3.7 Output Message Cache and Retrieving Procedure

3.7.1 Output Message Cache

Output message cache refers to an area which only exists in the interactive processing mode (NACCS Packaged Software), interactive processing mode (SMTP Two-Way) and interactive processing mode (netAPI), and where messages with message types of Report [P]/[A], user's own interface [T], or Storage [U] are temporarily stored.
For this area, there are 3 types, Terminal Output type Queue (QST), Error Message Queue (QFL), and Stored-Type Message Queue (QEX). A procedure to retrieve messages stored in this area is called "retrieving procedure". Details of the procedure vary depending on types of message queues.
This chapter describes the retrieving method from each area in the interactive processing mode (NACCS Packaged Software) and interactive processing mode (SMTP Two-Way). For the interactive processing mode (netAPI),see "4.5 Details of each processing mode _ Interactive processing mode (netAPI)".

3.7.2 Retrieving procedure

"Error Message Retrieval Procedure (SYG)" (hereinafter, referred as to "SYG procedure") and "Stored-Type Message Retrieval Procedure (REQ)" (hereinafter, referred as to "REQ procedure") are procedures which are carried out when retrieving output messages stored in the output message cache in NACCS Center server.

For output message cache, there are the following 3 areas. Table 3.7.1 shows 3 areas in the output message cache.

Table 3.7.1   3 Areas in Output Message Cache

Type	Setting unit of queue	Content
(1) Terminal Output type Queue (QST)	Each logical terminal name	Area where messages with message type of Report [P]/[A], user's own interface [T], or Storage [U] are stored before being sent to users. the messages are stored in this area, and at the same time, are sent to the following destination. • For interactive processing mode (NACCS Packaged Software) → Logical Terminal Name
	User's E-mail address	Area where messages with message type of Report [P]/[A], user's own interface [T], or Storage [U] are stored before being sent to users. the messages are stored in this area, and at the same time, are sent to the following destination. • For interactive processing mode (SMTP Two-Way) → User's E-mail address
(2) Error Message Queue (QFL)	Each user code	Area where messages are stored when messages stored in Terminal Output type Queue (QST) cannot be output due to error. * The message is stored only if the mode is the Interactive Processing Mode (SMTP Two-Way).
(3) Stored-Type Message Queue (QEX)	Each user code	Area where messages to request retrieving are stored.

In cases when an error occurs during the sending of messages stored in Terminal Output type Queue (QST) for the Interactive Processing Mode (SMTP Two-Way), messages stored in Terminal Output type Queue (QST) will be stored in QFL. Figure 3.7.1 shows image of the output message cache. In this case, the way how the messages are stored is changed from each logical terminal name or each user's E-mail address to each user code.

Table 3.7.2 shows retrieving procedure for messages stored in Error Message Queue (QFL) and Stored-Type Message Queue (QEX).

Figure 3.7.1   Output Message Cache

Table 3.7.2   Name of User Queue and Retrieving Procedure

Name of queue	Retrieving procedure (procedure code)
Error Message Queue (QFL)	Error Message Retrieval Procedure (SYG)
Stored-Type Message Queue (QEX)	Stored-Type Message Retrieval Procedure (REQ)

> ⓘ Only messages with message type of Report [P]/[A], user's own interface [T], or Storage [U] are stored in the output message cache.
> Therefore, when faults such as troubles in communication paths, center down, or down of SMTP Two-Way server occurs, the relevant messages will be discarded and no longer the user cannot be received.

(1) SYG procedure

"SYG procedure" refers to the procedure to retrieve messages stored in Error Message Queue (QFL) in the interactive processing mode (SMTP Two-Way).

(A) Conditions where messages are stored in Error Message Queue (QFL)

When messages satisfy the following conditions of (1), (2) and (3), those will be stored in Error Message Queue (QFL). Figure 3.7.2 shows image where messages are stored in Error Message Queue (QFL).

