

4.3 E-mail Style Processing Mode

In the e-mail style processing mode, processing result messages are retrieved from the NACCS Center server after a certain period of time. Therefore, the response time for processing request messages is not as quick as for the interactive processing mode (SMTP two-way). In addition, this processing mode can be used by only computer connected to the user system; which reduces the burden for the user system to create NACCS EDI messages.

Moreover, for e-mail style processing modes, there is the e-mail style processing mode for NACCS EDI messages and the e-mail style processing mode for EDIFACT messages. However, they are basically the same method except for the difference in message structure.

Furthermore, the e-mail style processing mode enables the user to send more than one processing request message in a single request. Processing result messages, however, need to be retrieved (or received) from the NACCS Center server in a batch after a certain period of time.

4.3.1 E-mail style processing for NACCS EDI messages

4.3.1.1 Outline of e-mail style processing mode (other than EDIFACT messages)

For E-mail style processing for NACCS EDI messages, software developed by the user is used. Figure 4.3.1 shows outline of e-mail style processing mode for processing NACCS EDI messages. In addition, for e-mail sending, refer to "4.6.1 e-mail".

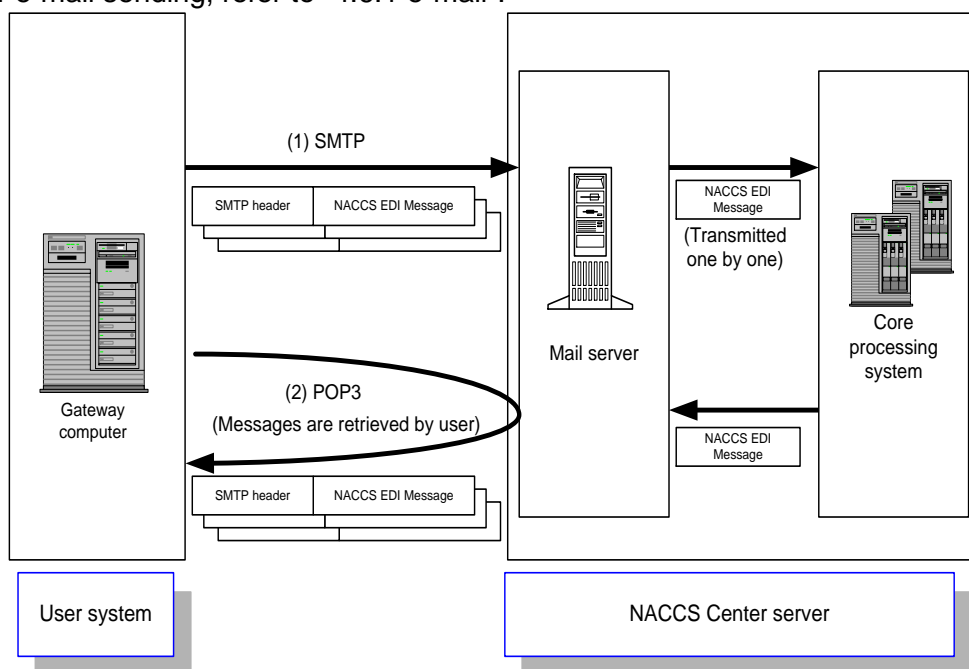


Figure 4.3.1 Outline of Connection Mode of E-mail Processing Mode for NACCS EDI Messages

- (1) The user creates and sends an NACCS EDI message that contains data required for the relevant procedure to the mail server over the SMTP protocol. More than one messages can be sent at a time.
- (2) Messages transmitted to the mail server are transferred to the core processing system one by one. The core processing system then processes the message and forwards a processing result message to the user's mailbox on the mail server. Then the user retrieves the processing result message from the mailbox over the POP3 protocol.

4.3.1.2 Details of the communications protocols

In e-mail style processing mode for NACCS EDI messages, TCP/IP is used for the network and transport layers, and regarding the upper layer, SMTP for sending processing request messages and POP3 for receiving processing result messages are used as communications protocols.

(1) SMTP specifications in transmission of processing request message

(A) Applicable SMTP commands

SMTP commands used in e-mail style processing mode for NACCS EDI messages and their responses are listed in Table 4.3.1

Table 4.3.1 List of Available SMTP Commands

Command	Outline	Parameter	Response on NACCS's Mail Server (Normal response)
HELO	To declare use of the communications channel and identify the host	Sender host name (Domain name)	250
MAIL	To start the mailing transaction	FROM: Sender name	250
RCPT	To specify the receiver of the mail	TO: Receiver user name	250
DATA	To start sending the mail body	Message data	354
RSET	To stop sending the mail	None	250
QUIT	To close the connection	None	221

(B) Command Sequence in Transmission of Processing Request Messages over SMTP

Figure 4.3.2 shows a sequence of SMTP commands issued for transmission of processing request messages from the user system to the NACCS Center server. Table 4.3.2 shows description of each command.

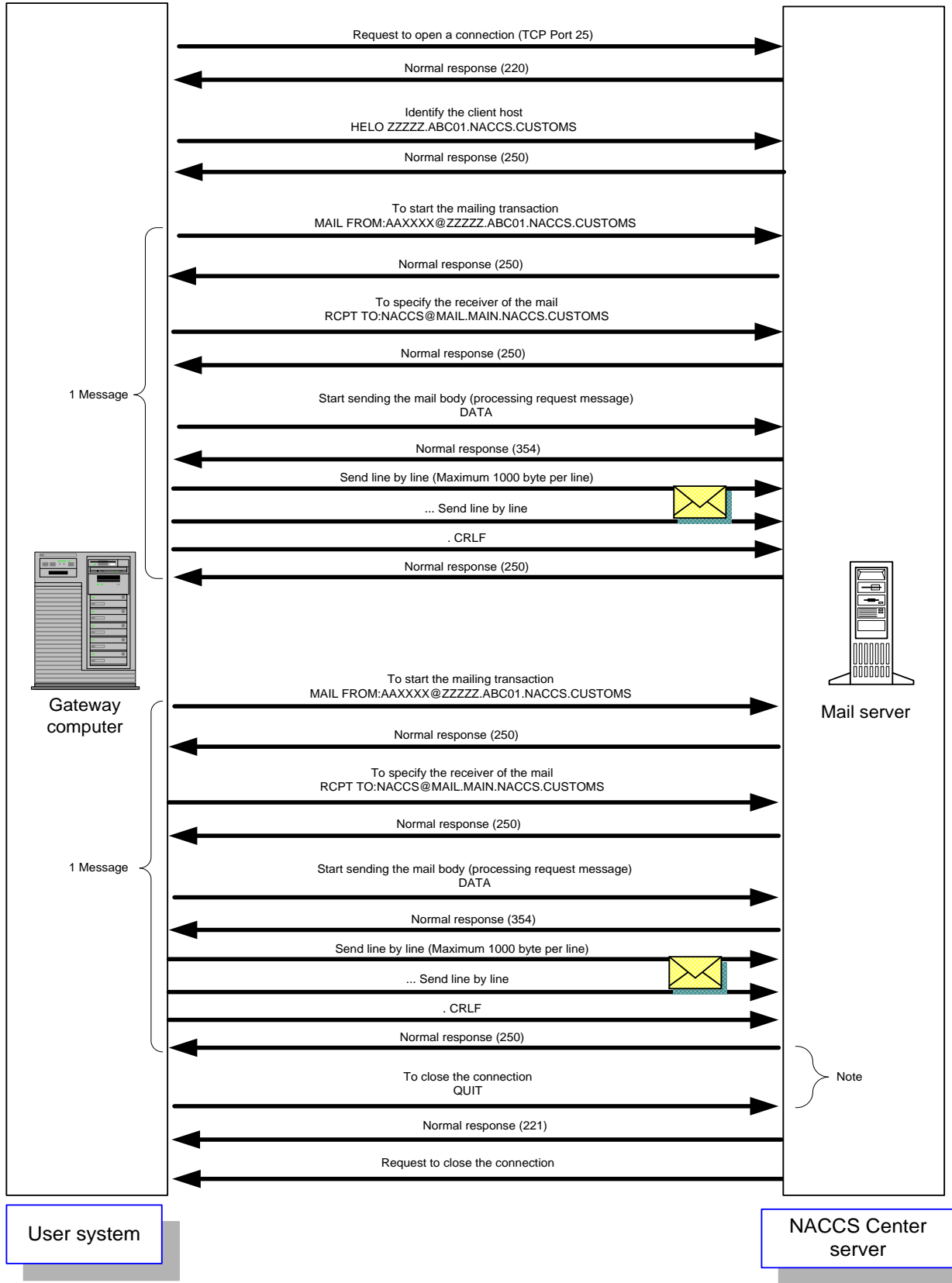


Figure 4.3.2 SMTP Command Sequence on Transmission of a Processing Request Message (Example of 2 messages in a single connection session to the mail server)

(Note) In Figure 4.3.2, if the gateway computer on the user side won't issue a QUIT command within two minutes after the completion of transmission of all messages, the NACCS's Mail Server will prompt a connection timeout and close the current connection by force. Therefore, when using e-mail style processing mode, the QUIT command must be issued upon the completion of transmission of all processing request messages.

Table 4.3.2. Description about Command when Sending SMTP

Item No.	Command	Description
1	Request to open a connection	User requests connection to NACCS's Mail Server at Port 25. NACCS's Mail Server sends Response Code 220 as a normal response. IP address for NACCS's Mail Server can be obtained from NACCS Center's DNS.
2	HELO Domain name	User executes command after setting domain name for user's system. NACCS's Mail Server opens SMTP connection if server is available. NACCS's Mail Server sends Response Code 250 as a normal response. NACCS center notifies user's domain name in advance.
3	MAIL FROM: Mail address	User executes command after setting mail address for user's system. NACCS's Mail Server sends Response Code 250 as a normal response. NACCS center notifies user's mail address in advance.
4	RCPT TO: Mail address	User executes command after setting mail address (NACCS@MAIL.PROD.NACCS6) for NACCS Center server. NACCS's Mail Server sends Response Code 250 as a normal response.
5	DATA	User executes command to start transmission of processing request message. NACCS's Mail Server sends Response Code 354 as a normal response. After that, user can send the message (including communications protocol header).
6	Send mail body	User sends processing request message in accordance with NACCS Procedure Specification. At the end edge of a processing request message, only the line with dot (.) can be sent. After receiving the end edge, NACCS's Mail Server sends Response Code 250 as a normal response. (Note 1) It is necessary to make a line (CRLF) after each 1,000 bytes, but because in the NACCS EDI specification, a new line (CRLF) will be made within 1,000 bytes, it is not necessary for user to be aware of it. (Note 2) The terminal of the message is recognized from "<CRLF>.<CRLF>" in SMTP. If a message contains a line beginning with ".", the user's system should add dummy ".". The NACCS's Mail Server removes the dummy "." and forwards the message to the core

Item No.	Command	Description
		processing system.
7	RSET	If user executes this command, it will return to the status after HELO. NACCS's Mail Server sends Response Code 250 as a normal response. (Normally, it is not necessary to execute this command).
8	QUIT	User closes SMTP connection. NACCS's Mail Server sends Response Code 221 as a normal response.

(Note 1) Response code of SMTP

There are optional characters behind 3 digits of each response code, but only refer to these 3 first digits.

Example: Response of HELO

250 MAIL.PROD.NACCS6



Only refer to the response code and carry out the settlement methods described in the Table 4.3.3.

* Reason: Because rear characters can be changed depending on Specification changes in the NACCS center server.

(Note 2) Timeout observation

The user system must monitor SMTP connection timeouts to detect any failure in the NACCS's Mail Server or network.

In this specification, more than one message can be sent in one connection, and as the timeout period of SMTP connection cannot be prescribed, the monitoring time must be decided based on operation methods applied by user.

(C) Settlement in abnormal cases

Settlement methods in case if an error occurs when sending SMTP are described in the Table 4.3.3.

Table 4.3.3 Settlement methods for sequential errors of SMTP

Item No.	Command	Estimated errors and settlement methods
1	Request to open a connection	<p>User sends connection request to NACCS's Mail Server but request is not accepted. Reasons and settlement methods:</p> <ul style="list-style-type: none"> • The destination IP address is faulty. → Make sure connection is established to NACCS's Mail Server's IP address notified by NACCS Center. • The destination port number is faulty. → Determine if a request is sent to open a connection to port number 25 or not. • The NACCS center server is under maintenance. → Information about maintenance of the NACCS Center server is announced to the public on NACCS information, so that should be checked. If the center is under maintenance, re-send the request to open a connection after the maintenance work is finished. • The NACCS Center server or network is damaged. → Re-send another request to open a connection after a while. If it is not recovered for a long time, send an investigation request to the Help desk of NACCS Center. The information on damages is also updated on the NACCS information. The information on the server's maintenance or damages used for connection test will not be notified on the NACCS information, if the server cannot be connected even in the time when the connection test can be done, confirm the situation with NACCS Center.
2	HELO	<p>Errors in response (except for normal responses (250)) are returned. Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error (500) → Confirm that the character string for sending the HELO command is correct. 2) For command sequences error (503). → Execute the command with the right sequences described in the Figure 4.3.2. <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
3	MAIL FROM	<p>Errors in response (except for normal responses (250)) are returned. Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error (500) or parameter error (501) or domain name error (553). → Confirm that the character string for sending MAIL command is correct. 2) For command sequences error (503). → Execute the command with the right sequences described in the Figure 4.3.2. <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>

Item No.	Command	Estimated errors and settlement methods
4	RCPT TO	<p>Errors in response (except for normal responses (250)) are returned.</p> <p>Reasons and settlement methods:</p> <p>1) For syntax error (500) or parameter error (501) or domain name error (553). → Confirm that the character string of sending RCPT command is correct.</p> <p>2) For command sequences error (503). → Execute the command with the right sequences described in the Figure 4.3.2.</p> <hr/> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
5	DATA	<p>Errors in response (except for normal responses (354)) are returned.</p> <p>Reasons and settlement methods:</p> <p>1) For syntax error (500) → Confirm that character string of sending DATA command is correct.</p> <p>2) For command sequences error (503). → Execute the command with the right sequences described in the Figure 4.3.2.</p> <hr/> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
6	Send processing request message	<p>Errors occur during communication.</p> <p>Reasons and settlement methods:</p> <p>As NACCS's Mail Server can be damaged, re-send the request after a while. If it is not recovered for a long time, send an investigation request to the Help desk of NACCS Center.</p>
7	RSET	<p>Errors in response (except for normal responses (250)) are returned.</p> <p>Reasons and settlement methods:</p> <p>For syntax error (500) → Confirm that character string of sending RSET command is right.</p> <hr/> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
8	QUIT	<p>Errors in response (except for normal responses (221)) are returned.</p> <p>Reasons and settlement methods:</p> <p>For syntax error (500) → Confirm that the character string of sending QUIT command is correct.</p>
9	Others	<p>Detect abnormalities during communication.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, re-send the request to open a connection.</p>

(2) POP3 specifications in transmission of processing request message

(A) Available POP3 commands

In principle, POP3 (Post Office Protocol version 3) in this mode shall comply with "Request for Comments" (RFC 1939). However, APOP authentication, one of the authentication exchange methods, is not supported.

POP3 commands used in e-mail style processing mode for NACCS EDI messages are listed in Table 4.3.4:

Table 4.3.4 List of Available POP3 Commands

Command	Outline	Parameter	Response on NACCS's Mail Server (Normal response)
USER	To send mail address	Mailbox ID	+OK
PASS	To send mailbox password	Mailbox password	+OK
STAT	To inquire about number of mail messages and total size of mail messages	None	+OK Number of messages Total size of messages
LIST	To inquire about entire message information	None	+OK Message number Message size • • • Message number Message size .
	To inquire about specific message information	Message number	+OK Message number Message size
RETR	To request to retrieve message	Message number	+OK Procedure message (more than 1 line) .
DELE	To request message deletion	Message number	+OK
QUIT	End of connection (notice of completion)	None	+OK

(B) POP3 command sequence in receipt of processing request message

Figure 4.3.3 shows a sequence to retrieve processing result messages over POP3 in e-mail style processing mode. This sequence is an example of the use of STAT command when obtaining the number of processing result messages when connecting to the mail server. Table 4.3.5 shows details of each command.

