

NEC Storage Manager
Connector for MCOperations
Ver9.1
Installation Guide

Preface

This document describes about the installation of the program products in the CD labeled as:

NEC Storage Manager Connector for MCOperations

English Version

VERSION: 9.1

Note

NEC Storage Manager Connector for MCOperations is available for Windows.

Remarks

- This document explains functions implemented by the following program product:
 - NEC Storage Manager Integration Base CMD
 - NEC Storage Manager Connector for MCOperations
- This document is applicable to the program product of the following version:
 - NEC Storage Manager Integration Base Ver7.3 CMD
 - NEC Storage Manager Connector for MCOperations Ver9.1
- The NEC Storage Manager is referred to as iSM or Storage Manager in this manual unless clearly specified. Also, the following terms refer to the corresponding NEC Storage software products.

Term	NEC Storage Software Product
Integration Base CMD iSM operation command client command base	NEC Storage Manager Integration Base CMD
Connector for MCOperations CMCO	NEC Storage Manager Connector for MCOperations
Storage Manager	NEC Storage Manager

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 - Other product names and company names, etc. used in the manual are either registered trademarks or trademarks of the associated companies.
- In this document, matters to which careful attention needs to be paid will be described as follows:

Be sure to observe the contents.

If the indications are ignored and the system is improperly operated, settings which have been already made might be affected.

Type of Indication	
Type	Description
	Describes contents which require special attention during operation.

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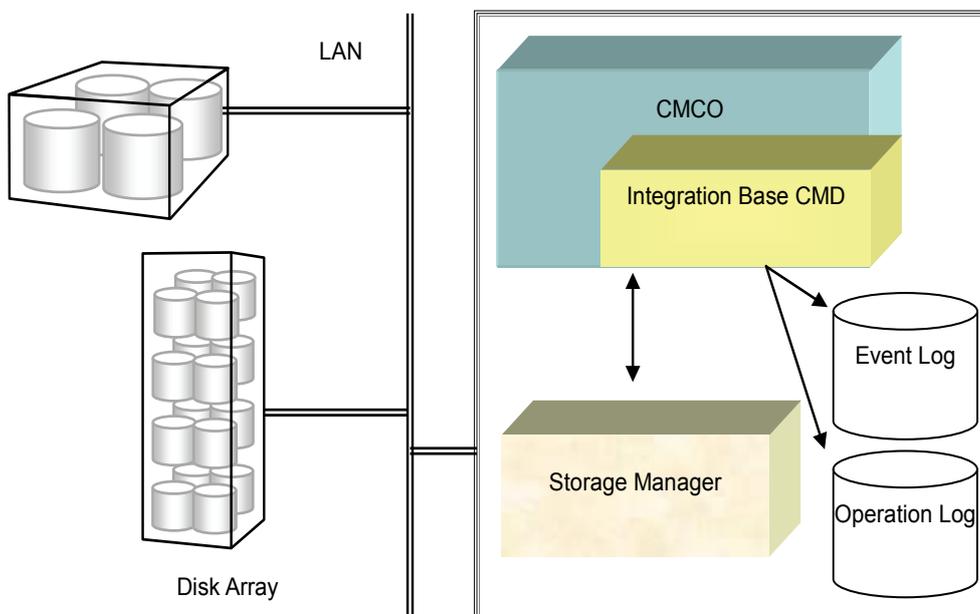
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Chapter 1 Connector for MCOperations