1) The message is for the Interactive Processing Mode (SMTP Two-Way).
2) A message is an output information, and message type is Report [P]/[A], user's own interface [T], or Storage [U].
3) Due to the fact that the line between NACCS Center server and user system is disconnected, or faults occur in hardware or software of user system, communication cannot be normally carried out.
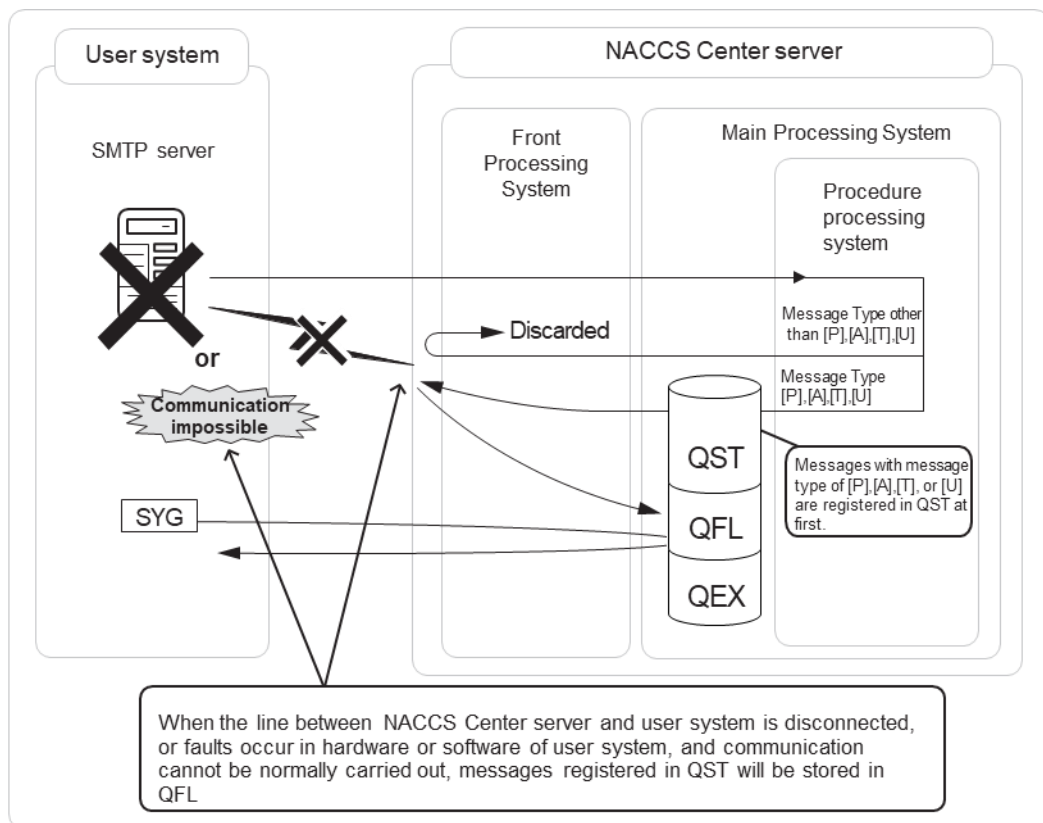

Figure 3.7.2   Image where Messages Are Stored in Error Message Queue

(B)   Example of procedure sequential of "SYG procedure" in interactive processing mode (SMTP Two-Way)

When retrieving messages stored in Error Message Queue (QFL) through "SYG procedure", carry out the following procedure:
Figure 3.7.3 shows an example of procedure sequential of "SYG procedure" in interactive processing mode (SMTP Two-Way).

1) Specify REF△△△△ in procedure-by-procedure field through "SYG procedure", then send the message. (See Table 3.7.3)
2) A list of messages stored in Error Message Queue (QFL) of the output message cache will be returned.

3) After obtaining the list, send Output Information Code of the Process Result Message to be retrieved. (See Table 3.7.3)

4) A Process Result Output Message for "SYG procedure" and a Process Result Message of the relevant Output Information Code are sent from NACCS Center server to user system.

⚠ •When carrying out "SYG procedure", do not send Output Information Code from the beginning, but make sure to specify REF△△△△ in procedure-by-procedure field and send it, and obtain a list of messages stored in Error Message Queue (QFL) of the output message cache, then retrieve a Process Result Message.

•The number of messages which can be retrieved is written in the obtained list. However, there are some messages which are newly stored in the output message cache after the list is referred, so there is a possibility that messages of more than the number written in the list will be sent from NACCS Center server.

•There need to periodically carry out "SYG procedure" and retrieve messages stored in the output message cache in NACCS Center server. However, this procedure results in putting a heavy load on NACCS Center server, so do not this procedure frequently.