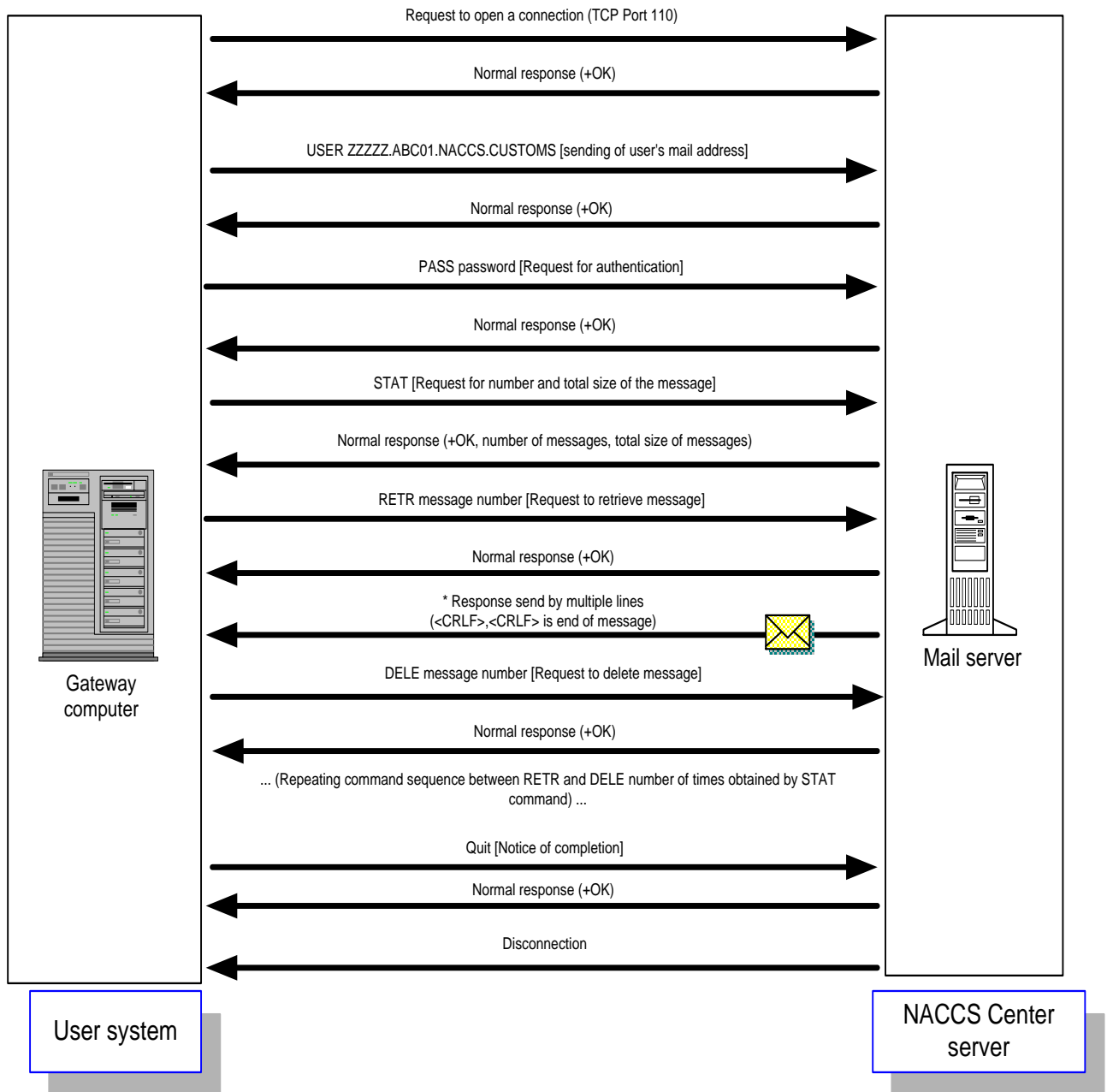


Figure 4.3.3 POP3 Command Sequence for Receiving a Processing Result Message

Table 4.3.5 Description about Command when Receiving POP3

Item No	Command	Description
1	Request to open a connection	User requests connection to NACCS's Mail Server at Port 110. NACCS's Mail Server sends +OK as normal response. IP address for NACCS's Mail Server can be obtained from NACCS Center's DNS.
2	USER mail address	User executes command after setting mail address for user's system. NACCS's Mail Server sends +OK as normal response. NACCS center notifies user's mail address in advance.
3	PASS POP password	User executes command after setting POP password. User authentication is executed based on mail server specified on USER command plus POP password set on this command. If successful, +OK normal response is sent. NACCS Center notifies user of POP password in advance.
4	STAT	When obtaining number and total size of message allowed in current connection session, user executes this command. NACCS's Mail Server sends normal response as follows: +OK△number△total message size (in bytes)
5	LIST	When obtaining message number and message size allowed in current session, user executes this command. NACCS's Mail Server sends normal response as follows: +OK message number△message size message number△message size : message number△message size . (Note 1) "." is a communications protocol trailer, indicating the terminal of a message. (Note 2) The unit for message sizes is bytes.
6	LIST message number	When obtaining message size represented by message number in current session, user executes this command. NACCS's Mail Server sends normal response as follows: +OK△message number△message size (in bytes)

Item No	Command	Description
7	RETR message number	<p>When reading out mail from mailbox after specifying message number, user executes this command. NACCS's Mail Server sends normal response as follows:</p> <p>+OK Procedure message (more than 1 line) .</p> <p>(Note 1) "." is a communications protocol trailer, indicating the terminal of a message. As the terminal of the message is recognized from <CRLF>.<CRLF> in POP3, if a message contains a line beginning with ".", the user system adds a dummy "." at the beginning of the line when responding. If a message received is not a <CRLF> string followed by ".", the user system removes "." placed at the beginning of the message.</p>
8	DELE message number	<p>When deleting message from mailbox after specifying message number on RETR command, user executes this command. NACCS's Mail Server sends normal response as follows:</p> <p>+OK</p> <p>(Note 1) When deleting a message from a specified domain, deletion will be successfully completed after being disconnected in response to the QUIT command. If an abnormal response is generated over POP3, or an unintended disconnection is caused due to some kind of failure before the QUIT is properly accepted, when a connection is established afresh, any message for which the DELE command was issued for normal termination will be received again.</p>
9	QUIT	<p>When closing POP3connection session, user uses this command. NACCS's Mail Server sends following normal response before disconnecting.</p> <p>+OK</p>

(Note 1) POP Response Codes

After a Response Code (+OK,-ERR), a one-byte space may be inserted, and request command-specific response information may follow. In this case, however, only the commands given in Table 4.3.5 should be referred to.

(Note 2) △ denotes a space.

When issuing a subsequent request to retrieve a processing result message from the incoming mailbox after retrieving and deleting a message and issuing the QUIT command for notice of completion of a session, the user is required to wait for a period of time (3 minutes) or more designated by NACCS Center. The reason is that if users frequently issue requests to retrieve processing result messages from their incoming mailbox, the mail server may be overloaded, and as a result, the system response becomes slow and it takes a longer time to verify the contents of processing result messages.

In addition, users must issue a DELE command after retrieving messages by the RETR command to delete the retrieved messages from their mailbox.

(C) Settlement in abnormal cases

Table 4.3.6 shows how to handle errors occurring during receipt of messages over POP3:

Table 4.3.6 POP3 Sequence Errors and Error Handling Procedures

Item No.	Command	Estimated errors and settlement methods
1	Request to open a connection	<p>User sends connection request to NACCS's Mail Server but request is not accepted.</p> <p>Reasons and settlement methods:</p> <ul style="list-style-type: none"> • The destination IP address is faulty. → Make sure connection is established to NACCS's Mail Server's IP address notified by NACCS Center. • The destination port number is faulty. → Determine if it sends request to open a connection to port number 110 or not. • The NACCS Center server is under maintenance. → Since NACCS Center's server maintenance information will be announced on NACCS information, check that. If the center is under maintenance, re-send the request to open a connection after the maintenance work is finished. • The NACCS Center server or network is damaged. → Re-send another request to open a connection after a while. If it is not recovered for a long time, send an investigation request to the Help desk of NACCS Center. <p>The information on damages is also updated on the NACCS information. The information on the server's maintenance or damages used for connection test will not be notified on the NACCS information, if the server cannot be connected even in the time when the connection test can be done, confirm the situation with NACCS Center.</p>
2	USER	<p>Error response is returned (-ERR).</p> <p>Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that character string of sending USER command is correct. 2) For command sequences error → Execute USER command before executing PASS command. <hr/> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
3	PASS	<p>Error response is returned (-ERR).</p> <p>Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that character string of sending PASS command is correct. 2) For command sequences error → Execute the command after executing USER command. 3) For authentication error

Item No.	Command	Estimated errors and settlement methods
		<p>→ Check user mail address specified on USER command and POP password specified on PASS command, and start over with requesting connection again.</p> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
4	STAT	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error <ul style="list-style-type: none"> → Confirm that the character string of sending STAT command is correct. 2) For command sequences error <ul style="list-style-type: none"> → Execute command after PASS command is completed with normal response. <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
5	LIST	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error <ul style="list-style-type: none"> → Confirm that the character string of sending LIST command is correct. 2) For command sequences error <ul style="list-style-type: none"> → Execute command after PASS command is completed with normal response. <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
6	RETR	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error <ul style="list-style-type: none"> → Confirm that the character string of sending RETR command is correct. 2) For command sequences error <ul style="list-style-type: none"> → Execute command after PASS command is completed with normal response. 3) No message corresponding to message number specified exists, or request has already been issued for message number deletion on DELE command within the same connection session. <ul style="list-style-type: none"> → Make sure to specify correct message number and execute command. <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>

Item No.	Command	Estimated errors and settlement methods
7	DELE	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that the character string of sending DELE command is correct. 2) For command sequences error → Execute command after PASS command is completed with normal response. 3) No message corresponding to message number specified exists, or request has already been issued for message number deletion on DELE command within the same connection session. → Make sure to specify correct message number and execute command. <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
8	QUIT	<p>Error response is returned (-ERR). Reasons and settlement methods: For syntax error → Confirm that the character string of sending QUIT command is correct.</p> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
9	Others	<p>Connection breaks during transmission of message. Reasons and settlement methods: As damages may be occurring, re-send the request to open a connection.</p>

4.3.1.3 Message format

In the e-mail style processing mode, a communications protocol header and a trailer are added to an NACCS EDI message, an attachment file transmission message or an XML format message. The message formats are outlined as follows:

(1) NACCS EDI message

Figure 4.3.4 shows the outline of NACCS EDI message format (e-mail style processing mode).

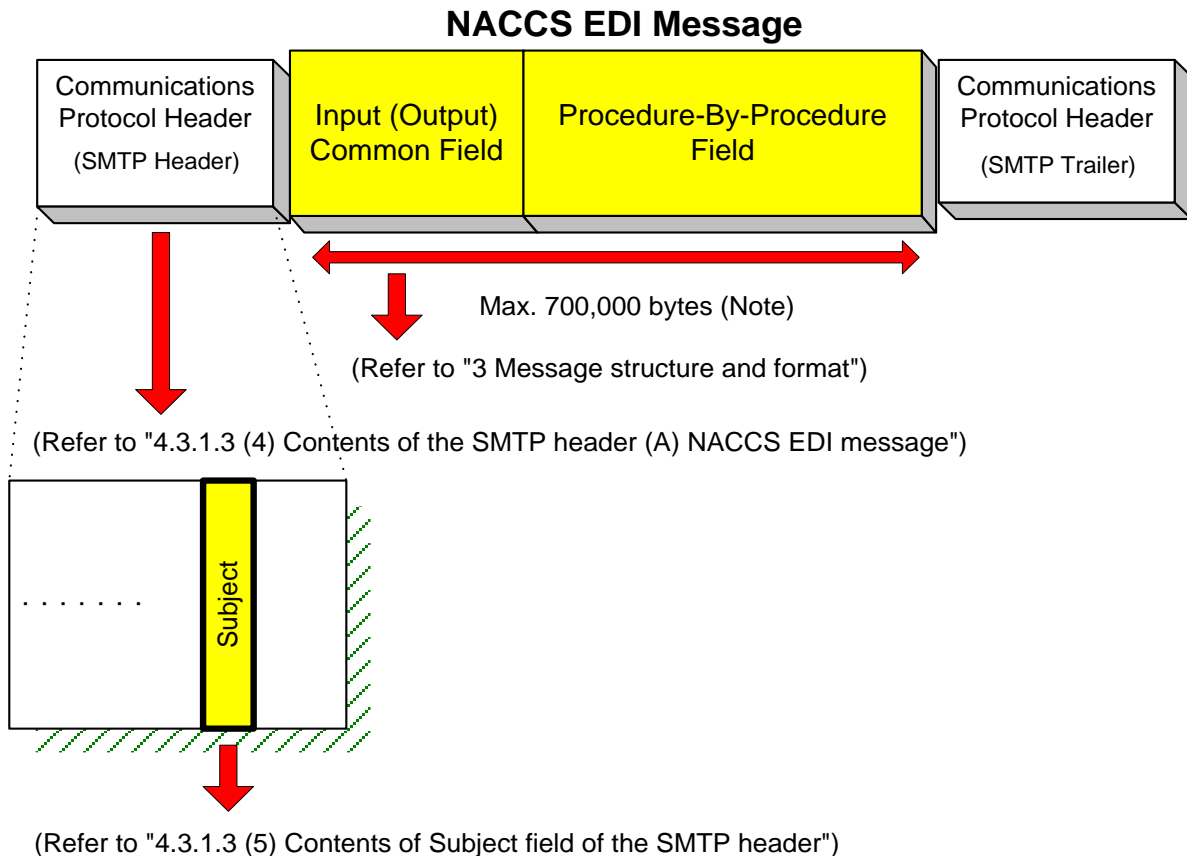


Figure 4.3.4 Outline of NACCS EDI Message Format (E-mail Style Processing Mode)

(Note) Refer to "3.1.2 NACCS EDI message structure Table 3.1.1" for the maximum allowable message size transmitted between relevant ministers' systems.

Figure 4.3.5 shows transmission of a NACCS EDI message from a user system to the NACCS Center server in e-mail style processing mode.

- 1) A NACCS EDI message body comes after the "<CRLF>" code placed after the SMTP header.
- 2) "." (Period) and "<CRLF>" are placed after the NACCS EDI message body, as communications protocol trailer.

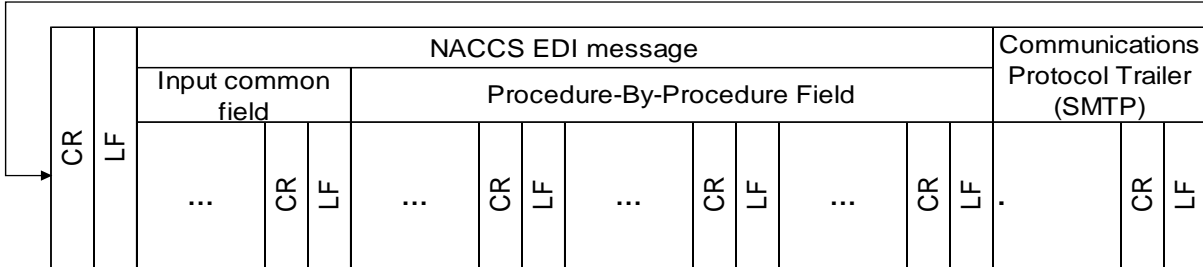
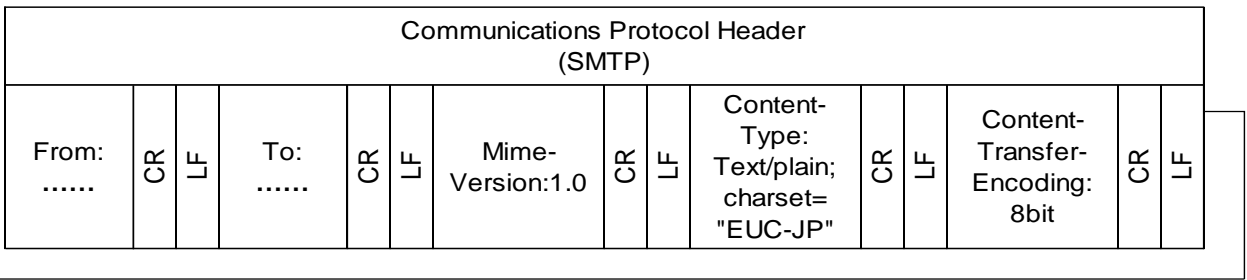
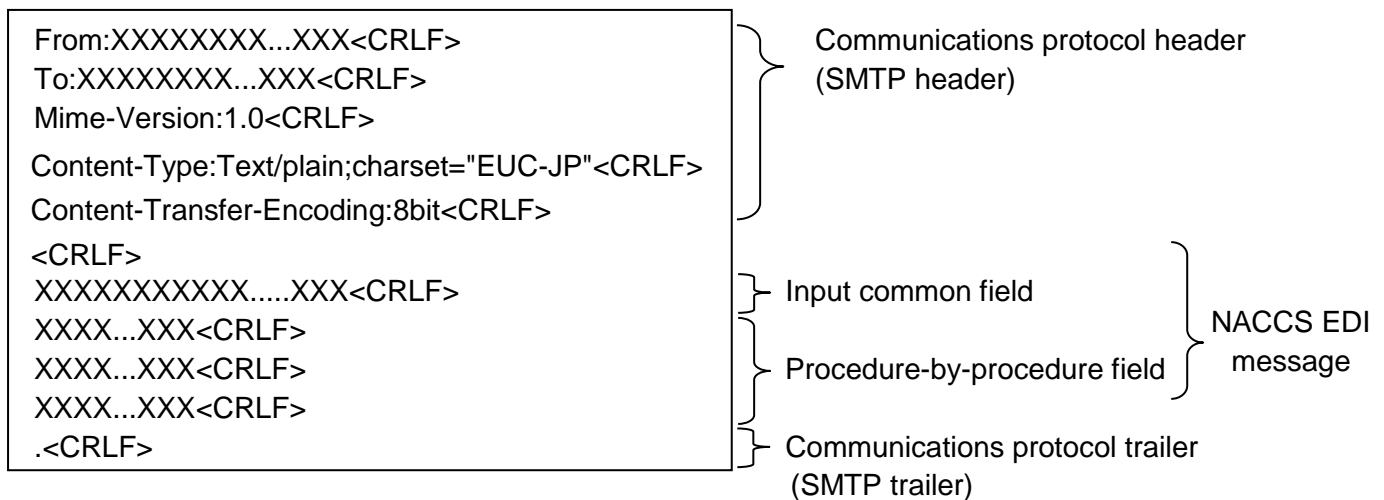


Figure 4.3.5 Message Segmentation

Note: The following figure shows segments of a message displayed on text editor tools, etc.



