the ADTM command to assign an IP address of CCN (LAN2).
 - (2) Select **CCN** for **CCN/LP**.
 - (3) Select **LAN1** for **Select LAN Interface**.
 - (4) Click the **Get** button.

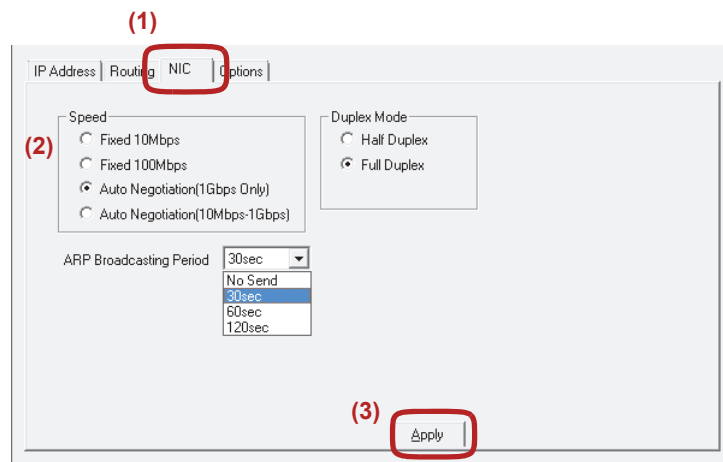
3

- (1) Click the **Routing** tab.
- (2) Select **Use Default Gateway** and set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click the **Apply** button.



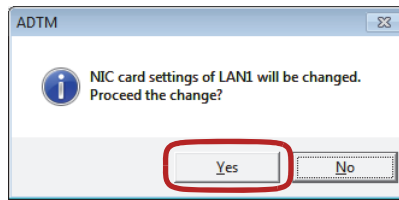
4

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



Note: Set to Auto Negotiation (10Mbps-1Gbps) for a Prepackaged Server Model.

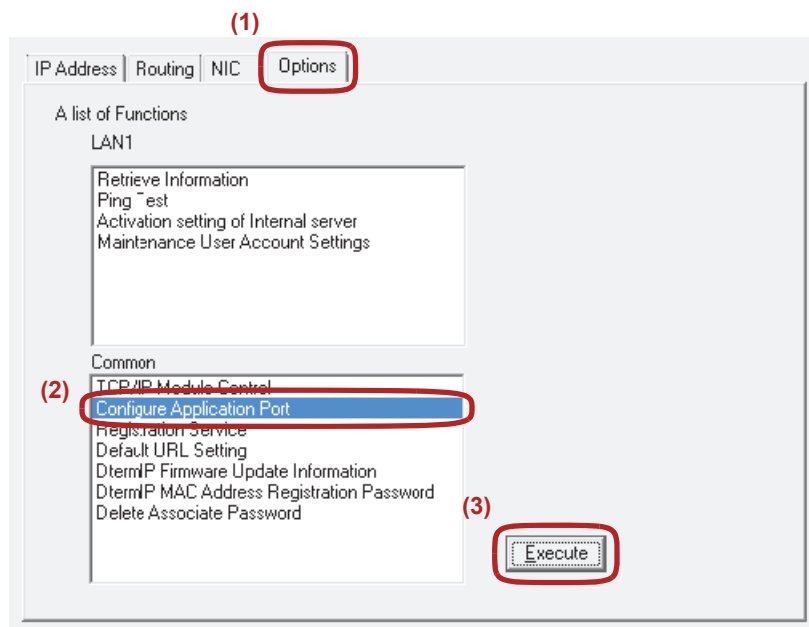
5 The confirmation message is displayed. Click the **Yes** button to apply the change.



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 ports. 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 to 30 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 (1) Click the **Options** tab.
(2) In the **Common** list, select **Configure Application Port**.
(3) Click the **Execute** button.



7

- (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) <input checked="" type="radio"/> LAN1 <input type="radio"/> LAN2	<input type="text" value="0"/>	60000
SMDR	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60010
MCI	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60020
DAI	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60030
MIS	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60040
CS Report	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60080
PMS	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60050
MCC	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60190
CCIS Cluster	(TCP) <input checked="" type="radio"/> LAN1 <input type="radio"/> LAN2	<input type="text" value="0"/>	60001
FCCS Cluster	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	60210
*If you want to change Port Number of "FCCS Cluster", you must use AFCMN command.			
Internal PHI-PRI	(TCP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	64000
Internal PHC	<input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2		
Client	(TCP)	<input type="text" value="0"/>	65030
Server	(TCP)	<input type="text" value="0"/>	57000
(1) Internal PHF	(UDP) <input checked="" type="radio"/> LAN1 <input type="radio"/> LAN2	<input type="text" value="0"/>	60180
(2) REG	(UDP) <input checked="" type="radio"/> LAN1 <input type="radio"/> LAN2	<input type="text" value="0"/>	3456
Internal PHE	(UDP)	<input type="text" value="0"/>	60130
Internal PHI-BRI	(UDP) *"Internal PHI-PRI" and "Internal PHI-BRI" use the same Port Number.		
SR-MGC/NMS			
NMS	(TCP)	<input type="text" value="0"/>	60060
Health Check Receive MGC - SR-MGC (Server)	(UDP)	<input type="text" value="0"/>	60110
Health Check Send MGC - SR-MGC (Client)	(UDP)	<input type="text" value="0"/>	60120
SR-MGC Charge MGC Side	(TCP)	<input type="text" value="0"/>	60140
SR-MGC Charge SR-MGC Side	(TCP)	<input type="text" value="0"/>	60150
DNS	(UDP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	53
SNTP	(UDP) <input type="radio"/> LAN1 <input checked="" type="radio"/> LAN2	<input type="text" value="0"/>	123
PBUS over IP	(UDP) <input checked="" type="radio"/> LAN1 <input type="radio"/> LAN2	<input type="text" value="0"/>	60220
Internal SIP Handler	<input type="radio"/> LAN1 <input type="radio"/> LAN2 <input checked="" type="radio"/> LAN1(ACT2)		
SIP Signaling	(UDP/TCP Server)	<input type="text" value="0"/>	5060
DRS Registration	(UDP)	<input type="text" value="0"/>	60300
Negotiation	(UDP/TCP Server)	<input type="text" value="0"/>	60301
TLS	(TCP Server)	<input type="text" value="0"/>	5061

*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)

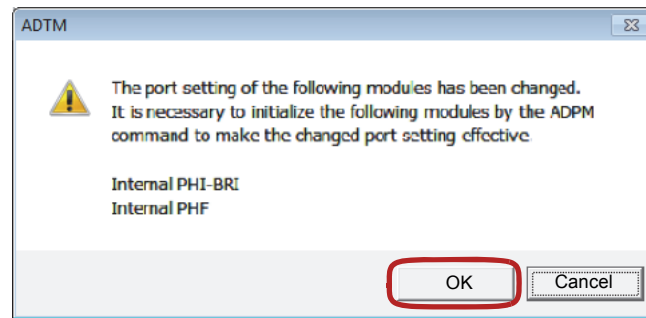
*When "Internal PHI-PRI" or "Internal PHI-BRI" or "Internal PHC" or "Internal PHF" or "Internal SIP Handler" is changed, it is necessary to initialize the module.

*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)

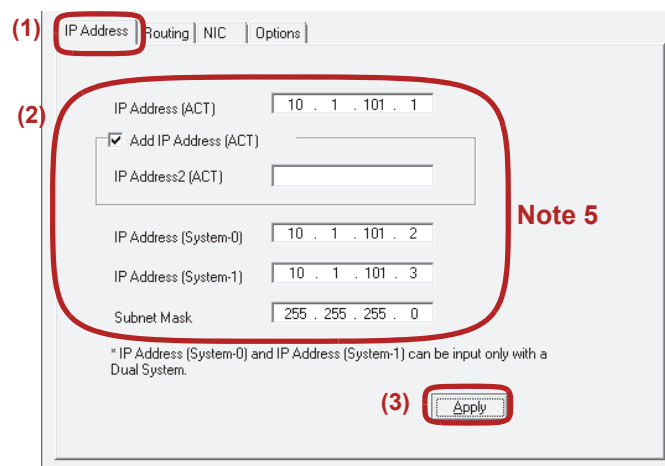
*Port Number=0:Using the default value.

(3) (4)

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



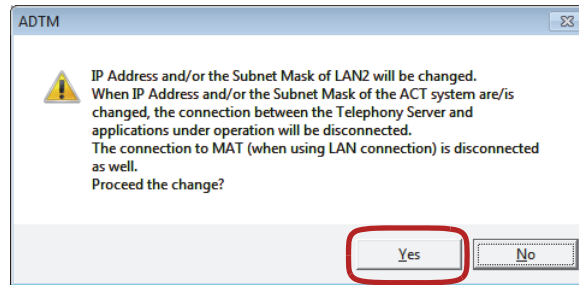
- 9**
- (1) Click the **IP Address** tab.
 - (2) Set the following corresponding to your actual network environment.
 - IP Address (ACT)
 - IP Address (System-0) *Only for a dual CPU configuration system
 - IP Address (System-1) *Only for a dual CPU configuration system
 - Subnet Mask
 - (3) Click the **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.

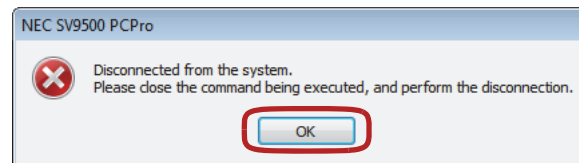
- IP address (System-0)
- IP address (System-1)

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



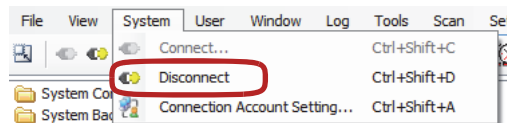
Note: The connection to PCPro will be disconnected when the data is modified.

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



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

- 13** Disconnect PCPro from the system.



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

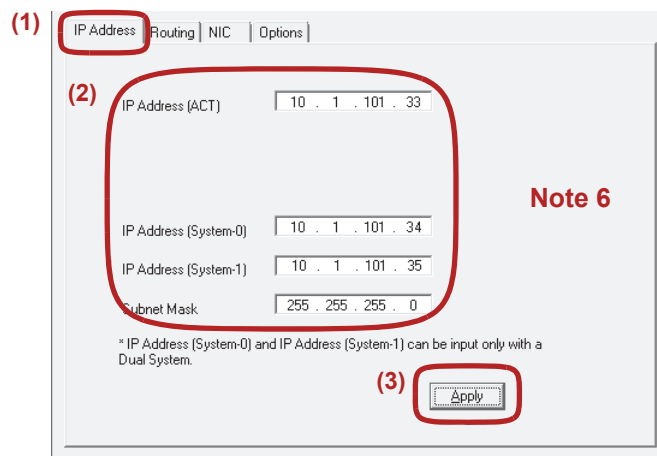
The office data setting (1) is complete.

6.8 RN (LAN2) Setting

- 1** Execute the ADTM command to assign the network, routing and NIC card data for each RN LAN2 connector. During the first launch of the ADTM command, some messages appear. Click OK for each message. Network information included in the messages has been set at procedure of [5.2 Customizing Guest OS \(SV9500\)](#).

- 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.



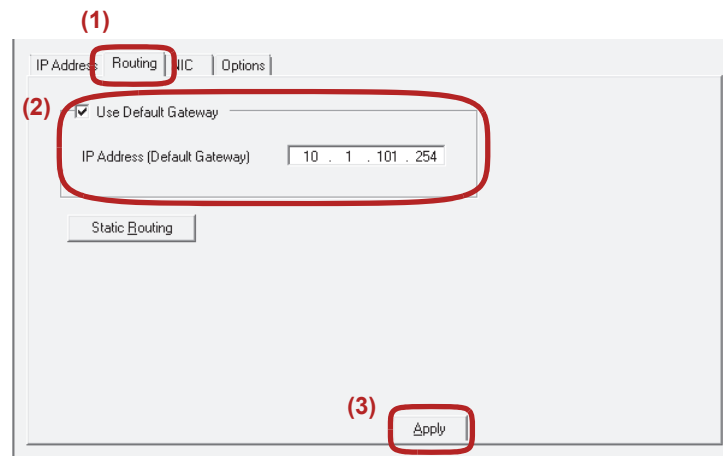
Note6: The figure shows when the node is an Appliance Model dual configuration system as an example. When there is a single configuration system, the following parameters are not displayed.

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

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

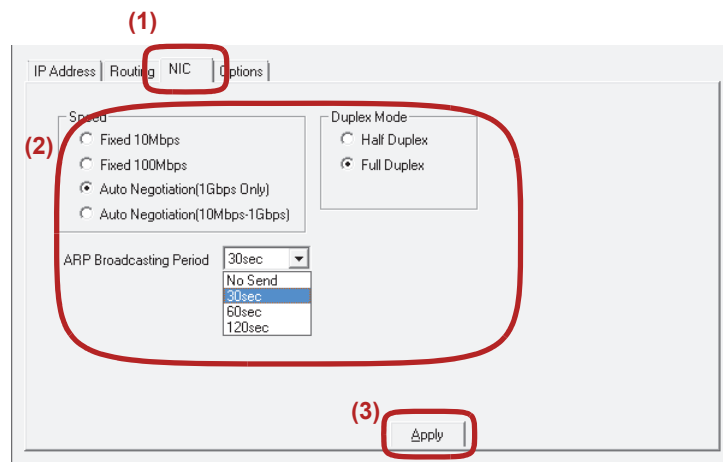
5

- (1) Click the **Routing** tab.
- (2) Select **Use Default Gateway** and set the values corresponding to your actual network environment for each necessary parameter.
Click the **Apply** button.



6

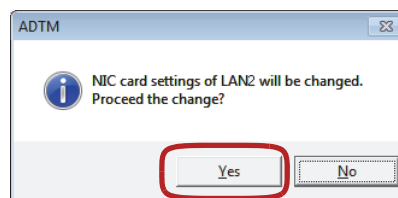
- (1) Click the **NIC** tab.
- (2) Set the values corresponding to your actual network environment for each necessary parameter.
- (3) Click the **Apply** button.



Note: Set to Auto Negotiation (10Mbps-1Gbps) for a Prepackaged Server Model.

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 ports. If STP is enabled, the length of disconnection time for packet communications may get longer after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter to 30 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.

6.9 RN (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 the **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 . 30
 Add IP Address (ACT)
 IP Address2 (ACT)
 IP Address (System-0) 10 . 1 . 101 . 31
 IP Address (System-1) 10 . 1 . 101 . 32
 Subnet Mask 255 . 255 . 255 . 0

Note 7

(3) Apply

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

Note7: 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) Select **Use Default Gateway** and set the values corresponding to your actual network environment for each necessary parameter.
 - (3) Click the **Apply** button.

The screenshot shows a configuration window with tabs for 'IP Address', 'Routing', 'NIC', and 'Options'. The 'Routing' tab is active and circled in red. A red box highlights the 'Use Default Gateway' checkbox, which is checked, and the 'IP Address (Default Gateway)' field below it, containing the value '10 . 1 . 101 . 254'. At the bottom right, the 'Apply' button is circled in red.

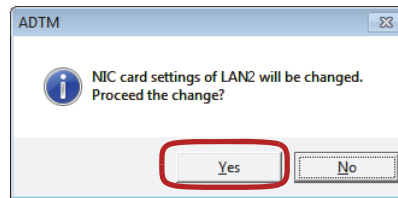
- 6**
- (1) Click the **NIC** tab.
 - (2) Set the values corresponding to your actual network environment for each necessary parameter.
 - (3) Click the **Apply** button.

The screenshot shows a configuration window with tabs for 'IP Address', 'Routing', 'NIC', and 'Options'. The 'NIC' tab is active and circled in red. A large red box highlights the 'Speed' section, where 'Auto Negotiation(10Mbps-1Gbps)' is selected. The 'Duplex Mode' section shows 'Full Duplex' selected. The 'ARP Broadcasting Period' dropdown menu is open, with '30sec' selected. At the bottom right, the 'Apply' button is circled in red.

Note: Set to Auto Negotiation (10Mbps-1Gbps) for a Prepackaged Server Model.

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 ports. If STP is enabled, the length of disconnection time for packet communications may get longer after CPU changeover.
- It is recommended to set the ARP Broadcasting Period parameter to 30 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 [6.8 RN \(LAN2\) Setting](#) and [6.9 RN \(LAN1\) Setting](#) until you finish configuring all RNs.

7. Backup of Office Data (1) - CCN

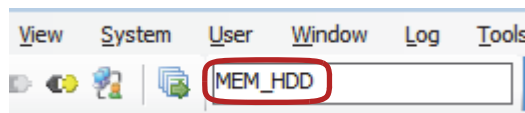
This section explains how to back up the Office Data to a CF card with the MEM_HDD command.

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

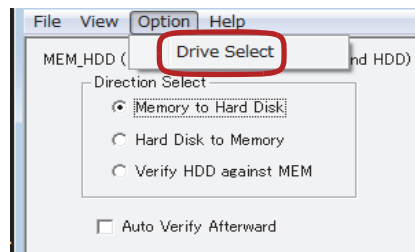
1 Launch PCPro and log into the CCN using the connection account assigned for the IP address (ACT side) of LAN2 connector of the CCN.

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

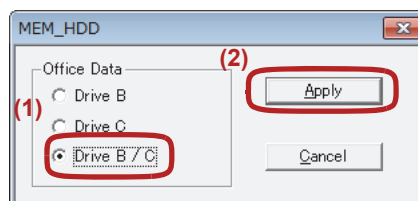
2 Execute the **MEM_HDD** command.



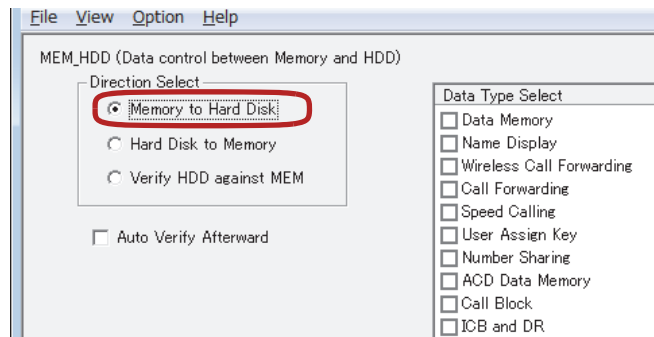
3 Select **Drive Select** from the **Option** menu.



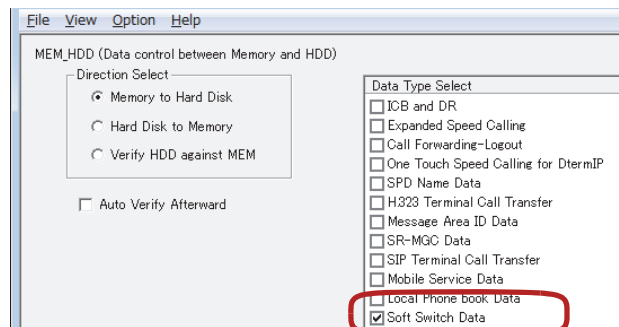
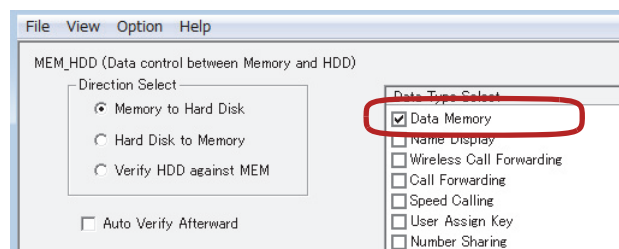
4 (1) Select **Drive B / C** for **Office Data**.
(2) Click the **Apply** button.



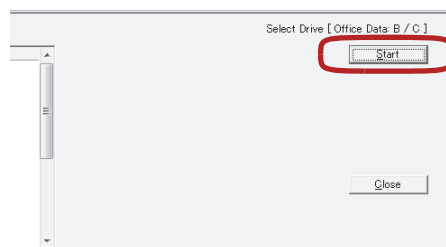
5 Select **Memory to Hard Disk** for **Direction Select**.



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

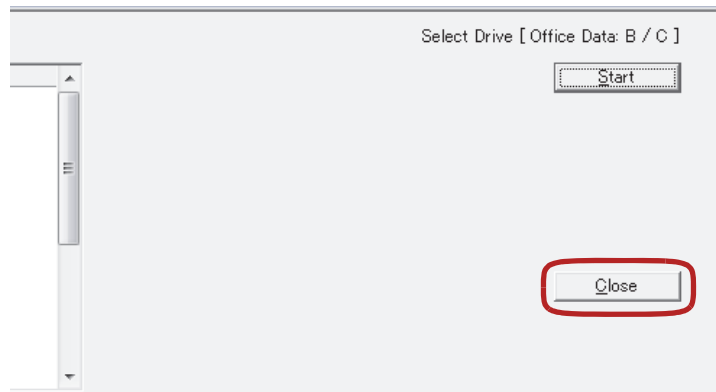


7 Click the **Start** button. The backup process starts.

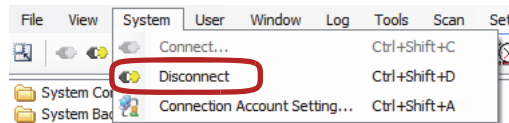


Note: Pressing the Start button triggers the message "Did you confirm whether there is any difference by using DRPM command?". For the initial backup, click **Yes** even though DRPM cannot be confirmed. However, once the UMGi is programmed and on-line with its RN(s), always check DRPM before using MEM_HDD.

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



9 Disconnect PCPro from the system.



Note: 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 completed.

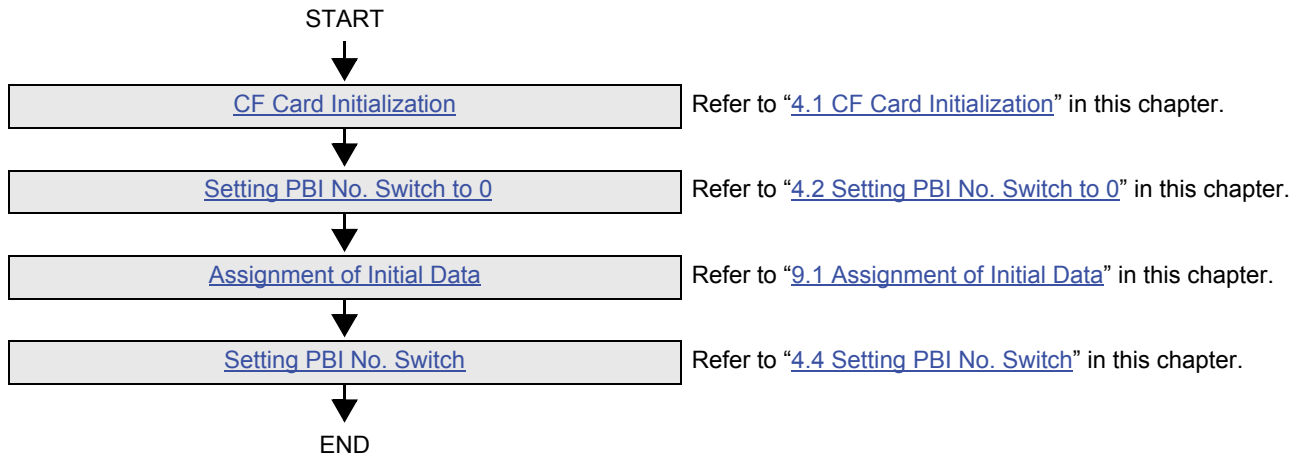
8. Downloading Office Data - CCN

This section explains the procedure on 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.

9. Initial Startup of Appliance Model RN

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



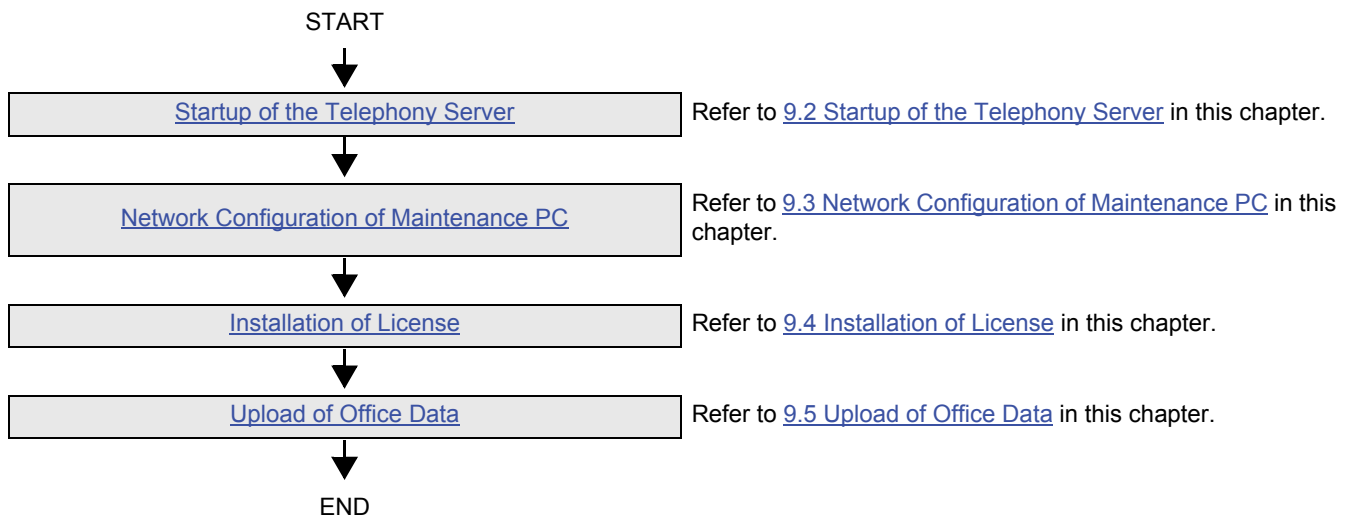
9.1 Assignment of Initial Data

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.