(For guidelines for interval of retrieving, refer to T08 in "4.2.6 Others (5) value of each timer classification.")
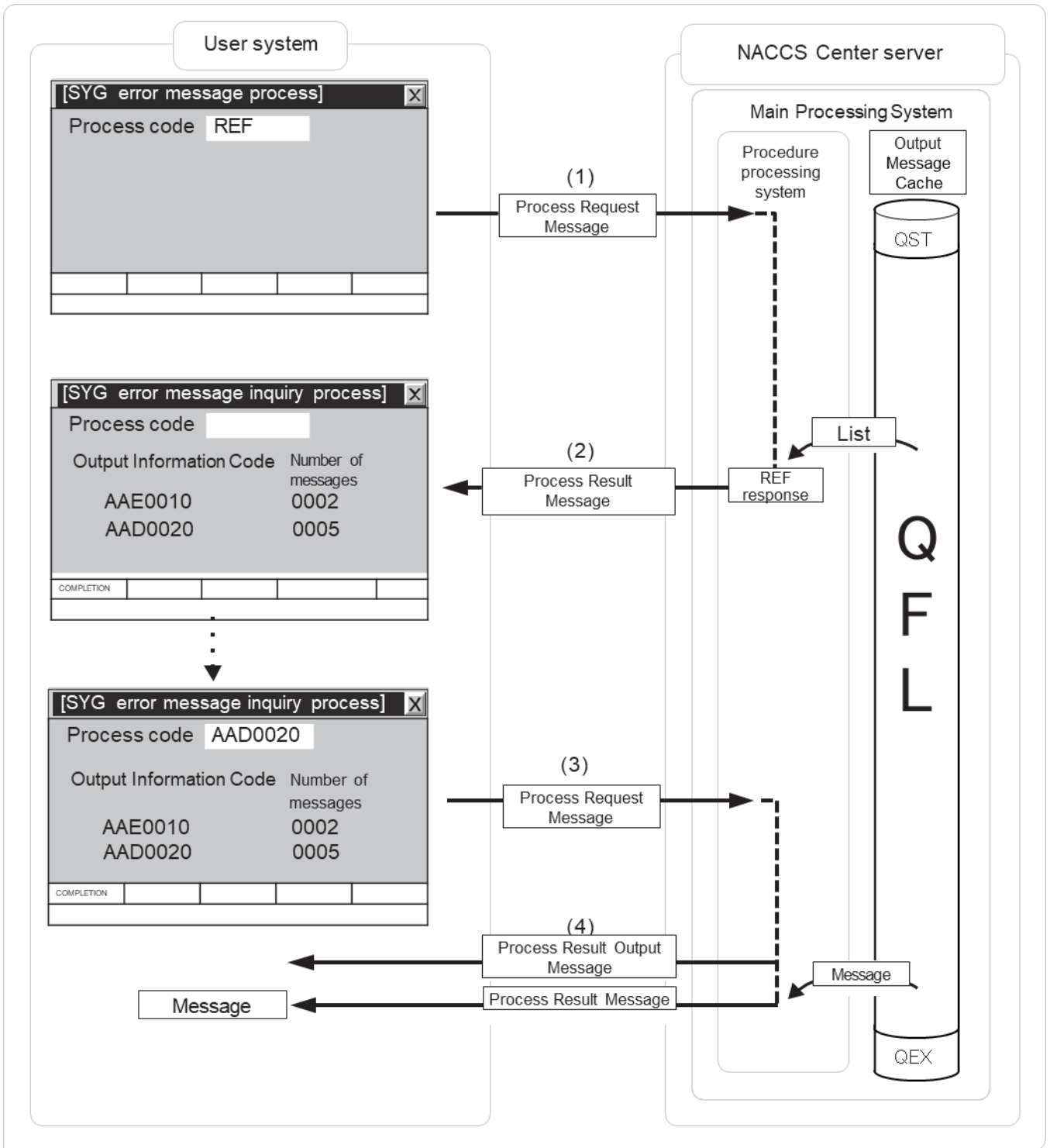

Figure 3.7.3   Example of procedure sequential of "SYG procedure" in interactive processing mode (SMTP Two-Way) (The screen shown in the figure is one example.)

(C) Example of message used in "SYG procedure"

1) Input message used in "SYG procedure"
When retrieving messages stored in the Error-Type Message Queue through "SYG procedure", send the following message to NACCS Center server. Figure 3.7.4 shows an example of an input message used in "SYG procedure". In addition, Table 3.7.3 shows procedure-by-procedure fields in input messages used in "SYG procedure".
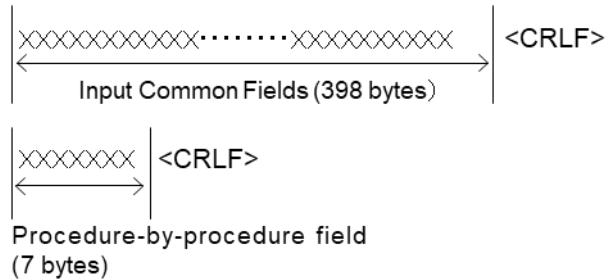

XXXXXXXXXXX········XXXXXXXXXX <CRLF>
Input Common Fields (398 bytes)

XXXXXXX <CRLF>
Procedure-by-procedure field
(7 bytes)

Figure 3.7.4   Example of Input Message Used in "SYG Procedure"

Table 3.7.3   Procedure-by-procedure field (Input) used in "SYG Procedure"

Field name	length	Outline	Sample Settings, etc.
Data	7	Specifies types of request of retrieving	REF△△△△(when obtaining a list) Output Information Code (when retrieving a message) (e.g.: AAE0010)
Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)

2) Output message used in "SYG procedure" (when obtaining a list)
Figure 3.7.5 shows an example of an output message when REF△△△△ is specified in procedure-by-procedure fields and the message is sent (when obtaining a list). For output common fields, refer to "3.1 Table 3-1-4". "CAQ0140" is specified as Output Information Code. In addition, Table 3.7.4 shows procedure-by-procedure fields.