1.1 Operating Environment

Table 1-1 Operating Environment

Operating systems	<p>Microsoft Windows Server 2003, Standard Edition (SP0 to SP2) Microsoft Windows Server 2003 R2, Standard Edition (SP0, SP2) Microsoft Windows Server 2003, Standard x64 Edition (SP0, SP2) Microsoft Windows Server 2003 R2, Standard x64 Edition (SP0, SP2) Microsoft Windows Server 2003, Enterprise Edition (SP0 to SP2) (*1) Microsoft Windows Server 2003 R2, Enterprise Edition (SP0, SP2) Microsoft Windows Server 2003, Enterprise x64 Edition (SP0, SP2) Microsoft Windows Server 2003 R2, Enterprise x64 Edition (SP0, SP2) Microsoft Windows Server 2008 Standard (SP0, SP2) (*1) (*2) Microsoft Windows Server 2008 R2 Standard (SP0, SP1) (*1) Microsoft Windows Server 2008 Enterprise (SP0, SP2) (*1) (*2) Microsoft Windows Server 2008 R2 Enterprise (SP0, SP1) (*1) Microsoft Windows Server 2012 Standard Edition (*1) Microsoft Windows Server 2012 Datacenter Edition (*1) Microsoft Windows Server 2012 R2 Standard Edition (*1) Microsoft Windows Server 2012 R2 Datacenter Edition (*1)</p> <p>(*1) The product without Hyper-V function is also supported. (*2) The Server Core install option is not supported.</p>
Memory	OS required memory + 50 MB (+200 MB for 64-bit version) or more
Disk capacity	30 MB (The size necessary for output logs must be added to the disk size shown at left.)





1. The communication protocol of TCP/IP is used between the iSM and Integration Base CMD. The TCP/IP connection environment for the iSM must be set in the network environment definition of the operating system, in which the Integration Base CMD is installed. The TCP/IP environment is also necessary when operating the iSM and Integration Base CMD on the same server. Therefore, make sure that the TCP/IP environment is set when installing the iSM. The port numbers for the iSM and Integration Base CMD must also be identical. (Default: 8020)
2. On environments in which virus scan software has been installed, the virus scan software constantly checks files because the iSM server outputs trace files. This increases CPU load and may affect operation. In this case, specify the Integration Base CMD installation folder (default: system drive:\Program Files\NEC\iSMSM_CMD (system drive:\Program Files (x86)\NEC\iSMSM_CMD for a 64-bit OS) not to be scanned by the virus scan software.
3. On Windows Server 2008 or later, the following operation must be operated after elevation to Administrator privileges.
 - When you edit the definition file using text editor etc.
4. On Windows Server 2008 or later, when using a windows firewall, connect to ftp server in disk array maybe fail. In this case, unblock the ftp client unblock it in the firewall setting beforehand.
5. When using the M series disk array, log in to the disk array using MasterScope MISSION CRITICAL OPERATIONS or AssetSuite user name. Adding a user in disk array beforehand.

1.2 Installation

1.2.1 Installation of Connector for MCOperations

To install the Connector for MCOperations, follow the procedure below.



1. Be sure to use the quota management^{*1} and file screening^{*2} appropriately when applying them to the installation disk or folder. In case of misuse of them, a problem may occur during installation or operation.
 - *1 Function to restrict the storage usage and prevent the storage from being used exceeding the restriction.
 - *2 Function to prevent a file with a particular file name (extension) from being saved.

- (1) Log on as a user with Administrator privileges.
- (2) Set the Connector for MCOperations CD on the server and execute the following installation program:
CD drive:\WINDOWS\SETUP.EXE
(For Windows Vista or later or Windows Server 2008 or later, the [User Account Control] dialog may be displayed when the installation program is started. Select [Continue] or [Yes] to execute the installation program.)
- (3) Follow the directions of the installer. The default installation destination is under “system drive:\Program Files\NEC\iSMSM_CMD” (system drive:\Program Files (x86)\NEC\iSMSM_CMD for a 64-bit OS).
- (4) Perform the environment setting after the installation. For details, refer to 1.3 “Environment Settings”.
- (5) When using the D series disk array, start the Integration Base CMD (service name: Integration Base CMD) after the environment setting.

1.2.2 Uninstallation of Connector for MCOperations

To uninstall the Connector for MCOperations, follow the procedure below.

- (1) Log on as a user with Administrator privileges.
- (2) Close [Services] and [Event Viewer], if open.
- (3) Select the following from [Control Panel].
 - On Windows Server 2008 or later, select [Programs and Features] or [Programs]
 - On Windows Server 2003, select [Add or Remove Programs]

Select the following software, and uninstall it.

Connector for MCOperations

- (4) Follow the uninstaller directions.

For Windows Server 2008 or later, the [User Account Control] dialog box might be displayed when starting the uninstallation. Select [Continue] or [Yes] to run the uninstallation program.

