2.2 Private IP address

2.2.1 Use of private IP addresses

NACCS User Network assigns private IP addresses for the following purposes:
(If the Connection Mode between NACCS Center server and each user system is the Internet (netNACCS connection, WebNACCS connection, or gateway connection), a NACCS center IP address is not granted.)

[1] To employ a logically closed network for the NACCS User Network.
[2] To prevent unauthorized access by non-NACCS users.
[3] To be unbound by global IP address exhaustion.

The TCP/IP network layer protocol at NACCS is IPv4 (Internet Protocol version 4).
IPv6 (Internet Protocol version 6) cannot be used. The user's existing LAN needs to be IPv4-based to connect to NACCS Center server. Connection to the NACCS User Network via an IPv6-based LAN is not allowed. Nevertheless, connection is allowed if a gateway computer is set up at the border between IPv6-based LAN and NACCS User Network to translate IPv6 to IPv4.

ⓘ An IP address is a numerical address used to identify each computer connected to the network, and is required when building a computer network using TCP/IP.

ⓘ A private IP address is an IP address assigned in accordance with unique structure. This is used for such networks as a network closed within the company.

ⓘ A global IP address is a globally unique assigned and managed IP address.
IANA (JPNIC in Japan), an IP address management body, assigns numbers to users to avoid address overlaps.
Recently, the number of assigned addresses has almost reached the upper limit of numbers which can be assigned, so IP address exhaustion has become an issue.

2.2.2 Private IP address architecture

The IP address is expressed by 4 fields separated by "." (periods).

VVV . XXX . YYY . ZZZ
(Field A) (Field B) (Field C) (Field D)

The IP address architecture used by NACCS is shown in Table 2.2.1:

Table 2.2.1 IP address architecture

	Field A	Field B	Field C	Field D
Range of assignment	10	20 - 98	1 - 254	1 - 254
		100 - 177		
		180 - 189		
Assignment method	Fixed	designated by NACCS Center	designated by NACCS Center	designated by NACCS Center

2.2.3 Relationship between IP address and subnet mask

The following value is applied as the subnet mask required for IP address setting (common to all users).

255.255.255.0

An IP address is composed of a network address that represents the network the computers and other devices belong to, and a host address that represents those computers and other devices within the network.
The subnet mask works as a marker to separate the network address and host address parts within the IP address.
For example, when the following is set,

IP address :	10.169.254.	3
subnet mask:	255.255.255.	0
	Network address part	Host address part

the IP address "10.169.254" represents the network address part, while "3" represents the host address part.
The same network address will applied to computers connected to the same LAN.
Each device connected to the same LAN is distinguished by the host address part.