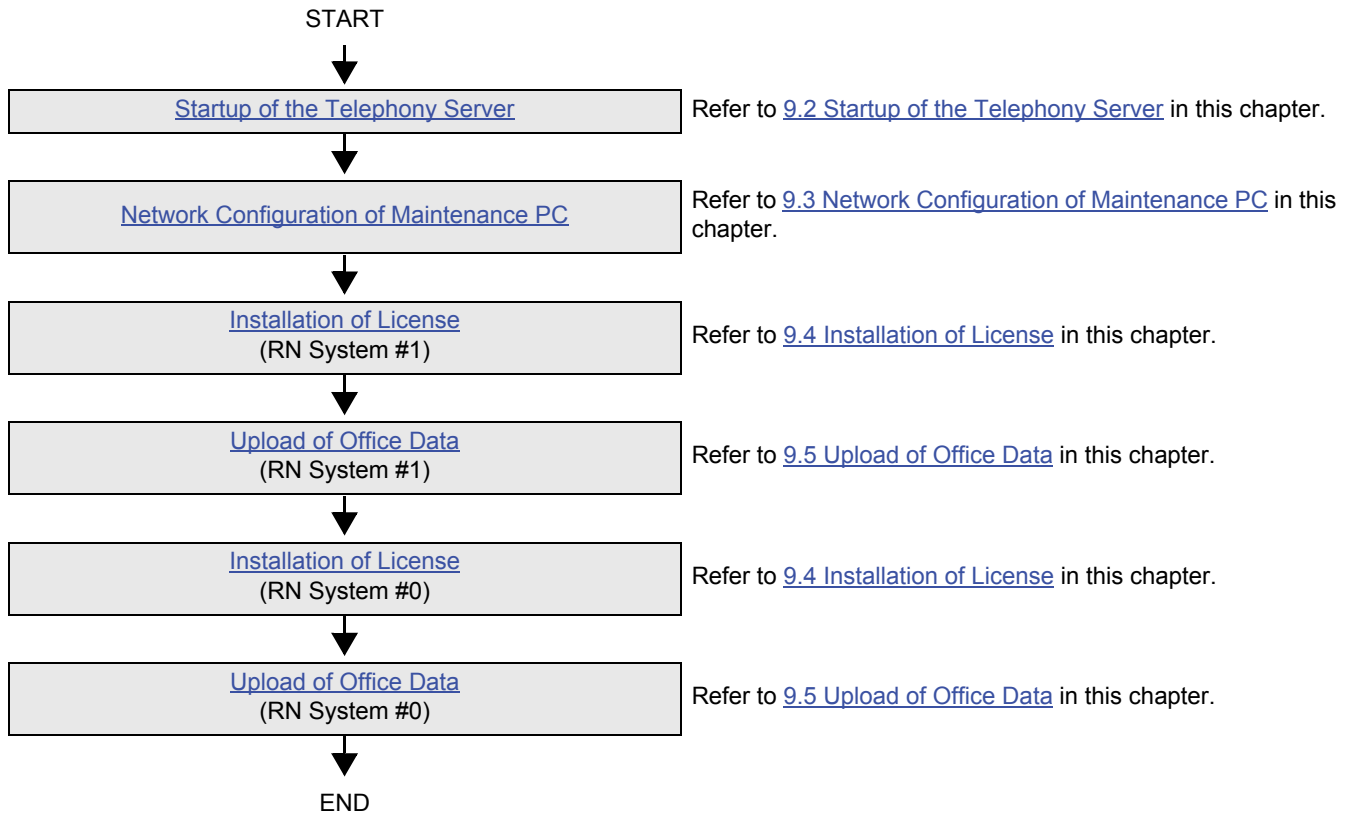
This section explains the installation procedure for each configuration listed below.

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

9.1.1 Single Configuration



9.1.2 Dual Configuration



9.2 Startup of the Telephony Server

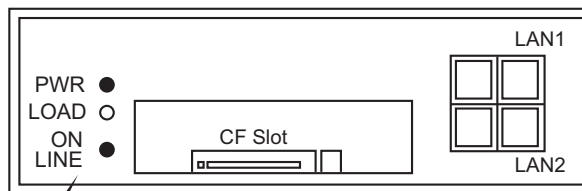
This section explains the procedure to start up the Telephony Server which is required as a first process when installing the program.

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

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

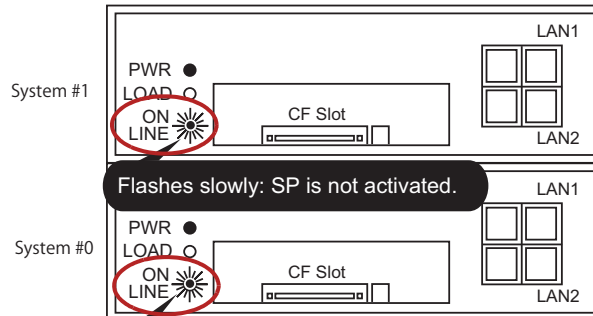
- 2 Turn on the power switch on the rear panel of the Telephony Server.

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



Flashes slowly: SP is not activated.

- In the case of Dual Configuration Appliance Model RN



Flashes slowly: SP is not activated.

Flashes slowly: SP is not activated.

Note: 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.

9.3 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.

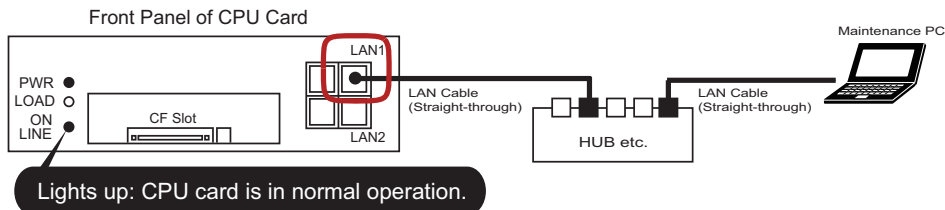
- 1 Modify the network configuration of the maintenance PC to connect the RN LAN1 IP address set in the [CF Card Initialization](#) section (ex. 10.1.101.30/24 for single configuration, 10.1.101.31/24 for system#0 of dual configuration or 10.1.101.32/24 for system#1 of dual configuration).

Example of IP address for maintenance PC: 10.1.101.50/24

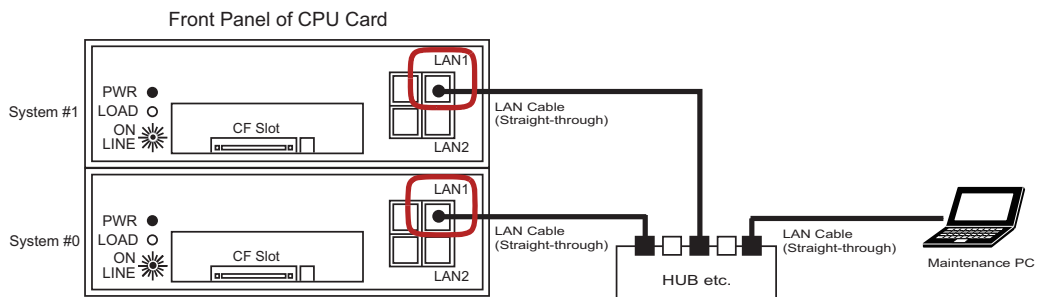
Note: IP addresses listed below cannot be assigned to the maintenance PC.

- 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 • In the case of Single Configuration Appliance Model RN
Connect LAN1 connector on CPU card and the maintenance PC with a LAN cable.



- In the case of Dual Configuration Appliance Model 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.

9.4 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)).

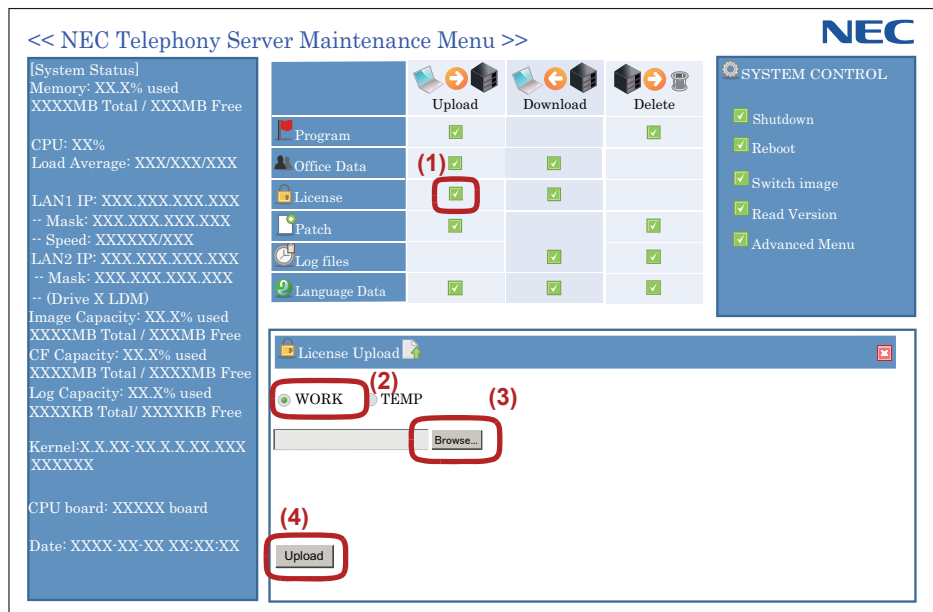
Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

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



Note:

- 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.
- If 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 [STEP1](#) to [STEP3](#) to the LAN1 IP addresses of RN System #0 and RN System #1.

9.5 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).

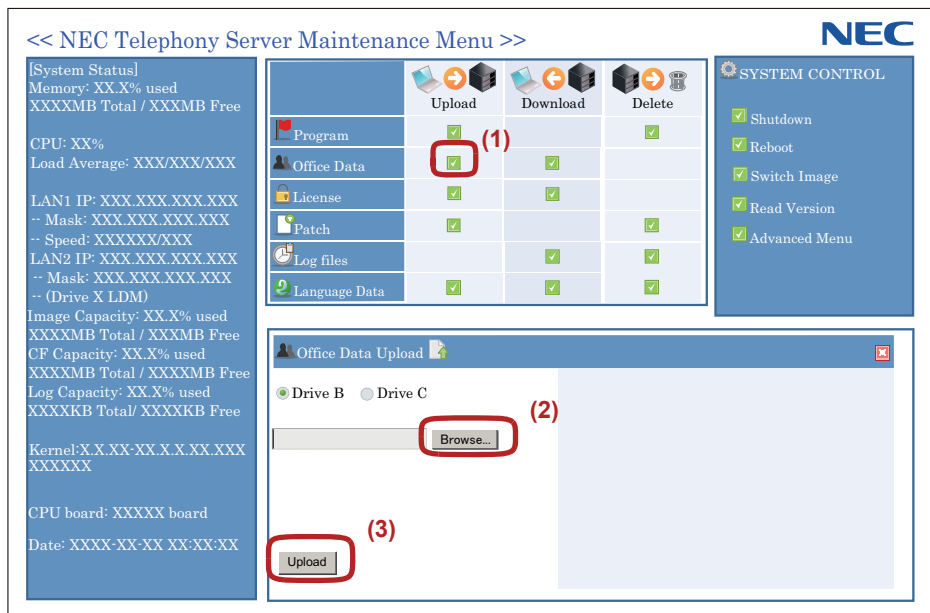
Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

- 2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **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 in to Telephony Server Maintenance Menu, do not use Back button on browser.

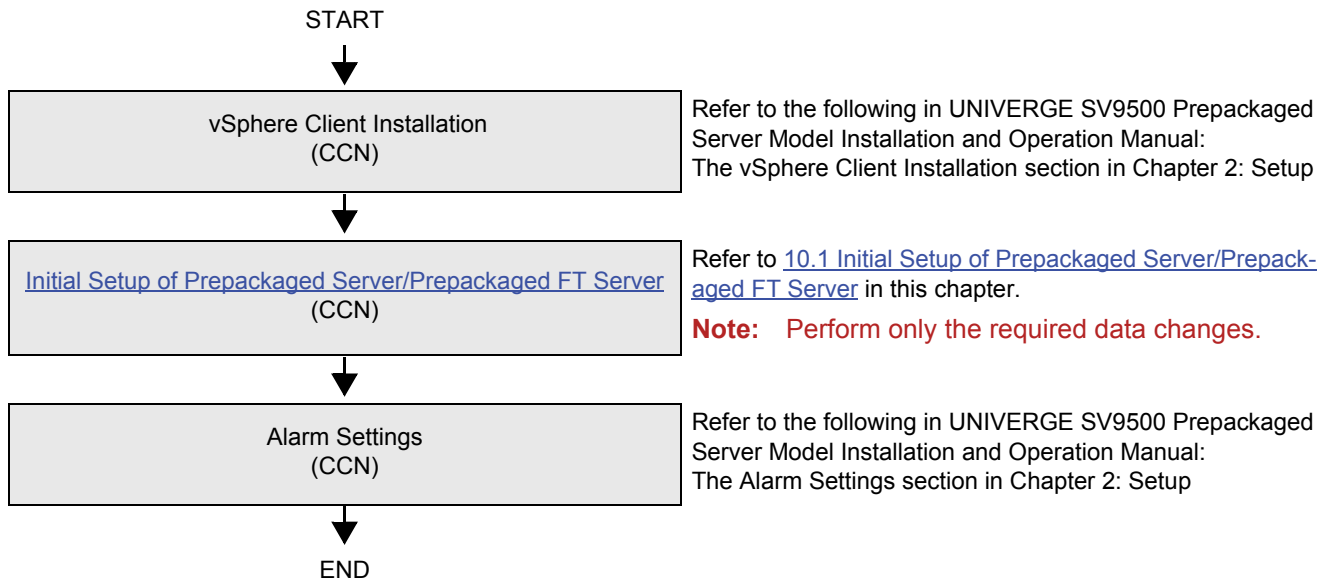
- 3 (1) Click the **Upload** button for **Office Data**. The **Office Data Upload** dialog box appears in the lower right portion of the screen.
- (2) Click the **Browse** button on the dialog box and then specify the office data file downloaded in the [Downloading Office Data - CCN](#) section.
- (3) 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 [STEP1](#) to [STEP3](#) to the LAN1 IP addresses of RN System #0 and RN System #1.

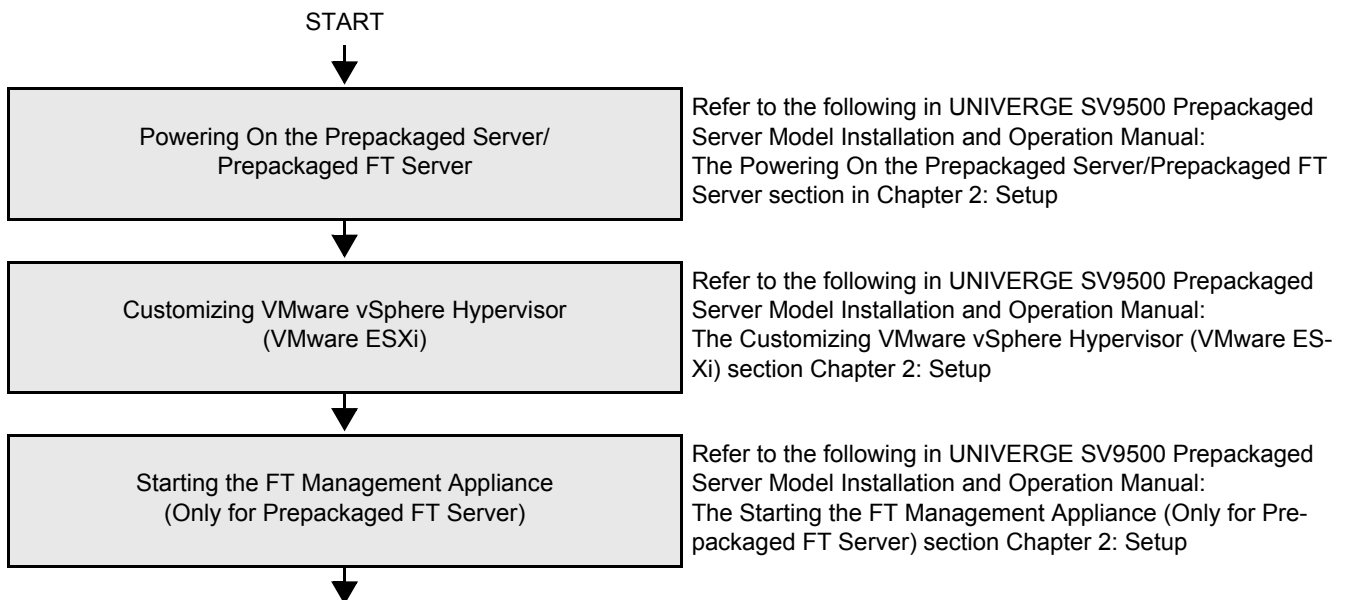
10. Initial Startup of Prepackaged Server Model RN

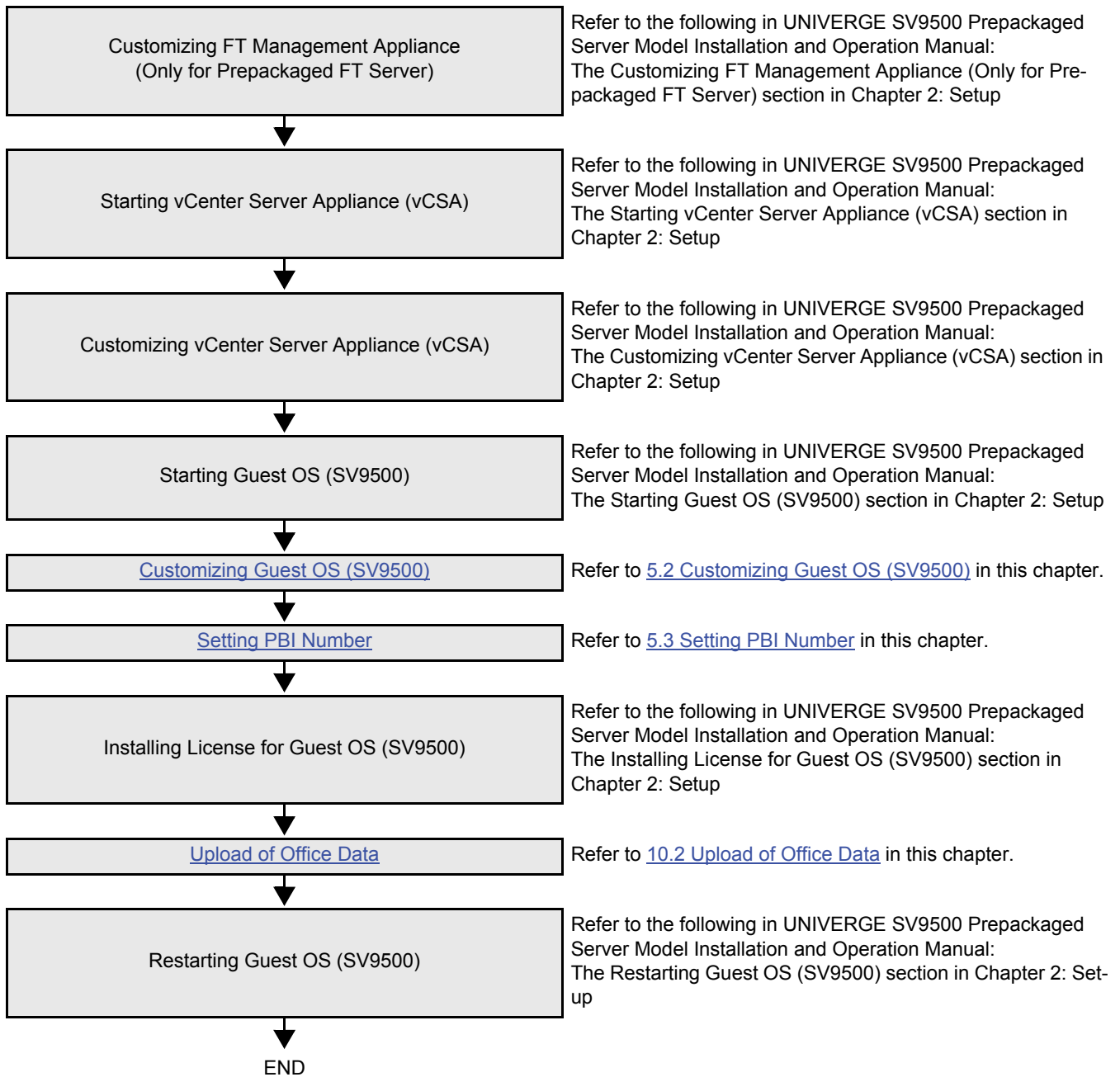
This section explains the initial startup procedure of a Prepackaged Model RN. Follow the flow chart below to configure the initial startup.



10.1 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.





10.2 Upload of Office Data

This section explains the procedure to upload the CCN office data files downloaded to the maintenance PC into the HDD 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 [Customizing Guest OS \(SV9500\)](#) section (ex. 10.1.101.30).

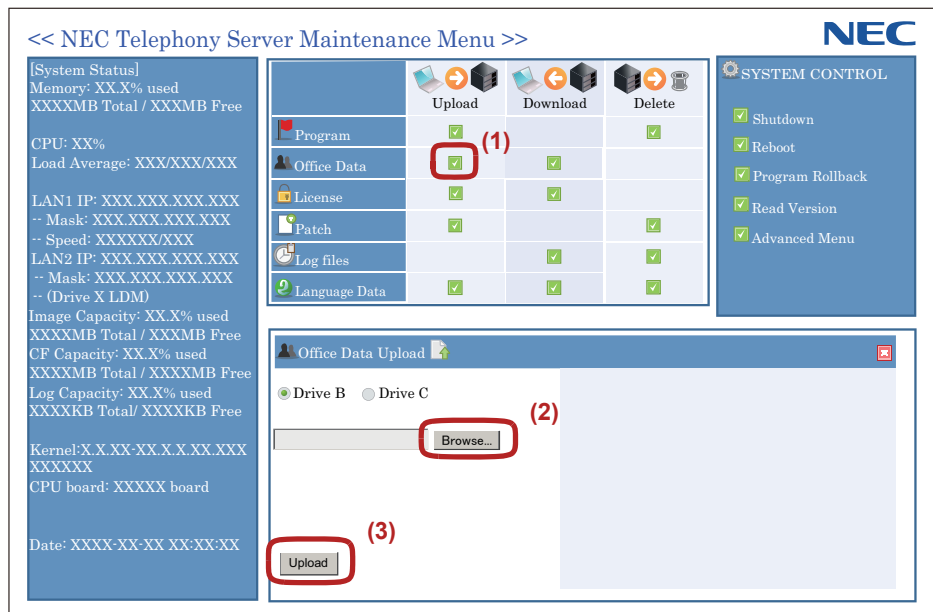
Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

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



11. Reboot of Appliance Model RN

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

Note: This section is only for Appliance Model RNs. Skip this section in the case of Prepackaged Server Model RNs.

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

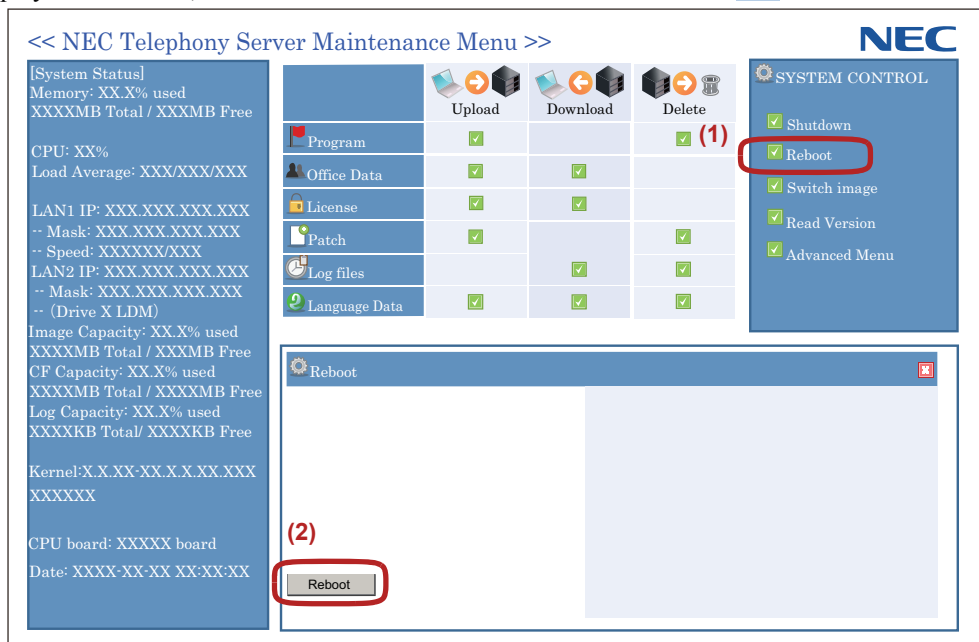
- (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
- (2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

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 in to 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 [STEP2](#) to [STEP3](#) to the LAN1 IP address of RN System #1.