* Appearance of <CRLF> may be different depending on text editors, etc.

☐ Communications protocol trailer

In SMTP, a line filled with ". <CRLF>" (a period line) is added at the end of a message. The end of a message is recognized by a sequence of "<CRLF>. <CRLF>", which is a combination of "<CRLF>" placed at the end of a message and this additional period line.

☐ How to distinguish between communications protocol trailer and "." (dot)

"." is a communications protocol trailer which means the end of a response. In SMTP and POP3, the end of the message is recognized with <CRLF>.<CRLF>. If a message contains a line starting with "." in a response message, NACCS adds one "." (byte stuff) as escape character. The user should delete "." if the string to follow is not <CRLF>. This is an important distinguisher. Failure to delete byte stuff causes errors such as messages containing an additional unwanted "." (dot) and messages with an extra byte at the user's system.

(2) Attachment file transmission message

Figure 4.3.6 shows outline of attachment file transmission messages (e-mail style processing mode).

Refer to "4.6.2 Attachment file" for attachment files available for NACCS.

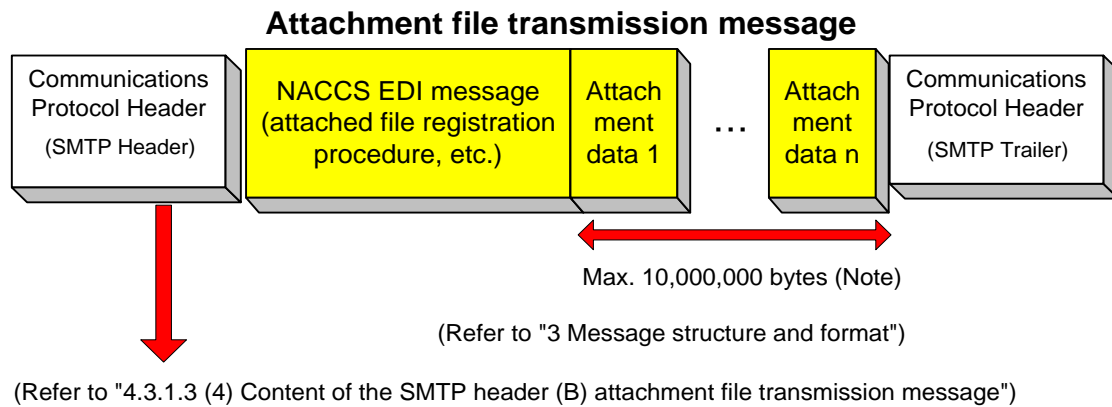


Figure 4.3.6 Outline of Attachment File Transmission Messages (E-mail Style Processing Mode)

(Note) Refer to "3.1.2 NACCS EDI message structure Table 3.1.1" for allowable maximum message length of attachment data transmitted among other relevant ministers' systems.

Figure 4.3.7 shows transmission of an attachment file transmission message from a user system to the NACCS Center server in e-mail style processing mode.

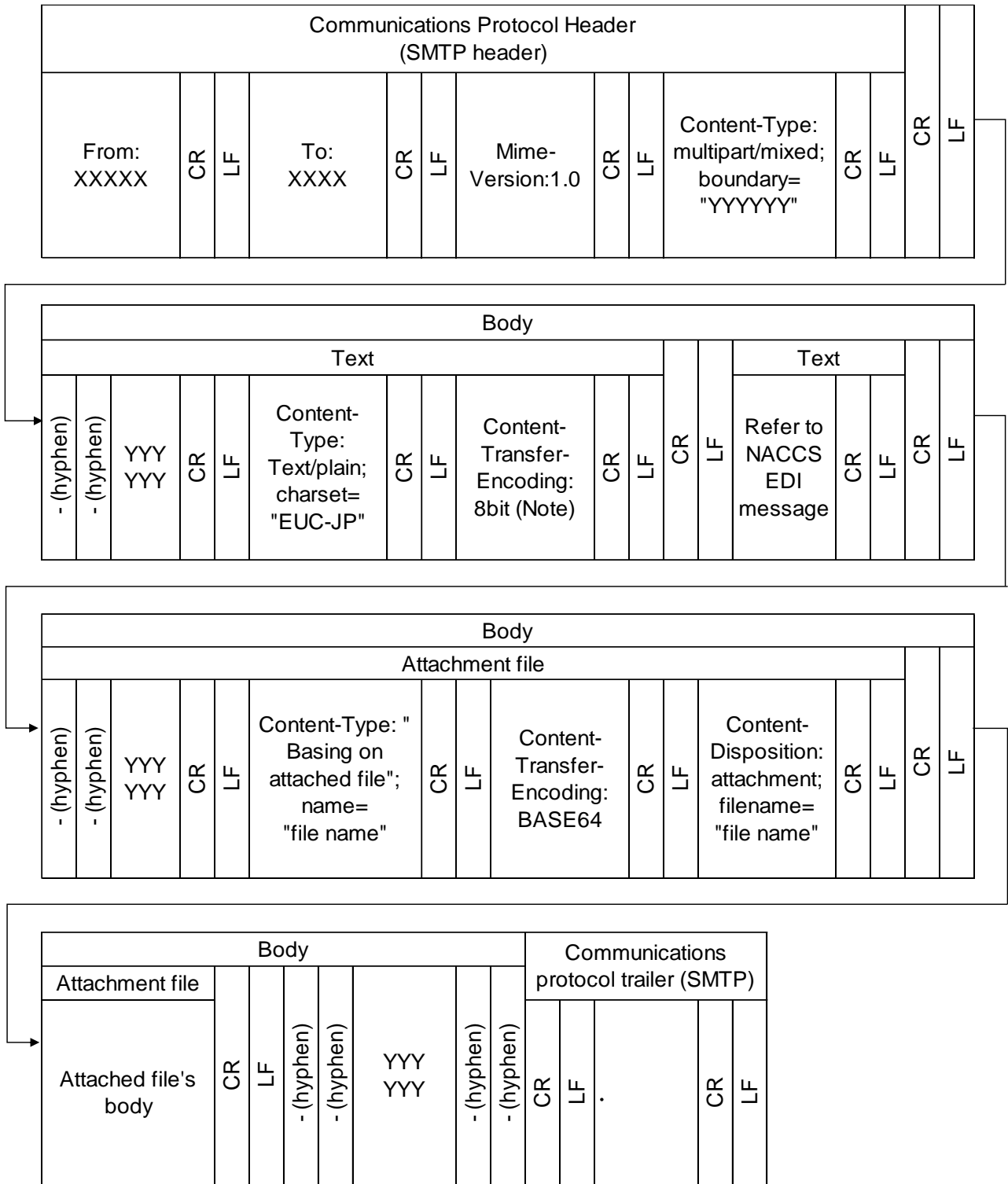
1) Filing method

In NACCS, BASE64 of MIME (Multipurpose Internet Mail Extensions) is used when sending and receiving the message. Attachment file transmission message is filled with attached file format. Details of regulations when sending and receiving the attachment file transmission message are as follow.

- MIME version is 1.0.
- Content-type of SMTP header is Multipart/mixed, Content-type of NACCS message is Text/plain, Content-type of attached file is specified according to each attached file.
- The Content-Transfer-Encoding of the attached file is appointed as BASE64.
- NACCS EDI message can't be abbreviated. In addition, the attached file needs to be placed behind the NACCS EDI message.
- In Content-Disposition, specify "attachment" and specify the file's name in "filename".

2) Image of message

- The attachment file transmission message is structured with a communications protocol header, and a message and communications protocol trailer.
- NACCS EDI message, attached file's body encoded with BASE64 comes after the <CRLF> code placed after SMTP header.
- "." (Period) and "<CRLF>" are placed after the NACCS EDI message body, as communications protocol trailer.



(Note) Setting point of this item is based on email software. "8 bit" is just an example.

Figure 4.3.7 An Example of Attachment File Transmission Message Structure

(3) XML format message

Figure 4.3.8 shows outline of XML format messages (e-mail style processing mode).

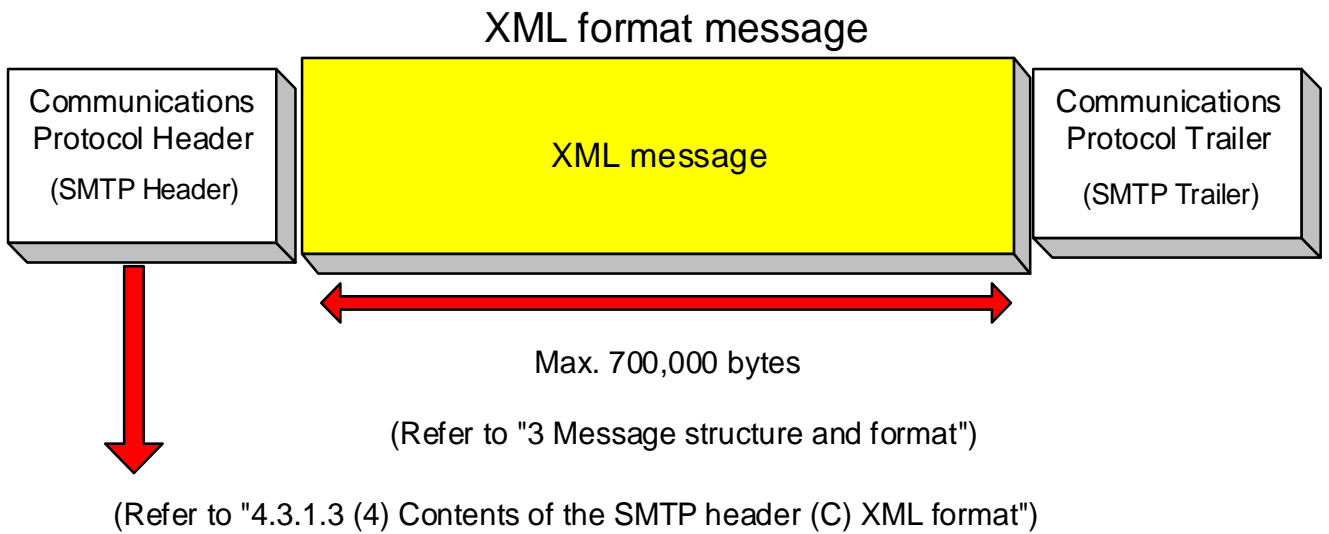


Figure 4.3.8 Outline of XML Format Message (E-mail Style Processing Mode)

Lay out of an XML format message sent to NACCS Center server from a user in e-mail style processing mode is described as follow.

- 1) An XML format message body comes after the "<CRLF>" code placed after the SMTP header.
- 2) "<CRLF>" and "." (Period) and "<CRLF>" are placed after the XML format message, as communications protocol trailer.
- 3) Make a new line after each 1,000 bytes. If not, an error will occur.
- 4) <CRLF> exists in each line of XML message.
- 5) Character code of XML message is EUC-JP. EUC-JP must be recorded in encoding field of XML header.

For details of XML format message structure which user sends to NACCS center sever in e-mail style processing mode, refer to Appendix 15 and Procedure Specifications.

<Reference>

Text presentation of the above contents on text editor tools, etc. is described as follows.

```
From:XXXXX...XXX<CRLF>
To:XXXXX...XXX<CRLF>
Mime-Version:1.0<CRLF>
Content-Type:Text/xml; charset="EUC-JP"<CRLF>
Content-Transfer-Encoding:8bit<CRLF>
<CRLF>
```

} Communications protocol header (SMTP header)

```
<?xml version="1.0" encoding="EUC-JP" standalone="no" ?>
- <RootElement>
  - <Header>
    - <DocumentType>
      <DocumentTypeCode>XXX</DocumentTypeCode>
      <DocumentTypeDescription>XX...XXX</DocumentTypeDescription>
    </DocumentType>
    - <DocumentIdentification>
      <MessageFunction> XX...XXX </MessageFunction>
      <MessageTransferSequenceNo>XX</MessageTransferSequenceNo>
    </DocumentIdentification>
      <SenderID> XX...XXX </SenderID>
    </Header>
  - <Body>
    .
    .
    .
    .
  - <AdditionalInformation>
    <InformationType> XX...XXX </InformationType>
  </AdditionalInformation>
  </Body>
</RootElement>
```

* XML message
Refer to Appendix 15 and Procedure Specifications for more details.

```
<CRLF>
.<CRLF>
```

} Communications protocol trailer (SMTP trailer)

(4) Contents of the SMTP header

(A) NACCS EDI message

Contents of the SMTP header included in processing request message and processing result message are as follows.

(1) Send processing request message

Table 4.3.7 shows contents of the SMTP header in a processing request message sent from a user.

Table 4.3.7 SMTP Header (Processing Request Message)

Item No.	Item	Contents specified by the user
1	From	The sender of the mail. In NACCS a source (user) e-mail address assigned by NACCS Center is specified. If no address is specified, error will occur. (Refer to "4.3.4 E-mail address.")
2	To	The receiver of the mail. In NACCS, the NACCS center server's e-mail address allocated for the e-mail style processing mode is specified. (Refer to "4.3.4 E-mail address.")
3	MIME-version	In NACCS 1.0 is specified.
4	Content-Type	Text/plain;charset="EUC-JP" is specified.
5	Content-Transfer-Encoding	In NACCS characters are treated as EUC characters. 8bit is specified.

(2) Processing Result Message

Table 4.3.8 shows contents of the SMTP header in a processing result message (processing result notification message and output information message) sent from NACCS to a user.

Table 4-3-8 SMTP Header (Processing Result Message)

Item No.	Item	Contents specified by the mail server in NACCS's Mail Server
1	From	The sender of the mail. In NACCS, the NACCS center server's e-mail address allocated for the e-mail style processing mode is specified. (Refer to "4.3.4 E-mail address.")
2	To	The receiver of the mail. In NACCS user's e-mail address for mail box for incoming messages which is used to store processing result messages is specified. (Refer to "4.3.4 E-mail address.")
3	Date	The date the message is sent to the receiver is specified.
4	Subject	(See "4.3.1.3 (5) Contents of Subject field of the SMTP header")
5	MIME-version	In NACCS 1.0 is specified.
6	Content-Type	Text/plain;charset="EUC-JP" is specified.
7	Content-Transfer-Encoding	In NACCS characters are treated as EUC characters. 8bit is specified.

(B) Attachment file transmission message

Contents of the SMTP header included in processing request message and processing result message are as follows.

(1) Send processing request message

Table 4.3.9 shows contents of the SMTP header in a processing request message sent from a user.

Table 4.3.9 SMTP Header (Processing Request Message)

Item No.	Item	Contents specified by the user
1	From	The sender of the mail. In NACCS, a source (user) e-mail address assigned by NACCS center is specified. If no address is specified, error will occur. (Refer to "4.3.4 E-mail address.")
2	To	The receiver of the mail. In NACCS, the NACCS center server's e-mail address allocated for the e-mail style processing mode is specified. (Refer to "4.3.4 E-mail address.")
3	MIME-version	In NACCS 1.0 is specified. If it is not specified, that e-mail will be omitted.
4	Content-Type	For SMTP header, multipart/mixed; boundary="optional value" is specified. In addition, NACCS message is specified by Text/plain, and attachment file by Basing on attached file. If it is not specified, that e-mail will be omitted.
5	Content-Transfer-Encoding	It is not specified in SMTP header. 8bit is specified in NACCS message and BASE64 is specified in attached file.
6	Content-Disposition	It is not specified in SMTP header and NACCS message. Attachment is specified in attached file and "file name" in filename.

(2) Processing result message

For details about contents of the SMTP header in a processing result message sent from NACSS to a user, referred to "4.3.1.3 (4) Content of the SMTP header (A) NACCS EDI message – Table 4.3.8" above.

(C) XML format message

Contents of the SMTP header included in processing request message and processing result message are as follows.

(1) Send processing request message

Table 4.3.10 shows contents of the SMTP header in a processing request message sent from a user.

Table 4.3.10 SMTP Header (Processing Request Message)

Item No.	Item	Contents specified by the user
1	From	The sender of the mail. In NACCS, a source (user) e-mail address assigned by NACCS center is specified. If no address is specified, error will occur. (Refer to "4.3.4 E-mail address.")
2	To	The receiver of the mail. In NACCS, the NACCS center server's e-mail address allocated for the e-mail style processing mode is specified. (Refer to "4.3.4 E-mail address.")
3	MIME-version	In NACCS 1.0 is specified. If it is not specified, that e-mail will be omitted.
4	Content-Type	In NACCS, due to using message in EUC, Text/xml; charset="EUC-JP" is specified.
5	Content-Transfer-Encoding	In NACCS characters are treated as EUC characters. 8bit is specified.

(2) Processing Result Message

For details about contents of the SMTP header in a processing result message sent from NACSS to a user, referred to "4.3.1.3 (4) Content of the SMTP header (A) NACCS EDI message – Table 4.3.8" above.

(5) Contents of Subject field of the SMTP header

Contents of Subject field of the SMTP header included in a processing result message sent from the center server to a user are as follows.

(1) Purpose

The purpose of this is by the NACCS Center server specifying the contents described in (2) following in the "subject" of the SMTP header, details of the processing result messages stored in the mail can be read without the user opening the mail.

(2) Contents of Subject field

A common format is used for both processing result notification messages and output information messages.

Table 4.3.11 shows contents of Subject field.

Table 4.3.11 Contents of Subject Field

Field name	length	Outline
Procedure-By-Procedure Field Data	64	For example, processing result code, declaration number, and B/L number are specified. (Refer to Appendix Table 6.8 "Output Information Code List") A space is used as a data separator.