For a Server Core environment, insert the CD of the software version to be uninstalled, and then execute the following at the command prompt:

```
\\WINDOWS\\SETUP.EXE /uninstall
```

1.2.3 Update of Connector for MCOperations

To update the Connector for MCOperations software, uninstall the existing software before installing the updated version.

For details of procedures, refer to 1.2.1 “Installation of Connector for MCOperations” and 1.2.2 “Uninstallation of Connector for MCOperations”.

1.3 Environment Settings

Operations of the Connector for MCOperations (Integration Base CMD) can be changed by environment settings. This section explains the environment settings.

(1) Definition file location

Create a definition file as iSMSM.conf in the “installation-destination-folder\iSMSM_CMD\conf” folder. A sample definition file, iSMSM.sample, has been installed in this folder. Rename this file to iSMSM.conf when using it as a definition file.

(2) Definition file description rules

The following explains the definition file description rules:

section

The definition file contents are divided into multiple blocks by section.

Specify the start of section by enclosing the section name by brackets ([]).

parameter

Specify the definition contents in parameters.

A parameter consists of the keyword identifying the parameter type, “=”, and the value.

The keyword is a clause consisting of uppercase letters, lowercase letters, numbers, and “_”.

The keyword can be specified only once in a defined section.

A number, character string, or keyword can be specified as the value.

With a number, specify zero or a positive integer.

With a character string, specify 1-byte alphanumeric special characters.

<Character string specification>

* When a character string is enclosed by double quotations (“ ”), it can include any characters except the following:

tab, line feed, and double quotation (“, ”)

* When a character string is not enclosed by double quotations (“ ”), it can include any characters except the following:

tab, line feed, double quotation (“, ”), comma (,), space, semicolon (;), left parenthesis ((), right parenthesis ()), equal sign (=), and pound sign (#)

<Path specification>

Be sure to enclose the path specification by double quotations.

* The following characters cannot be specified for both *1 and *2 below.

“ ”, “/”, “\”, “[”, “]”, “:”, “*”, “?”

*1 For FAT, the following restrictions are made on file name specification.

- Do not use the following characters.

“ ”, “/”, “\”, “[”, “]”, “:”, “;”, “|”, “=”, “,”, “^”, “*”, “?”, space

- Up to three characters can be used as the extension.

- Only one period (.) can be used.
- Uppercase and lowercase letters are not distinguished.

*2 For NTFS and FAT32, do not use the following characters for specifying a file name:

“ ”, “ / ”, “ \ ”, “ | ”, “ : ”, “ * ”, “ ? ”, “ < ”, “ > ”

Example: iSMSM_file_directory = “c:\Program Files\NEC\iSMSM_CMD\etc\log\”
iSMSvr_file_directory = “d:\Windows\temp”

<Parameter specification format>

A parameter consists of a keyword, “=”, and value.

Example: iSMSM_file_number=2: Numeric specified
 iSMSM_mode=COMMAND: Character string specified

A space, tab, or line feed can be placed before and after the parameter elements (keyword, “=”, and value).

Comment line

A line starting with “#” is treated as a comment line. A comment line can be inserted between the section start line and parameter line and between parameter lines (lines not including any parameter).

A pound sign “#” in any other use is not treated as a comment line mark.

Example:

```
#This is a comment line.
```

(3) Setting information

The following explains details on setting information:

iSMSM section: Define information about the Integration Base CMD itself.

[iSMSM]

```
iSMSM_mode = operation-mode
```

Section name	Description
[iSMSM]	Indicates the start of the Integration Base CMD section.

Parameter name	Value	Description
iSMSM_mode	COMMAND	Specify the operation mode. Specify as iSMSM_mode=COMMAND. Specifying any value other than COMMAND for this parameter causes an operation failure.

server section: Define information about iSM connection.

[server]

```
iSMsvr_port = iSM-port-number
```

Section name	Description
[server]	Indicates the start of the server section.

Parameter name	Value	Description
iSMsvr_port	iSM port number	Specify the port number with which the iSM waits for connection of the Integration Base CMD. Default: 8020 Range: 1 to 65535

log section: Define information about log management.