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

This section explains the following data assignment.

- Configuration of SIP Server (ASPC)
- SR-MGC Configuration
- Initial Data Assignment

12.1 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 each node.

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.
- A system that 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 node 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.

Note: You cannot select the LP for an RN that is not in normal mode.

6 Repeat [STEP3](#) and [STEP4](#) to configure the SP part of System#1.

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

Configuring the SP part of a node is complete.

12.2 Configuration of SR-MGC

To configure an 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

12.3 Assignment of Initial Data

This section explains how to assign data 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.

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

Note: Note the following conditions:

- The data in (a) and (c) can be assigned in CCN and RN respectively. It can also be assigned to multiple nodes.
- The data assignment in (b) is applied only for CCN.

- Note:** The following 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) [12.3.2 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.

Note: 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 [2. PBI and LP Numbers](#)).

MPH-ID to be assigned

PBI No. (LP No.)	CPU Side	MPH-ID
0x30 (0)	#0	1
	#1	2
0x38 (4) Note 1	#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

Note 1: PBI(LP) 0x38(4) is not used.

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

Step1: ASYDL: System data (LDM)

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

SYS 1, 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 those 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 those 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 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 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 virtual speech channels 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 Command Manual.

12.3.2 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.

SYS 1, Index 513 = LDM usage (Set the bit representing a memory block to be used.)

SYS 1, Index 514 = NDM usage (Set the bit representing a memory block to be used.)

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

Step2: ASYD: System data

SYS 1, Index 30 = 0x06 (Mounting capacity of DM)

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

SYS 1, 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.

SYS 1, 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, or 3 (if 4 or 5 is assigned, 6 is set).

Up to 402 channels can be set on each 2-MG unit. 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: 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 virtual speech channels 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 SYS 1) 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 AS-DIL/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 Command Manual.

12.3.3 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.

SYS 1, Index 513 = LDM usage (Set the bit representing a memory block to be used.)

SYS 1, Index 514 = NDM usage (Set the bit representing a memory block to be used.)

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

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

SYS 1, Index 811 (Tone Code by countries) **Note 2**

SYS 1, 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: If you change the settings of Internal SIP Handler's LAN port, Application port or IP address2 (ACT) while the Internal SIP Handler is in operation, use the ADPM command to initialize the handler after initialization of TCP/IP Module is completed.

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

Note 6: We recommend using the default LAN port and port number for SIP Handler. If you change this data, you need to initialize TCP/IP Module.

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 PCPro 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)

Follow the table below to assign the number:

IP-DTG to be Assigned

PBI No. (LP No.)	CPU Side	IP-DTG
0x30 (0)	#0	1
	#1	2
0x38 (4) Note 9	#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

Note 9: PBI(LP) 0x38(4) is not used.

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

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

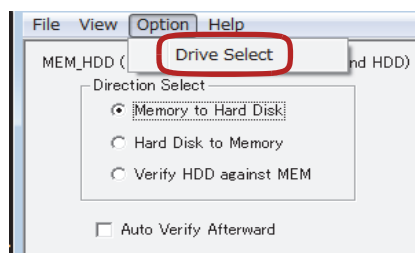
This section explains how to back up the office data to a CF card with the MEM_HDD command.

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

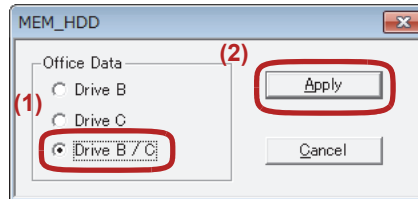
Note: For procedure to connect to the PCPro, refer to “Communication Link with the Telephony Server” in Chapter 3: Setting Up PCPro in PCPro Setup Manual.

2 Execute the **MEM_HDD** command.

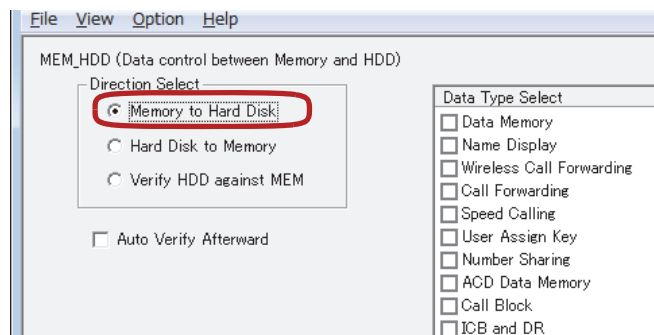
3 Select **Drive Select** from the **Option** menu.



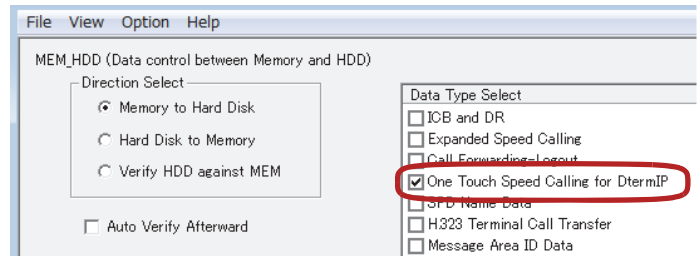
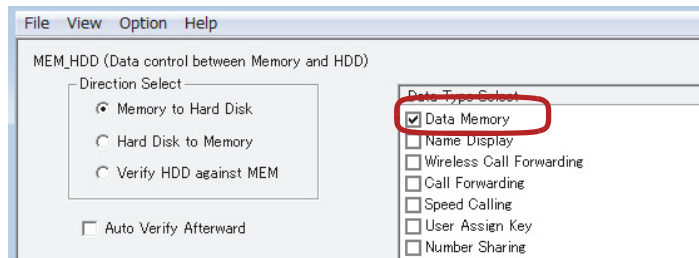
4 (1) Select **Drive B / C** for **Office Data**.
(2) Click the **Apply** button.



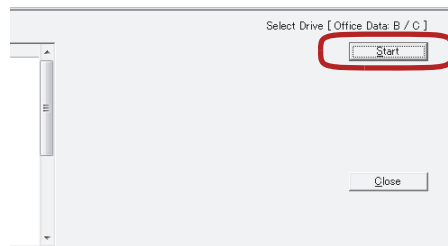
5 Select **Memory to Hard Disk** for **Direction Select**.



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



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

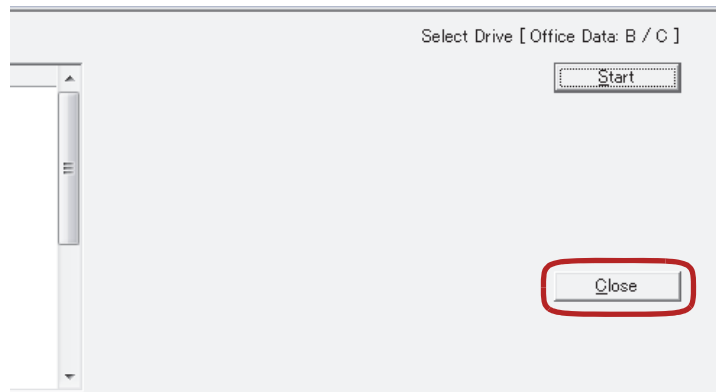


Note: Pressing the Start button triggers the message “Did you confirm whether there is any difference by using DRPM command?”. Click **Yes** after confirming the contents of the message.

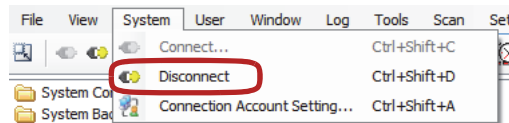
8 After the message “Did you confirm whether there is any difference by using DRPM command?” appears, click **No** to skip it.

Note: The DRPM command cannot confirm the difference of information at initial backup. However, once the UMGi is programmed and goes on-line with its RN(s), you should execute the DRPM command before using the MEM_HDD command.

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



10 Disconnect PCPro from the system.



Note: 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 completed.

14. Additional Data Assignment

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

14.1 For Message Center Interface (Serial Connection) Use

To assign MCI with serial connection (only possible for Appliance Model), 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.
- **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.

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

14.2 For Hotel Service Use

For Hotel-service use in a UMGi system using an Appliance Model CCN, the following data can extend PMS transmit sequence numbers. Also, verify 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 UMGi system using Prepackaged Server Model CCN.

14.3 For Station Message Detail Recording (SMDR) Data

In the UMGi system, the CCN is the office used for storage of the SMDR data that is collected for all nodes in centralized billing **Note 1**.

The centralized billing office collects the SMDR data from the other nodes by performing the polling process. As for the SMDR connection, the CCN supports RJ-45 interface (LAN connection) and RS-232C interface (Serial connection) if it is Appliance Model but only RJ-45 interface (LAN connection) if Prepackaged Server Model (**Note 2**).

Both of the CCN and an 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:** Set the upper limit of polling buffer rate with the ASYDL command (System 1 Index 586 b0-b7). If the value exceeds the assigned limit, polling is not activated.
- Note 1:** If using the RS-232C interface to connect to SMDR when the CCN is a Prepackaged Server Model, you can use an RN (Appliance Model) as the node with the centralized billing office.
- Note 2:** If using 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 connected to the SMDR. The node for such PBI number will perform the polling process. If no node is selected (=00) or an inexistent number assigned, the CCN performs the polling process. While operating a system, any change in the data of the connection between SMDR and the node will be immediately reflected.

14.3.1 Billing Information During Survival Mode

If survival mode prevents a node from transmitting billing information to the 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 the nodes can buffer depends on call frequency. A buffer full of data discards new billing information while keeping old billing information. The table below shows the relationship between call frequency per hour and the period of time the buffer can store 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

Billing Information can be Stored

Calls per Hour	Period of Time which Buffer Can Keep to Store up Billing Information
30000	1.56h

14.3.2 To Use an IOC Card to Output SMDR Information

If using an IOC card to output SMDR information (only possible for Appliance Model), assign the following. 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.
- **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.

Note: Assign a physical PBI number (example: assign "30" for 0x30).

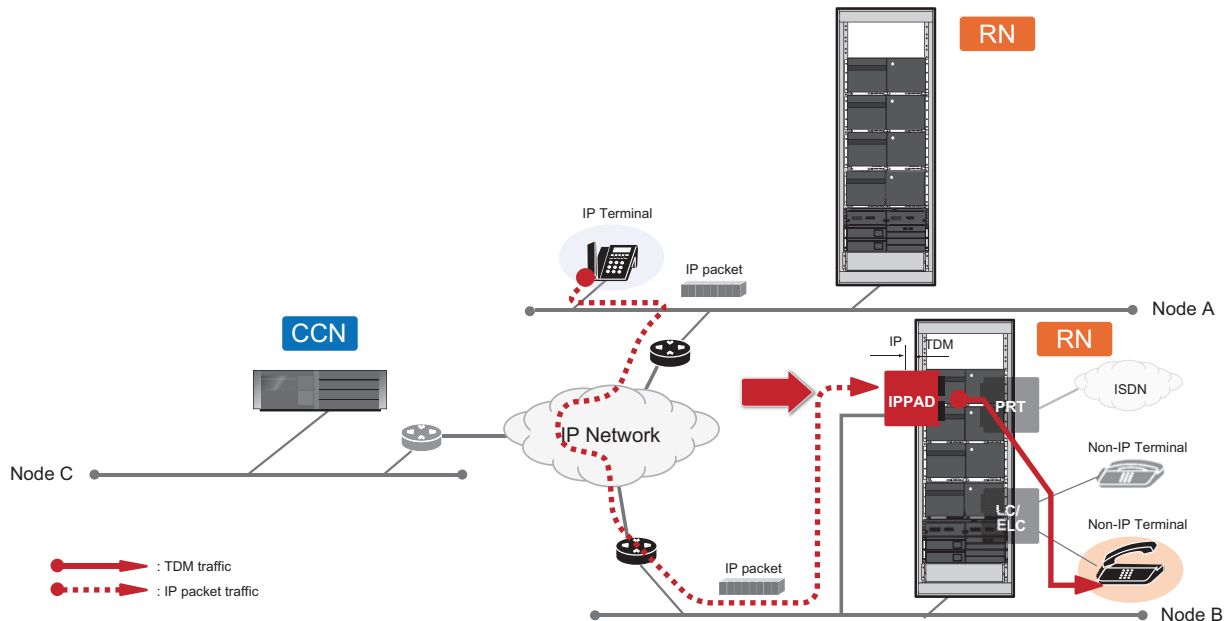
Note: When no data is changed (default setting) or an unknown number is assigned, the CCN performs the polling process for billing.

Note: If data is changed while the system is operating, it is reflected immediately.

14.4 IPPAD Related Data

The following describes the procedures for IPPAD data programming. An IPPAD is used for Appliance Model nodes in the system; an IPPAD enables non-IP stations in a node 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 numbers, 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 an 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 an IP terminal and a TDM terminal.

Note 1: This setting represents an IPPAD 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 numbers.

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 unbusy the connection trunk data assigned in the previous step.

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.

14.5 Flexible Route Re-routing for UMGi in Survival Mode Data

This section explains how to assign Flexible Route Re-routing for UMGi 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: 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: 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 8**
- **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: Processing when a network failure is found at a 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 the pattern for 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 1, Note 2**
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 3, Note 4**
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 1, Note 3, Note 5**
0/1: Disabled/Enabled
- Bit 4: Re-routing calls placed on a virtual line in the event of a network failure. **Note 2**
0/1: Disabled/Enabled
- Bit 6: Re-routing incoming tie line calls in the event of a network failure. **Note 6**
0/1: Disabled/Enabled
- Bit 7: Re-routing incoming central office line calls in the event of a network failure. **Note 7**
0/1: Disabled/Enabled

Note 1: Set this bit to enable this feature for legacy/IP terminals.

Note 2: Set this bit to enable this feature for virtual lines.

Note 3: Set this bit to enable this feature for PS.

Note 4: Set this bit to enable this feature for SP Controlled SIP terminals.

Note 5: Not available for SP Controlled SIP terminals and VS32.

Note 6: Set this bit to enable this feature for TIE Line (CDN:6 (TCL) of ARTD/ARTDN is 4 - 31).

Note 7: 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 8**
- Bit 2: Flexible Route Re-routing For Network Failure - FCCS link all busy
0/1: Disabled/Enabled

Note 8: 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 UMGi 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 9, Note 12**
Enter a Public Network number (all digits) including the Trunk Access Code and Area Code.
 - Called Party Subaddress: **Note 10, Note 11, Note 12**
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 13**: 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 9, Note 12**
Enter a Public Network number (all digits) including the Trunk Access Code and Area Code.
 - Called Party Subaddress: **Note 10, Note 11, Note 12**
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 13**: 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 9: 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).

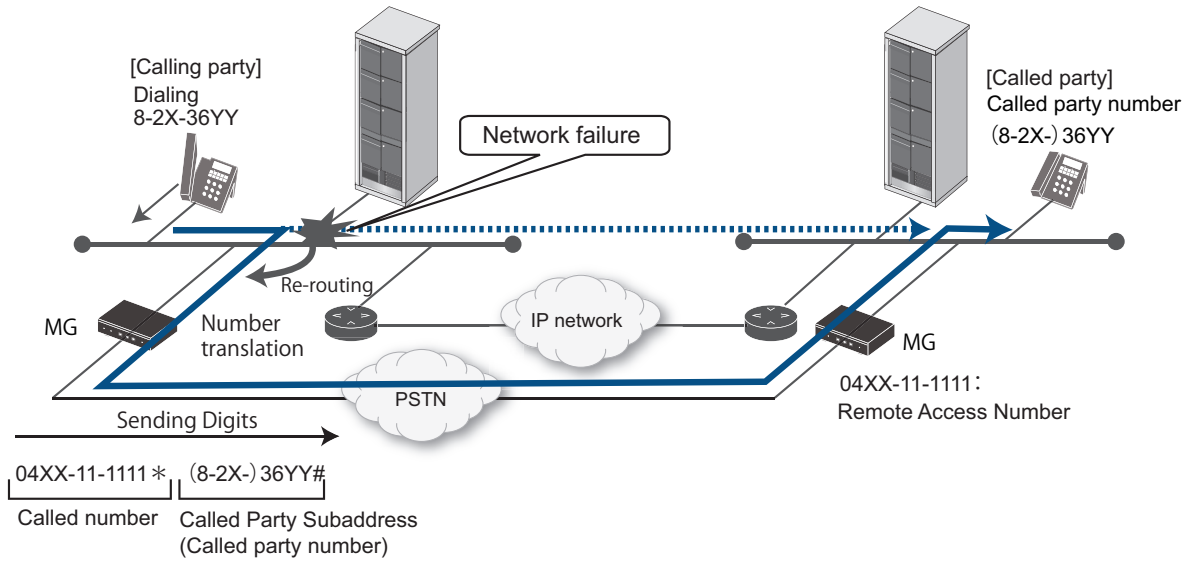
(Example)

- **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).

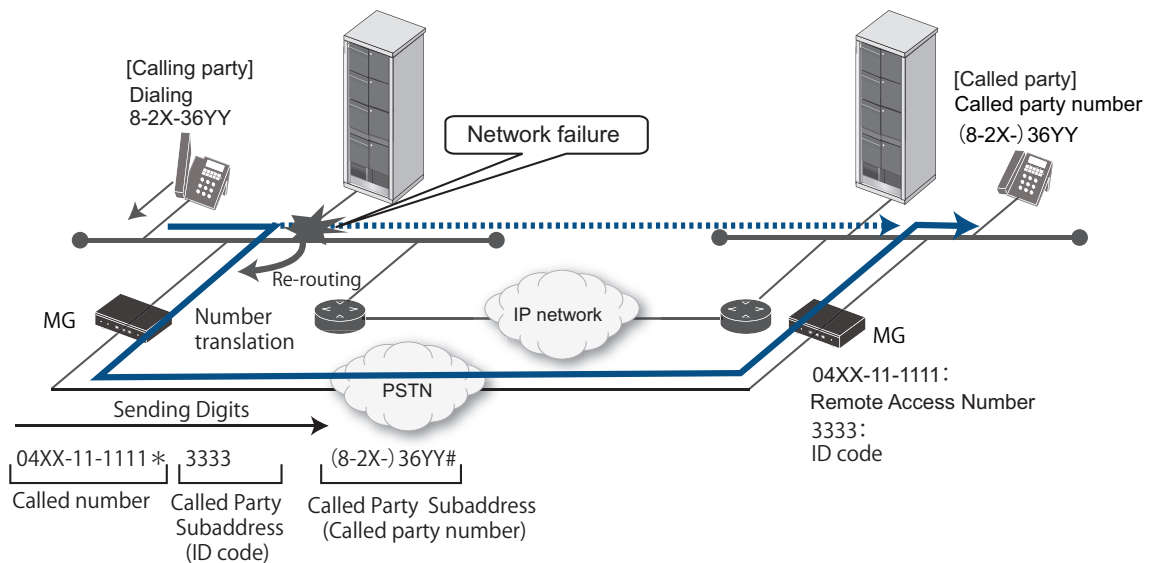
(Example)

- UGN: 1

- TELN: 3683

- CFD: 0 (Access code) 04XX 11 1111 (Called number (1111=Remote access code)) *3333 (ID code)

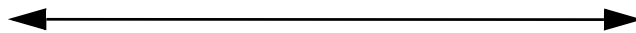
- Called party subaddress: Address Specification Method=Automatic Addition Digit Code



- Note 10:** Called party subaddress (ID code) is assigned as a destination number, note the following.
- Assign an outside line access codes used in re-routing for the destination number with and without ID code respectively.
 - Assign the total digits of the 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 11: Do not add the called party subaddress when “#” is included in the Telephone Number/Private Number Code of the destination.

Note 12: 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/AMNDL/AMNDN.

Set “Out of Service” for SUB (Sub Address Dialing) for 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 13: Automatic Addition Digit Code

- When the AFRRL 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 14**) + Telephone Number (NDM) are added.

Note 14: "Private Number Code" means a private number code which is assigned to the 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) four digits (fixed)
- AREA NAME: Area Name (8-digit indication, 16-digit indication)

Note: For SP Controlled SIP terminals, set Message Area also for the 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 a 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 a 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 for the CS.
- Be sure to select KIND=LENS and FUNCTION=CS when assigning MA-ID.
- The PS acquires the MA-ID of CS at the time of location registration and the MA-ID is automatically applied to the PS (There is no need to assign an MA-ID to the PS using the AMAA command). When a call is placed from a PS or

handed over to another base station, the PS acquires the MA-ID for the new CS, and the MA-ID is applied to the PS. If an MA-ID is not assigned to the CS, MA-ID=0 will be applied to the PS.

- When a PS is out of zone, the MA-ID applied for the PS is retained.
 - If a call is placed to a PS in an out-of-zone-state, which has not performed REGISTER after a system startup, MA-ID=0 will be applied.
 - If MA-ID is registered to a station number of the 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 15**

Note 15: Assign the Message Area ID within the range from 1 to 9999. When 0 is assigned, the MA-ID is cleared.

14.6 For Link Down Notification of RN's Transition to Survival Mode

Note: The Link Down key is for the RN terminal only and not for the CCN terminals.

Step1: Execute the AKYD command to assign a 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.



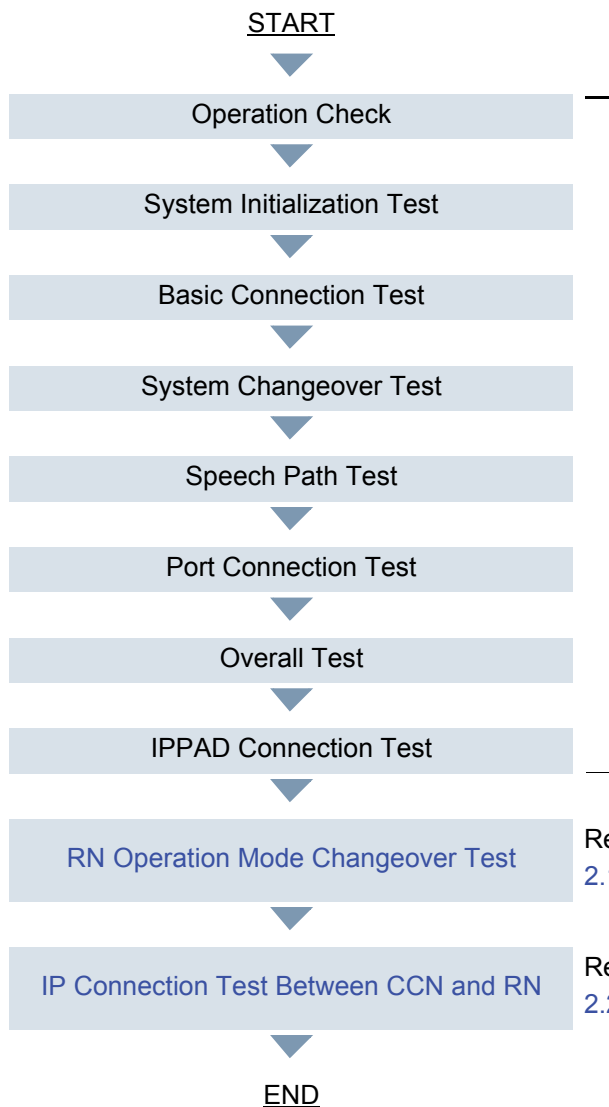
CHAPTER 4 INSTALLATION TEST

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 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 UMGi System

This section explains installation tests specific to UMGi 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 by the system message “10-M Remote Node Status Notification” that has been output to both CCN and RN.

[If the 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 mode of RN is not changed normally]

Check the Data Assignment for CCN.

Check the status of RN by using the DRPM command.