(3) Others

Since contents of Subject field are included in a NACCS EDI message body, Subject field is not specifically useful for users who do not need to handle its contents.

(Subject field can be omitted)

4.3.2 E-mail style processing for EDIFACT messages

4.3.2.1 Outline of e-mail style processing mode (EDIFACT messages)

For e-mail style processing mode for EDIFACT messages, message structure is different from e-mail style processing mode for NACCS EDI messages. However, other than that it basically has the same method.

Figure 4.3.9 shows outline of e-mail style processing mode for EDIFACT messages in NACCS. In addition, for e-mail sending, refer to "4.6.1 e-mail".

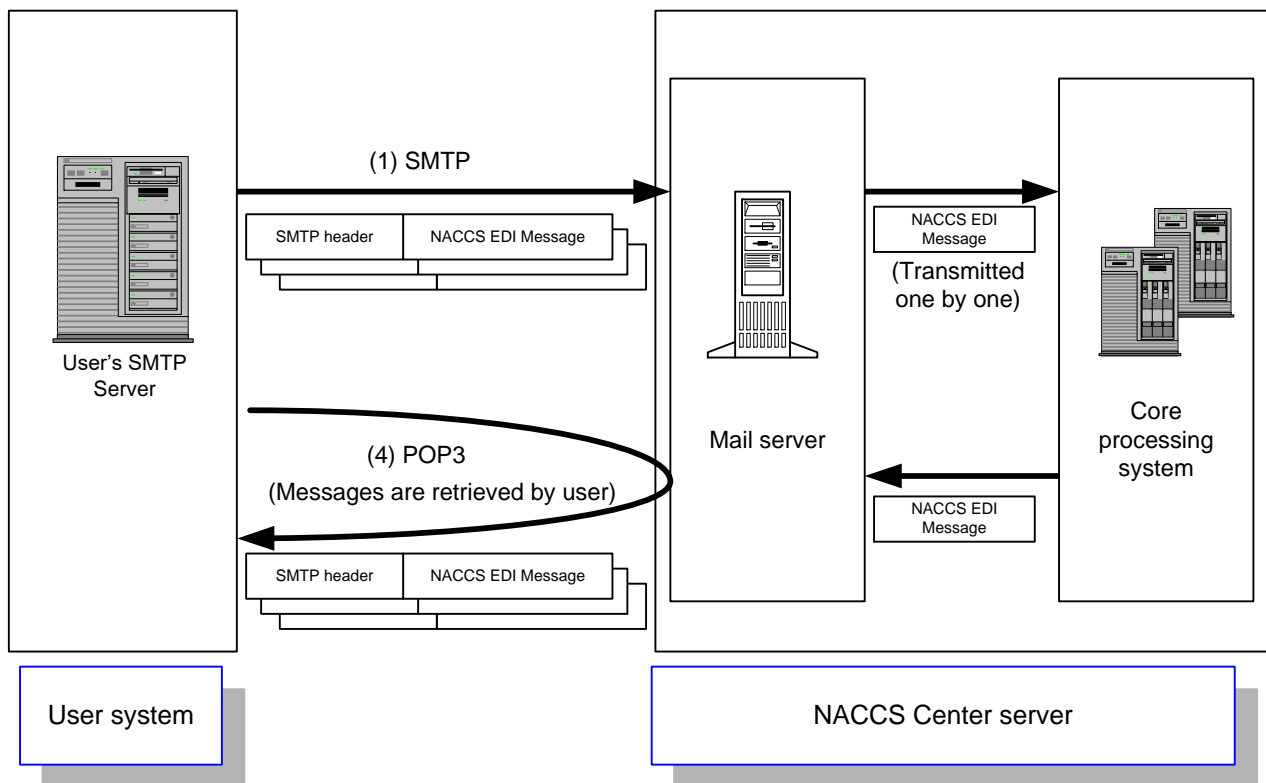


Figure 4.3.9 Outline of Connection Mode of E-mail Processing Mode for EDIFACT Messages

- (1) The user creates and sends an EDIFACT message that contains data required for the relevant procedure to the mail server over the SMTP protocol (EDIFACT message is attached in MIME format). More than one message can be sent at a time.
- (2) The mail server converts the EDIFACT message into a NACCS EDI message, and forwards this to the core processing system.
- (3) The core processing system then processes the message based on the forwarded message, and forwards a processing result message to the user's mailbox on the mail server. The mail server converts the NACCS EDI message into a EDIFACT message, and stores this in user mailbox with in the mail server in MIME format.
- (4) Then the user retrieves the processing result message from the mailbox over the POP3 protocol.

4.3.2.2 Details of the communications protocols

In e-mail style processing mode for EDIFACT messages, TCP/IP is used for the network and transport layers, and regarding the upper layer, SMTP (MIME) for sending processing request messages and POP3 (MIME) for receiving processing result messages are used as communications protocols.

(1) SMTP specifications when sending a processing request message on SMTP

(A) Applicable SMTP commands

Table 4.3.12 shows list of SMTP commands available in e-mail style processing mode for EDIFACT messages, and their responses.

Table 4.3.12 List of Available SMTP Commands

Command	Outline	Parameter	Response on NACCS's Mail Server (Normal response)
HELO	To declare use of the communications channel and identify the host	Sender host name (Domain name)	250
MAIL	To start the mailing transaction	FROM: Sender name	250
RCPT	To specify the receiver of the mail	TO: Receiver user name	250
DATA	To start sending the mail body	Message data	354
RSET	To stop sending the mail	None	250
QUIT	To close the connection	None	221

(B) SMTP command sequence for sending a processing request message

Figure 4.3.10 shows a sequence of SMTP commands issued for transmission of processing request messages from the user system to the NACCS Center server (example of 2 messages in a single connection session to the mail server).

Table 4.3.13 shows description of each command.

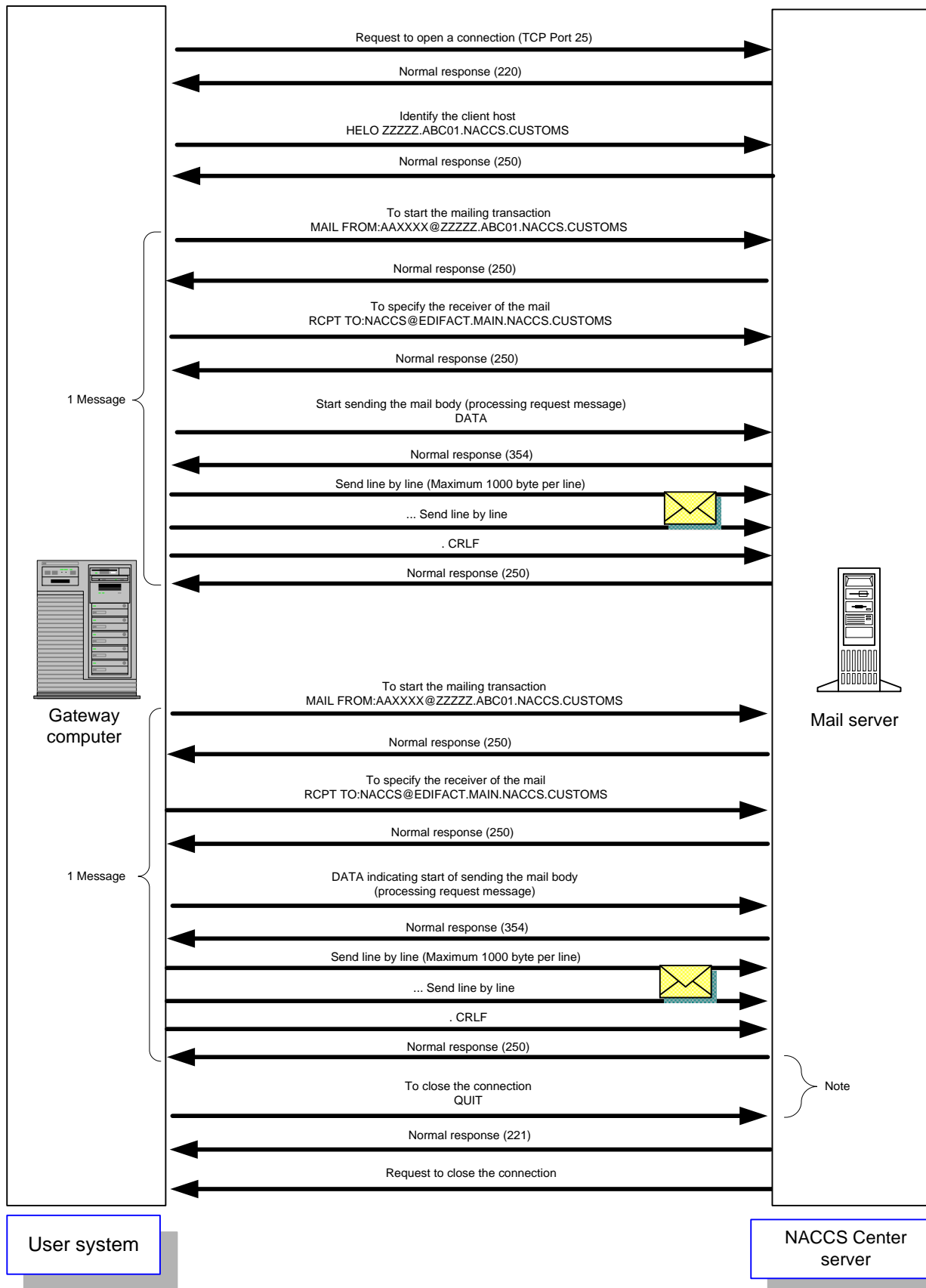


Figure 4.3.10 Sequence of SMTP commands issued for transmission of Processing Request Messages (Example of 2 Messages in a Single Connection Session to the NACCS's Mail Server)

Table 4.3.13 Description about Command when Sending SMTP

Item No.	Command	Description
1	Request to open a connection	User requests connection to NACCS's Mail Server at Port 25. NACCS's Mail Server sends Response Code 220 as a normal response. IP address for NACCS's Mail Server can be obtained from NACCS Center's DNS.
2	HELO Domain name	User executes command after setting domain name for user's system. NACCS's Mail Server opens SMTP connection if server is available. NACCS's Mail Server sends Response Code 250 as a normal response. NACCS center notifies user's domain name in advance.
3	MAIL FROM: Mail address	User executes command after setting mail address for user's system. NACCS's Mail Server sends Response Code 250 as a normal response. NACCS center notifies user's mail address in advance.
4	RCPT TO: Mail address	User executes command after setting mail address (NACCS@EDIFACT.PROD.NACCS6) for NACCS Center server. NACCS Center server sends Response Code 250 as a normal response.
5	DATA	User executes command to start transmission of processing request message. NACCS's Mail Server sends Response Code 354 as a normal response. After that, user can send the message (including communications protocol header).
6	Send mail body	User sends processing request message in accordance with NACCS Procedure Specification. At the end edge of a processing request message, only the line with dot (.) can be sent. After receiving the end edge, NACCS's Mail Server sends Response Code 250 as a normal response. (Note 1) It is necessary to make a line (CRLF) after each 1,000 bytes, but because in NACCS EDI specification, a new line (CRLF) will be made within 1,000 bytes, it is not necessary for user to be aware of it. (Note 2) The terminal of the message is recognized from "<CRLF>.<CRLF>" in SMTP. If a message contains a line beginning with ".", the user's system should add dummy ".". The NACCS mail server removes the dummy "." and forwards the message to the core processing system.
7	RSET	If user executes this command, it will return to the status after HELO. NACCS's Mail Server sends Response Code 250 as a normal response. (Normally, it is not necessary to execute this command).
8	QUIT	User closes SMTP connection. NACCS's Mail Server sends Response Code 221 as a normal response.

(Note) In Figure 4.3.10, if the gateway computer on the user side won't issue the QUIT command within two minutes after completion of transmission of all messages, the NACCS's Mail Server will prompt a connection timeout and close the current connection by force. Therefore, for gateway connection, when using e-mail style processing mode, the QUIT command must be issued upon completion of transmission of all processing request messages.

(Note 1) Response code of SMTP

There are optional characters behind 3 digits of each response code, but only refer to these 3 first digits.

Example: Response of HELO

250 EDIFACT.PROD.NACCS6



Only refer to the response code and carry out the settlement methods described in the Table 4.3.14.

* Reason: Because rear characters can be changed depending on Specification changes in the NACCS center server.

(Note 2) Timeout observation

The user system must monitor SMTP connection timeouts to detect any failure in the NACCS's Mail Server or network.

In this specification, more than one message can be sent in one connection, and as the timeout period of SMTP connection cannot be prescribed, the monitoring time must be decided based on operation methods applied by user.

(C) Settlement in abnormal cases

Settlement methods in case if an error occurs when sending SMTP are described in the Table 4.3.14.

Table 4.3.14 Settlement methods for sequential errors of SMTP

Item No.	Command	Estimated errors and settlement methods
1	Request to open a connection	<p>User sends connection request to NACCS's Mail Server but request is not accepted.</p> <p>Reasons and settlement methods:</p> <ul style="list-style-type: none"> • The destination IP address is faulty. → Make sure connection is established to NACCS's Mail Server's IP address notified by NACCS Center. • The destination port number is faulty. → Determine if a request is sent to open a connection to port number 25 or not. • The center is under maintenance. → Information about maintenance of the NACCS Center server is announced to the public on NACCS information, so that should be checked. If the center is under maintenance, re-send the request to open a connection after the maintenance work is finished. • The NACCS Center server or network is damaged. → Re-send another request to open a connection after a while. If it is not recovered for a long time, send an investigation request to the Help desk of NACCS Center. <p>The information on damages is also updated on the NACCS information. The information on the server's maintenance or damages used for connection test will not be notified on the NACCS information, if the server cannot be connected even in the time when the connection test is done, confirm the situation with NACCS Center.</p>
2	HELO	<p>Errors in response (except for normal responses (250)) are returned.</p> <p>Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error (500) → Confirm that the character string for sending the HELO command is correct. 2) For command sequences error (503). → Execute the command with the right sequences described in the Figure 4.3.10. <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
3	MAIL FROM	<p>Errors in response (except for normal responses (250)) are returned.</p> <p>Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error (500) or parameter error (501) or domain name error (553). → Confirm that the character string for sending MAIL command is correct. 2) For command sequences error (503). → Execute the command with the right sequences described in the Figure 4.3.10. <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
4	RCPT TO	<p>Errors in response (except for normal responses (250)) are returned.</p> <p>Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error (500) or parameter error (501) or domain name error (553).

Item No.	Command	Estimated errors and settlement methods
		<p>→ Confirm that the character string of sending RCPT command is correct.</p> <p>2) For command sequences error (503).</p> <p>→ Execute the command with the right sequences described in the Figure 4.3.10.</p> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
5	DATA	<p>Errors in response (except for normal responses (354)) are returned.</p> <p>Reasons and settlement methods:</p> <p>1) For syntax error (500)</p> <p>→ Confirm that character string of sending DATA command is correct.</p> <p>2) For Command sequences error. (503).</p> <p>→ Execute the command with the right sequences described in the Figure 4.3.10.</p> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
6	Send processing request message	<p>Errors occur during communication.</p> <p>Reasons and settlement methods:</p> <p>As NACCS's Mail Server can be damaged, re-send the request after a while. If it is not recovered for a long time, send an investigation request to the Help desk of NACCS Center.</p>
7	RSET	<p>Errors in response (except for normal responses (250)) are returned.</p> <p>Reasons and settlement methods:</p> <p>For syntax error (500)</p> <p>→ Confirm that character string of sending RSET command is correct.</p> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
8	QUIT	<p>Errors in response (except for normal responses (221)) are returned.</p> <p>Reasons and settlement methods:</p> <p>For syntax error (500)</p> <p>→ Confirm that the character string of QUIT command is correct.</p>
9	Others	<p>Detect abnormalities during communication.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, re-send the request to open a connection.</p>

(2) POP3 specifications when receiving a processing result message

(A) Available POP3 commands

In principle, POP3 (Post Office Protocol version 3) in this mode shall comply with "Request for Comments" (RFC 1939). However, APOP authentication, one of the authentication exchange methods, is not supported.

Table 4.3.15 shows list of POP3 commands available in e-mail style processing mode for EDIFACT messages, and their responses.

Table 4.3.15 List of Available POP3 Commands

Command	Outline	Parameter	Response on NACCS'S Mail Server (Normal response)
USER	To send mail address	Mail address	+OK
PASS	To send mailbox password	Mailbox password	+OK
STAT	To inquire about number of mail messages and total size of mail messages	None	+OK Number of messages Total size of messages
LIST	To inquire about entire message information	None	+OK Message number Message size • • • Message number Message size .
	To inquire about specific message information	Message number	+OK Message number Message size
RETR	To request to retrieve message	Message number	+OK Procedure message (more than 1 line) .
DELE	To request message deletion	Message number	+OK
QUIT	End of connection (notice of completion)	None	+OK

(B) POP3 command sequence in receipt of a processing result message

Figure 4.3.11 shows a sequence to retrieve processing result messages over POP3 in e-mail style processing mode. This sequence is an example of use of STAT command when obtaining the number of processing result messages at the time of connection to the mail server. Table 4.3.16 shows description of each command.