XXXXXXXXXXX····················XXXXXXXXXX <CRLF>
Output Common Field(398bytes)

XXXX-XXXX-XXXX △△△ <CRLF>
Process Result Code1
(15 bytes)   (15 bytes)   (15 bytes)   (15 bytes)   (15 bytes)

XXXX <CRLF>
Number of information (4 bytes)

XXXXXXX <CRLF>
Output Information Code
(7 bytes)

XXXX <CRLF>
Number of non-
Transmitted Messages
(4 bytes)

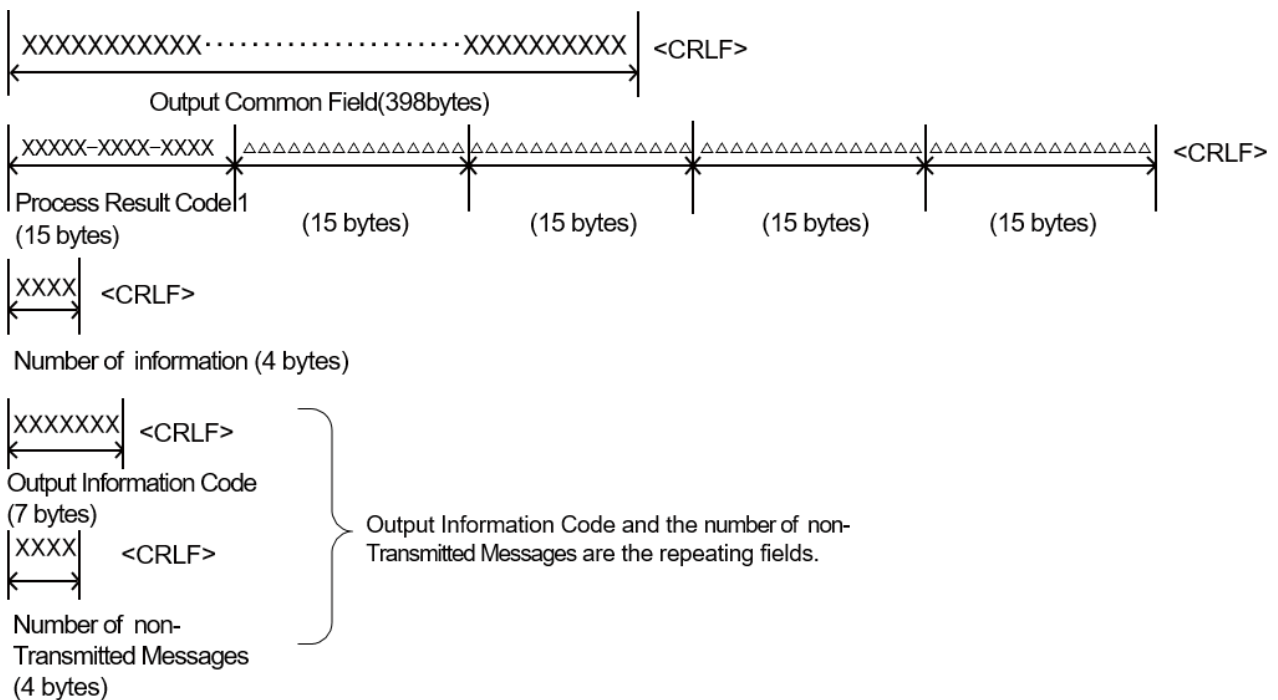Output Information Code and the number of non-Transmitted Messages are the repeating fields.

Figure 3.7.5 Example of Output Message used in "SYG Procedure" (when obtaining a List)

Table 3.7.4　　Procedure-by-procedure field (Output) used in "SYG Procedure" (When Obtaining a List)

Item No.	Field name	length	Outline	Sample Settings, etc.
1	Process Result Code	75	The Process Result which is assessed by the system is output by code.	00000-0000-0000△…(60 spaces)…△
2	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
3	Number of information	4	Number of repetition of Output Information Code and non-Transmission Messages is specified.	e.g.: 0001
4	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
5	Output Information Code (Note)	7	The code of an output message is specified.	e.g.: AAE0010
6	Delimiter (Note)	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
7	Number of non-Transmission Messages (Note)	4	The number of messages with above-mentioned Output Information Code stored in Error Message Queue (QFL) is specified.	e.g.: 0002 * If the number of messages exceeds 9999, 9999 is specified
8	Delimiter (Note)	2	Indicates the end edge of the field.	(CRLF sign must be entered.)

(Note) Item No. 5 through 8 are the repeating fields. The number of repeats is max 1,000.

3) Output message used in "SYG procedure" (when retrieving a message)

Figure 3.7.6 shows an example of an output message when procedure-by-procedure fields are specified and the message is sent (when retrieving a message). In addition, Table 3.7.5 shows procedure-by-procedure fields.
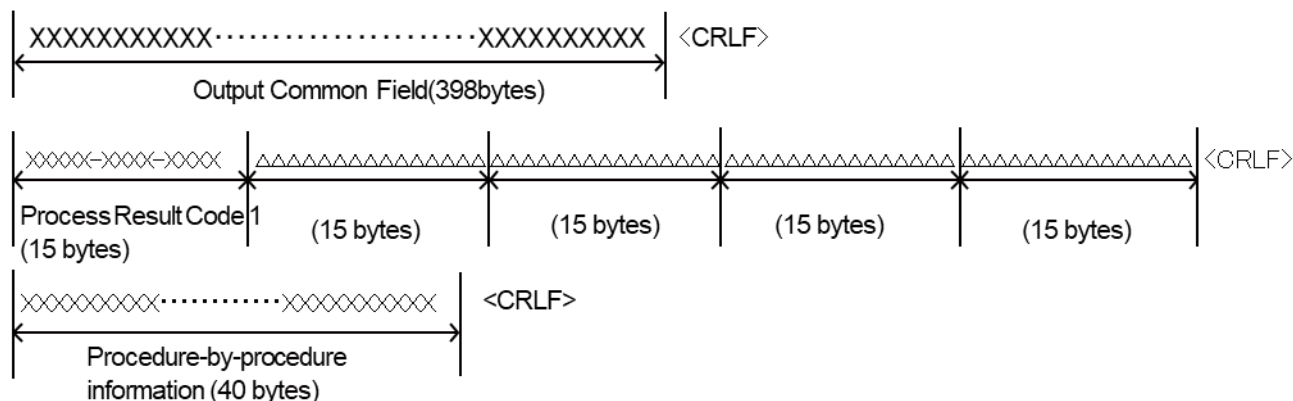