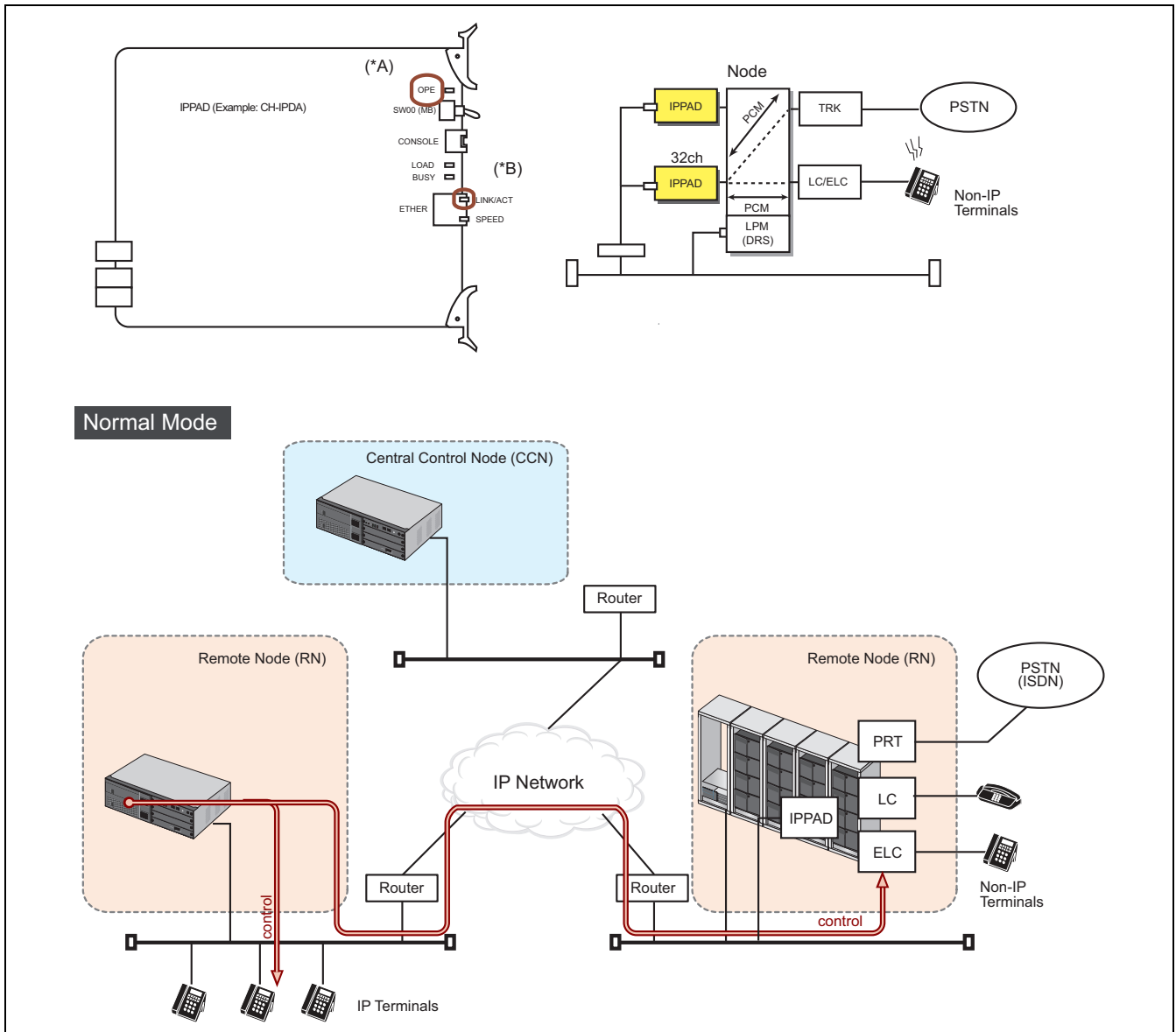
2.2 IP Connection Test Between CCN and RN

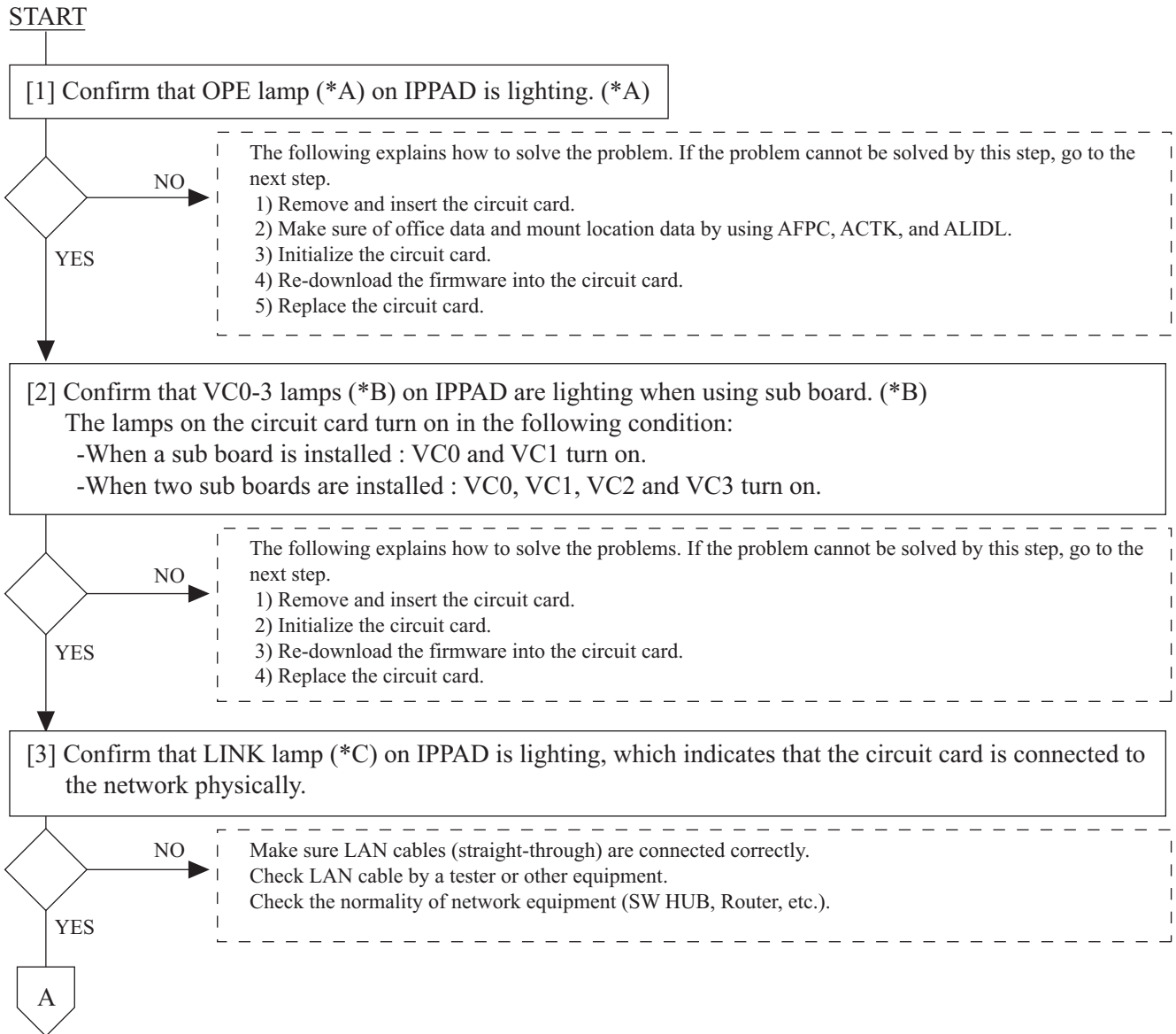
The following describes the procedure for confirming the normality of the IPPAD when in normal mode. This describes the procedure for performing connection test between an IP terminal and a TDM-based terminal (a Digital terminal and an analog terminal) or an existing trunk (COT, TLT, and so on). Perform the test with the other combinations of terminals, as needed.

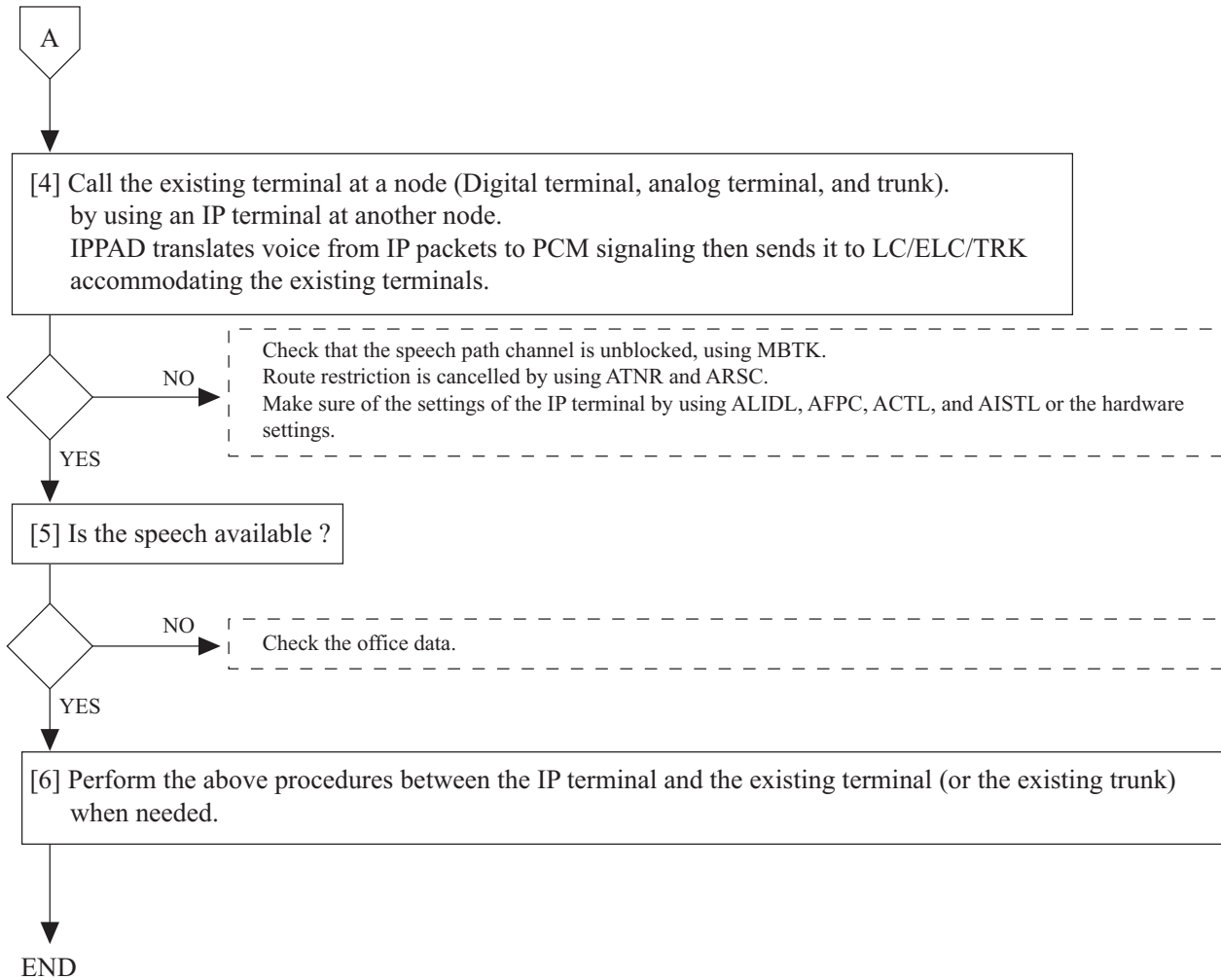
Note: It is essential that each node and the controlled LC/TRK are in normal condition.

Note: Perform the test after confirming that PHD/PHA is working normally by using tests.

Diagram of IPPAD Connection Test for Normal Operation



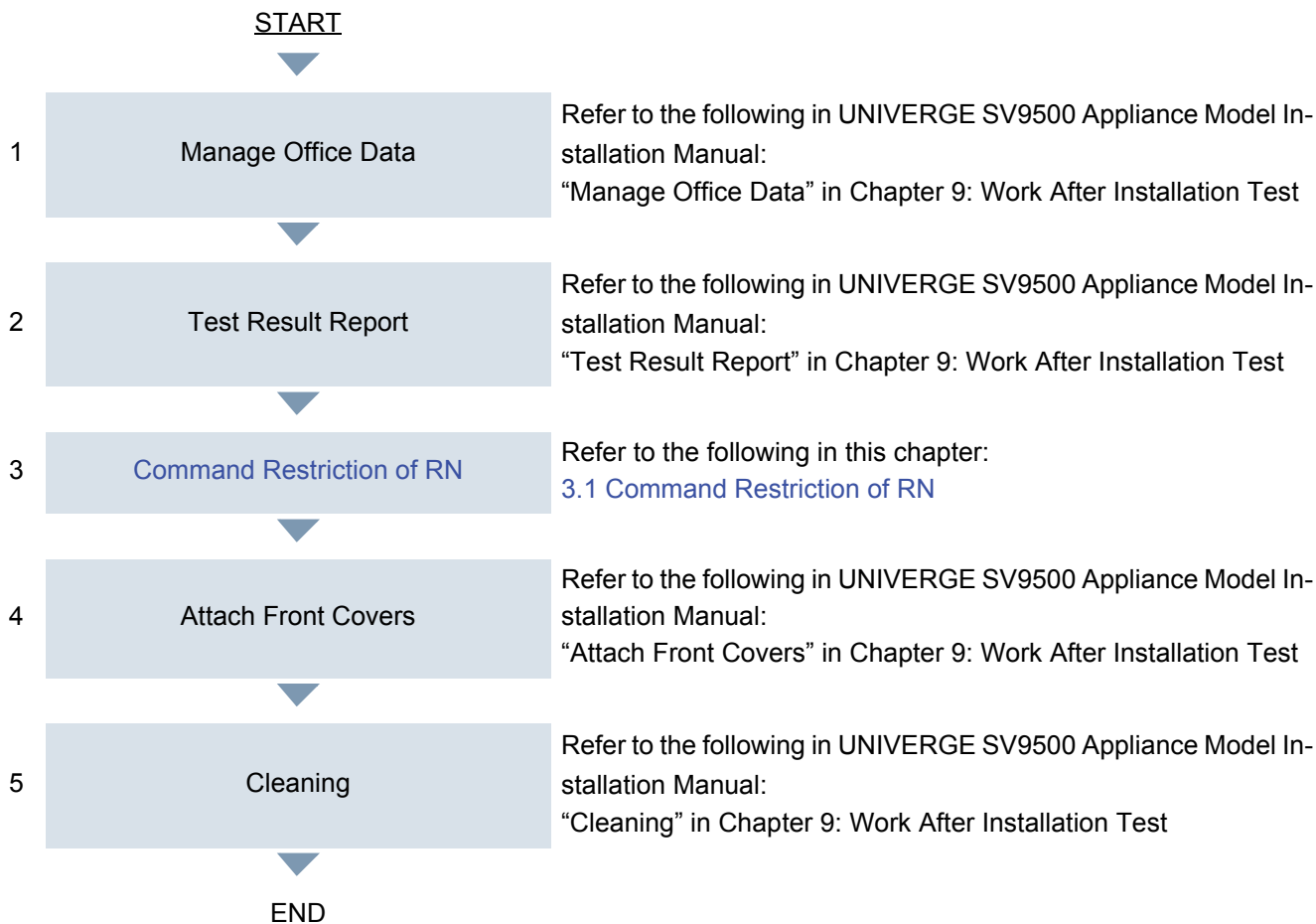




3. Work After Installation Test

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 RN

After the installation tests are completed, assign the following data to prevent the data in an RN from being written and deleted.

ASYDL - SYS1, Index 1225, Bit 0 (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 of the UMGi. Before working on the system, make sure of the following in order to operate and maintain the system correctly and safely.

- Data assignment for the system should be done through PCPro in the CCN, not an RN.
- If you want to reflect your data modification immediately in the 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 UMGi 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.

2. System Time Setting

This section explains the system time setting.

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

2.1 UMGi 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.

Note: The UMGi system has a single system time during normal mode.

2.2 UMGi 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.

- Note:** In the case of 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.
 - From the moment the NTP server and VMware ESXi are synchronized until the time is registered by the ATIM command in the Telephony Server, a maximum of two minutes may be needed.
 - If VMware ESXi time is older than the time of the guest OS, automatic synchronization does not happen. Set the same time and synchronizing will happen.
 - VMware Tools time synchronization for IP stations time happens at the following timing:
 - When the guest OS is booted.
 - Around one minute after a setting change is performed
 - If a setting change is performed and the guest OS is booting, check for synchronization will occur every minute.

2.3 UMGi System Using Appliance Model RN

The UMGi's system time is configurable only from the CCN; an Appliance Model RN is synchronized with the CCN (both Appliance Model or Prepackaged Server Model). If an RN becomes unable to communicate with the 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.

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 UMGi System Using Prepackaged Server Model RN

Time synchronization of Prepackaged Server Model RN is done with VMware ESXi using the NTP server, and then the clock of a guest OS (SV9500) is synchronized with that of VMware ESXi by using VMware Tools.

Note: In the case of the Prepackaged Server Model RN, note the following restrictions:

- Prepackaged Server Model RN does not synchronize with the CCN clock regardless of the CCN being Prepackaged Server Model or Appliance Model.
- Time setting cannot be performed with the ATIM command but the RN will synchronize CCN's data related to time zone and Daylight Savings time set with that command.
- The ANTPL command cannot be used.
- In a configuration of Appliance Model CCN and Prepackaged Server Model RN, provide a time-synchronization (SNTP) service to CCN with the ANPTL command to adjust clocks in the entire UMGi system.
- From the moment the NTP server and VMware ESXi are synchronized until the time is registered by the ATIM command in the Telephony Server, a maximum of two minutes may be needed.
- If VMware ESXi time is older than the time of the guest OS, automatic synchronization does not happen. Set the same time and synchronizing will happen.
- VMware Tools time synchronization for IP stations time happens at the following timing:
 - When the guest OS is booted.
 - Around one minute after a setting change is performed.
 - If a setting change is performed and the guest OS is booting, check for synchronization will occur every minute.

CCN/RN System Time Setting
C: Configurable, N: Not Configurable

		CCN		RN	
		Appliance Model	Prepackaged Server Model	Appliance Model	Prepackaged Server 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)	N (Synchronized with VMware ESXi clock)
	Time Zone	C	C	N (Synchronized with the time zone setting of CCN)	N (Synchronized with the time zone setting of CCN)
	Daylight Savings Time	C	C	N (Synchronized with the daylight saving time setting CCN)	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	N (Synchronized with VMware ESXi clock)	N (Synchronized with CCN clock)	N (Synchronized with VMware ESXi clock)

2.5 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	Synchronized with accommodation node clock

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.

3.2 Manual Office Data Transfer

Step1: Activate the ARPM command to operate the following:

- (1) Specify an LP number for **LP No.**
- (2) Click the **Get** button.
- (3) Type a office name for **Office Name**.
- (4) Select **Manual** in the **Transfer Mode** box. **Note 1**
- (5) Click the **Set** button.

Note 1: 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.

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.

3.3 Office Data Transfer Notification for the CCN

Office data transfer notification for the CCN can be disabled/enabled with the following setting:

ASYDL SYS1 Index 805

Bit	Value: 0/1	Meaning
2	Out of service/In service	System messages output (36-A: Office Data Copy Status Notification)

3.4 Patterns of Data Transfer

The patterns of data transfer between CCN and RN are as follows:

- (1) When an RN changes from survival mode to normal mode.
Data check and transmission for data that is different are performed.
- (2) When using the CPDM command.
You can select specific data to be sent to the RN from the CCN (in this case the data is not checked for differences).
- (3) When an automatic backup of data as part of a routine diagnosis is performed.
When a periodic backup of the office data starts, the office data is transferred from CCN to RN. After that, the office data is backed up. In that case, difference check for the office data is not performed.
- (4) When the office data difference between CCN and RN is detected after a periodic refresh (transfer mode set to automatic).
CCN checks all the office data change counters with RN. If any difference is detected, only the difference data area is transferred. When the transfer mode is set to manual, CCN will not transfer the office data to RN (only difference check is performed).
- (5) When CCN is a Local Node (LN) in an FCCS network (CBCN command).
When Network Data Memory (NDM) is transferred with the CBCN command from NCN to each LN, CCN (one of LNs in the FCCS network) sends the NDM received from NCN to RN. In this case, difference check for the office data is not performed.
- (6) When CCN is a Local Node (LN) in an FCCS network (transfer mode set to automatic).
When a difference for NDM changed counter is detected between NCN and LN during a periodic refresh, only the difference data is transferred from NCN to LN (CCN). When the transfer mode is set to manual, data transfer is not performed and only difference check is performed.

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 outputs 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. To collect the messages generated by the RNs, log in to the CCN with PCPro.
- (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 using PCPro.
 - 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.
- (3) The following messages are output by RN regardless of being in normal mode or survival mode:
 - 12-E (Connection Failure between CCN and RN (Temporary))
 - 12-F (Connection Failure between CCN and RN (Permanent))
 - 12-G (Connection Recovery between CCN and RN)

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 by the following indications.

(1) Alarm Lamps

- Front panel (only for Appliance Model)
Described in UNIVERGE SV9500 Operations and Maintenance Manual.
- Each circuit card (only for Appliance Model)
Described in UNIVERGE SV9500 Circuit Card Description.
- Each peripheral equipment (only for Appliance Model)
Described in the UNIVERGE SV9500 Peripheral Equipment Description.
- PCPro
Described in the UNIVERGE SV9500 PCPro Setup Manual.

Note: MJ/MN/SUP alarms are displayed for the node collecting the system messages. For information about the node collecting the system messages see [4. System Messages Output](#).

(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 UMGi system using PCPro. Using PCPro, log in to the node you want the information for. 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 **UNI-VERGE SV9500 Command Manual**.

7. System Installing Status Display

You can see the mounting status of IMGs and unit information. Using PCPro, log in to the node you want the information for 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 of Equipment

Described in UNIVERGE SV9500 Peripheral Equipment Description.

Note: Changeover of equipment is available for common control equipment that is provided in a dual configuration.

- Appliance Model CCN/RN Initialization

Described in UNIVERGE SV9500 Operations and Maintenance Manual.

- Prepackaged Server Model CCN/RN Initialization

Described in UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.

- How to Turn On/Off Entire System

For UMGi system using Appliance Model CCN:

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 UMGi 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 Remote Node

See in this chapter [Command Restriction of Remote Node](#).

9. How to Turn On/Off Entire System

The following explains how to turn on/off. You have to perform on/off procedures in the following order. For the specific procedures on how to turn on each node, see each manual:

- For an Appliance Model CCN/RN
See UNIVERGE SV9500 Operations and Maintenance Manual.
- For a Prepackaged Server Model CCN/RN
See UNIVERGE SV9500 Prepackaged Server Model Installation and Operation Manual.

9.1 Turn On the UMGi System

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

9.1.1 UMGi System Using Appliance Model CCN

- Step1:** Turn on CCN's TSW-BOX.
- Step2:** Turn on CCN's PIRs beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.
- Step3:** Turn on CCN (SV9500) server.
- Step4:** Turn on PIRs of the RN with the smallest PBI, beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.
- Step5:** Turn on RN (SV9500) server.
- Step6:** Repeat [Step4](#) and [Step5](#) from RN with the second smallest PBI and through all the PBIs up to the highest in order.

9.1.2 UMGi System Using Prepackaged Server Model CCN

- Step1:** Turn on CCN (SV9500) server.
- Step2:** Turn on PIRs of the RN with the smallest PBI, beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.
- Step3:** Turn on RN (SV9500) server.
- Step4:** Repeat [Step2](#) and [Step3](#) against RNs with the second smallest PBI and through all the PBIs up to the highest in order.

9.1.3 UMGi System Using Appliance Model RNs

- Step1:** Turn on CCN (SV9500) server.
- Step2:** Turn on an RN's TSW-BOX.
- Step3:** Turn on PIRs of the RN beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.
- Step4:** Turn on RN (SV9500) server.
- Step5:** Repeat [Step2](#) and [Step4](#) against RNs with the second smallest PBI and through all the PBIs up to the highest in order.

9.1.4 UMGi System Using Prepackaged Server Model RNs

- Step1:** Turn on CCN (SV9500) server.
- Step2:** Turn on RN (SV9500) server.
- Step3:** Repeat [Step2](#) and against RNs with the second smallest PBI and through all the PBIs up to the highest in order.

9.2 Turn Off the UMGi System

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

9.2.1 UMGi System Using Appliance Model CCN

- Step1:** Turn off RN (SV9500) server with the highest PBI.
- Step2:** Turn off RN's PIRs beginning with IMG3 to IMG0: PIR3; PIR2; PIR1; PIR0.
- Step3:** Repeat [Step1](#) and [Step2](#) against RNs with the second highest PBI and through all the PBIs up to the smallest in order.
- Step4:** Turn off CCN (SV9500) server.
- Step5:** Turn off CCN's TSW-BOX.
- Step6:** Turn off CCN's PIRs beginning with IMG0 to IMG3: PIR0; PIR1; PIR2; PIR3.

9.2.2 UMGi System Using Prepackaged Server Model CCN

- Step1:** Turn off RN (SV9500) server with the highest PBI.
- Step2:** Turn off RN's PIRs beginning with IMG3 to IMG0: PIR3; PIR2; PIR1; PIR0.
- Step3:** Repeat [Step1](#) and [Step2](#) against RNs with the second highest PBI and through all the PBIs up to the smallest in order.
- Step4:** Turn off CCN (SV9500) server.

9.2.3 UMGi System Using Appliance Model RNs

- Step1:** Turn off RN (SV9500) server with the highest PBI.
- Step2:** Turn off RN's PIRs beginning with IMG3 to IMG0: PIR3; PIR2; PIR1; PIR0.
- Step3:** Repeat [Step1](#) and [Step2](#) against RNs with the second highest PBI and through all the PBIs up to the smallest in order.
- Step4:** Turn off CCN (SV9500) server.

9.2.4 UMGi System Using Prepackaged Server Model RNs

- Step1:** Turn off RN (SV9500) server with the highest PBI.
- Step2:** Repeat [Step1](#) against RNs with the second highest PBI and through all the PBIs up to the smallest in order.
- Step3:** Turn off CCN (SV9500) server.

10. Command Restriction of Remote Node

An RN is usually restricted from writing and deleting data in PCPro 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, Index 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.
- This index can only be assigned in the CCN when the UMGi is in Normal Mode.

11. Routine Diagnosis

To confirm its own servicing status, the UMGi 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.