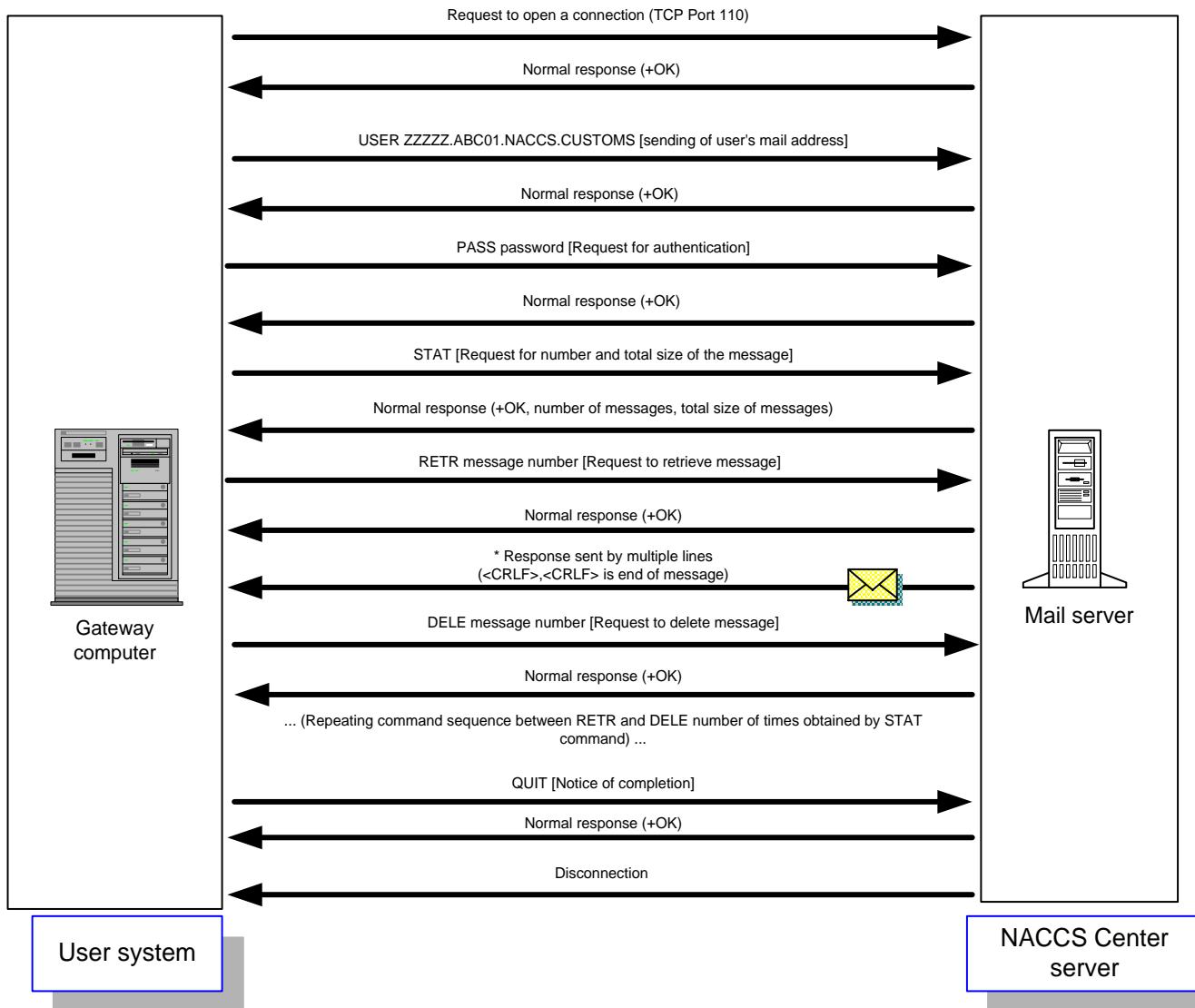


Figure 4.3.11 POP3 Command Sequence for Receiving a Processing Result Message

Table 4.3.16 Description about Command when Receiving POP3

Item No.	Command	Description
1	Request to open a connection	User requests connection to NACCS's Mail Server at Port 110. NACCS's Mail Server sends +OK as normal response. IP address for NACCS's Mail Server can be obtained from NACCS Center's DNS.
2	USER mail address	User executes command after setting mail address for user's system. NACCS's Mail Server sends +OK as normal response. NACCS center notifies user's mail address in advance.
3	PASS POP password	User executes command after setting POP password. User authentication is executed based on mail server specified on USER command plus POP password set on this command. If successful, +OK normal response is sent. NACCS Center notifies user of POP password in advance.
4	STAT	When obtaining number and total size of message allowed in current connection session, user executes this command. NACCS's Mail Server sends normal response as follows: +OK△number△total message size (in bytes)
5	LIST	When obtaining message number and message size allowed in current session, user executes this command. NACCS's Mail Server sends normal response as follows: +OK message number△message size message number△message size : message number△message size . (Note 1) "." is a communications protocol trailer, indicating the terminal of a message. (Note 2) The unit for message sizes is bytes.
6	LIST message number	When obtaining message size represented by message number in current session, user executes this command. NACCS's Mail Server sends normal response as follows: +OK△message number△message size (in bytes)

Item No.	Command	Description
7	RETR message number	<p>When reading out mail from mailbox after specifying message number, user executes this command. NACCS's Mail Server sends normal response as follows:</p> <p>+OK Procedure message (more than 1 line) .</p> <p>(Note 1) "." is a communications protocol trailer, indicating the terminal of a message. As the terminal of the message is recognized from <CRLF>.<CRLF> in POP3, if a message contains a line beginning with ".", the user system adds a dummy "." at the beginning of the line when responding. If a message received is not a <CRLF> string followed by ".", the user system removes "." placed at the beginning of the message.</p>
8	DELE message number	<p>When deleting message from mailbox after specifying message number on RETR command, user executes this command. NACCS's Mail Server sends normal response as follows:</p> <p>+OK</p> <p>(Note 1) When deleting a specified message from a mail domain, deletion will be successfully completed after being disconnected in response to the QUIT command. If an abnormal response is generated over POP3, or an unintended disconnection is caused due to some kind of failure before the QUIT is properly accepted, when a connection is established afresh, any message for which the DELE command was issued for normal termination will be received again.</p>
9	QUIT	<p>When closing POP3 connection session, user uses this command. NACCS's Mail Server sends following normal response before disconnecting.</p> <p>+OK</p>

Note 1: POP Response Codes

After a Response Code (+OK,-ERR), a one-byte space may be inserted, and request command-specific response information may follow. In this case, however, only the commands given in Table 4.3.16 should be referred to.

Note 2: △ denotes a space.

When issuing a subsequent request to retrieve a processing result message from the incoming mailbox after retrieving and deleting a message and issuing the QUIT command for notice of completion of a session, the user is required to wait for a period of time (3 minutes) or more designated by NACCS Center. The reason is that if users frequently issue requests to retrieve processing result messages from their incoming mailbox, the mail server may be overloaded. As a result, the system response becomes slow and it takes a longer time to verify the contents of processing result messages.

In addition, users must issue the DELE command after retrieving messages by the RETR command to delete the retrieved messages from their mailbox.

(C) Settlement in abnormal cases

Table 4.3.17 shows how to handle errors occurring during receiving messages via POP3.

Table 4.3.17 POP3 Sequence Errors and Error Handling Procedures

Item No.	Command	Estimated errors and settlement methods
1	Request to open a connection	<p>User sends connection request to NACCS's Mail Server but request is not accepted.</p> <p>Reasons and settlement methods:</p> <ul style="list-style-type: none"> • The destination IP address is faulty. → Make sure connection is established to NACCS's Mail Server's IP address notified by NACCS Center. • The destination port number is faulty. → Determine if it sends request to open a connection to port number 110 or not. • The NACCS center server is under maintenance. → Information about maintenance of the NACCS Center server is announced to the public on NACCS information, so that should be checked. If the center is under maintenance, re-send the request to open a connection after the maintenance work is finished. • The NACCS Center server or network is damaged. → Re-send another request to open a connection after a while. If it is not recovered for a long time, send an investigation request to the Help desk of NACCS Center. The information on damages is also updated on the NACCS information. The information on the server's maintenance or damages used for connection test will not be notified on the NACCS information, if the server cannot be connected even in the time when the connection test is done, confirm the situation with NACCS Center.
2	USER	<p>Error response is returned (-ERR).</p> <p>Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that character string of USER command is correct. 2) For command sequences error → Execute USER command before executing PASS command. <hr/> <p>Timeout due to no response from NACCS's Mail Server.</p> <p>Reasons and settlement methods:</p> <p>As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>

Item No.	Command	Estimated errors and settlement methods
3	PASS	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that character string of sending PASS command is correct. 2) For command sequences error → Execute the command after executing USER command. 3) For Authentication error → Check user mail address specified on USER command and POP password specified on PASS command, and start over with requesting connection again. <hr/> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
4	STAT	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that the character string of sending STAT command is correct. 2) For command sequences error → Execute command after PASS command is completed with normal response. <hr/> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
5	LIST	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that the character string of sending LIST command is correct. 2) For command sequences error → Execute command after PASS command is completed with normal response. <hr/> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
6	RETR	<p>Error response is returned (-ERR). Reasons and settlement methods:</p> <ol style="list-style-type: none"> 1) For syntax error → Confirm that the character string of sending RETR command is correct. 2) For command sequences error → Execute command after PASS command is completed with normal response. 3) No message corresponding to message number specified exists, or request has already been issued for message number deletion on DELE command within the same connection session. → Make sure to specify correct message number and execute command. <hr/> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>

Item No.	Command	Estimated errors and settlement methods
7	DELE	<p>Error response is returned (-ERR). Reasons and settlement methods: 1) For syntax error → Confirm that the character string of sending DELE command is correct. 2) For command sequences error → Execute command after PASS command is completed with normal response. 3) No message corresponding to message number specified exists, or request has already been issued for message number deletion on DELE command within the same connection session. → Make sure to specify correct message number and execute command.</p> <hr/> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
8	QUIT	<p>Error response is returned (-ERR). Reasons and settlement methods: For syntax error → Confirm that the character string of sending QUIT command is correct.</p> <hr/> <p>Timeout due to no response from NACCS's Mail Server. Reasons and settlement methods: As damages may be occurring, cut off the connection for a while and re-send the request for a connection.</p>
9	Others	<p>Connection breaks during transmission of message. Reasons and settlement methods: As damages may occur, re-send the request to open a connection.</p>

4.3.2.3 Message format

(1) EDIFACT message

When using EDIFACT messages, a communications protocol header and a trailer are added to an EDIFACT message.

Figure 4.3.12 shows outline of message structure.

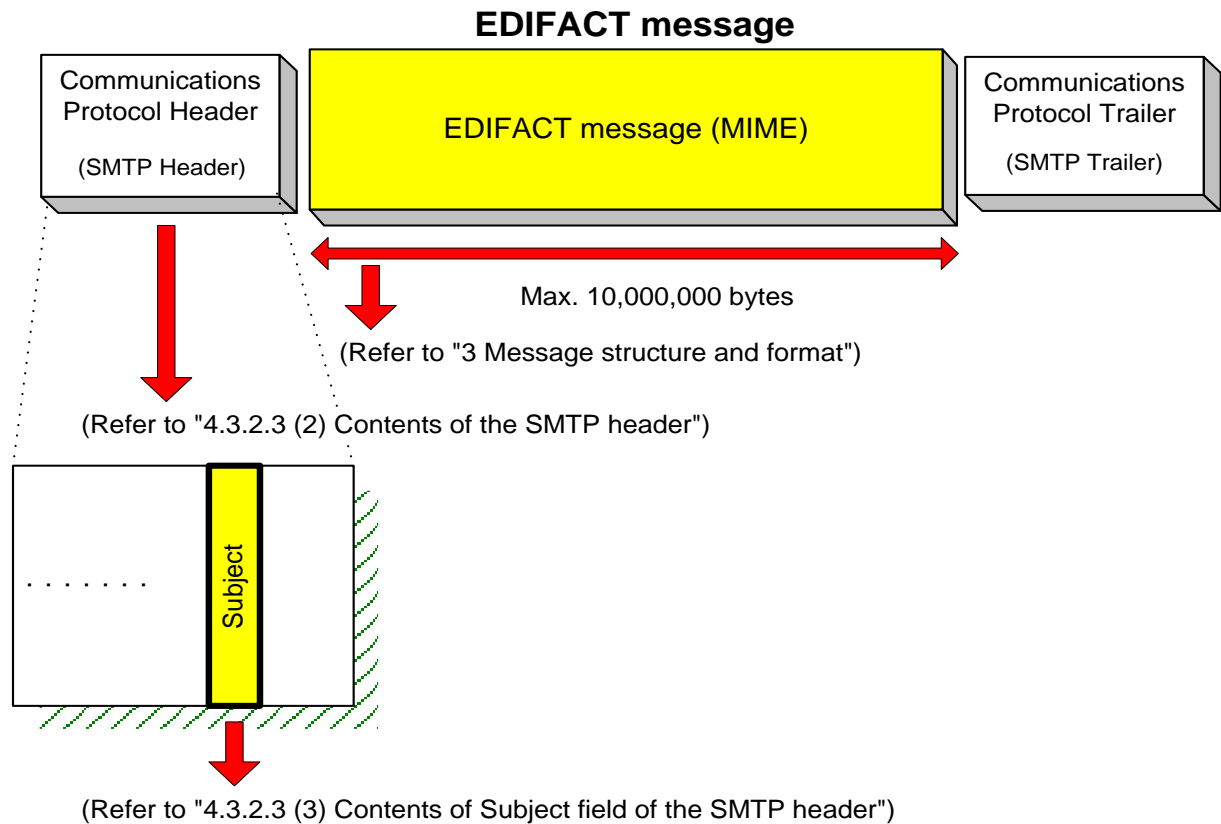


Figure 4.3.12 Outline of EDIFACT messages

To send EDIFACT messages to NACCS Center server, messages should be created in the following format. Figure 4.3.13 and Figure 4.3.14 show examples of EDIFACT message structure.

1) Filing method

In NACCS, MIME (Multipurpose Internet Mail Extensions) is used when sending and receiving EDIFACT messages. EDIFACT messages are filled with attached file format.

Details of regulations for MIME messages are as follow.

- MIME version is 1.0.
- Content-Type is Text/plain or Multipart/mixed.
- Content-Transfer-Encoding is BASE64 or Quoted-Printable.
- Only EDIFACT messages are encoded.
- The number of files which can be attached is only 1 file (if user send a processing request message with multiple files attached, NACCS Center server processes only forefront 1 file among them, and the rest of files are treated as not subject to processing).

2) Image of message

- An EDIFACT message comes after the "<CRLF>" code placed after the SMTP header, while being encoded with BASE64 or Quoted-Printable.
- "<CRLF>" and "." (Period) and "<CRLF>" are placed after the NACCS EDI message body, as communications protocol trailer.

<When Text/plain is specified for Content-Type>

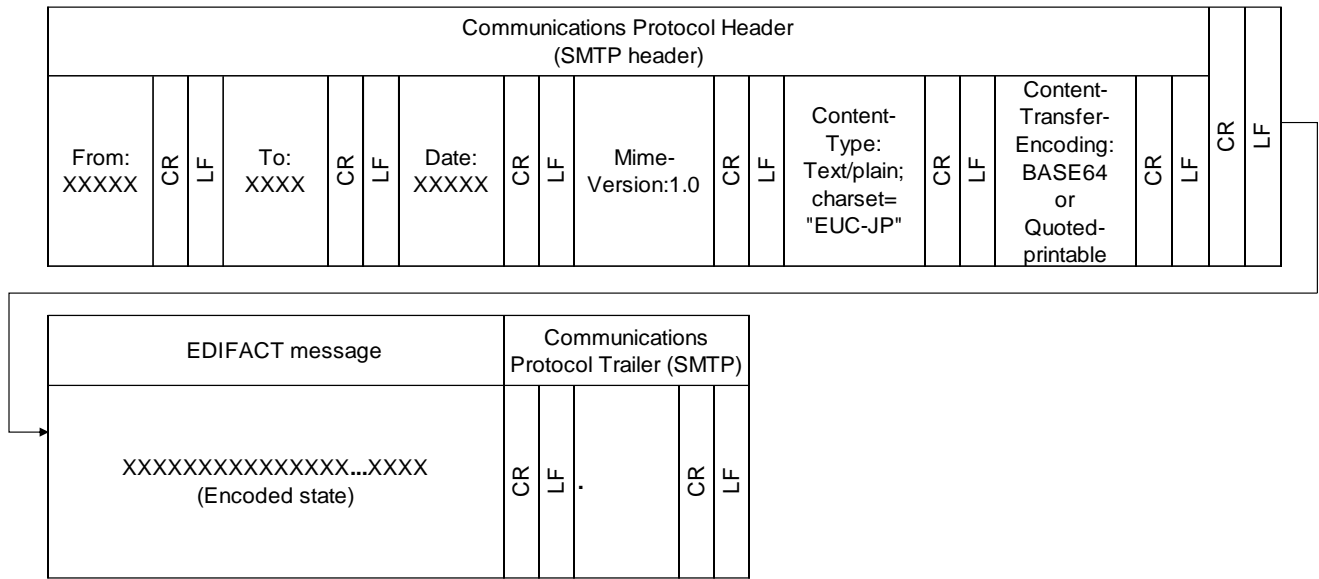


Figure 4.3.13 Example of EDIFACT Message Structure (When Text/plain is specified for Content-Type)