Figure 3.7.6 Example of Output Message Used in "SYG Procedure" (When Retrieving a Message)

Table 3.7.5 Procedure-by-procedure field (Output) used in "SYG Procedure" (When Retrieving a Message)

Item No.	Field name	length	Outline	Sample Settings, etc.
1	Process Result Code	75	The Process Result which is assessed by the system is output by code.	00000-0000-0000△…(60 spaces)…△
2	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
3	Procedure-by-procedure information	40	Indicates specific information.	e.g.: ACCEPTED REQUEST (normal termination) : NO ELEMENT (no subject to be retrieved) : RECEIVING TERMINAL (already during retrieving)
4	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)

(2) REQ procedure

"REQ procedure" refers to the procedure to retrieve messages stored in Stored-Type Message Queue (QEX).

(A)   Conditions where messages are stored in Stored-Type Message Queue (QEX)

When messages satisfy the following conditions of 1) and 2), those will be stored in Stored-Type Message Queue (QEX). Figure 3.7.7 shows image.

1)   Message Destination Control Format is QEX type (Note).
2)   A message is an output information, and message type is Report [P]/[A], user's own interface [T], or Storage [U].

(Note) QEX refers to queue for each user code where EXC type messages which are output in response to third party's event are registered.
In addition, for Message Destination Control Format, refer to "Chapter 5 Message Destination Control".
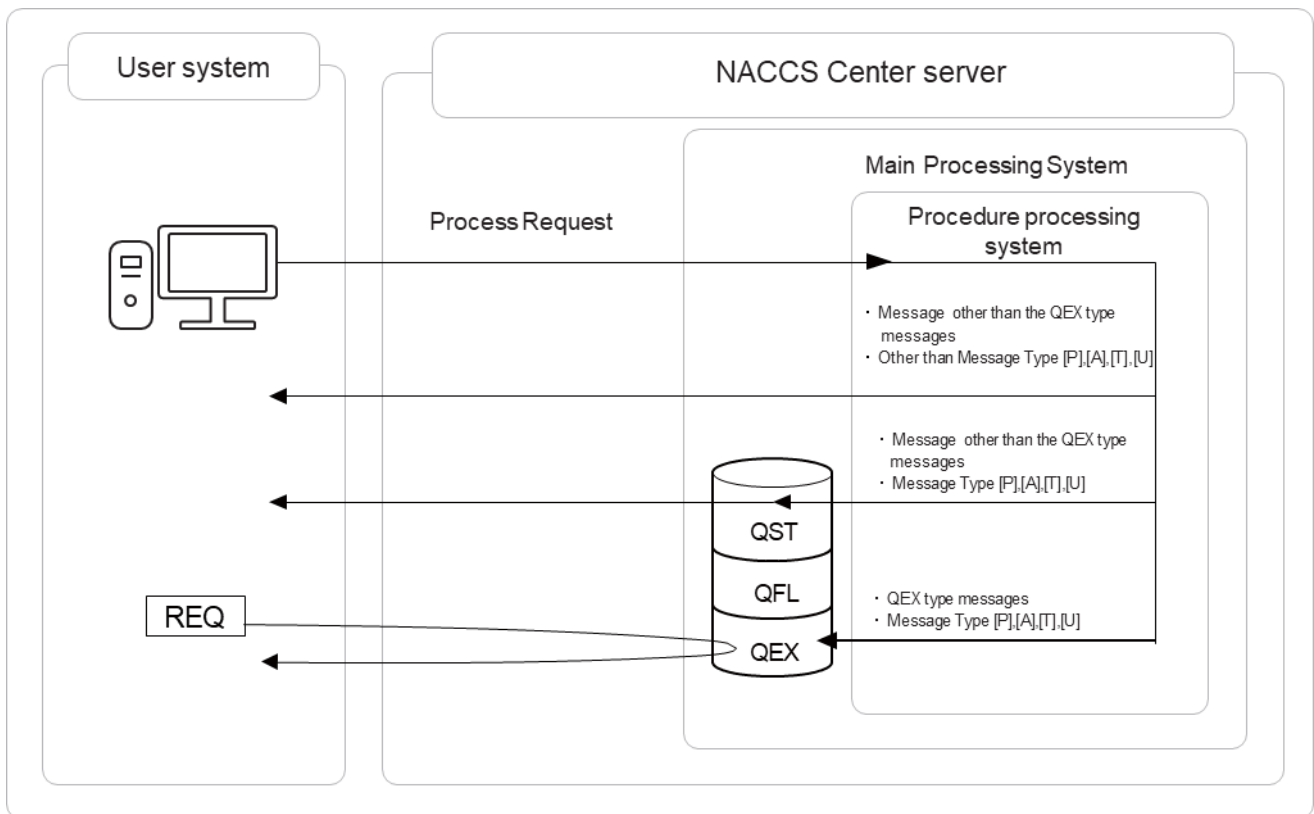