The diagnosis patterns are as follows:

X: Applicable -: Not Applicable

Element	CCN		RN			
	Appliance Model	Prepackaged Server Model	Appliance Model		Prepackaged Server Model	
			Normal Mode	Survival Mode	Normal Mode	Survival Mode
Routine Backup Note 1	X Note 2	X Note 2	X	-	X	-
Data Memory Verification Note 5	X Note 3	X Note 3	X Note 3 Note 4	- Note 3	X Note 3 Note 4	- Note 3
TSW Changeover	X	- Note 6	X	X	- Note 6	- Note 6
CPU Changeover	X Note 7 Note 8	- Note 7 Note 8	X Note 7	X Note 7	- Note 7	- Note 7
Trunk Ineffective Hold Check	X	X	X	X	X	X
Trunk Ineffective Hold Detection	X	X	X	X	X	X
Call Forwarding Memory Clear	X	X	X	X	X	X

Note 1: Before the backup, the data is transferred from the CCN to the RNs in normal mode. After that, the backup is performed.

Note 2: If there is an RN in survival mode, the system message 7-P (A0H: Periodic Backup Abnormal End) is generated.

Note 3: Performed between self CPU HDD and MEM.

Note 4: Performed between the CCN MEM and self CPU MEM.

Note 5: If verification ends normally message 7-O (22H: Data Memory Verification Normal End (Between Central Control Node and Remote Node)) is generated. If not, message 7-P (22H: Data Memory Verification Impossible (Between Central Control Node and Remote Node)) is generated.

- Note 6:** Even if the data set for Time Division System is dual (ASYD SYS1 Index 3), TSW change-over for diagnosis is not performed. (system messages 7-O or 7-P are not generated.)
- Note 7:** If dual configuration is set (ASYD SYS1 Index 58 bit 0= 1), system message 7-P (41H:CPU ACT/STBY Changeover Failure (Single CPU System)) will be generated for nodes in single configuration.
- Note 8:** If dual configuration is set (ASYD SYS1 Index 58 bit 0= 1), system message 7-P (42H:CPU ACT/STBY Changeover Failure (DM Verification NG)) will be generated if routine diagnosis is failed.

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

Bit3	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 assigning 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

 - ASYD, SYS1, Index 90:
 - Bit 1: Routine Backup.
Bit 1=0/1: No/Yes

 - 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
-

- **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)
 - Bit 7: Call Block Individual Data Save
Bit 6=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)

Note: Only for North America.

 - **ASYD, SYS1, Index 305:**
 - Bit 0: Expanded Speed Calling Data Save
Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)

Note: Only for North America.

 - 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: SIP CFD/Password Data
Bit 6=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 7: Mobility Access 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)
 - Bit 1: ACD DM Data Saving
Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
-

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 necessary procedure explained in Chapter 6: Routine Maintenance Procedure in UNIVERGE SV9500 Operations and Maintenance Manual.

Note 1: When a dual CPU configuration (ASYD, SYS 1, Index 58, Bit 0=1) is assigned for a CCN and Appliance Model RN with a single CPU configuration, CCN and Prepackaged Server Model RN, 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, SYS 1, Index 58, Bit 0=1) is assigned and there is some failures 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

Each node has data including the office data in its memory as well as in its CF card/HDD. 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/HDD into the memory to restart its operation.

12.1 Periodic Data Backup (Automatic Data Backup)

Periodic data backup is to save the data running on 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)
 - Bit 7: Call Block Individual Data Save
Bit 6=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)

Note: Only for North America.

- **ASYD, SYS1, Index 305:**
 - Bit 0: Expanded Speed Calling Data Save
Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
Note: Only for North America.
 - 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: SIP CFD/Password Data
Bit 6=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)
 - Bit 7: Mobility Access 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)
 - Bit 1: ACD DM Data Saving
Bit 1=0/1: Out of service/In service (This data is valid when SYS1, Index 90, Bit 1=1)

12.2 Manual Data Backup

You can backup the office data manually using PCPro from the CCN 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.

Note: The MEM_HDD command backup is for the data of the CCN and all the RNs in normal mode (is not possible for an RN in survival mode).

Note: MEM_HDD_N command used in the NCN of FCCS will backup the MEM data to the CF card of all the FCCS nodes. However, such backup will happen only in the CCN within the UMGi system. After using the MEM_HDD_N command, log in to the CCN with PCPro and backup the data of CCN and all the RNs in normal mode with the MEM_HDD command.

Note: Log in to the RN with PCPro and use the MEM_HDD command for the backup of an RN.

Step1: Using PCPro, log in to the CCN.

Step2: Execute the CPDM command to transfer the office data to an RN.

- To back up the Data Memory, select **DM/LDM, NDM** or **DM/LDM/NDM** 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) Select items you want to back up in **Data Type Select**.
- (4) The following types of data can be selected for a specific RN or the CCN by entering the LP number in **LP Select**.
 - Call Forwarding
 - Speed Calling
 - User Assign Key
 - Number Sharing
 - Call Block
 - ICB and DR
 - Expanded Speed Calling
 - Call Forwarding-Logout
 - Mobile Service Data

Note: LP number is displayed when the types of data above are selected in the **Data Type Select** parameter.

- (5) Click the **Start** button to back up the data.

12.3 Data Restoration

The data backup with the MEM_HDD command can be loaded with the process explained below. For details on parameters of the command, refer to the MEM_HDD command in UNIVERGE SV9500 Operations and Maintenance Manual.

Note: Log in to the RN with PCPro and use the MEM_HDD command for the data of an RN. For the data of CCN, log into CCN.

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) Check the **Auto Verify Afterward** box.
- (3) The following types of data can be selected for a specific RN or the CCN by entering the LP number in **LP Select**.
 - Call Forwarding
 - Speed Calling
 - User Assign Key
 - Number Sharing
 - Call Block
 - ICB and DR
 - Expanded Speed Calling
 - Call Forwarding-Logout
 - Mobile Service Data

Note: LP number is displayed when the types of data above are selected in the **Data Type Select** parameter.

Note: Select the LP of the node where PCPro is logged in to. Other LP data will not be downloaded.

- (4) Click the **Start** button to restore data.

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 [Modes Operation](#).

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**. **Note 1**
- (5) Click the **Set** button.

Note 1: 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.

Step2: Execute the COPM command:

- (1) Specify the RN's LP No.
- (2) Select **Changeover Mode**.
- (3) Click the **Execute** button.

14. TCP/UDP Port in UMGi

The UMGi system uses proprietary TCP/UDP port numbers for applications. You can check as well as modify them with the ADTM command.

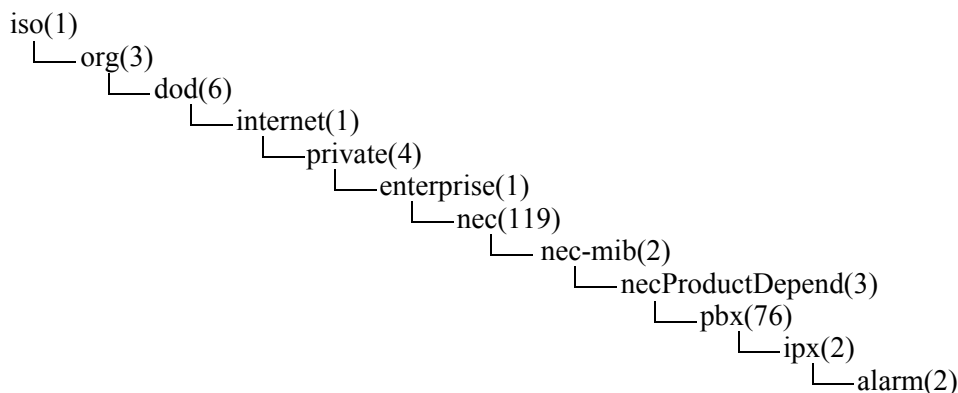
A CCN or RN has two LAN interfaces to operate these applications: LAN1 and LAN2. You can assign each application to either of the interfaces depending on your environment. This setting is also available with the ADTM command. For details on the ADTM command, see the ADTM command in UNIVERGE SV9500 Command Manual.

15. SNMP

The UMGi 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 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



Note: Perform the SNMP settings with a PCPro logged in to CCN.

16. Hardware Replacement

When you replace hardware in the UMGi system using Appliance Model CCN, perform the procedure referring to UNIVERGE SV9500 Operations and Maintenance Manual.

When you replace hardware in the UMGi 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 UMGi system that is in operation. There are two measures to complete it: time-saving measure and normal measure.

In the procedure of time-saving measure, a CCN forwards the office data to additional RNs. The more differences that 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 Measure

17.1.1 Appliance Model RN

Step1: From the 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 mounting status.
- ASYDL, SYS1, Indexes 1026-1033: specify PIR 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 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 Appliance Model RN](#) in Chapter 3. Connect the RN to the operations network.

Step11: The RN automatically transits from survival mode to normal mode with being initialized.

17.1.2 Prepackaged Server Model RN

Step1: From the 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 mounting status.
- **ASYDL**, SYS1, Indexes 1026-1033: specify PIR 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: Download office data and license files from a CCN to a maintenance PC according to [Downloading Office Data - CCN](#).

- Step8:** Perform the startup operation for the added RN according to [Initial Startup of Prepackaged Server Model RN](#)
- Step9:** Reboot the added RN according to the Restarting Guest OS (SV9500) section in Chapter 2: Setup of SV9500 Prepackaged Server Model Installation and Operation Manual.
- Step10:** Connect the added RN to the actual network. The RN changes from survival mode to normal mode automatically.

17.2 Normal Measure

17.2.1 Appliance Model RN

- 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 mounting status.
 - **ASYDL**, SYS1, Indexes 1026-1033: specify PIR 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 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 the following:
- In case of Appliance Model:
Perform the RN's CF Card Initialization. For the CF Card Initialization procedure, refer 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 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 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 mounting status.
- **ASYDL**, SYS1, Index 957: specify the NDM usage. **Note 1**
- **ASYDL**, SYS1, Indexes 1026-1033: specify PIR 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 1: 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 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 (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 2**
 - (c) IP Address (System-1) **Note 2**
 - (d) Subnet Mask

Note 2: For dual-CPU configuration only.

Step16: Connect to the network the RN.

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.

17.2.2 Prepackaged Server model RN

The normal measure for adding a Prepackaged Server Model RN is not supported. To install an additional Prepackaged Server Model RN, use the time-saving measure. For the operating procedure, see [17.1.2 Prepackaged Server Model RN](#).

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/HDD.

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.

Step3: Click the **Browse** button on the dialog box and specify the office data file downloaded in Section [8. Downloading Office Data - CCN](#) in Chapter 3.

Step4: Click the **Upload** button to upload the specified data. When the uploading is complete, "Operation successfully completed" will be displayed. Click **OK**.

Note: If the uploading ends in failure, a message "An error occurred! Please check the logs." appears and error log information is displayed at the lower right portion of the screen.

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 Telephony Server.

Step2: Click the **Upload** button for **License** on **Telephony Server Maintenance Menu** screen. The **License Upload** dialog box appears.

Step3: Click the **Browse** button in the dialog box and specify the downloaded license file.

Note: For details on downloading of license file, refer to "Downloading of License File" in "Initial Startup Procedure" of Installation Manual.

Step4: Click the **Upload** button. When the uploading is complete, "Operation successfully completed" will be displayed. Click **OK**.

Note: If the uploading ends in failure, "An error occurred! Please check the logs." is displayed and the error log information is displayed at the lower right portion of the screen.

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.

Note: This option is for Appliance Models only.

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: If 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 [6.3 Conditions for TCP/IP Environment](#) in Chapter 1: General.

19.1 Change CCN Address

Step1: Using PCPro, log in to a CCN.

Step2: From the PCPro logged in to the CCN, execute the DRPM command to confirm that each RN is in the following status:

- Operation Status: Normal Mode (Normal)
- Office Data Status: No Difference

Note: If Difference is displayed for the Office Data Status, 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: From the PCPro logged in to the CCN, execute the COPM command to switch all RNs to survival mode.

Step4: From the PCPro logged 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: From the PCPro logged in to the CCN, execute the ADTM command to set IP addresses of the CCN. The PCPro will be disconnected.

Note: Because the LP setting is automatically synchronized to the CCN setting, you just need to specify an IP address for CCN's LP when selecting CCN in the CCN/LP Box; you do not need to repeat IP address when selecting CCN in the CCN/LP Box.

Step6: Using PCPro, log in to each RN.

Step7: From the PCPro logged 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: From the PCPro logged 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: From the PCPro logged in to the CCN, execute the DRPM command to confirm that each RN status transits as the following:

- Operation Status: Normal Mode (Normal)
- Office Data Status: No difference

Note: If Difference is displayed for the Office Data Status, 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: From the PCPro logged in to the CCN, execute the DRPM command to confirm that each RN is in the following status:

- Operation Status: Normal Mode (Normal)
- Office Data Status: No Difference

Note: If Difference is displayed for the Office Data Status, 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: From the PCPro logged 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: From the PCPro logged in to the CCN, execute the DRPM command to confirm that the RN is the following status:

- Operation Status: Survival Mode (Instruction from MAT) (2)

Step5: From the PCPro logged 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: From the PCPro logged in to the RN, execute the ADTM command to set IP addresses of the RN as you did through PCPro in the CCN in the preceding step. The PCPro will be disconnected.

Step8: Using PCPro, log in to a CCN.

Step9: From the PCPro logged 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: From the PCPro logged in to the CCN, execute the DRPM command to confirm that the RN status transits as the following:

- Operation Status: Normal Mode (Normal)
- Office Data Status: No Difference

Note: If Difference is displayed for the Office Data Status, 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 PCPro.
Step 2: Execute the ADTM command and change the address data for the RN.
Step 3: Log in to the CCN.
Step 4: Execute the ADTM command and change the address data for the RN.

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.

21. Program Version Upgrade

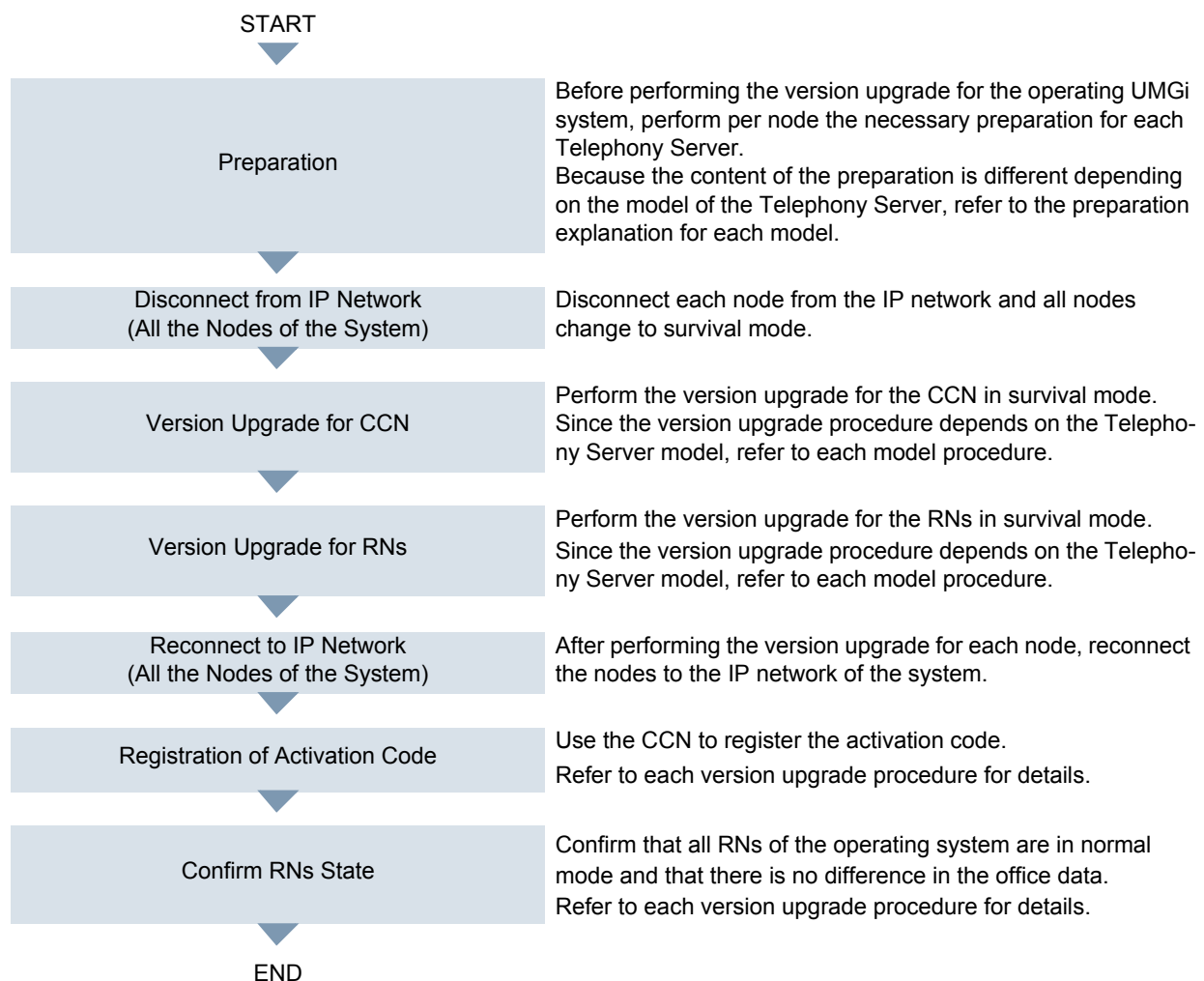
This section explains the procedure for the version upgrade of the software of the UMGi system.

In the UMGi system, the procedure for the version upgrade is different depending on the model of the Telephony Server used in each node. Perform the version upgrade in accordance with each operating environment referring to the specific procedures for each model.

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

Note: There is major program version upgrade and minor program version upgrade. For the definition of major version upgrade and a minor version upgrade, refer to “Program Version Upgrade” section in System Startup chapter of Appliance Model Installation Manual.

If there are different models of Telephony Server in each node of the operating UMGi system, refer to the procedure for each model of Telephony Server and perform the version upgrade per node. When performing the version upgrade per node, follow the order below and perform for each node the version upgrade.



21.1 Appliance Model

This section explains the version upgrade procedure when the UMGi system uses Appliance Model. For the program version upgrade of Appliance Model the following procedures are used. Perform the procedure according to the environment of the operating system.

[\[Version Upgrade with CF Card Change Procedure\]](#)

This procedure changes the CF card of the system currently used.

Note: Please note the following:

- Because it is necessary to shut down the system, consider in advance the time that the system currently used is stopped.
- This procedure is for a software major version upgrade and minor version upgrade.

[\[Version Upgrade with WORK/TEMP Switch Procedure\]](#)

This procedure prepares the old and new versions with WORK side and TEMP side, and switches the system program currently used.

Note: Please note the following:

- This procedure is only for minor version upgrade. With this procedure it is not possible a major version upgrade. Perform a major version upgrade with the [Version Upgrade with CF Card Change Procedure](#).
- When the software is switched, the system is automatically restarted.

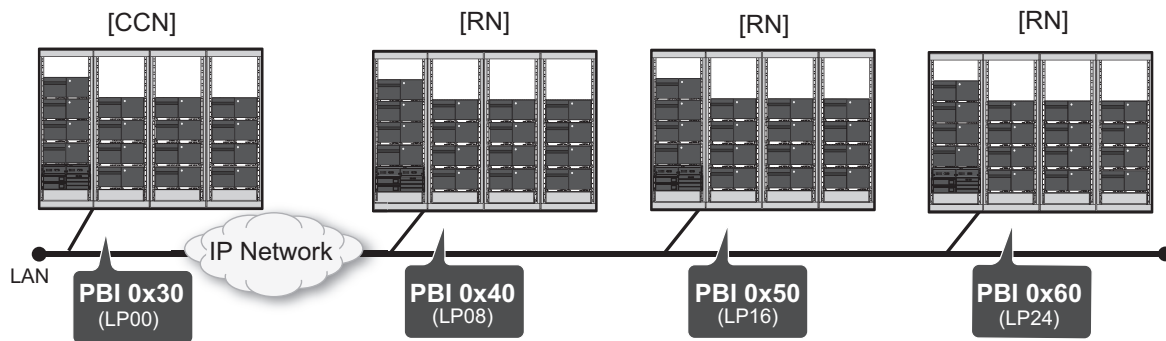
In this section, the following UMGi system environment is considered for the explanation of the procedure for program version upgrade.

- Operating System Environment:

Telephony Server (all nodes): Appliance Model (dual configuration)

Number of Nodes: 4 nodes

Number of CF cards: 8 cards



- System Preparation Environment (only for [Version Upgrade with CF Card Change Procedure](#)):

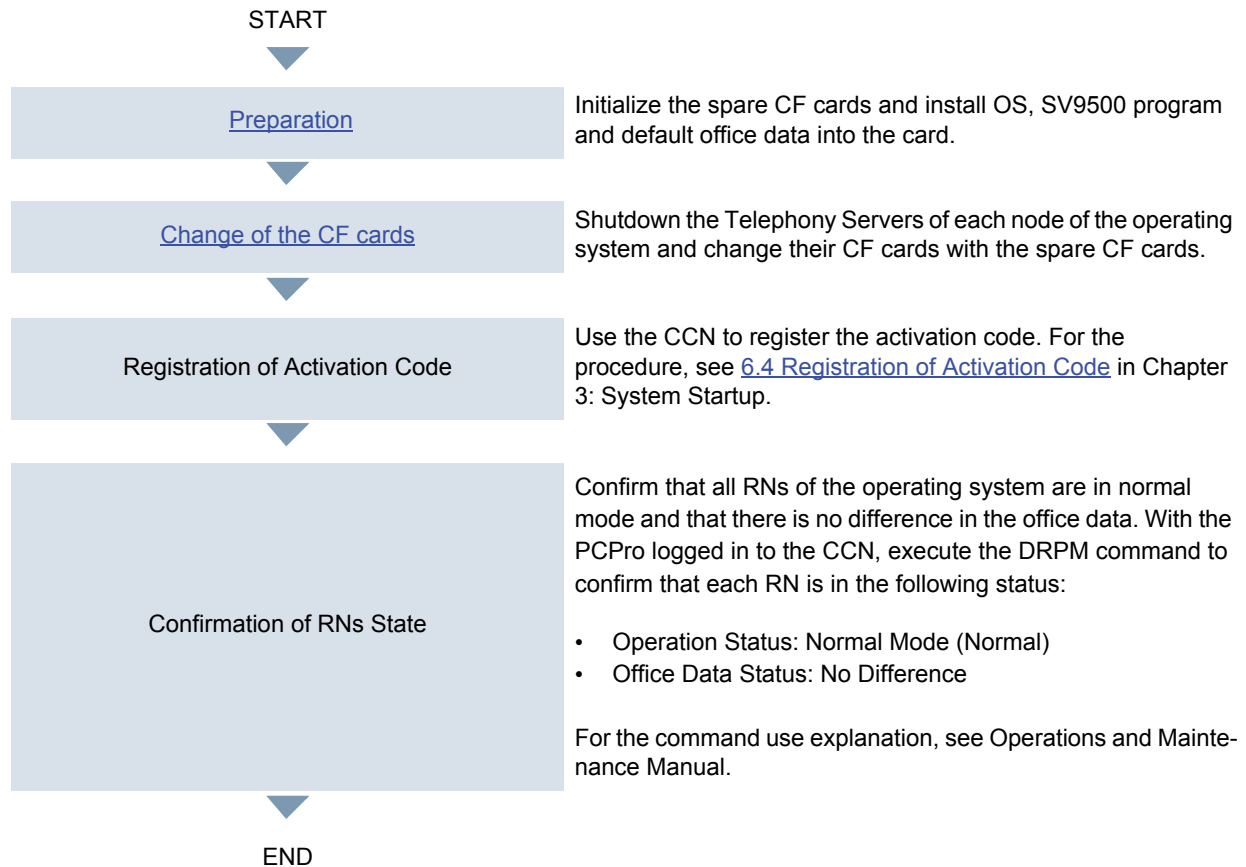
Telephony Server (single node only): Appliance Model (dual configuration)

Number of Nodes: 1 node

Number of CF cards: 8 cards (new CF cards)

21.1.1 Version Upgrade with CF Card Change Procedure

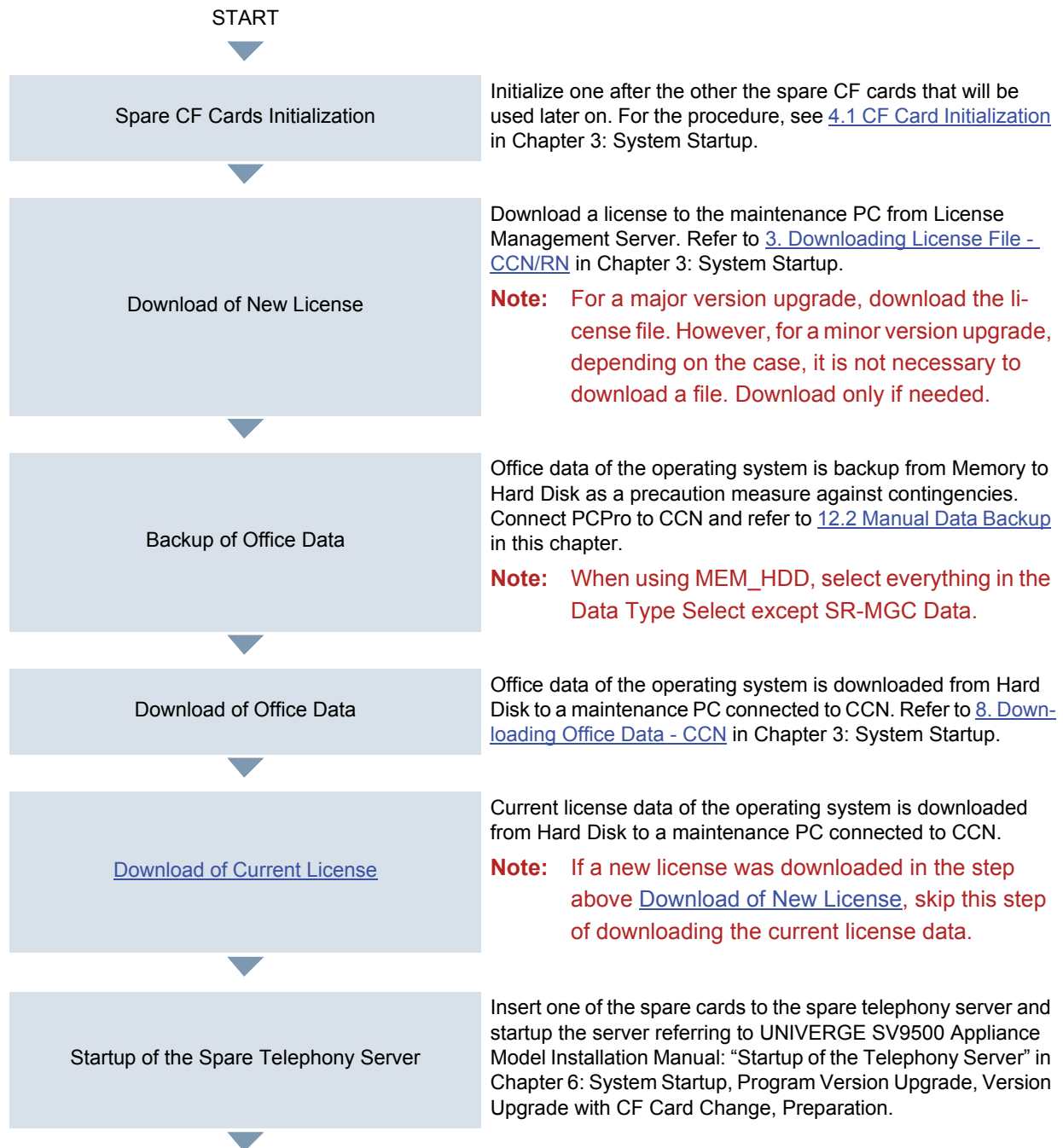
When the version upgrade with CF card change procedure is used, follow the steps below.