Note: The following figure shows segments of a message displayed on text editor tools, etc.

```

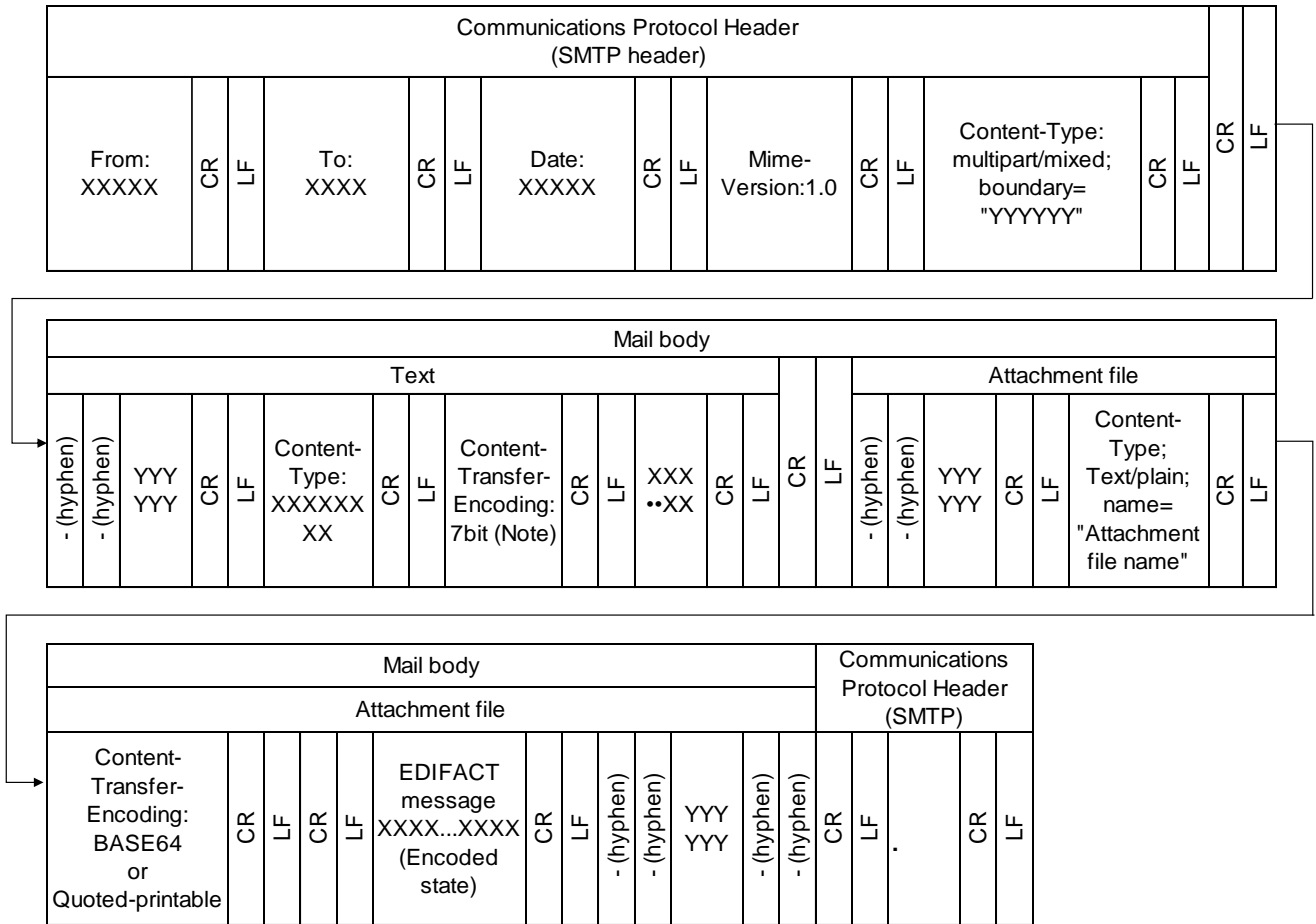
From:XXXXXXXX...XXXX<CRLF>
To:XXXXXXXX...XXX<CRLF>
Date:XXXXXXXX...XXXX<CRLF>
Mime-Version:1.0<CRLF>
Content-Type:Text/plain;charset="EUC-JP"<CRLF>
Content-Transfer-Encoding:BASE64<CRLF>
(There are some cases where "BASE64" is used
instead of "Quoted-printable")
<CRLF>

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX...XXX
} EDIFACT message
  (Encoded state)

<CRLF>
.<CRLF>
} Communications protocol trailer
  (SMTP trailer)
    
```

How to distinguish between communications protocol trailer and "." (dot)
 "." is a communications protocol trailer which means the end of a response. In SMTP, the end edge of a message is recognized with <CRLF>.<CRLF>. If there is a message in which "." is placed in front of the line, in order to distinguish with the communications protocol trailer, the Center will add "." (byte stuff) in front of the line and send it back to user. In case if the arrival response message has a "." in front of the line and the next character string is not <CRLF>, user will delete "." (byte stuff) in front of the line. Failure to delete byte stuff causes errors such as messages containing an additional unwanted "." (dot) and messages with an extra byte at the user's system.

<When Multipart is specified for Content-Type>



(Note) Setting point of this item is based on email software. "7 bit" is just an example.

Figure 4.3.14 Example of EDIFACT Message Structure (When Multipart is specified for Content-Type)

Note: Text presentation of the above contents on text editor tools, etc. is described as follow.

```

From:XXXXX...XXX<CRLF>
To:XXXXX...XXX<CRLF>
Date:XXXXX...XXX<CRLF>
Mime-Version:1.0<CRLF>
Content-Type:multipart/mixed; boundary="YYYYYYY"<CRLF>
<CRLF>
--YYYYYYY<CRLF>
Content-Type:XX...X<CRLF>
Content-Transfer-Encoding:7bit<CRLF>
XXXXX...XXX<CRLF>
<CRLF>
--YYYYYYY<CRLF>
Content-Type:Text/plain; name="Attachment file name" <CRLF>
Content-Transfer-Encoding:BASE64<CRLF>
(There are some cases where "BASE64" is used instead of "Quoted-printable")
<CRLF>

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX...XXX } EDIFACT
message                                                                                                     (Encoded state)

<CRLF>
--YYYYYYY--
<CRLF>
.<CRLF>

```

} Communications protocol Header (SMTP header)

} Communications protocol trailer (SMTP trailer)

3) File name of attachment files

a. Processing request message

User assigns an arbitrary file name. File name should be as follows
 Format: 8.3 format, Total of 12 characters or less of (XXXXXXXXX.XXX)
 Available character: One-byte alphanumeric characters (capital letter, lowercase letter), one-byte numeric characters

b. Processing Result Message

Processing result messages should always have only single file name specified. File name should be as follows.

SEANACCS.B64

(2) Contents of the SMTP header

Contents of the SMTP header included in processing request message and processing result message are as follows.

1) Processing request message

Table 4.3.18 shows contents of the SMTP header in a processing request message sent from users.

Table 4.3.18 SMTP Header (Processing Request Message)

Item No.	Item	Contents specified by the user
1	From	The sender of the mail. In NACCS, a source (user) e-mail address assigned by NACCS center is specified (refer to "4.3.4 Mail Address"). NACCS Center server checks that this is registered in the system, and when not registered, the mail will be discarded.
2	To	The receiver of the mail. In NACCS, the mail address for the mail server is specified. (Refer to "4.3.4 Mail Address")
3	Date	In NACCS, user specifies the date of sending mails.
4	MIME-version	In NACCS 1.0 is specified. If it is not specified, that e-mail will be omitted.
5	Content-Type	In NACCS, Text/plain;charset="EUC-JP" is specified. For multipart type, multipart/mixed; boundary="optional value" is specified. If it is not specified, that e-mail will be omitted.
6	Content-Transfer-Encoding	When Text/plain is specified for Content-Type, "BASE64" or "Quoted-Printable" is specified. When multipart/mixed is specified for Content-Type, specified value depends on mail software. In this case, encode format of the attachment files in the mail body is specified to "BASE64" or "Quoted-Printable". If it is not specified, that e-mail will be omitted.

2) Processing result message

Table 4.3.19 shows contents of the SMTP header in a transaction response message (processing result notification message and output information message) sent from NACCS to a user.

Table 4.3.19 SMTP Header (Processing Result Message)

Item No.	Item	Contents specified by NACCS Center server
1	From	The sender of the mail. In NACCS, the mail address for the mail server is specified.
2	To	The receiver of the mail. In NACCS user's e-mail address for mail box for incoming messages which is used to store processing result messages is specified.
3	Date	The date the message is sent to the receiver is specified.
4	Subject	(See "4.3.2.3 (3) Contents of Subject field of the SMTP header")
5	MIME-Version	In NACCS, "1.0" is specified.
6	Content-Type	In NACCS, Text/plain;charset="EUC-JP" is specified.
7	Content-Transfer-Encoding	In NACCS, "BASE64" is specified.
8	Content-Disposition	In NACCS, attachment;filename="attachment file name" is specified.

(3) Contents of Subject field of the SMTP header

Contents of Subject field of the SMTP header included in a processing result message output from the center server to a user are as follows.

1) Purpose

The purpose of this is by the NACCS Center server specifying the contents described in 2) following in the "subject" of the SMTP header, details of the processing result messages stored in the mail can be read without the user opening the mail.

2) Contents of Subject field

A common format is used for both processing result notification messages and output information messages.

Table 4.3.20 shows contents of Subject.

Table 4.3.20 Contents of Subject Field

Field name	length	Outline
Procedure-by-procedure data	64	For example, processing result code, declaration number, B/L number, and control number are specified. A space is used as a data separator. (Refer to Appendix Table 6.8 "Output Information Code List")

3) Others

Since contents of Subject field are included in an EDIFACT message body, Subject field is not specifically useful for users who do not need to handle its contents.

(Subject field can be omitted)

4.3.3 Mailbox

(1) Outline of mailbox

For users using e-mail style processing mode to connect with NACCS, a mailbox for outgoing messages and mailboxes for incoming messages are available in the NACCS Center server.

1) Mailbox for outgoing messages

The mailbox for outgoing messages is a mailbox that stores processing request messages sent from the user to NACCS. The user sends a message to the mailbox in the NACCS Center server.

The mailbox for outgoing messages is shared among all users.

2) Mailbox for incoming messages

The mailbox for incoming messages is a mailbox that stores processing result messages (processing result notification messages and output information messages) in the NACCS Center server.

The user sends a request to retrieve a message from the mailbox in the NACCS Center Server and receives the relevant processing result message.

The user uses a mailbox ID and mailbox password when retrieving a processing result message from the mailbox for incoming messages.

Mailbox ID

A mailbox ID is the identifier for the mailbox where relevant messages are stored.

A mailbox ID is used as an authentication tool for retrieving messages.

Mailbox password

A mailbox password and mailbox ID are used for access authentication for retrieving messages.

Figure 4.3.15 shows outline of mailbox operation.

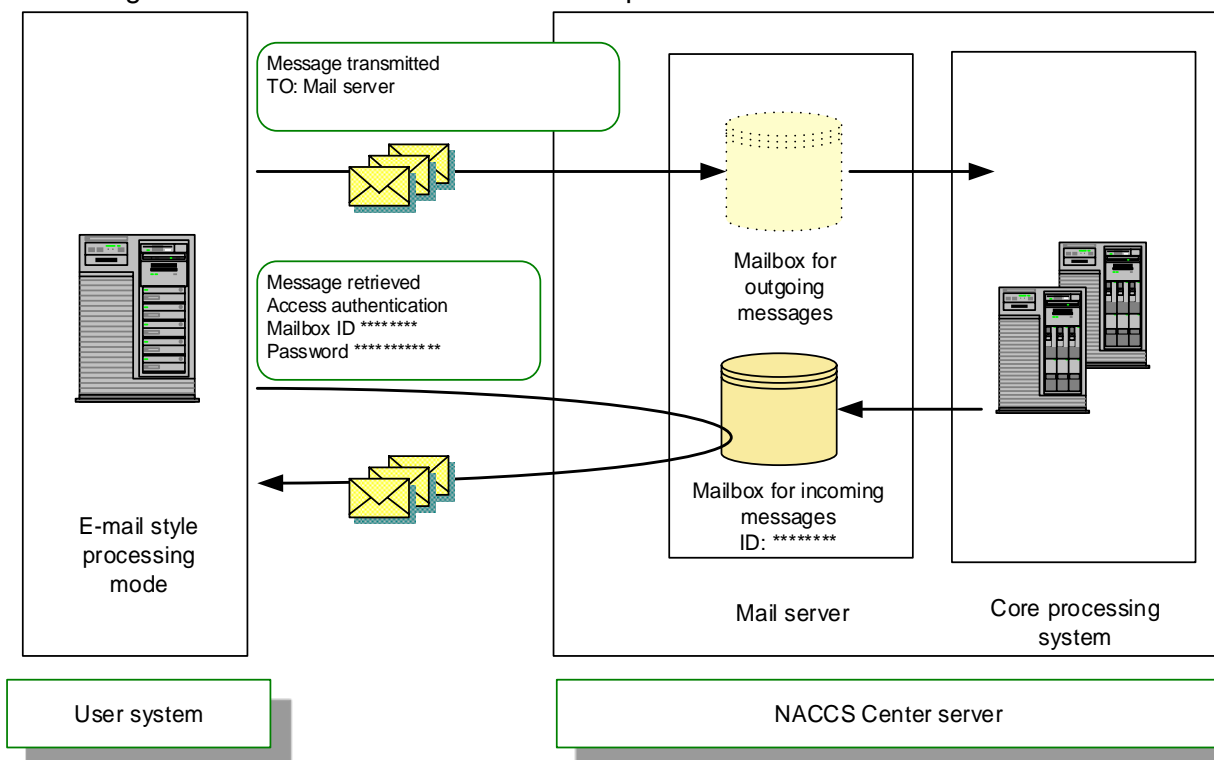


Figure 4.3.15 Mailbox Operation

(2) Mailbox Assignment

The huge number of mailboxes in the NACCS Center server affects the system's performance. Therefore, it is desirable that the total number be kept to a minimum. Table 4.3.21 shows standard for mailbox allocation for each connection mode in NACCS. Appendix 10 gives examples of usage of the mailbox for incoming messages.

Table 4.3.21 Mailbox Assignment

	Mailbox Assignment
Gateway connection	As many mailboxes as the user wishes

(3) Processing request messages in sequence

In NACCS, processing request message sent from the user will be stored in the mailbox for outgoing messages in the NACCS Center server. The messages will be retrieved from the mailbox one by one on a user code-by-user code basis and then transferred to the core processing system.

(4) Retrieval of processing result messages

When sending a request to retrieve a processing result message to the mailbox for incoming messages, an interval of at least 3 minutes (specified by NACCS Center) is required between the last request and the current one. The reason is that if users frequently issue requests to retrieve processing result messages from their incoming mailbox, the mail server may be overloaded, and as a result, the system response becomes slow and it takes a longer time to verify the contents of processing result messages.

In addition, users must issue a DELE command after retrieving messages by the RETR command to delete the retrieved messages from their mailbox.

Figure 4.3.16 gives the cautionary notes for cases where the mailbox for incoming messages is shared among more than one gateway computer.