[log]

```
iSMSM_file_directory = operation-log-(Integration-Base-CMD)-location
iSMSM_file_size = operation-log-(Integration-Base-CMD)-file-size
iSMSM_file_number = maximum-number-of-operation-log-
                        (Integration-Base-CMD)-files
iSMSvr_file_directory = server-log-(iSM)-location
iSMSvr_file_size = server-log-(iSM)-file-size
iSMSvr_file_number = maximum-number-of-server-log-(iSM)-files
```

Section name	Description
[log]	Indicates the start of the log section.

Parameter name	Value	Description
iSMSM_file_directory	Operation log (Integration Base CMD) location	Specify the operation log (Integration Base CMD) location with the absolute path. Default: Installation-destination-folder\iSMSM_CMD\etc\log\ Maximum character length: 246 bytes
iSMSM_file_size	Operation log (Integration Base CMD) file size	Maximum operation log (Integration Base CMD) file size Unit: MB Default: 1 Range: 1 to 10
iSMSM_file_number	Maximum number of operation log (Integration Base CMD) files	Maximum number of generation files of the operation log (Integration Base CMD) Default: 10 Range: 1 to 10
iSMSvr_file_directory	Server log (iSM) location	Specify the server log (iSM) location with the absolute path. Default: Installation-destination-folder\iSMSM_CMD\etc\log\ Maximum character length: 246 bytes
iSMSvr_file_size	Server log (iSM) file size	Maximum server log (iSM) file size Unit: MB Default: 1 Range: 1 to 10
iSMSvr_file_number	Maximum number of server log (iSM) files	Maximum number of generation files of the server log (iSM) Default: 99 Range: 1 to 99

When the number of logical disks is between 1025 and 8192 (maximum), set the socket buffer size in the coms section and dist section.

The following explains details on the socket buffer size setting.

coms section: Define the setting of the socket buffer.

[coms]

```
dist_in_buffsize = socket-buffer-size
```

Section name	Description
[coms]	Indicates the start of the coms section.

Parameter name	Value	Description
dist_in_buffsize	Socket buffer size	Specify 1024 if the number of logical disks is between 1025 and 8192 (maximum). dist_in_buffsize=1024 * It is unnecessary to set this section if the number of logical disks is 1024 or less.

dist section: Define the setting of the socket buffer.

[dist]

```
func_in_buffsize = socket-buffer-size
```

Section name	Description
[dist]	Indicates the start of the dist section.

Parameter name	Value	Description
func_in_buffsize	Socket buffer size	Specify 1024 if the number of logical disks is between 1025 and 8192 (maximum). func_in_buffsize=1024 * It is unnecessary to set this section if the number of logical disks is 1024 or less.

(4) Adds a user

When using the M series disk array, the following explains details on Environment settings:

Adding a user in the M series disk array.

When using iSM Client (Web GUI), refer to the “NEC Storage Software Configuration Setting Tool User’s Manual (GUI)” (IS051).

When using iSMCLI, refer to the “NEC Storage Software NEC Storage Manager Command Reference” (IS052).

1.4 System Environment Variable Settings

Connector for MCOperations is installed in the “installation-destination-folder\iSMSM_CMD\bin”.

It is necessary to move to this folder to use Connector for MCOperations.

An access path to an executable file can be added by adding this folder name to the system environment variable, path.

As a result, Connector for MCOperations can be used without moving to this folder.

Chapter A Messages

A.1 Log Messages

The following messages are output to the operation log of Integration Base CMD. If messages are output to the event log (for Windows), “output to the event log” is written in the explanation.



1. The following messages are output to the event log or syslog file only because the operation log is not ready completely when Integration Base CMD starts:
51001, 51003, 51010, 51105, 51108, 51110, 51230, 51232, 53022
2. Refer to the “NEC Storage Software Messages Handbook” (IS010) for the messages of Connector for MCOperations.

iSM51001: Integration Base has started

[Type] INFO
[Explanation] The client command base has started. (Output to the event log or syslog file only)
[Measures] Unnecessary

iSM51002: Integration Base is ready

[Type] INFO
[Explanation] The client command base is operable.
[Measures] Unnecessary

iSM51003: Integration Base has terminated normally

[Type] INFO
[Explanation] The client command base has terminated normally. (Output to the event log or syslog file only)
[Measures] Unnecessary

iSM51006: Termination of Integration Base is started

[Type] WARNING
[Explanation] Termination processing for the client command base has started.
[Measures] Unnecessary

iSM51010: Integration Base has restarted

[Type] INFO
[Explanation] The client command base has restarted. (Output to the event log or syslog file only)
[Measures] Unnecessary

**iSM51103: Socket access failed.process= <aaa...a>
func=<bbb...b>
[errno=<cccc>|error=<ddd...d>] detail=<ee>-<ffff>**

[Type] NOTICE

[Explanation] An error occurred during socket communication between the process indicated by aaa...a and the main process.