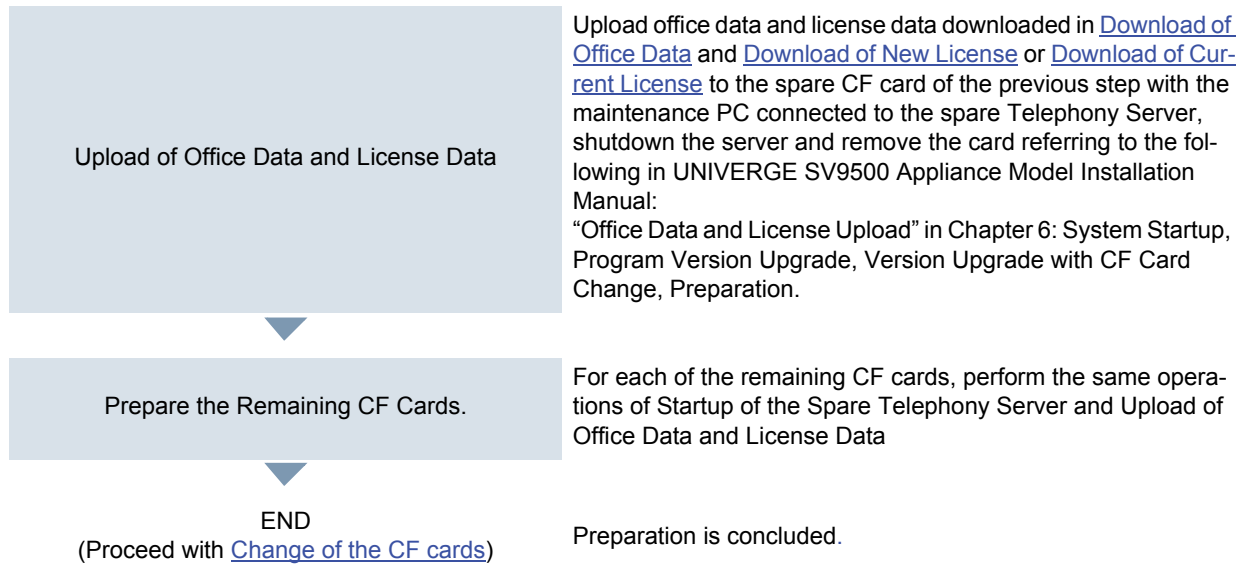


Note: If there is any problem in the version upgrade, switch back the version and restart the process. For the switch back procedure, refer to [21.1.1.3 Switch Back](#) in this chapter.

21.1.1.1 Preparation

This section explains the procedure of initializing the spare CF card used after the version upgrade and a preparation in advance required before beginning the system version upgrade.





Download of Current License

After the download of the office data of the operating system is performed, use the Telephony Server Maintenance Menu connected to CCN node and, for the posterior upload to the spare CF cards, download the current license data to a maintenance PC.

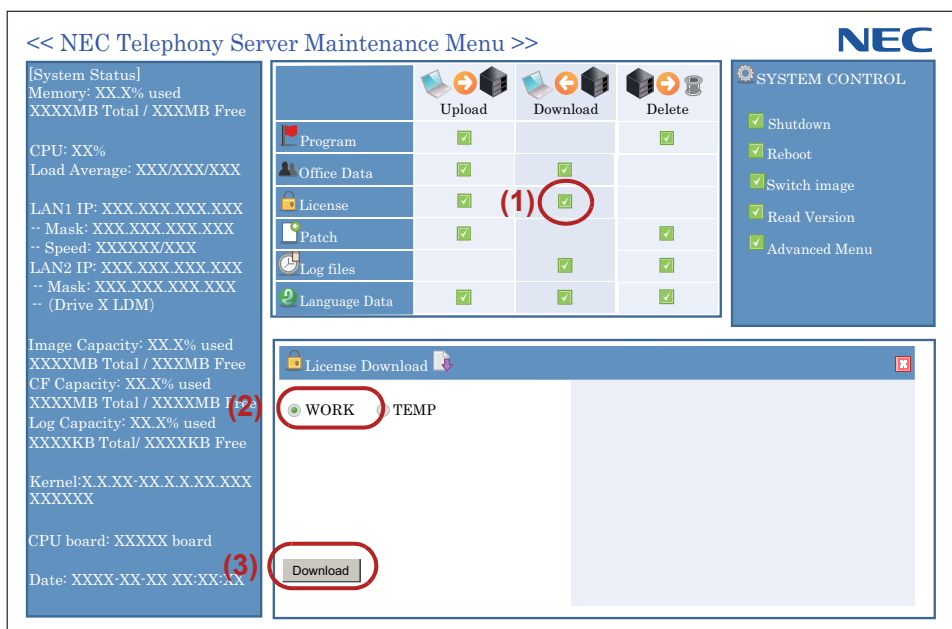
- 1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar of the maintenance PC. “xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.11).

Note: Microsoft Internet Explorer® 7.0 or later 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 the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note: After logging in to Telephony Server Maintenance Menu, do not use **Back** button on browser.

- 3 (1) Click the **Download** button for **License**. The **License Download** dialog box appears in the lower right portion of the screen.
(2) Select **WORK** on the **License Download** dialog box.
(3) Click the **Download** button on the dialog box and save the license file in the desired folder.

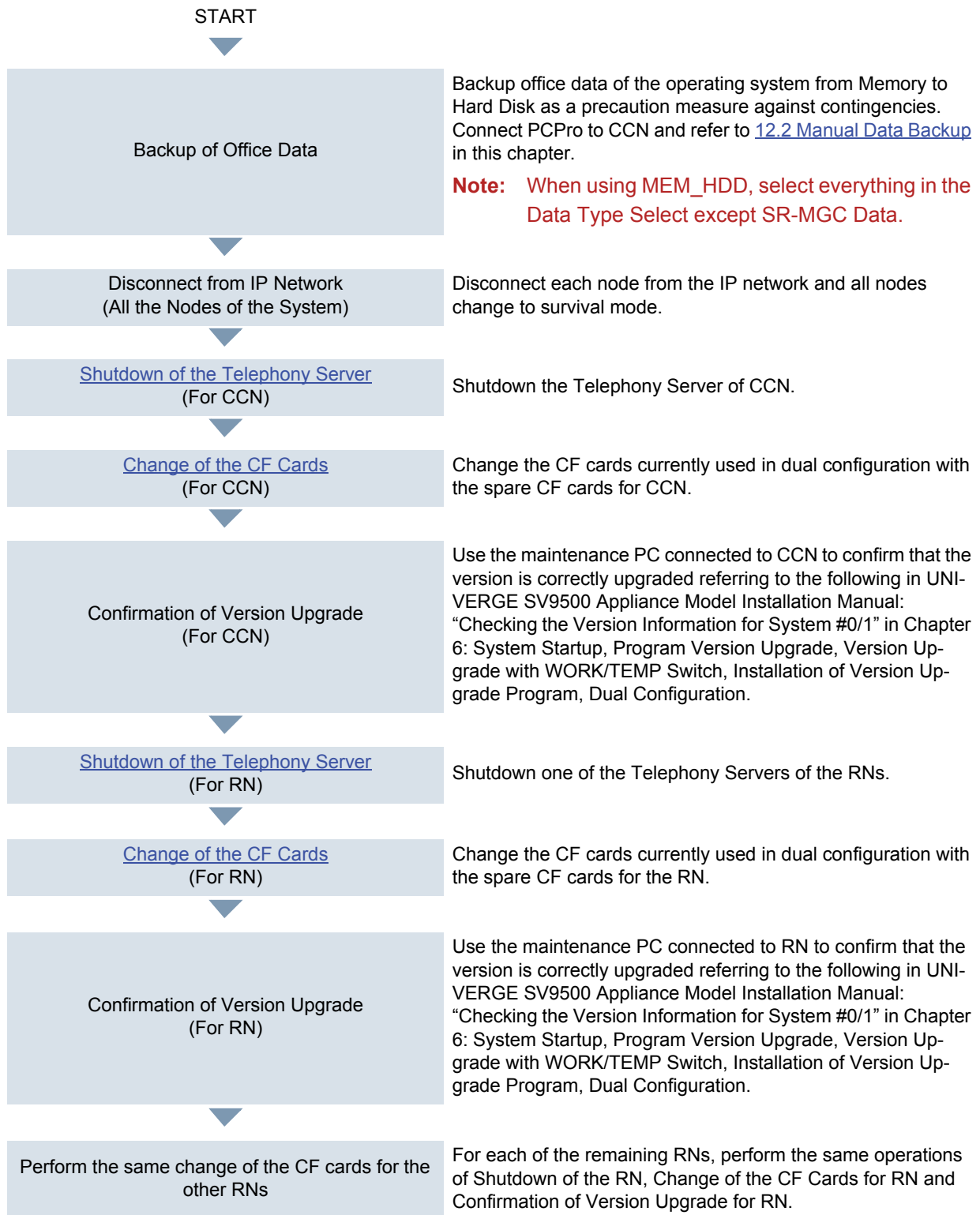


Note: When the download of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

Download of current license is concluded. Proceed with [Startup of the Spare Telephony Server](#).

21.1.1.2 Change of the CF cards

This section explains the procedure of version upgrade of the Telephony Server currently used.



▼
Reconnect to IP Network
(All the Nodes of the System)

After performing the version upgrade for each node, reconnect the nodes to the IP network of the system.

▼
END
(Proceed with [Registration of Activation Code](#))

Change of the CF cards procedure is concluded.

Shutdown of the Telephony Server

This section explains the procedure for shutdown a Telephone Server in dual configuration.

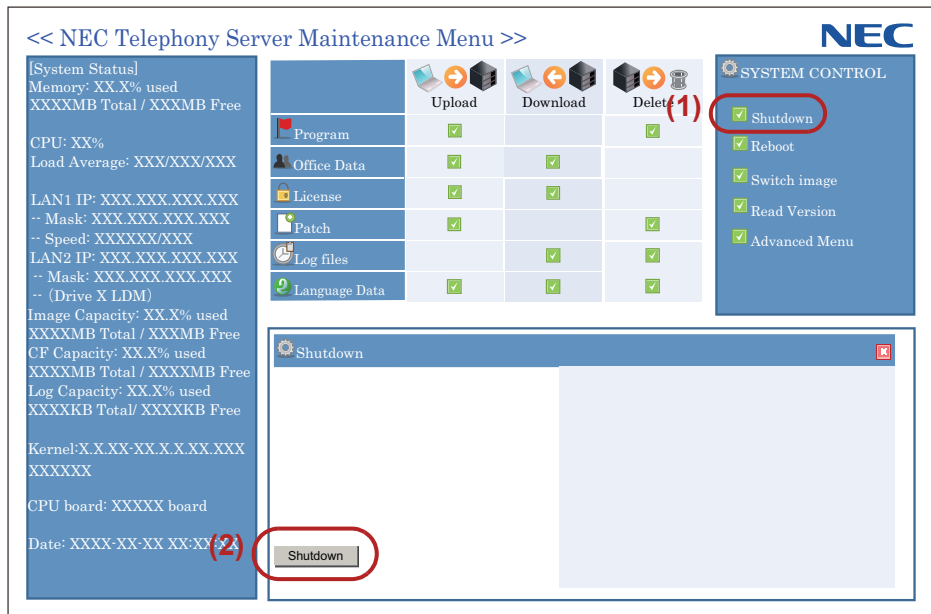
- 1** Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar of the maintenance PC.
“xxx.xxx.xxx.xxx” represents the LAN1 IP address of System #1 (ex. 10.100.1.31).

Note: Microsoft Internet Explorer® 7.0 or later 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 the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note: After logging in to Telephony Server Maintenance Menu, do not use **Back** button on browser.

- 3** (1) Click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears.
(2) Click the **Shutdown** button on the dialog box.
(3) A confirmation message appears. Click **OK** to shutdown the Telephony Server.
(4) When the shutting down is complete, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.

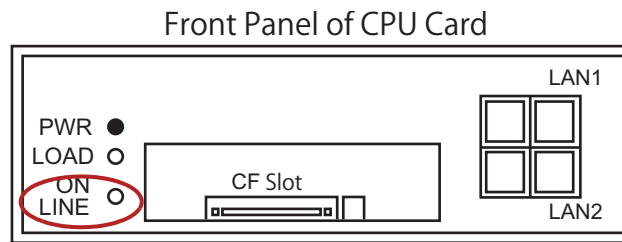


Note: Only the CPU of the Telephony Server will shutdown by executing the procedure explained here. Therefore, the power of Telephony Server will not be turned off.

Note: When the system shutdown 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

- (1) Verify that ON LINE lamp on the front panel of CPU card goes off.
- (2) After verifying the lights out, turn off the power switch on the rear panel of the Telephony Server.
- (3) Close the browser.



Note: For detailed information on ON LINE lamp, refer to “CPU Card” in “WHAT IS SV9500” section of GENERAL chapter in Appliance Model Installation Manual.

5

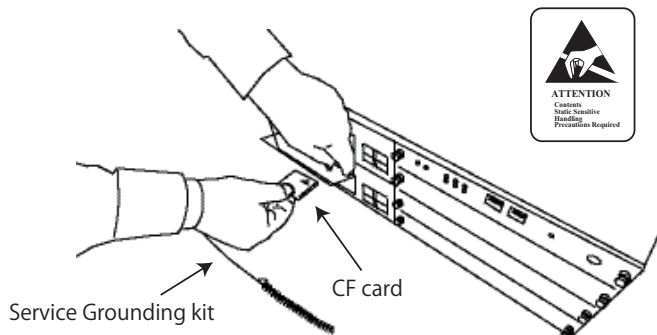
- Repeat the process for the CPU card of System #0 going from [Step1](#) to [Step4](#).

The procedure for the shutdown of the Telephony Server is concluded. Proceed either with [Change of the CF Cards](#) for CCN or [Change of the CF Cards](#) for RN.

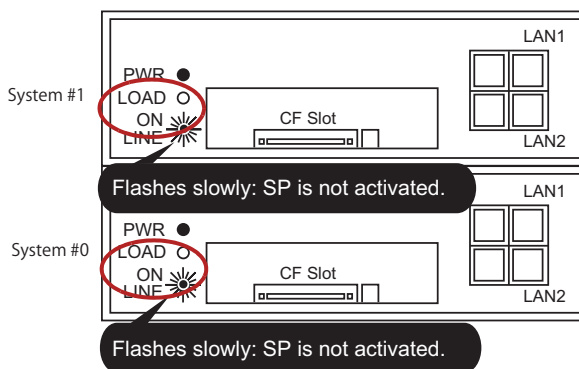
Change of the CF Cards

This section explains the procedure for changing the CF cards of a Telephony Server in dual configuration.

- 1 Extract the CF cards currently used in the Telephony Server and insert the spare CF cards into the CF slot of CPU card of System #0 and #1.



- 2 Turn on the power switch on the rear panel of each Telephony Server (System #0 and #1).
- 3 Verify that ON LINE lamps on the front panel of CPU card for System #0 and for System #1 flash slowly.

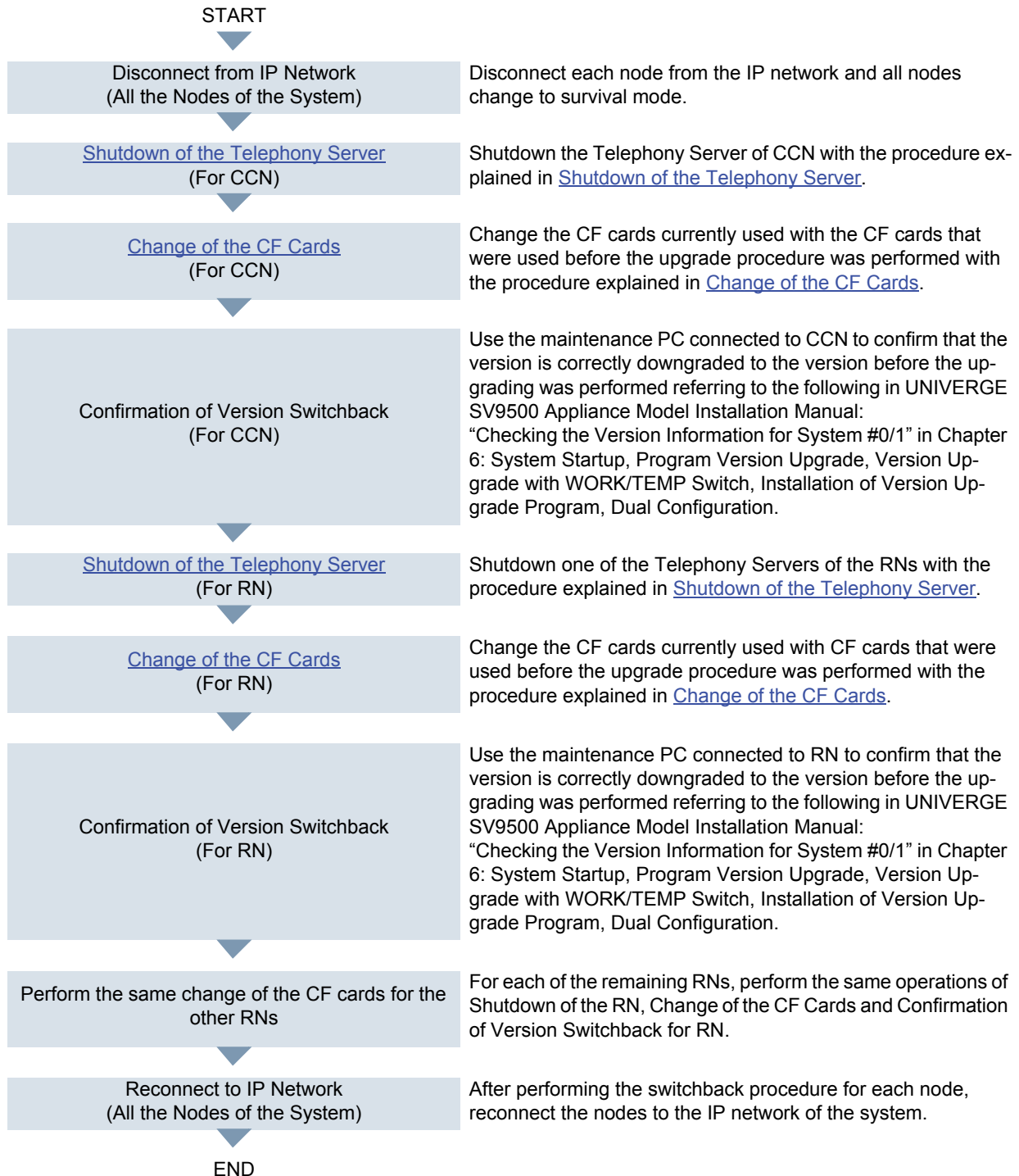


Note: For detailed information on ON LINE lamp, refer to “CPU Card” in “WHAT IS SV9500” section of GENERAL chapter in Appliance Model Installation Manual.

The procedure of changing the CF cards is concluded. Proceed either with [Confirmation of Version Upgrade](#) for CCN or [Confirmation of Version Upgrade](#) for RN.

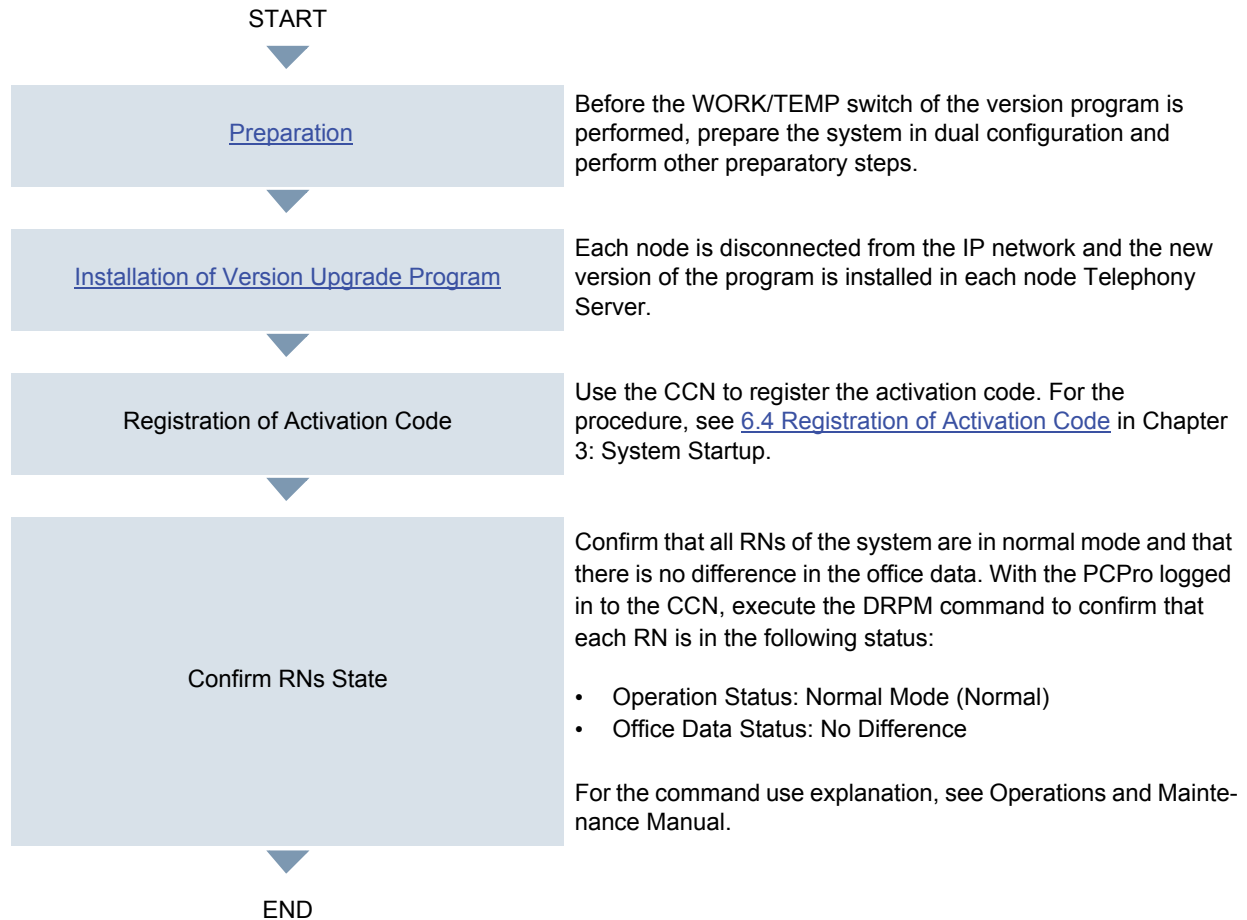
21.1.1.3 Switch Back

All the nodes in the system are reverted to its original state before the version upgrade was performed.