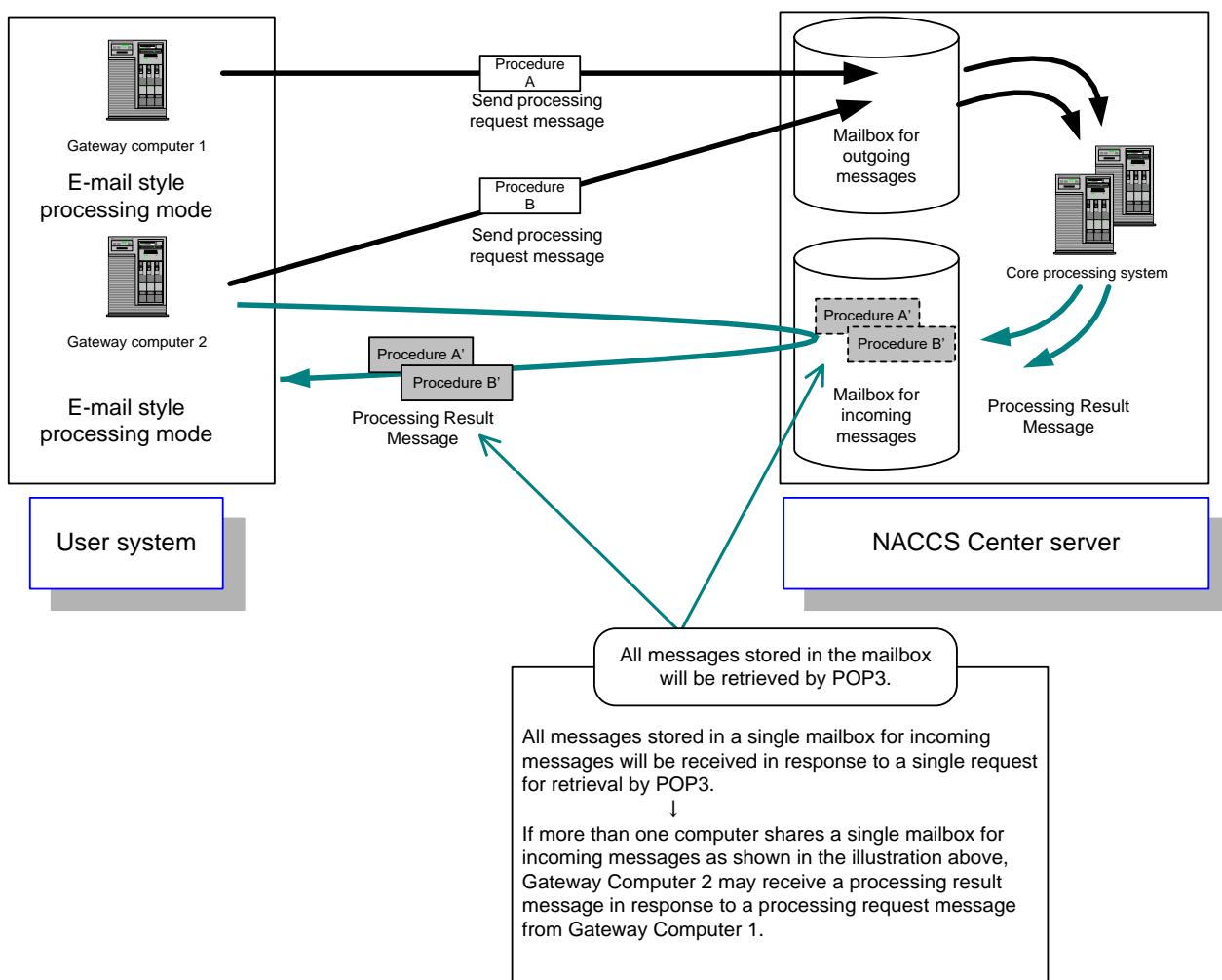


Figure 4.3.16 Cautionary Notes for Cases Where Mailbox is Shared Among Multiple Gateway Computers

(5) Retention period of messages stored in mailbox

In NACCS, processing request messages sent from users or processing result messages retrieved by users will be deleted in the following manner:

1) Processing request message

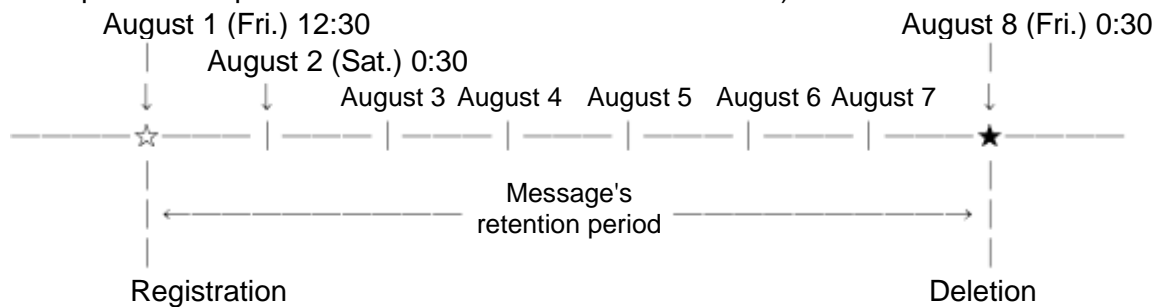
A processing request message will be deleted after being transferred from the mail server to the core processing system.

2) Processing Result Message

A processing result message will be deleted after being retrieved.

Processing result messages which are yet to be retrieved by users will be retained in the mailbox for 7 days (including Saturdays, Sundays and national holidays) after entering into the mailbox. Message deletion will be carried out at a specified time during the night.

For reference: Example of deletion of processing result message stored in mailbox:
 (Assumption: The specified time for deletion/retention at 0:30.)



(6) Restrictions on re-transmission of a single message

Unnecessary re-transmission of a single message will cause the entire NACCS system to overload which may cause reduced processing capacity. Therefore, in principle, the user should not send a single processing request message more than once (e.g., Manifest Information Registration of a single cargo B/L).

However, if the processing result message is not output within a NACCS Center-specified retention period, the user can re-send the processing request message, provided that it is confirmed that the relevant procedure has not been processed yet using the inquiry procedure.

(7) Re-retrieval of a single message

If the processing result message retrieved once (processing result message or output information message) is inadvertently lost and or is left unretrieved throughout a specified retention period, the message can still be retrieved in the following manner: However, processing result notification messages cannot be output again.

- 1) Re-send the processing request message for the inquiry procedure.
- 2) Implement the output procedure again, if the output information message can be re-retrieved.

(8) Measures against mailbox overflow

In NACCS, the mails user retrieves from the mailbox will be deleted. In addition, the unprocessed mails which are not retrieved from the mailbox will be deleted after 7 days passed. Therefore, it is unlikely that mails will continue to be stored at the NACCS mailbox, so there is little possibility the mailbox will become full.

However, if by any chance there is a possibility where the mailbox is overflowed arose, avoid overflow by implementing the following countermeasures.

1) Mailbox for outgoing messages

In NACCS, if the usage of the mailbox for outgoing messages in the NACCS Center server exceeds the limit, receipt of all messages from users will be suspended. In this case, a timeout message will be sent to the users. As the users need to re-send messages timed out, the user system must be provided with a function to temporarily store messages that have been created.

2) Mailbox for incoming messages

In NACCS, if the usage of the mailbox for incoming messages in the NACCS Center server exceeds the limit, receipt of messages from the core processing system to the mailbox for incoming messages will be suspended. In this case, the users need to retrieve the messages from the mailbox for incoming messages immediately. (NACCS Center will contact the users by telephone or fax, or an announcement will be posted on the NACCS information). In addition to the cases mentioned above, when the system is overloaded, overload control will be activated and receipt of messages from all users may be suspended. (NACCS Center will contact the users by telephone or fax, or an announcement will be posted on the NACCS information).

4.3.4 E-mail address

(1) Outline of user's email address and address assignment policy

The e-mail address account used in e-mail style processing mode on the NACCS system shall match the mail box ID. In other words, each user using e-mail style processing mode will have one mailbox and one mail address.

Figure 4.3.17 shows an example of a mail address given in an SMTP header in processing request and processing result messages. The user's mail address is displayed in the From field of "1) Processing request message" and in the To field of "2) Processing result message", while NACCS Center server's mail address is displayed in the To field of "1) Processing request message" and in the From field of "2) Processing result message".

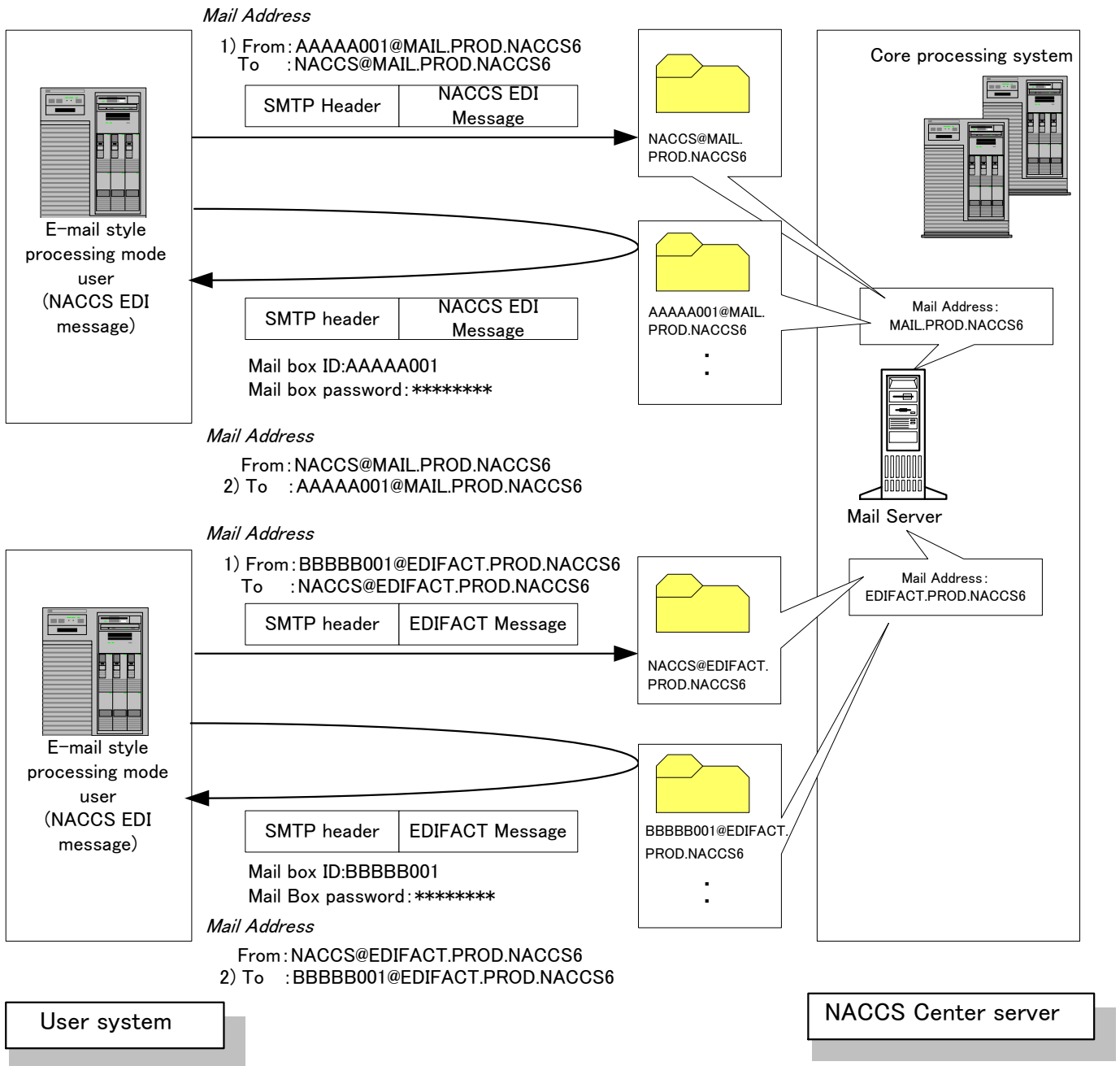


Figure 4.3.17 Mail Address in SMTP Header

(2) User's mail address in e-mail style processing mode

Figure 4.3.18 shows the format of user's mail address used in e-mail style processing mode: In addition, format of mail account is similar to Mailbox ID.

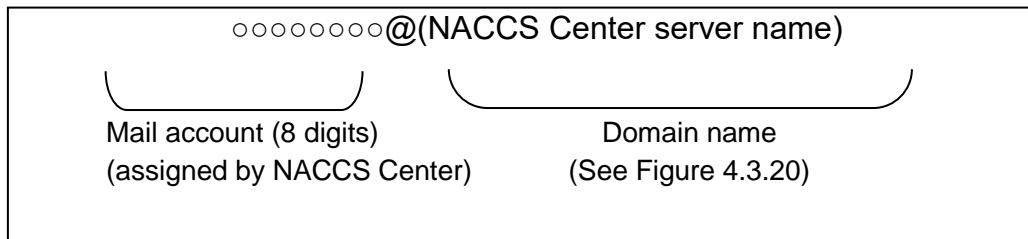


Figure 4.3.18 Format of User's Mail Address in E-mail Style Processing Mode (one-byte capital letters)

(3) NACCS Center server's mail address in e-mail style processing mode

Figure 4.3.19 shows the format of the Center server's mail address used in e-mail style processing mode:

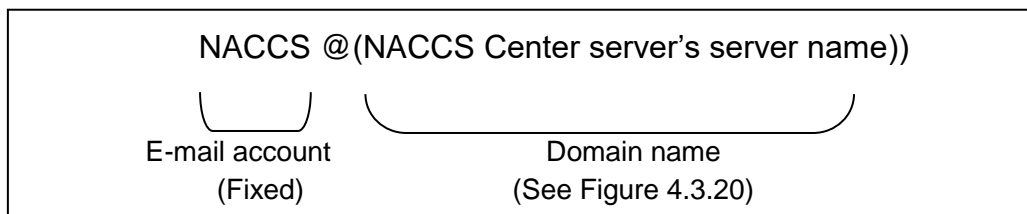


Figure 4.3.19 Format of NACCS Center Server's Mail Address in E-mail Style Processing Mode (one-byte capital letters)

(4) Domain name in e-mail style processing mode

Figure 4.3.20 shows the domain name format in e-mail style processing mode:

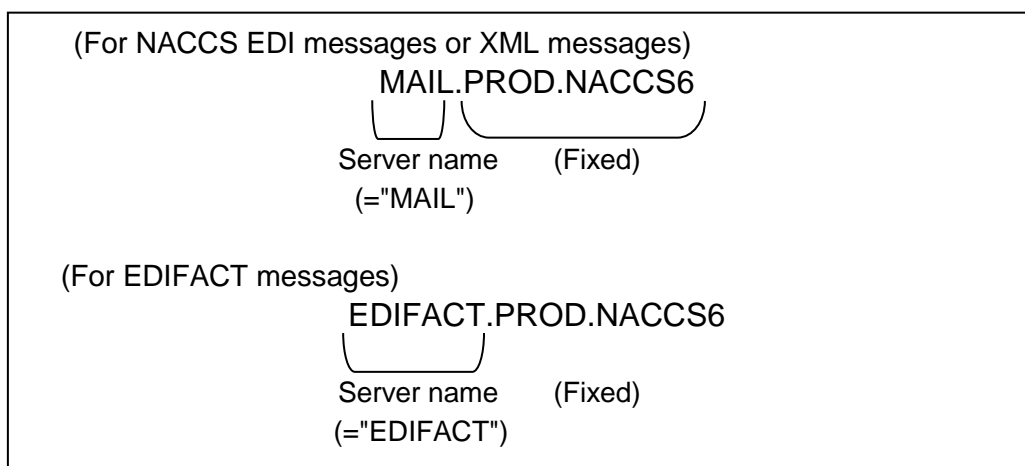


Figure 4.3.20 Domain Name Format in E-mail Style Processing mode (one-byte capital letters)

Moreover, the main center and the backup center can be switched by changing the DNS server data in NACCS Center. As a result, the user does not need to recognize the NACCS server's mail address when the backup center is operated.

In addition, Figure 4.3.21 shows the format of the domain name of NACCS Center server when switched to the backup center when disasters, etc. occur at the main center.

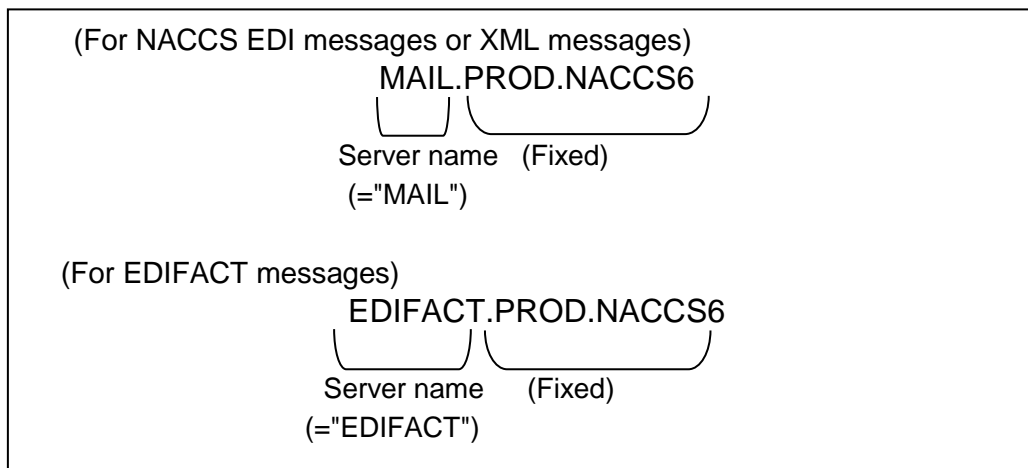


Figure 4.3.21 Domain Name for Backup Site (one-byte capital letters)

(5) Mail address used when sending a message

Email addresses in the From and To fields given in the SMTP header in a processing request message sent from the user to the NACCS Center server shall be given as follows:

From: User mail address (e.g.: AAAAA001@MAIL.PROD.NACCS6)
To: NACCS center server e-mail address (e.g.: NACCS@MAIL.PROD.NACCS6)
or,
From: User mail address (e.g.: AAAAA001@EDIFACT.PROD.NACCS6)
To: NACCS center server e-mail address (e.g.: NACCS@EDIFACT.PROD.NACCS6)

Mail addresses in the From and To fields are mandatory: as a communications protocol for the From field; as a means to identify the destination's mail server for the To field.

(6) Mail address used when receiving a message

Mail addresses in the From and To fields given in the SMTP header in a processing result message sent from the NACCS Center server to the user shall be given as follows:

From: NACCS center server e-mail address (e.g.: NACCS@MAIL.PROD.NACCS6)
To: User mail address (e.g.: AAAAA001@MAIL.PROD.NACCS6)
or,
From: NACCS center server e-mail address (e.g.: NACCS@EDIFACT.PROD.NACCS6)
To: User mail address (e.g.: AAAAA001@EDIFACT.PROD.NACCS6)

The above addresses will be provided on the NACCS's Mail Server.

(7) Notification of mail address

The e-mail address used in a message sent to / from a user is provided and announced by NACCS Center. Users must use these addresses.