Figure 3.7.7   Image where Messages Are Stored in Stored Message Queue (When 1) and 2) Are Satisfied)

(B) "REQ procedures" in interactive processing mode (NACCS Packaged Softwa
　　re is used)

In interactive processing mode (NACCS Packaged Software is used) also, "REQ procedure"
needs to be carried out in order to retrieve messages stored in the output message cache.
However, in interactive processing mode (NACCS Packaged Software is used), the function
to retrieve stored messages can realize that.

(C)　"REQ procedure" for interactive processing mode (netAPI）

In interactive processing mode (netAPI), when "REQ procedure" is to be carried out in order
to retrieve messages stored in the output message cache, refer to "4.5 Details of each
processing mode _ Interactive processing mode (netAPI)".

(D)　Example of procedure sequential of "REQ procedure" in interactive processing mode (SMTP
　　Two-Way)

When retrieving messages stored in Stored-Type Message Queue (QEX) through "REQ
procedure", carry out the following procedure: Figure 3.7.8 shows an example of procedure
sequential of "REQ procedure" in interactive processing mode (SMTP Two-Way).

1) Specify REF△△△△ in procedure-by-procedure field through "REQ procedure", then
   send the message. (See Table 3.7.6)
2) A list of messages stored in Stored-Type Message Queue (QEX) of the output message
   cache will be returned.
3) After obtaining the list, send Output Information Code of the Process Result Message to
   be retrieved. (See Table 3.7.6)
4) A Process Result Output Message for "REQ procedure" and a Process Result Message
   of the relevant Output Information Code are sent from NACCS Center server to user
   system.

⊘ • When carrying out "REQ procedure", do not send Output Information Code from the
    beginning, but make sure to specify REF△△△△ in procedure-by-procedure field and
    send it, and obtain a list of messages stored in Stored-Type Message Queue (QEX) of
    the output message cache, then retrieve a Process Result Message.
  • The number of messages which can be retrieved is written in the obtained list. However,
    there are some messages which are newly stored in the output message cache after the
    list is referred, so there is a possibility that messages of more than the number written in
    the list will be sent from NACCS Center server.
  • There need to periodically carry out "REQ procedure" and retrieve messages stored in
    the output message cache in NACCS Center server. However, this procedure results in
    putting a heavy load on NACCS Center server, so do not this procedure frequently.
     (For guidelines for interval of retrieving, refer to T08 in "4.2.6 Others (5) value of each
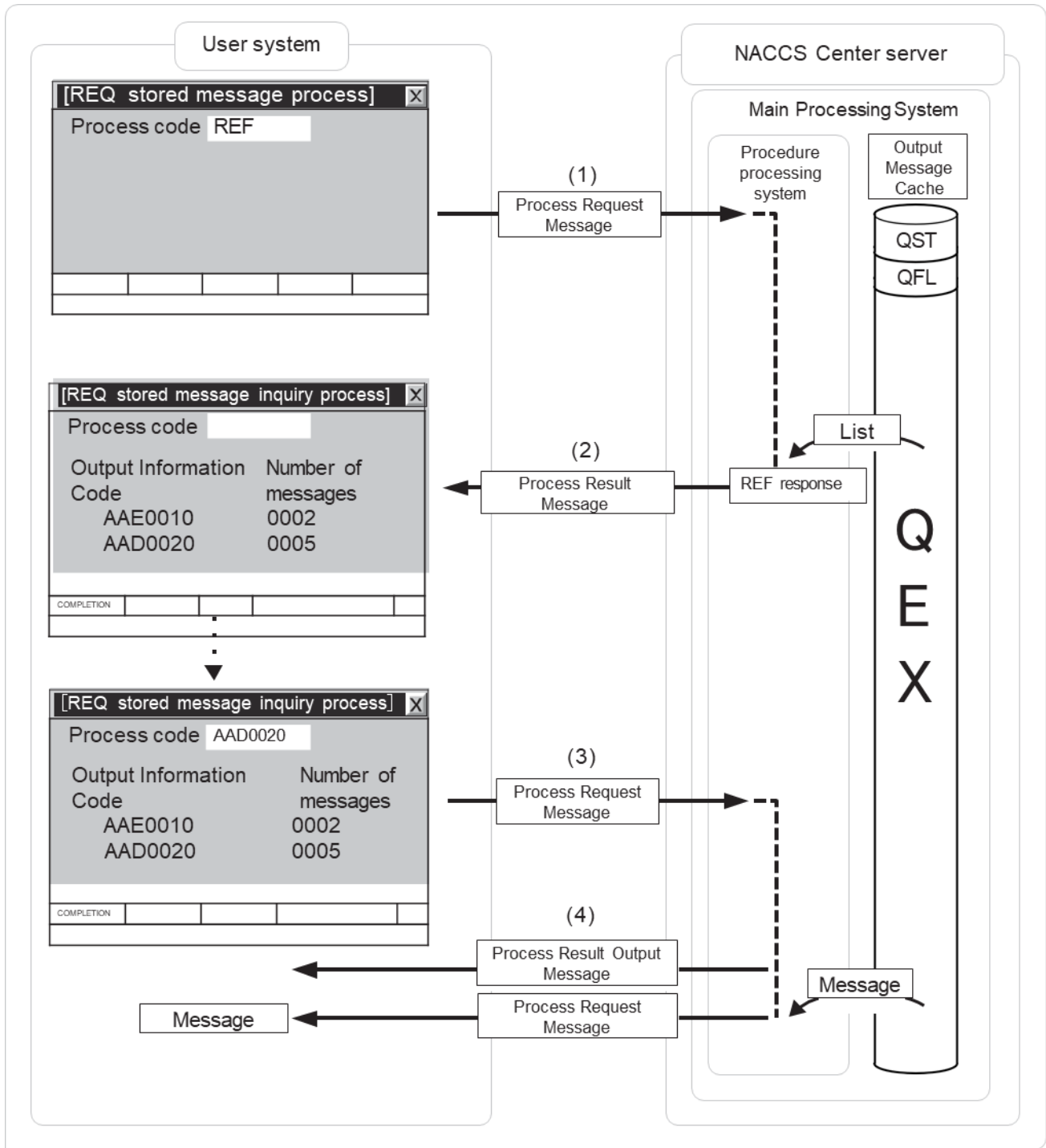   timer classification.")