21.1.2 Version Upgrade with WORK/TEMP Switch Procedure

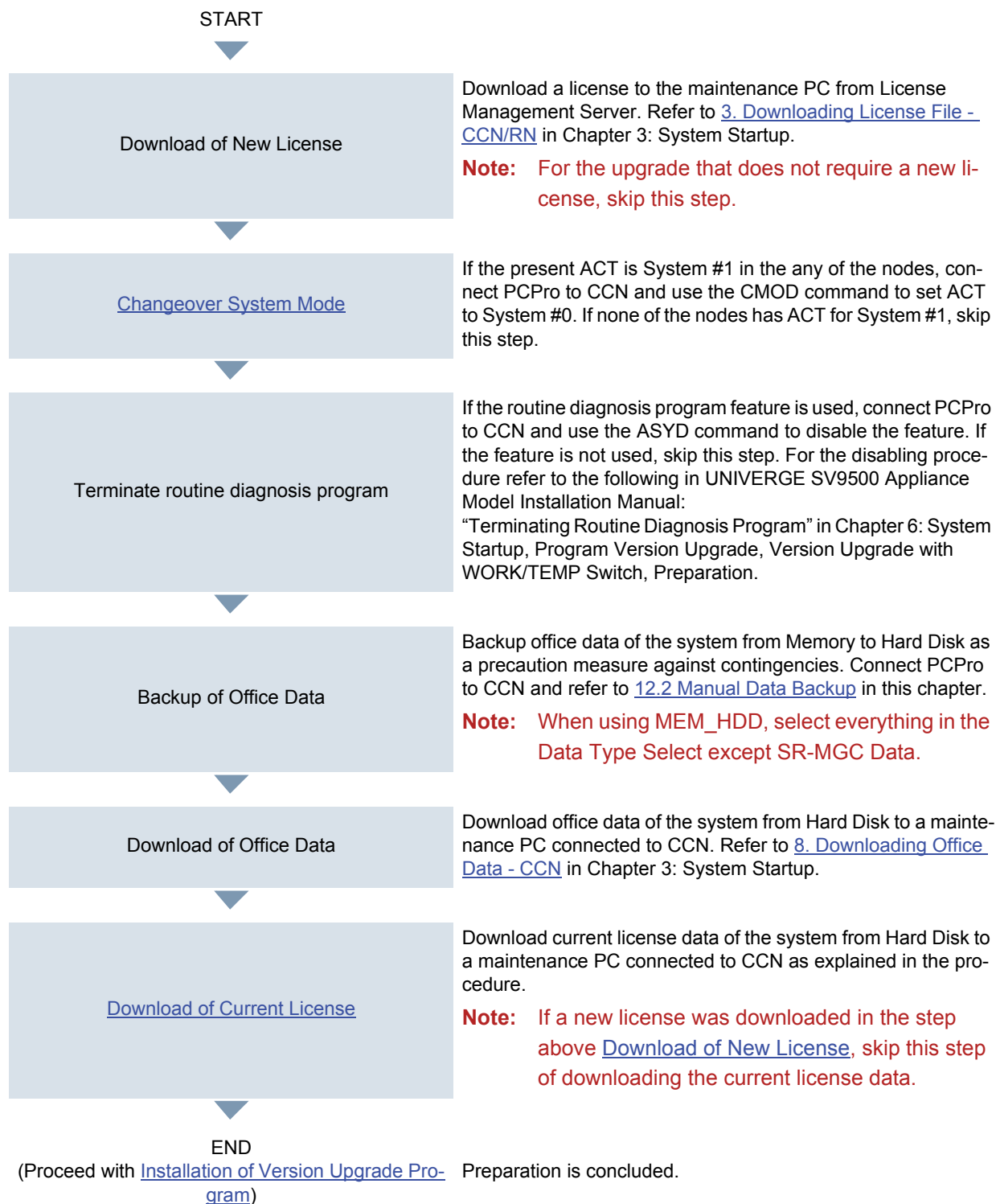
This section explains the procedure of system version upgrade changing the WORK side and TEMP side program.



Note: If there is any problem in the version upgrade, switch back the version and restart the process. For the switch back procedure, refer to [21.1.2.3 Switch Back](#) in this chapter.

21.1.2.1 Preparation

This section explains the procedure of an advance preparation required before beginning the system version upgrade.



Changeover System Mode

In a dual configuration, if the present ACT is System #1, it must be changed to System #0. This section explains the procedure to change over the ACT side from System #1 to System #0 when using UMGi system.

Note: This procedure is required only if ACT lamp of SYS1 on the front panel of EMA card is lighting when the system is in dual configuration.

- 1 Execute CMOD command with PCPro connected to CCN.
- 2 Select the appropriate node for **NODE SPECIFICATION** parameter. If you select **LP**, select also **LP No.**
- 3
 - (1) Verify that **STBY** is indicated for **SYSTEM:0** and **ACT** for **SYSTEM:1** in the line **CPU**.
 - (2) Select **1: Change Operating Mode** for **TYPE**.
 - (3) Enter **1** for **DEVICE**.
 - (4) Click the **Execute** button.

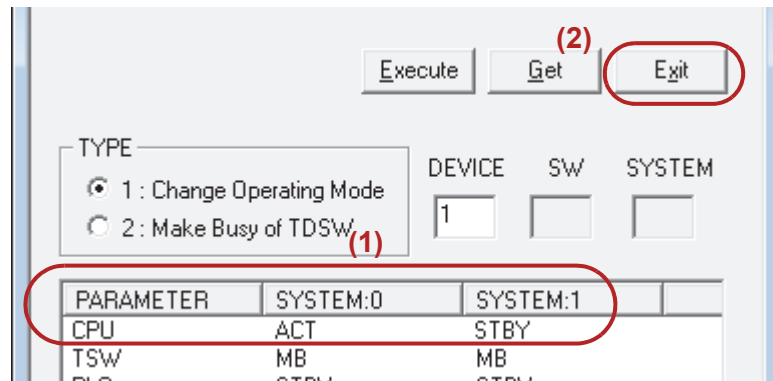
PARAMETER	SYSTEM:0	SYSTEM:1
CPU	STBY	ACT
TDSW	MR	MR

Note: Always enter 1 (1=CPU) for **DEVICE** to changeover the ACT side of CPU.

- 4 **Now executing!** will be indicated during the changeover.

5

- (1) Verify that **ACT** is indicated for **SYSTEM: 0**.
- (2) Click the **Exit** button to exit CMOD command.

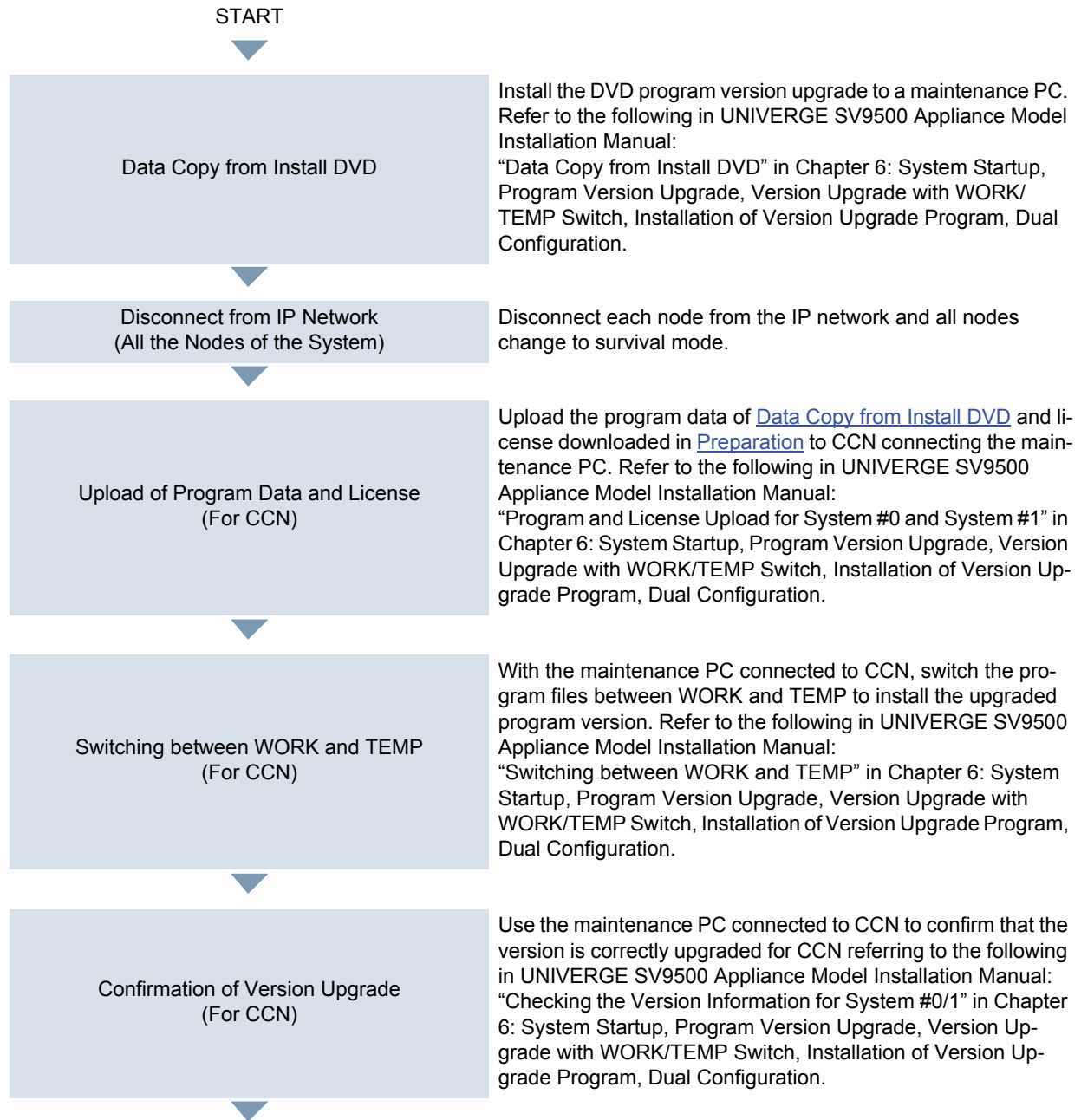


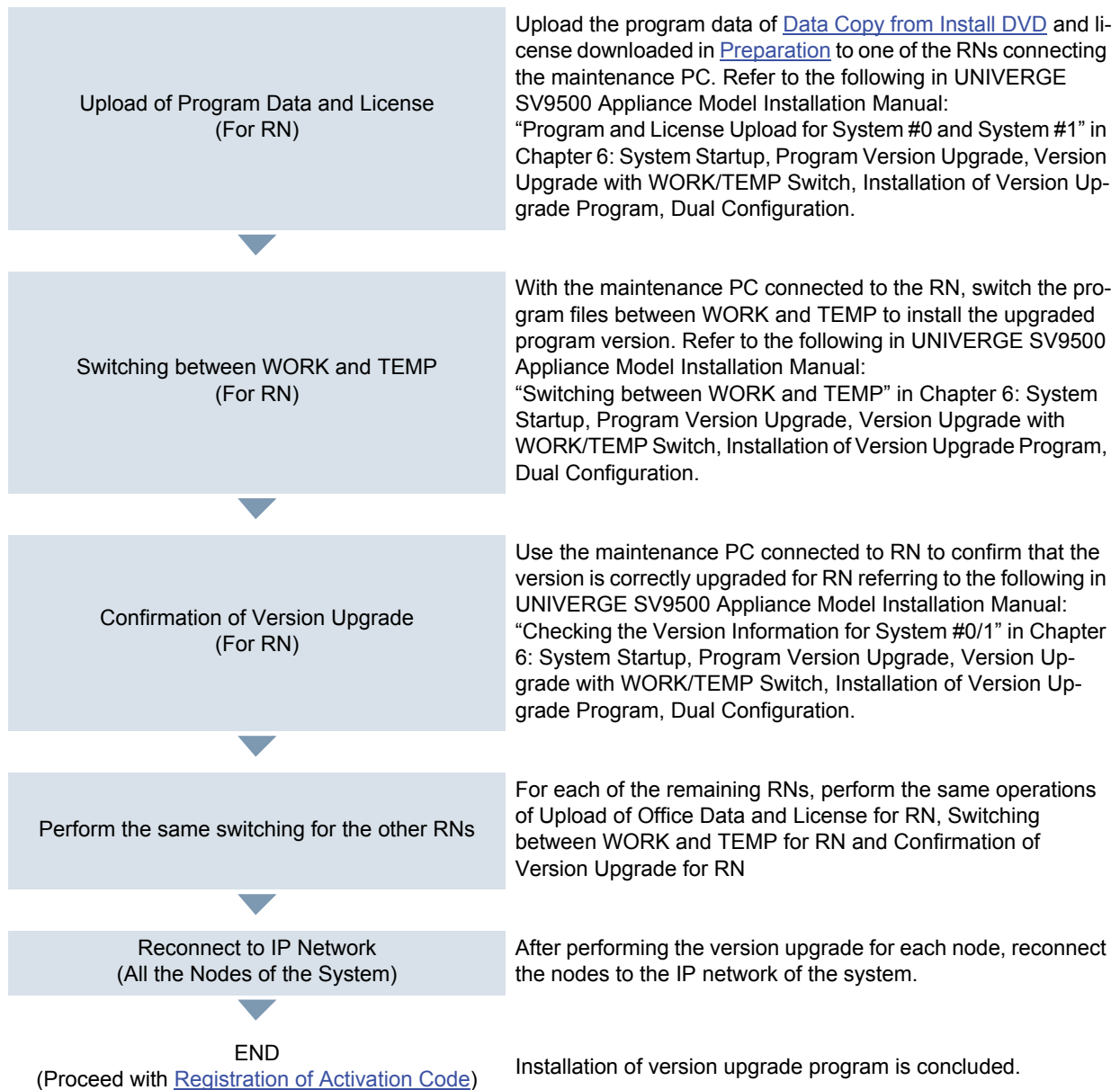
Note: The changeover of ACT side has been completed successfully when **ACT** is indicated for **SYSTEM:0** and **STBY** for **SYSTEM:1**.
This can be verified by checking whether the ACT lamp for SYS0 on the front panel of EMA card is lighting.

The changeover system mode is concluded. Proceed with [Terminate routine diagnosis program](#).

21.1.2.2 Installation of Version Upgrade Program

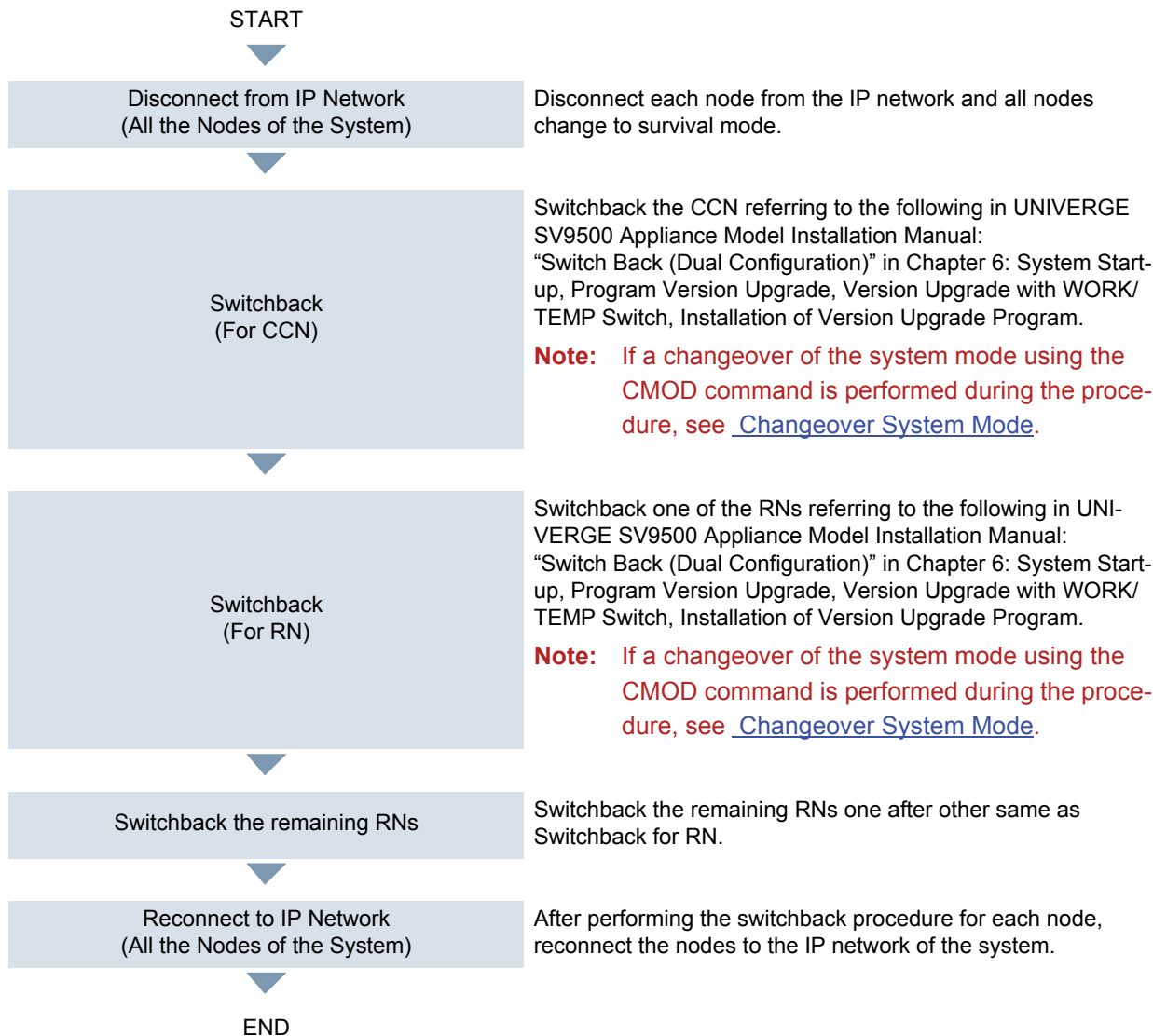
This section explains the procedure for upgrading the program version of the Telephony Server in dual configuration.





21.1.2.3 Switch Back

This is the procedure to switch back the program in a dual configuration. Proceed as follows.



21.2 Prepackaged Server Model

This section explains the version upgrade procedure when the UMGi system uses Prepackaged Server Model. The program version upgrade of Prepackaged Server Model uses the Telephony Server Maintenance Menu and upgrades the version of the operating system.

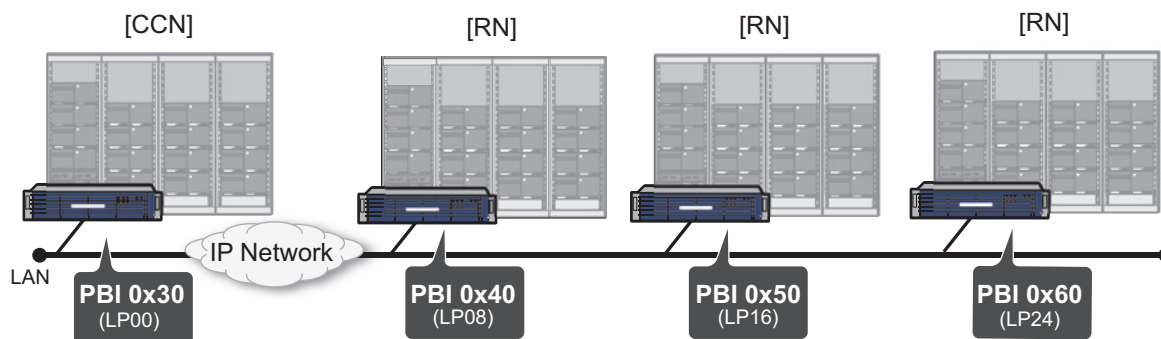
Note: Major version upgrade for the SV9500 software is available from FP95-114 V4 Issue 4.0. For FP95-113 V3 or earlier versions, only the minor version upgrade can be performed. Contact NEC maintenance personnel for a major program version upgrade.

In this section, the following UMGi system environment is considered for the explanation of the procedure for program version upgrade.

- Operating System Environment:

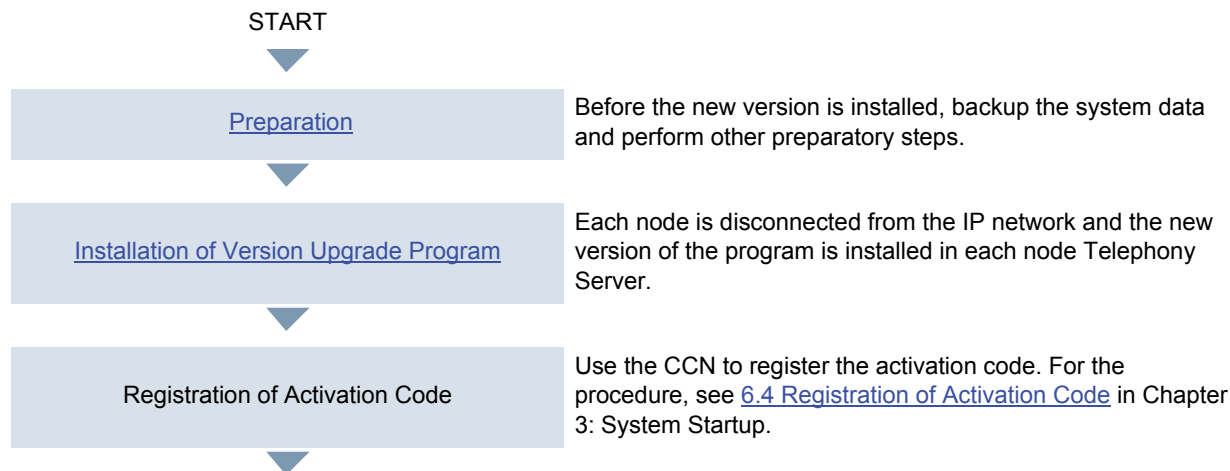
Telephony Server (all nodes): Prepackaged Server Model

Number of Nodes: 4 nodes



Although procedures are basically the same as explained in Prepackaged Server Model Installation and Operation Manual, follow the flow chart below as the minor differences specific of UMGi system are considered.

Note: For upgrading conditions refer to “Conditions of Use” of the Program Version Upgrade section in Prepackaged Server Model Installation and Operation Manual.



Confirm RNs State

Confirm that all RNs of the operating system are in normal mode and that there is no difference in the office data. With the PCPro logged in to the CCN, execute the DRPM command to confirm that each RN is in the following status:

- Operation Status: Normal Mode (Normal)
- Office Data Status: No Difference

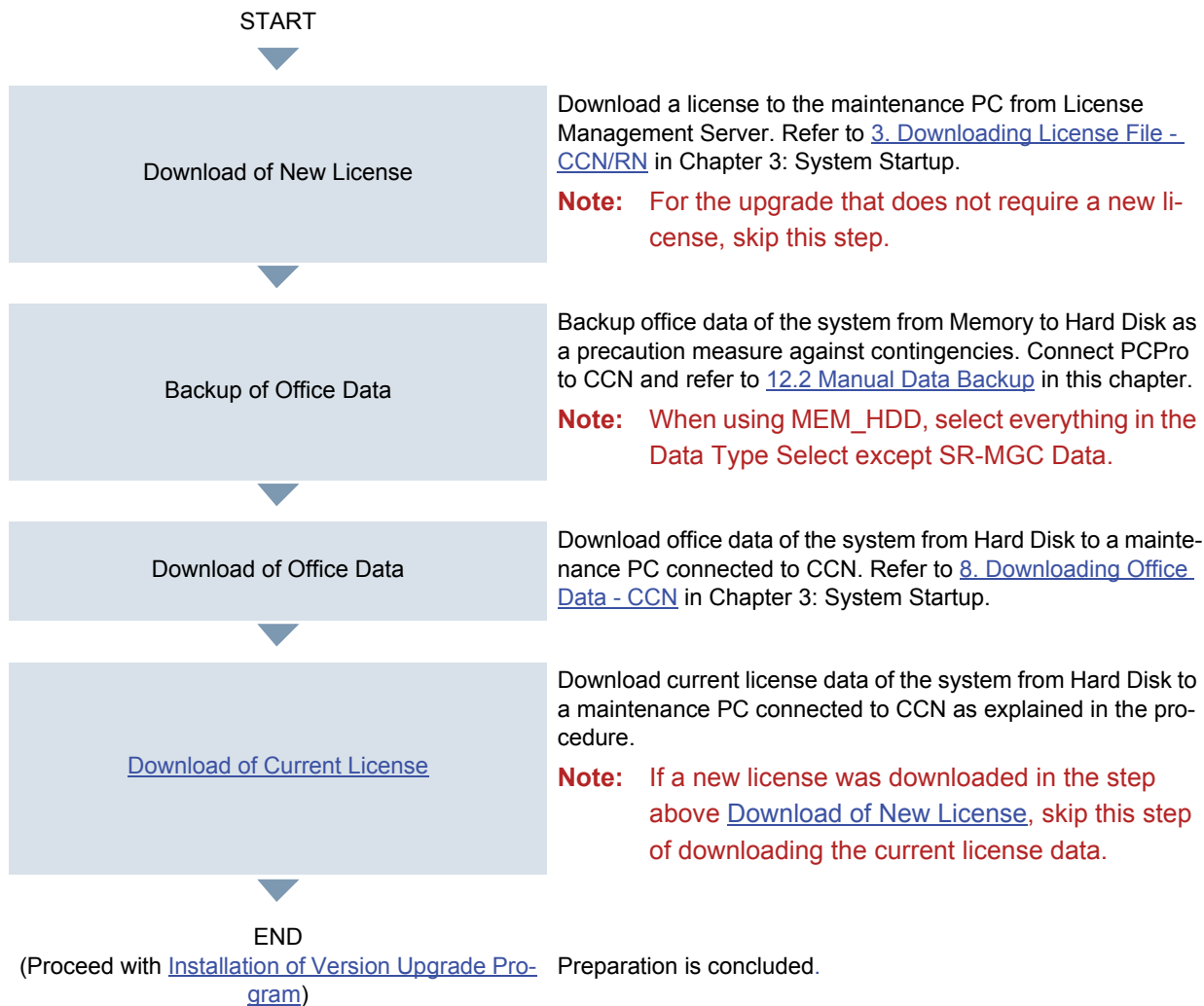
For the command use explanation, see Operations and Maintenance Manual.