This error occurs when a process has stopped or the file environment of the client command base socket path (installation folder \iSMSM_CMD\etc\sock) is invalid.

aaa...a: Process name

bbb...b: Socket system function name

cccc: Error number (set by system calls or libraries)

(For the details, refer to the document of the operating platform (operating system).)

ddd...d: Error information

timeout: Timeout

socket close: Socket closed

ee-ffff: Detail code

[Measures] If errno is output, make sure of the function name and error number, perform the corresponding procedure, and restart the client command base if necessary.

If an error is output, check the cause of the error according to the previously output message, and restart the client command base if necessary.

**iSM51105: File access failed.file=<aaa...a> func=<bbb...b>
errno=<cccc> detail=<dd>-<eeee>**

[Type] NOTICE

[Explanation] An error occurred during access to the file indicated by aaa...a. This message is output when the environment of the environment definition file (installation folder \iSMSM_CMD\conf\iSMSM.conf) or control file (under the installation folder \iSMSM_CMD\etc) is invalid. (Output to the event log or syslog file only)

aaa...a: File path name

bbb...b: File system function name

cccc: Error number (set by system calls or libraries)

(For the details, refer to the document of the platform (operating system).)

dd-eeee: Detail code

[Measures] Confirm the file path name, function name, and error number, perform the corresponding procedure, and restart the client command base.

**iSM51106: System call error occurred.process= <aaa...a>
func=<bbb...b> errno=<cccc> detail=<dd>-<eeee>**

[Type] NOTICE

[Explanation] An error occurred in a system function other than socket and file access system files.

aaa...a: Process name

bbb...b: System function name

cccc: Error number (set by system calls or libraries)

(For the details, refer to the document of the operating platform (operating system).)

dd-eeee: Detail code

[Measures] Confirm the function name and error number, perform the corresponding

iSM51107: <aaa...a> process has terminated abnormally

[Type] WARNING

[Explanation] The process indicated by aaa...a has terminated abnormally. The abnormally terminated process has issued the error cause message immediately before this message. (Output to the event log or syslog file only)

aaa...a: Process name

[Measures] Check the cause of the error according to the previously output message, and restart the client command base if necessary.

iSM51108: Integration Base has already started

[Type] NOTICE

[Explanation] The client command base has started. (Output to the event log or syslog file only)

[Measures] Unnecessary

iSM51109: Inner error occurred.detail= <aa>-<bbbb>

[Type] WARNING

[Explanation] An internal error has occurred in the main process of the client command base. The iSM operation command stops.

aa-bbbb: Detail code (This code does not indicate the error cause, but indicates a value for maintenance.)

[Measures] Collect information and restart the client command base if necessary.

**iSM51110: Illegal configuration. file=<aaa...a> line=<bbb>
[section=<ccc...c>] [keyword=<ddd...d>]
[value=<eee...e>] [token=<fff...f>]**

[Type] NOTICE

[Explanation] Invalid specification was detected in the environment definition file. The client command base terminates abnormally. (Output to the event log or syslog file only)

aaa...a: Environment definition file name
bbb: Line on which invalid specification was detected
ccc...c: Section name, or the token at detection of invalid specification
ddd...d: Parameter name, or the token at detection of invalid specification
eee...e: Parameter value, or the token at detection of invalid specification
fff...f: Token at detection of invalid specification

[Measures] Find the invalid specification in the target file according to the output message, correct it, and restart the client command base.

**iSM51114: Version inconsistency : Integration Base
<aaaaaaa> /
iSM Server <aaaaaaa>**

[Type] INFO

[Explanation] The version of the client command base does not match the version of the connected iSM server.

aaaaaaa: Version

[Measures] If an operation error occurs due to the different versions, match them each other.

iSM51230: Integration Base has terminated abnormally

[Type] WARNING

[Explanation] The client command base has terminated abnormally. The error cause message is output before this message. (Output to the event log or syslog file only)

[Measures] Check the cause of the error according to the previously output message, and restart the client command base if necessary.