Figure 3.7.8 Example of procedure sequential of "REQ procedure" in interactive processing mode (SMTP Two-Way)

(The screen shown in the figure is one example.)

(E) Example of message used in "REQ procedure"

1) Input message used in "REQ procedure"

When retrieving messages stored in the stored message queue through "REQ procedure", send the following message to NACCS Center server. Figure 3.7.9 shows an example of an input message used in "REQ procedure". In addition, Table 3.7.6 shows procedure-by-procedure fields in input messages used in "REQ procedure".
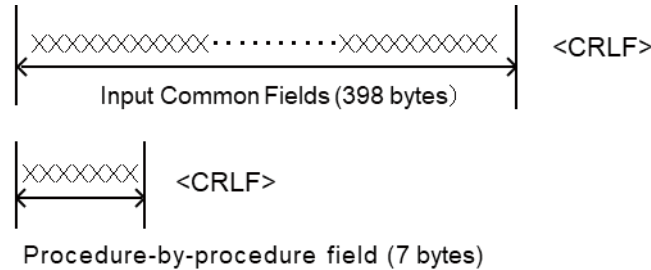

Figure 3.7.9 Example of entered Message Used in "REQ Procedure"

Table 3.7.6　Procedure-by-procedure field (Input) used in "REQ Procedure"

Field name	length	Outline	Sample Settings, etc.
Data	7	Specifies types of request of retrieving	REF△△△△ (when obtaining a list) Output Information Code (when retrieving a message) (e.g.: AAE0010)
Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)

2) Output message used in "REQ procedure" (when obtaining a list)

Figure 3.7.10 shows an example of an output message when REF△△△△ is specified in procedure-by-procedure fields and the message is sent (when obtaining a list). For output common fields, refer to "3.1 Table 3-1-4". "CAQ0150" is specified as Output Information Code. In addition, Table 3.7.7 shows procedure-by-procedure fields in output messages used in "REQ procedure".
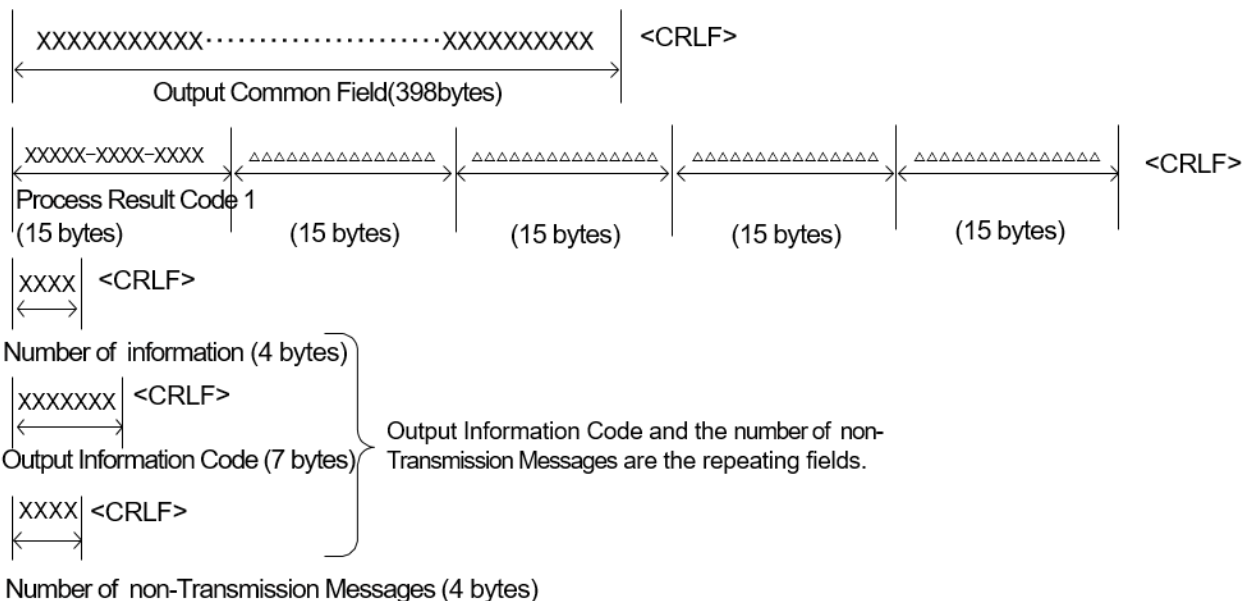