END

Note: If there is any problem in the version upgrade, switch back the version and restart the process. For the switch back procedure, refer to [21.2.3 Switch Back](#) in this chapter.

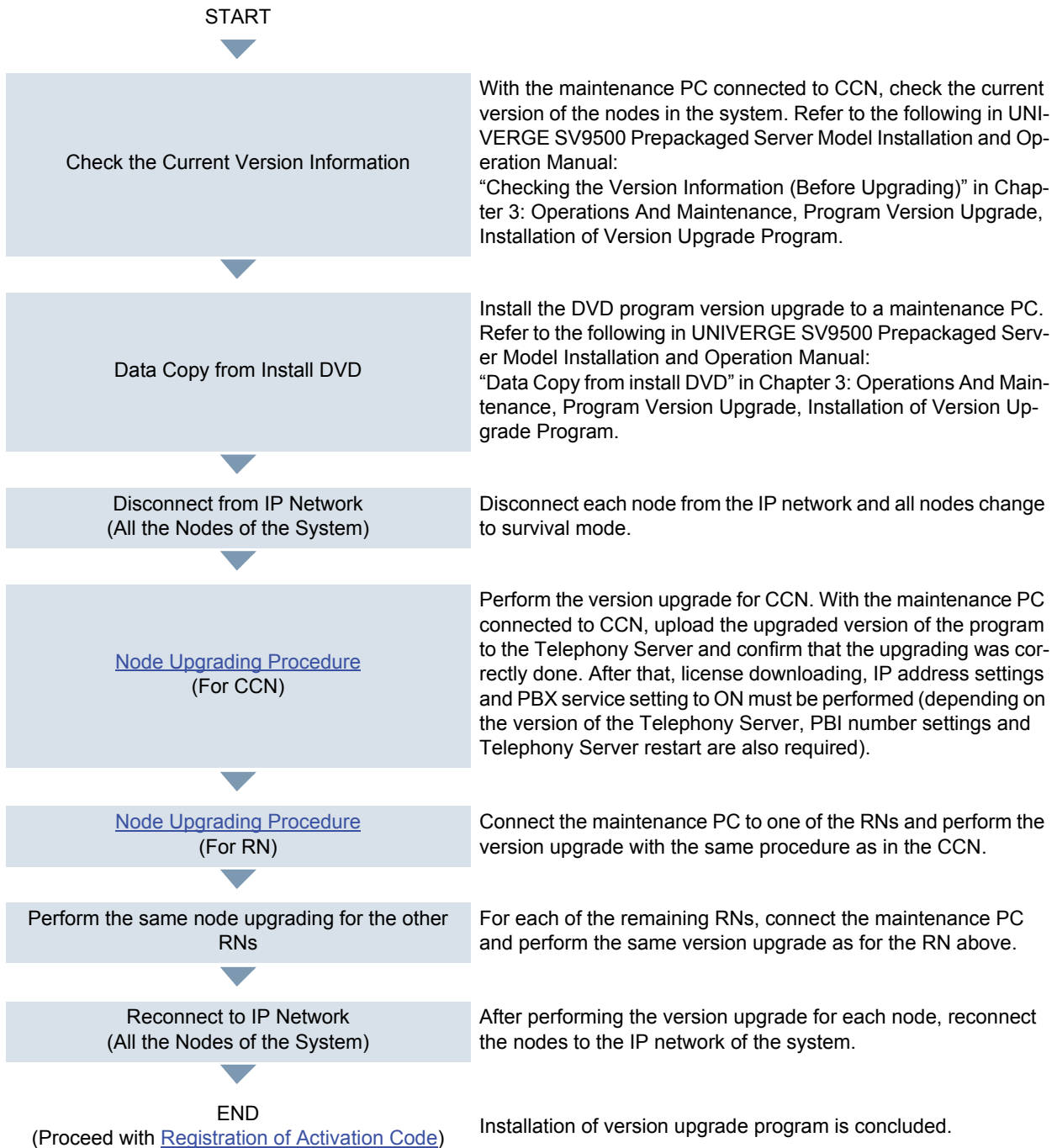
21.2.1 Preparation

This section explains the required preparations before the version upgrade.



21.2.2 Installation of Version Upgrade Program

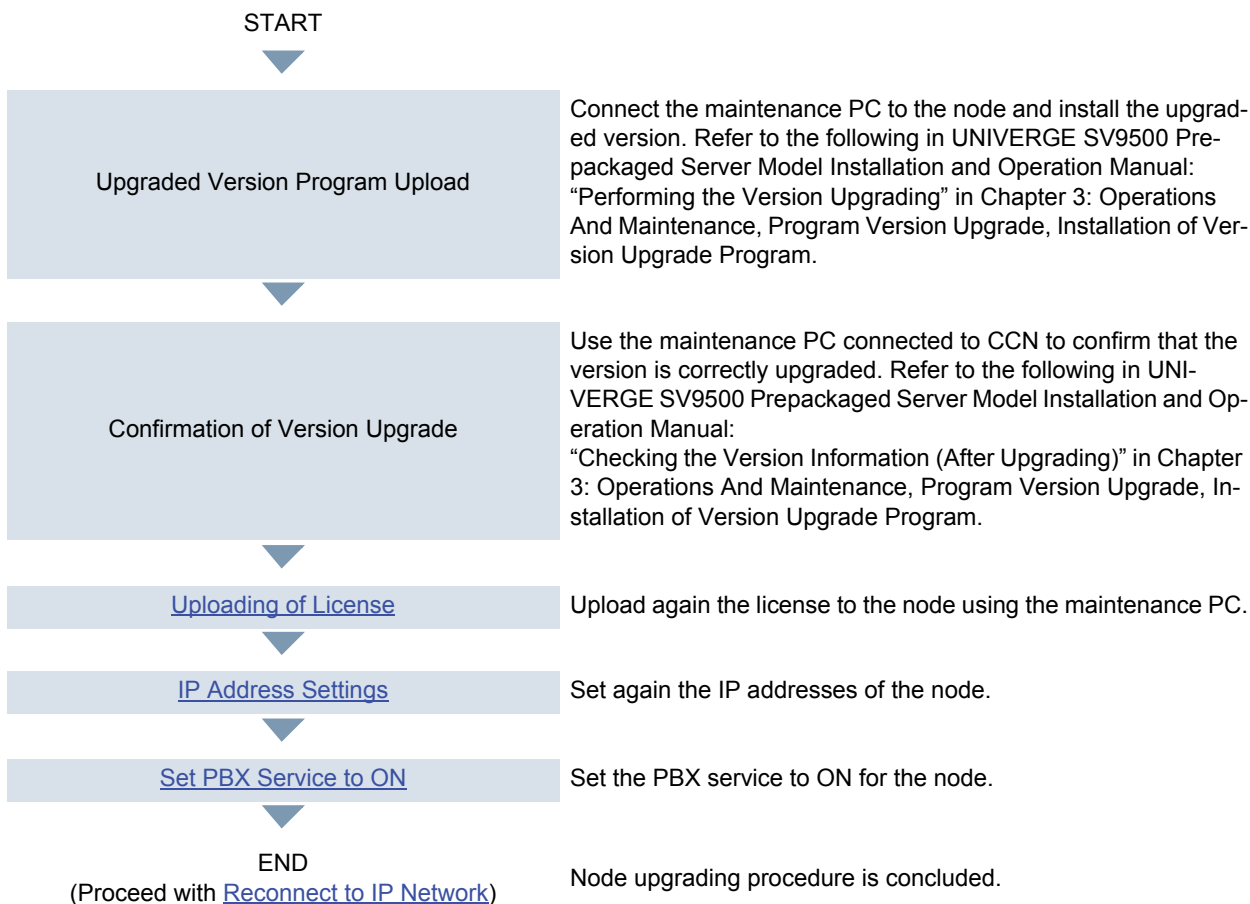
This section explains the procedure to install a version upgrade program in the Telephony Server of each node.



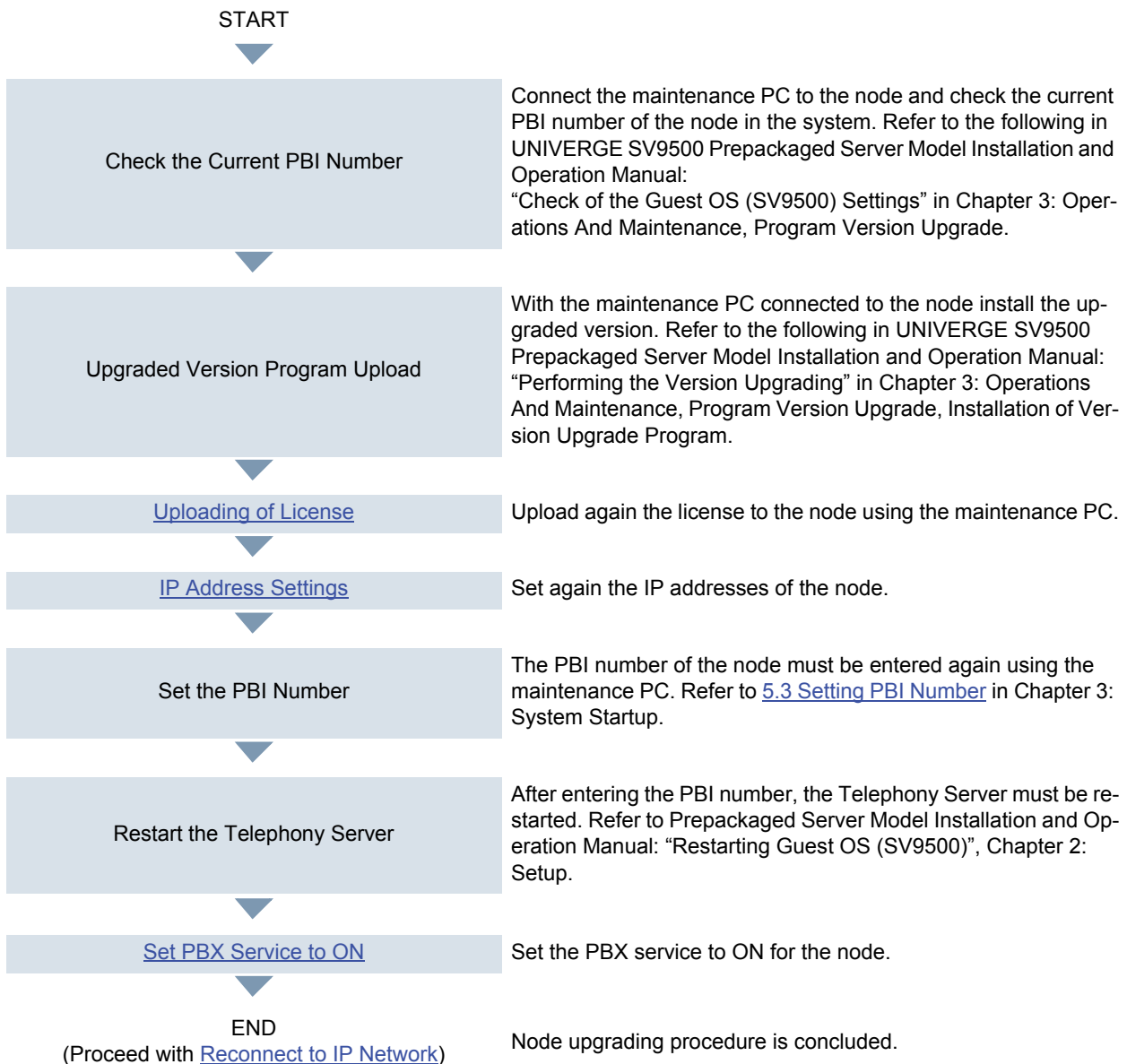
Node Upgrading Procedure

Proceed as follows for the version upgrade.

Version upgrade procedure (FP95-114 V4 or later program version)



Version upgrade procedure (Earlier than FP95-114 V4 program version)



Uploading of License

The license needs to be uploaded again.

- 1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #1 (ex. 10.100.1.11).
- 2
 - (1) **Telephony Server Maintenance Menu Login** screen appears. Type user name and password.
 - (2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note: Contact NEC maintenance personnel if you forget your User Name and Password.

Note: After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.
- 3
 - (1) Click the **Upload** button for **License**. The **License 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 License file downloaded in the License Download step or the Backup Current Data step.
 - (3) Click the **Upload** button. When the uploading is complete, “Operation successfully completed” will be displayed. Click **OK**

<< NEC Telephony Server Maintenance Menu >>

	Upload	Download	Delete
Program	✓		
Office Data	✓	✓	
License (1)	✓ (2)	✓	
Patch			✓
Log files		✓	✓
Language Data	✓	✓	✓

SYSTEM CONTROL

- ✓ Shutdown
- ✓ Reboot
- ✓ Program Rollback
- ✓ Read Version
- ✓ Advanced Menu

License Upload

Browse... (2)

Upload (3)

Note: 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: If 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.

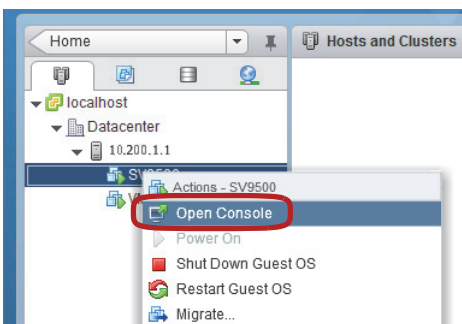
The uploading of license file is concluded. Proceed with [IP Address Settings](#).

IP Address Settings

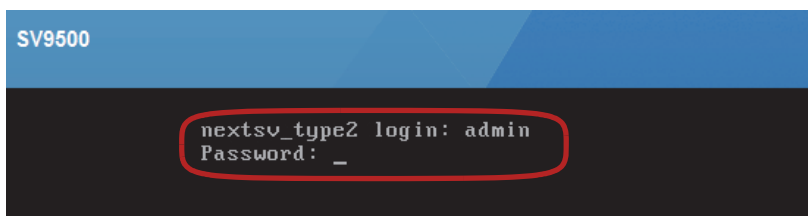
SV9500 (guest OS) IP address information needs to be reentered.

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**.

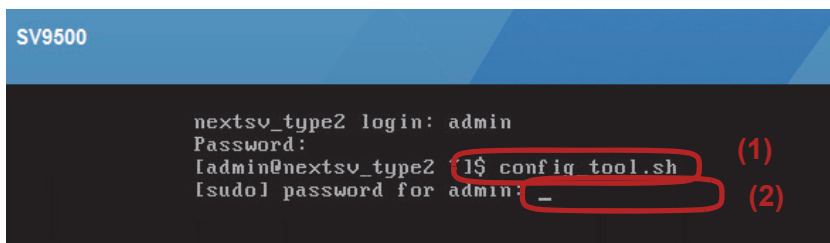


3 Log into the SV9500 using **admin** for the login.



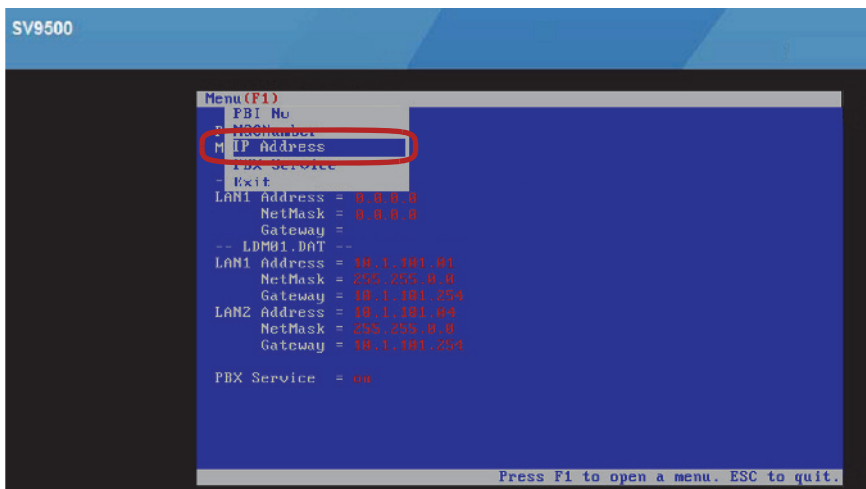
Note: Contact NEC maintenance personnel if you need to confirm your password.

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



5 Enter the IP address of LAN 1 proceeding as follows.

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



6 (1) Modify the IP environment of LAN 1 as follows:

Setting Item	Setting Value	Example Setting Value		
		CCN	RN	
--/etc/sysconfig--	LAN1 Address	LAN1 IP address	10.1.101.1	10.100.1.30
	NetMask	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	Default Gateway	10.1.101.254	10.1.101.254

Note: Do not modify the data of "--LDM01.DAT--". Press the Enter key skipping that data.

7 Close the console screen.

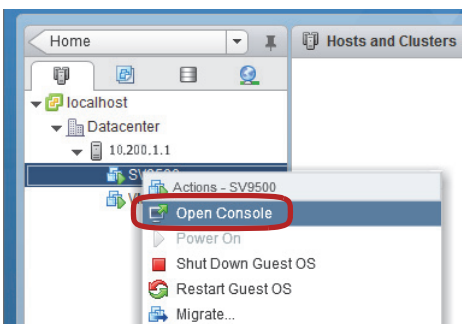
IP address settings are concluded. Proceed with [Set PBX Service to ON](#) (if FP95-114 V4 or later program version) or [Set the PBI Number](#) (if earlier than FP95-114 V4 program version).

Set PBX Service to ON

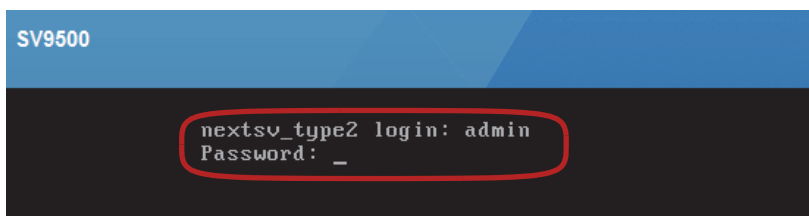
Proceed as follows for setting PBX service to ON.

8 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).

9 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**.

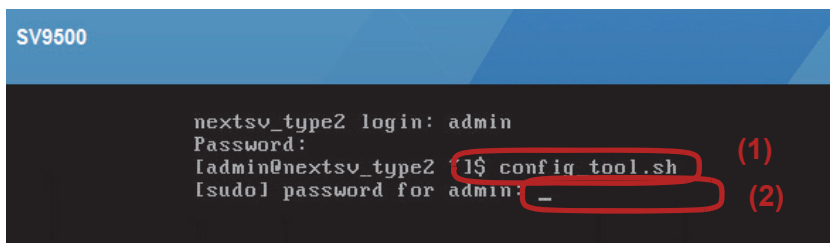


10 Log into the SV9500 using **admin** for the login.



Note: Contact NEC maintenance personnel if you need to confirm your password.

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



12

- (1) Press the F1 key.
- (2) Select **PBX Service**.

```

Menu (F1)
PBI No
P MGCNumber
M IP Address
PBX Service
-- /etc --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
-- LDM01.DAT --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
LAN2 Address = 10.1.101.04
NetMask = 255.255.0.0
Gateway = 10.1.101.254

PBX Service = off

Press F1 to open a menu. ESC to quit.
    
```

13

Select **ON** for **PBX Service**.

```

Menu (F1)
PBI No = 30
MGCNumber = 0

-- /etc/sysconfig --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
-- LDM01.DAT --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
LAN2 Address = 10.1.101.04
NetMask = 255.255.0.0
Gateway = 10.1.101.254

PBX Service = off => off on

PBX Service
    
```

Verify **ON** for **PBX Service**.

```

Menu (F1)
PBI No = 30
MGCNumber = 0

-- /etc/sysconfig --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
-- LDM01.DAT --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
LAN2 Address = 10.1.101.04
NetMask = 255.255.0.0
Gateway = 10.1.101.254

PBX Service = on

Press any key.
    
```

14

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

```

Menu (F1)
PBI No
P MGCNumber
M IP Address
PBX Service
- Exit
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
-- LDM01.DAT --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
LAN2 Address = 10.1.101.04
NetMask = 255.255.0.0
Gateway = 10.1.101.254

PBX Service = on

Press F1 to open a menu. ESC to quit.
    
```

15

- (1) Verify that admin@localhost is displayed.
- (2) Type exit and press **Enter**.

```

Menu (F1)
PBI No = 30
MGCNumber = 0


-- /etc/sysconfig --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
-- LDM01.DAT --
LAN1 Address = 10.1.101.01
NetMask = 255.255.0.0
Gateway = 10.1.101.254
LAN2 Address = 10.1.101.04
NetMask = 255.255.0.0
Gateway = 10.1.101.254

PBX Service = on

Exit
admin@localhost ~1$ exit
    
```

16

After being displayed again the log in screen, close the console screen.

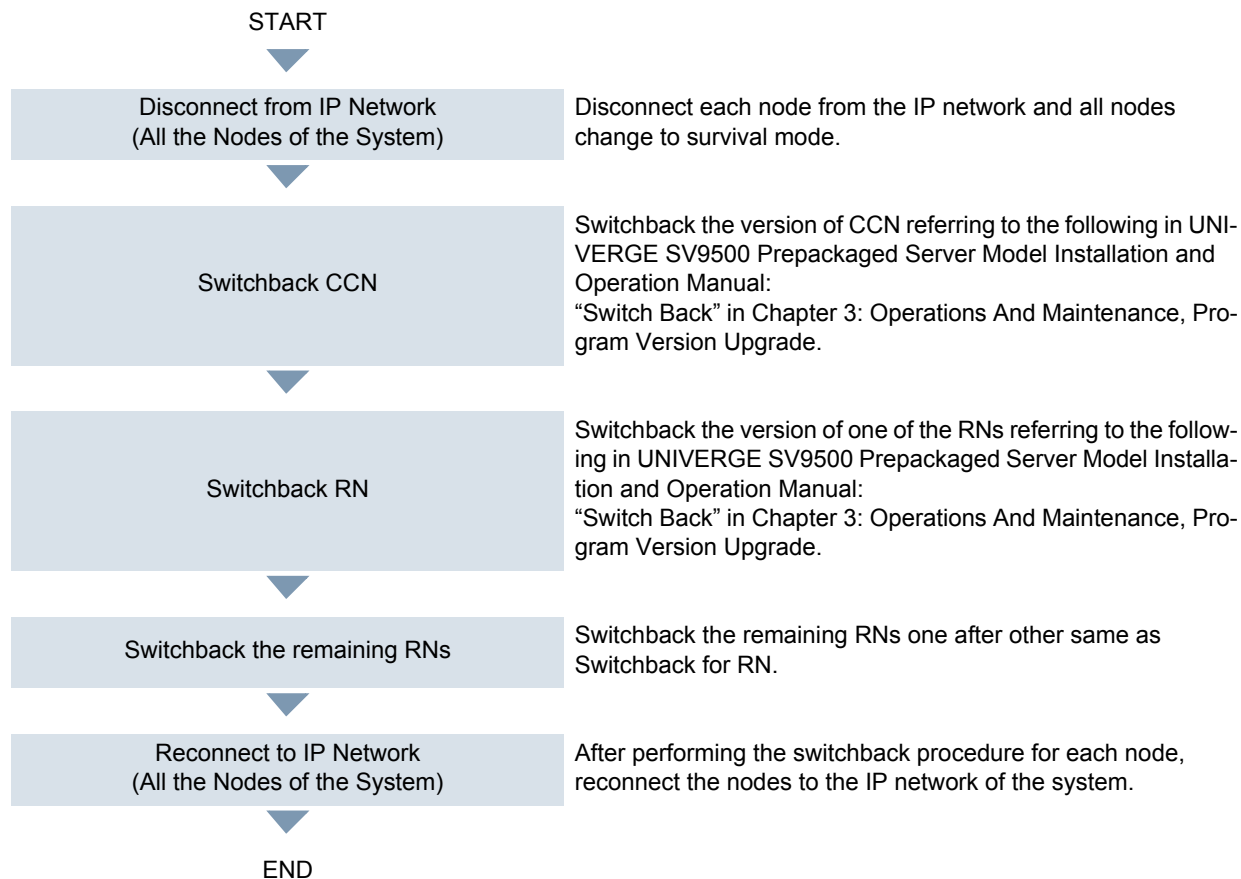
A terminal window screenshot showing the CentOS login screen. The text displayed is: "CentOS release 6.5 (Final)", "Kernel 2.6.32-431.20.3.el6.i686 on an i686", and "localhost login: _".

```
CentOS release 6.5 (Final)
Kernel 2.6.32-431.20.3.el6.i686 on an i686
localhost login: _
```

Setting PBX service to ON process is concluded. Proceed with [Reconnect to IP Network](#).

21.2.3 Switch Back

All the nodes in the system are reverted to its original state before the version upgrade was performed.



UNIVERGE SV9500

UMGi Configuration and Maintenance Guide

NWD-180350-001

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