4.3.5 Procedure processing sequence

Figure 4.3.22 shows a message processing sequence in e-mail style processing mode:

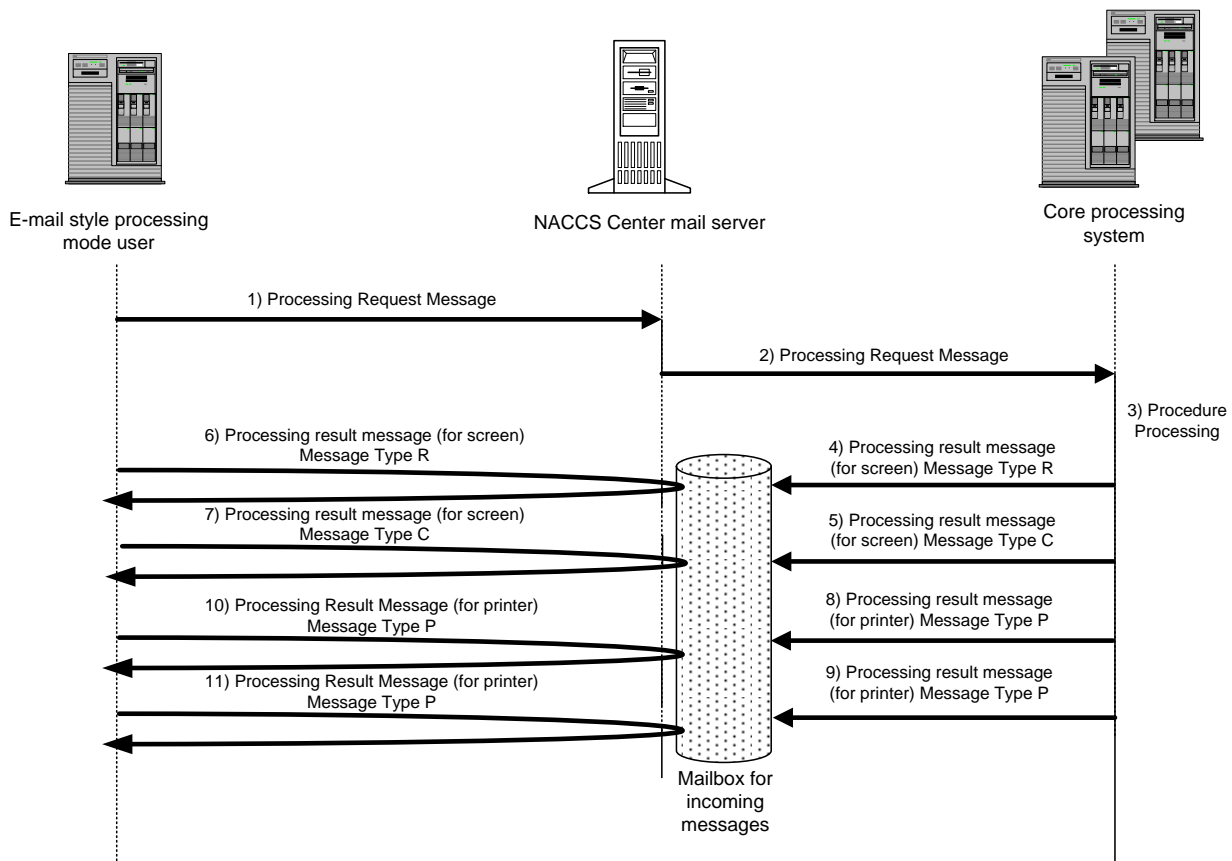


Figure 4.3.22 Message processing sequence

- 1) The user sends a processing request message using SMTP to the NACCS's Mail Server.
 - See "4.3.1.2 Details of Communications Protocol" for a SMTP command sequence in sending a processing request message.
 - Processing request message format varies depending on the procedure. See the Procedure Specification for individual formats.
 - Processing request message formats are represented by NACCS EDI format, MIME format and XML format.
- 2) The mail server checks the processing request message received and forwards it to the core processing system.
 - The mail server also converts an EDIFACT message to a NACCS EDI message.
- 3) The core processing system checks the processing request message forwarded and executes the procedure.
- 4), 5) The core processing system registers a processing result message (for screen) with the mailbox for incoming messages.

(According to the procedure specifications, there are cases in which more than one processing result message (for screen) will occur. Figure 4.3.22 shows the case in which Message Type [R] and [C] of processing result messages (for screen) are sent).

 - The mail server also converts a NACCS EDI message to an EDIFACT message.
- 6), 7) Using e-mail processing mode, the user receives a processing result message (for screen) transmitted to the user's mailbox in the mail server using POP.
 - See "4.3.1.2 Details of Communications Protocol" for POP command sequence.
 - Processing result message format (for screen) varies depending on the procedure. See the

Procedure Specification for individual formats.

- Processing result message formats (for screen) are represented by NACCS EDI format, MIME format and XML format.

8), 9) The core processing system transmits a processing result message (for printer) to the mail server. (No processing result message (for printer) may be generated or multiple processing result messages (for printer) may be generated depending on the procedure. Figure 4.3.22 shows an example in which two processing result messages (for printer) are transmitted.

- The mail server also converts a NACCS EDI message to an EDIFACT message.

10), 11) Using e-mail style processing mode, the user receives a processing result message (for printer) transmitted to the user's inbox in the mail server using POP.

- See "4.3.1.2 Details of Communications Protocol" for POP command sequence.
- Processing result message format (for screen) varies depending on the procedure. See the Procedure Specification for individual formats.
- Processing result message formats (for screen) are represented by NACCS EDI format, MIME format and XML format.

(Note 1) When the user sends a retrieval request using POP, all messages available at that time can be retrieved.

(Note 2) The order of arrival as mentioned in 6), 7), 10) and 11) above is not guaranteed.

(Note 3) An EXC type message and an EXZ type message are generated upon implementation of a procedure by a third person, which applies only to portions of a sequence as presented in 8) and 10) (or 9) and 11)) of Figure 4.3.22 above.

4.3.6 Others

(1) Access lines for e-mail style processing mode

E-mail style processing mode (for gateway computers) is available when a gateway computer is set up for the user's system, and connect to NACCS via a dedicated access line or fiber optic broadband.

(2) Restrictions

E-mail style processing mode (for gateway computers) users must observe the following restrictions:

- 1) When sending a request to receive a processing result message in the mailbox for incoming messages, after transmission of a notification of completion upon issuance of the QUIT command following deletion of a message in response to the previous request for retrieving a processing result message, longer than a specific period of time specified by NACCS Center (3 minutes) must have lapsed before reconnecting to NACCS. The reason is that if users frequently issue requests to retrieve processing result messages from their incoming mailbox, the mail server may be overloaded,
- 2) When establishing a connection to NACCS via a gateway server, the DELE command must be issued to delete a message which has already been retrieved from the mailbox in response to the RETR command for the retrieval of the message. (Note)
- 3) The QUIT command must be sent upon completion of transmission of all the processing request messages. If the QUIT command is not issued from the gateway computer within a specified period of time after transmission of all the processing request messages, a connection timeout notification must be issued from the NACCS's Mail Server to force a disconnection. (Note)
- 4) If the usage rate of the mailbox for incoming messages at the NACCS Center server exceeds a specified limit, receipt of messages sent from the core processing system to the mailbox for incoming messages will be suspended. In this case, the user must retrieve the messages from the mailbox for incoming messages immediately.
- 5) Multiple connections from the same e-mail address are prohibited (the same as connections within the period specified by the NACCS Center).
- 6) Add "<CRLF>" at the end of the message (a line with only a period) as the SMTP communications protocol trailer. The last chunk of the data is recognized with "<CRLF>.<CRLF>", with "<CRLF>" placed at the end of the data and "<CRLF>" placed as the communications protocol trailer. (Note)

(3) Retention period for attachment files stored in attachment file storage table

For retention period for attachment files for each procedure, refer to Procedure Specifications.

(4) Other provisions

When establishing a connection in e-mail style processing mode (for gateway computers), users must observe the following restrictions:

- 1) E-mail style processing mode (for gateway computers) is not compatible with APOP (RFC1321 and RFC1939), a mode of authentication exchange in POP3.
- 2) When sending a processing request message, any message in which the domain name of the user system in the "From" field of the SMTP header is not in the form of XXX.XXX.NACCS6," will be ignored by the mail server. The user system must re-send such messages with the correct settings.
- 3) In e-mail style processing mode (for gateway computers), multiple processing request messages can be sent consecutively, but processing request messages sent from the user are not always processed on a first in, first out basis in the core processing system due to the architecture of the mail server.
- 4) If more than one processing result messages are generated for a single procedure requested, the order of arrival to the mailbox for incoming messages is not guaranteed. Figure 4.3.23 shows an example. Therefore, the user system must not be so built that processing result notification messages are processed first.
- 5) If the usage of the mailbox for outgoing messages in the NACCS Center server exceeds the limit, receipt of all messages from users will be suspended. In this case, a timeout message will be sent to the users. As the users need to re-send messages timed out, the user system must be provided with a function to temporarily store messages that have been created.
- 6) In case of an overload in the system, operation limit such as halts of receiving transaction request messages from all users may be used. In this case, NACCS Center will contact users by telephone, fax, or NACCS Information, etc.
- 7) As there is a limit to the number of users who can access the mail server at the same time, there may be a case where the connection between the user system and mail server cannot be established.
- 8) In the event of NACCS operation from a backup site following a disaster, the user must make sure to connect to the mail server located at the backup site.
- 9) An environment to test the connection is built partly in the back up center. Therefore, if the main center is affected due to great disaster, system will be operated in the back up center, and connection test may be unavailable.

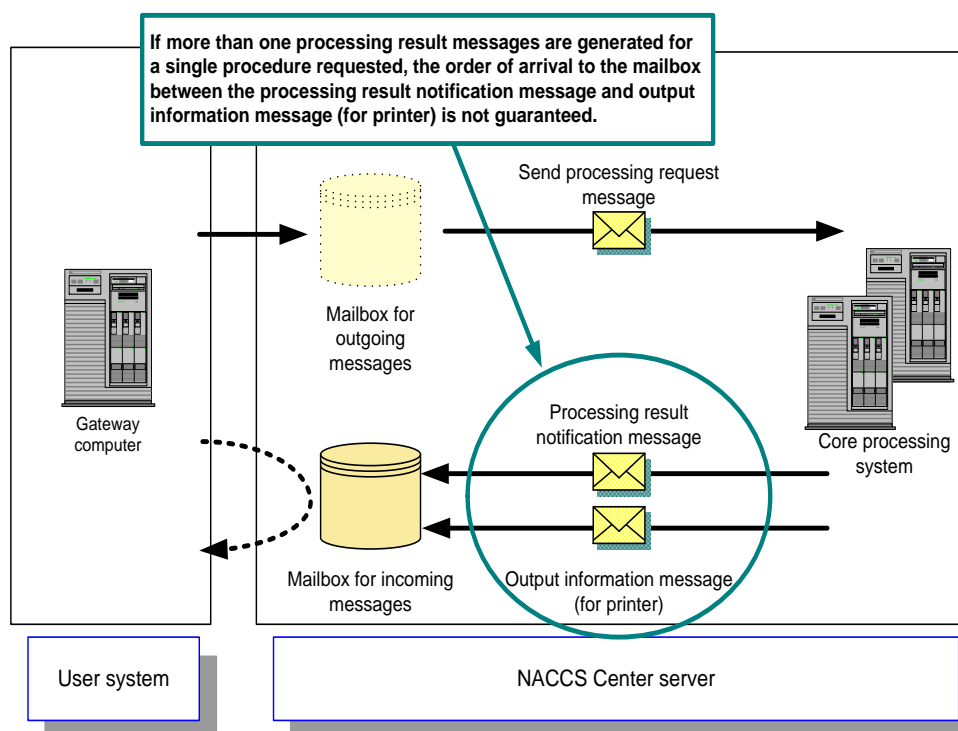


Figure 4.3.23 Sequence of Arrival of More than One Processing Result Messages (Example)

(5) Value of each timer classification

Table 4.3.22 shows a list of timer settings predefined for connections established in e-mail style processing mode. Individual timer settings are given in Figure 4.3.24 to Figure 4.3.26.

Table 4.3.22 List of Timer Settings

ID	Observation content	Timer's value
T01	Time required for monitoring the SMTP connection between the user system and the mail server on the NACCS Center side during transmission of a message by the user	Specified by user
T02	Time required for monitoring the POP3 connection between the user system and the mail server on the NACCS Center side during receipt of a message sent by the user	Specified by user
T03	Idle time following the establishment of an SMTP connection between the user system and the mail server on the NACCS Center side	2 minutes
T04	Idle time following the establishment of a POP3 connection between the user system and the mail server on the NACCS Center side	2 minutes
T05	Time to re-send in case if errors occur in NACCS center server and the transaction response message notifying that "Center busy" returns	At least 3 minutes

(Note) The timer's value is specified a value in the present system.

(Note) T01 to T05 given in the ID column of the table above are the ID numbers of each timer shown in Figure 4.3.24 to Figure 4.3.26.

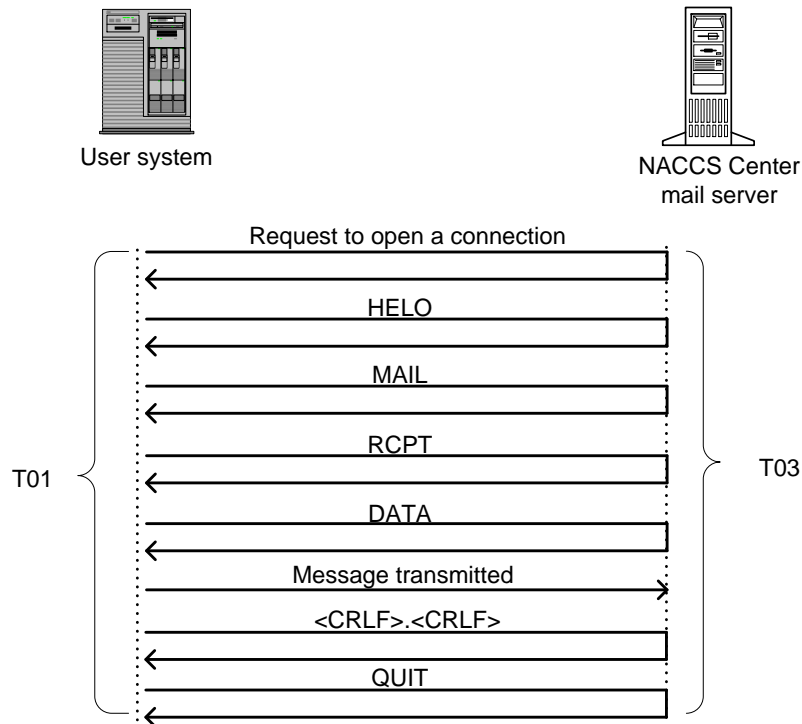


Figure 4.3.24 Timer Set for SMTP Connection

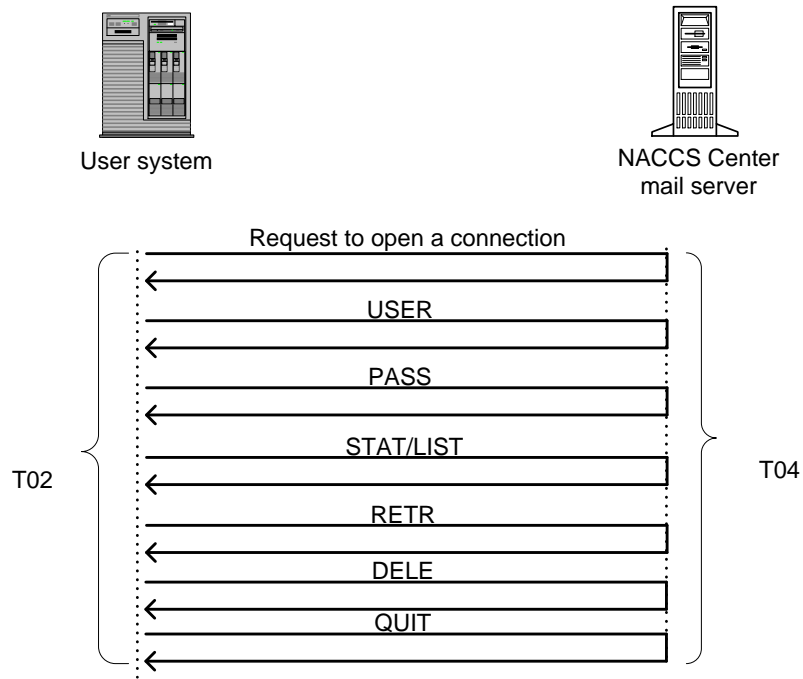


Figure 4.3.25 Timer Set for POP3 Connection

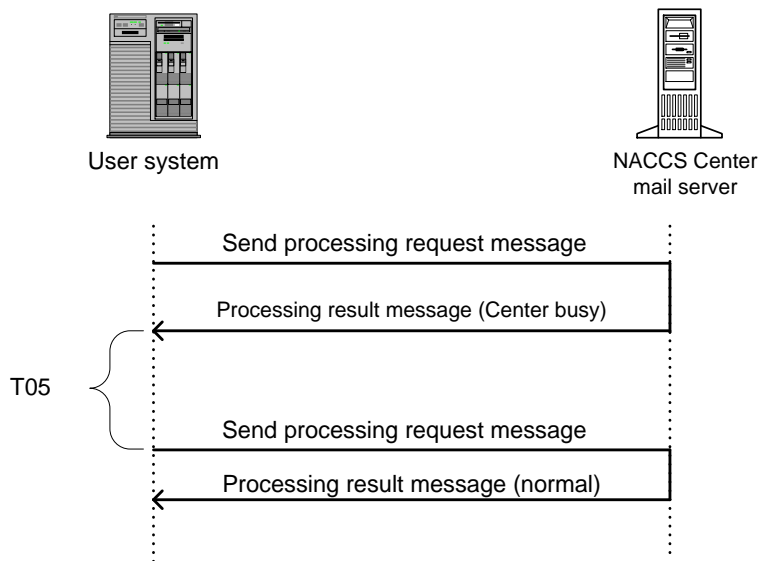


Figure 4.3.26 Setting Timer in Case Center Is busy