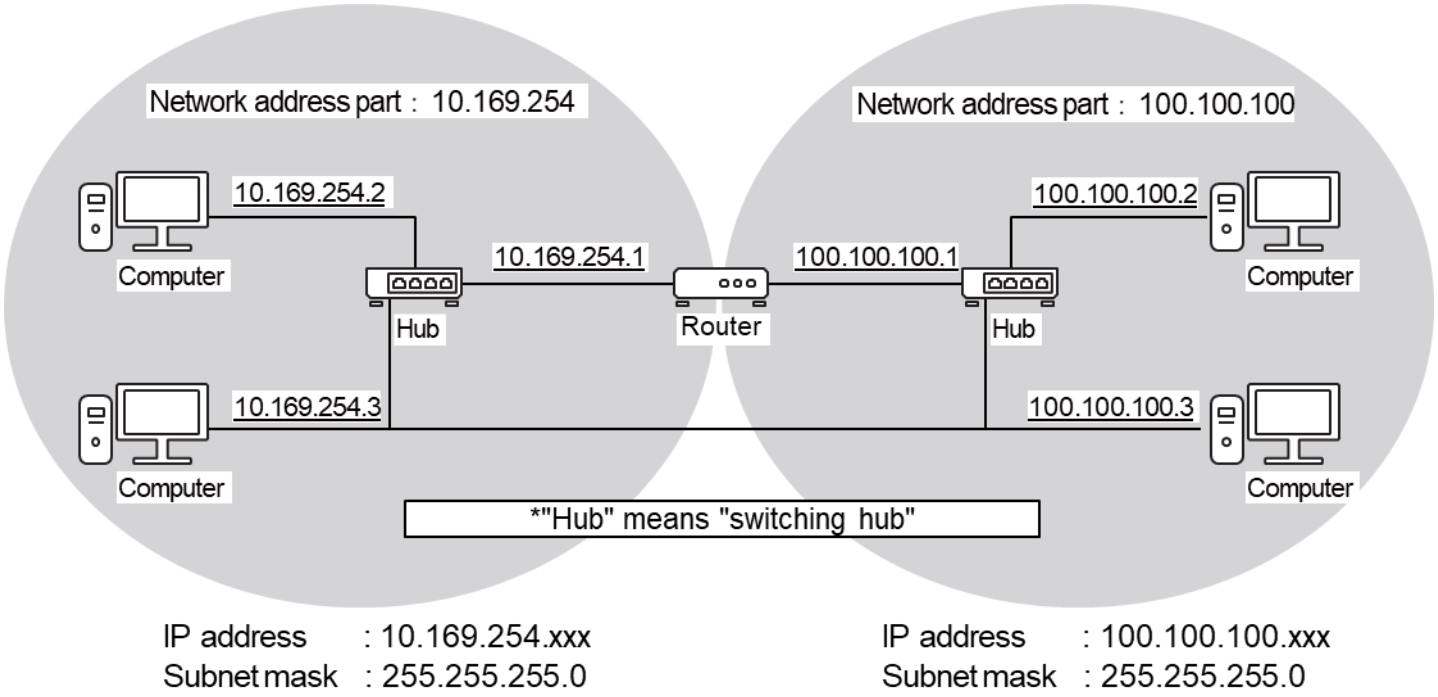

Figure 2.2.1 Relationship between Subnet Mask and the Network

2.2.4 IP address assignment by NACCS Center

Since NACCS is a system for administrative procedures, users' computers that connect to NACCS Center server to process Import/Export procedures or port-related procedures must be identified. NACCS Center, for this purpose, will manage IP addresses of NACCS user computers and provide a unique address for each user computer.
The user computer to which an IP address will be assigned by NACCS Center must be located in Japan.
The same applies to users who already have their own private IP addresses: They, too, must use the IP address uniquely determined and managed by NACCS Center to receive NACCS services.
If, however, User Internal system overlaps with the one assigned by NACCS Center, the Center shall make adjustment by assigning a separate private IP address which does not overlap with that of the user system, within the range of no-adverse effect on system operation.
Note that it is allowable that a private IP address assigned by NACCS Center is converted to another IP address at user's network and is assigned to user's computer with the precondition that the IP address uniquely corresponds to the IP address assigned by NACCS Center. When converting an IP address for use, correspondence between the IP address assigned by NACCS Center and the IP address after conversion should be immediately presented when NACCS Center requests.
For example, when converting an IP address on the communication equipment installed by the user using the NAT function, the setting is configured so that static conversion (conversion where converted IP address is always same if original IP address is the same) is carried out, and setting details can be presented to NACCS Center.

> ⓘ Although it is possible to use cloud services as a user-side Gateway computer, when it is necessary to use systems based on EDI specifications and procedure specifications, such as installing user-side Gateway computers (region, etc.) and NACCS Connection Routers to which the NACCS center assigns IP addresses in Japan, it is the same as the case of on-premise systems.

2.2.5 Where to assign the IP address

An IP address is assigned according to the type of user Connection Mode:

(1) Router connection
router, user-side computer

(2) Gateway connection*
router, user-side gateway computer

* Gateway connection refers to SMTP Two-Way connection and to SMTP/POP3 connection.

2.2.6 IP address allocation rules

(1) IP address for NACCS user computer

NACCS Center will assign IP addresses, with all the values in the fields from A to D being specified, to user-side computers and gateway computers that connect to NACCS Center server.