Figure 3.7.10　Example of Output Message used in "REQ Procedure" (when obtaining a List)

Table 3.7.7 Procedure-by-procedure field (Output) used in "REQ Procedure" (When Obtaining a List)

Item No.	Field name	length	Outline	Sample Settings, etc.
1	Process Result Code	75	The Process Result which is assessed by the system is output by code.	00000-0000-0000△…(60 spaces)…△
2	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
3	Number of information	4	Number of repetition of Output Information Code and non-Transmission Messages is specified.	e.g.: 0001
4	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
5	Output Information Code (Note)	7	The code of an output message is specified.	e.g.: AAE0010
6	Delimiter (Note)	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
7	Number of non-Transmission Messages (Note)	4	The number of messages with above-mentioned Output Information Code stored in Stored-Type Message Queue (QEX) is specified.	e.g.: 0002 * If the number of messages exceeds 9999, 9999 is specified
8	Delimiter (Note)	2	Indicates the end edge of the field.	(CRLF sign must be entered.)

(Note) Item No. 5 through 8 are the repeating fields. The number of repeats is max 1,000.

3) Output message used in "REQ procedure" (when retrieving a message)

Figure 3.7.11 shows an example of an output message when procedure-by-procedure fields are specified and the message is sent (when retrieving a message). In addition, Table 3.7.8 shows procedure-by-procedure fields.
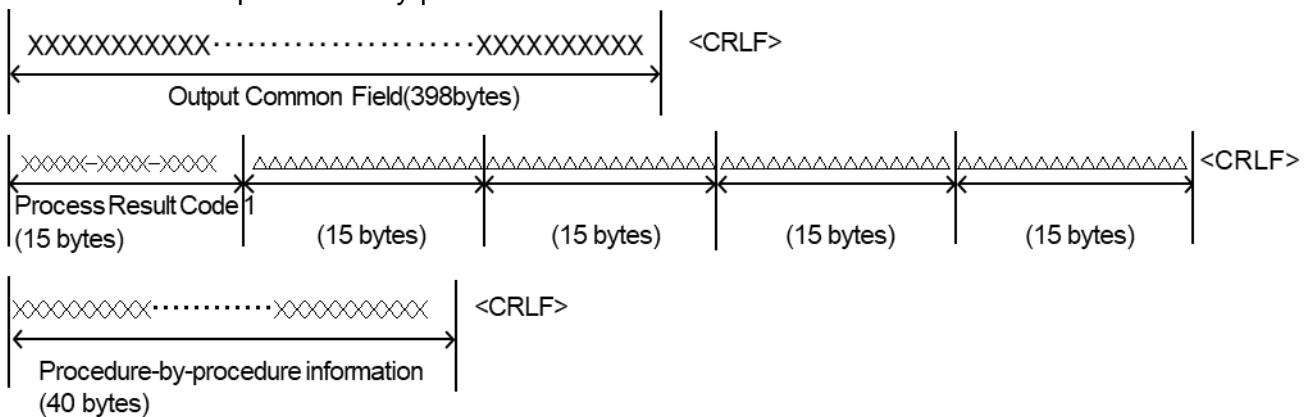

Figure 3.7.11 Example of Output Message Used in "REQ Procedure" (When Retrieving a Message)

Table 3.7.8 Procedure-by-procedure field (Output) used in "REQ Procedure" (When Retrieving a Message)

Item No.	Field name	length	Outline	Sample Settings, etc.
1	Process Result Code	75	The Process Result which is assessed by the system is output by code.	00000-0000-0000△…(60 spaces)…△
2	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)
3	Procedure-by-procedure information	40	Indicates specific information.	e.g.: ACCEPTED REQUEST (normal termination) : NO ELEMENT (no subject to be retrieved) : RECEIVING TERMINAL (already during retrieving)
4	Delimiter	2	Indicates the end edge of the field.	(CRLF sign must be entered.)