(2) IP address for computer for user internal procedures located within the same LAN as the NACCS user computer

NACCS Center will specify fields A to C for computers connected to the same LAN as the NACCS user computer but only for internal communications (not used for NACCS service). As for field D, the user will assign any value (recommended to use 100 series) that does not overlap with the IP address of any NACCS user computers.

(3) Limitation on IP address assignment to user computers

In field D, NACCS Center will assign the value "1-9","250-254" for the router. Users may not assign "1-9","250-254" in field D to their computers.

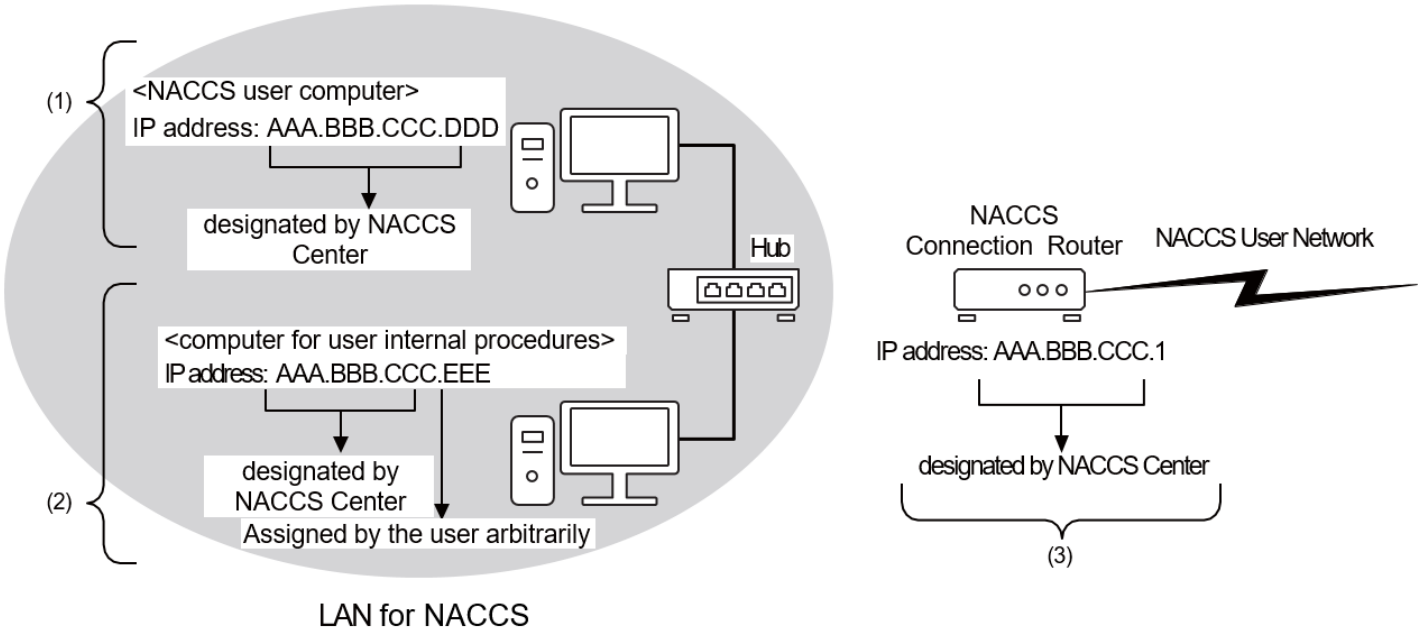

Figure 2.2.2 IP Address Assignment (router connection)

2.2.7 IP address conversion

IP address conversion on gateway computer

In the case of gateway connection, IP address conversion on the gateway computer is permitted:
However, due to security reasons, the user must keep a log of messages transmitted to and received by the gateway computer and save the log for a period of one year.

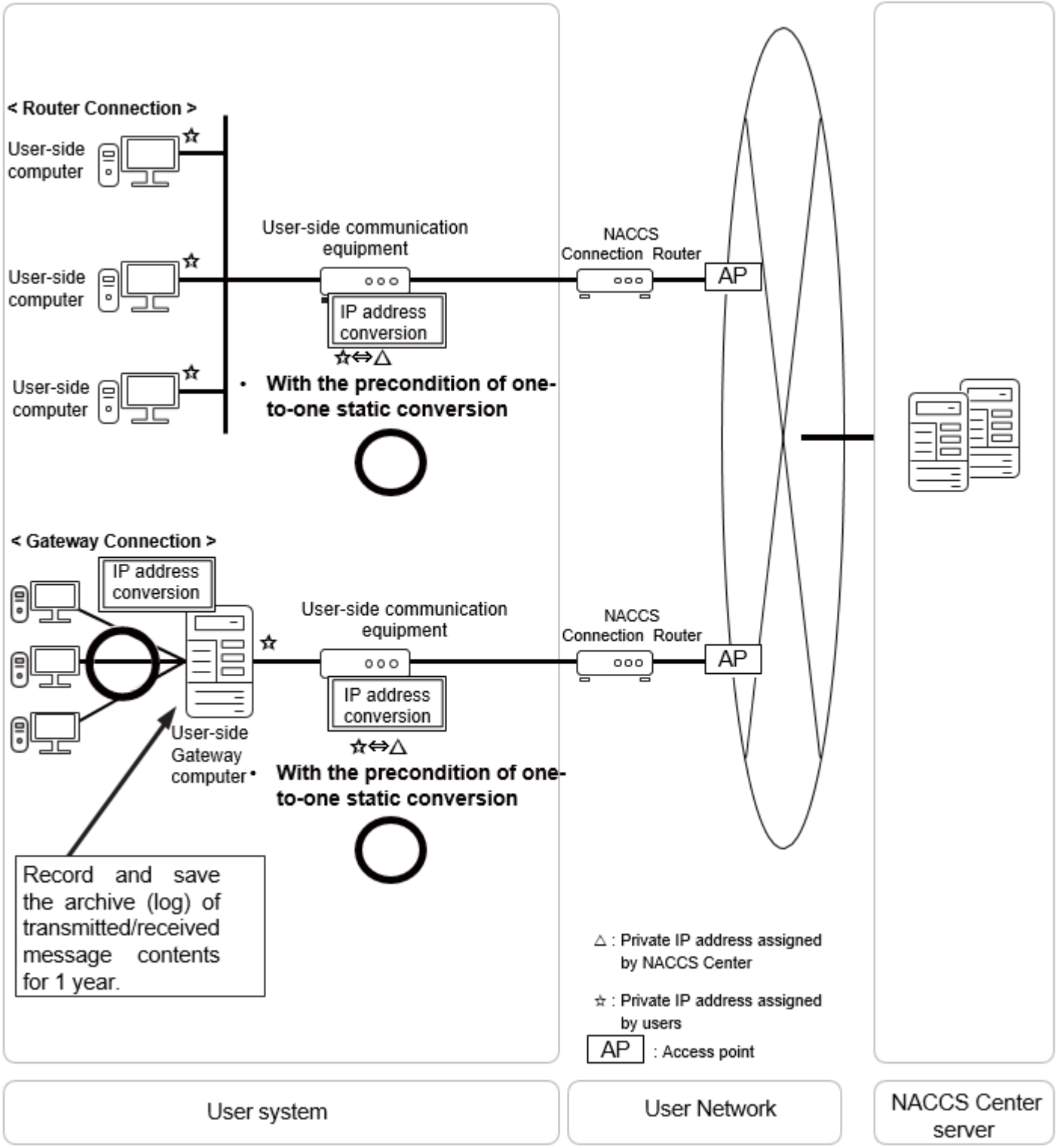

Figure 2.2.3 IP Address conversion

2.2.8 NACCS Information and IP address

Set up NACCS Information

NACCS Center sets up a website, titled as "NACCS Information" exclusively for NACCS users, aimed at providing latest news and announcements concerning NACCS, operation status of NACCS Center server, code updates and latest version of NACCS Packaged Software available.