**iSM51232: Integration Base has terminated abnormally by
signal.signo=<aa>**

[Type] ERROR

[Explanation] The client command base has terminated abnormally due to a signal. The user has probably issued the signal (kill). (Output to the event log or syslog file only)

aa: Signal number

[Measures] Restart the client command base.

iSM52007: iSSMdist process abnormally terminated reason=<aaa>

[Type] INFO

[Explanation] The iSSMdist process has terminated abnormally.

aaa:	Reason of termination
001:	Exception
002:	Socket error
003:	Memory error
005:	Other than the above

[Measures] Check the cause of the error according to the previously output message, and restart the client command base if necessary.

iSM52008: iSSMcoms process abnormally terminated reason=<aaa>

[Type] INFO

[Explanation] The iSSMcoms process has terminated abnormally.

aaa:	Reason of termination
001:	Exception
002:	Socket error
003:	Memory error
005:	Other than the above

[Measures] Check the cause of the error according to the previously output message, and restart the client command base if necessary.

iSM52011: In initialization, shared memory allocation failed errno=<aaaaa>

[Type] NOTICE

[Explanation] Allocation of shared memory failed during initialization.

aaaaa: Error number (set by system calls or libraries)

(For the details, refer to the document of the operating platform (operating system).)

[Measures] Shared memory available in the system is insufficient.

**iSM52020: Function Error has occurred name=<aaa...a>
code=<bbbb> errno=<cccc>**

[Type]	NOTICE
[Explanation]	A function error has occurred. aaa...a: Function name bbbb: Internal code cccc: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the settings related to the target function.

**iSM52021: Internal Error has occurred code=<aaaa>
errno=<bbbbbb>**

[Type]	NOTICE
[Explanation]	An internal error has occurred. aaaa: Internal code bbbbbb: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the operating environment of the client command base and the settings.

iSM52060: Data lost detected : <aaa...a>

[Type]	NOTICE
[Explanation]	The send/receive data has been lost. aaa...a: Process name for sending/receiving, or iSM server
[Measures]	Remove conditions such as the operating environments of the client command base and the iSM server that prevent the sending/receiving of data. If response to a command request is lost, information may become invalid.

iSM52061: Data lost recovered : <aaa...a>

[Type]	NOTICE
[Explanation]	Lost send/receive data has been restored. aaa...a: Process name for sending/receiving, or iSM server
[Measures]	Verify that the data loss does not cause any operational problem.

**iSM52070: connected with iSM server ip=<aaa...a>
port=<bbbb>**

[Type]	INFO
[Explanation]	The iSM server has been connected. aaa...a: IP address of the iSM server bbbb: Port number
[Measures]	Unnecessary (This message indicates that the operation is completed as required)

**iSM52071: disconnected with iSM server ip=<aaa...a>
port=<bbbb>**

[Type]	INFO
[Explanation]	The iSM server has been disconnected normally. aaa...a: IP address of the iSM server bbbb: Port number
[Measures]	Unnecessary (This message indicates that the operation is completed as required)

**iSM52072: disconnect failed with iSM server ip=<aaa...a>
port=<bbbb> reason=<ccc>**

[Type]	INFO
[Explanation]	Communication with the iSM server was cleared abnormally. aaa...a: IP address of the iSM server bbbb: Port number ccc: Reason of disconnection 001: Line disconnection 009: Timeout for the disconnection request
[Measures]	Check the cause of the error according to the logs of the client command base and the iSM server.

**iSM52073: connect failed with iSM server ip=<aaa...a>
port=<bbbb> reason=<ccc>**

[Type]	INFO
[Explanation]	Connection to the iSM server was unsuccessful. aaa...a: IP address of the iSM server bbbb: Port number ccc: Reason of disconnection 001: iSM server internal error 002: Resource insufficient 003: Authentication failure 004: The number of connected units exceeds the limit. 009: Timeout 010: connect() failure 011: The iSM server version is V1.3 or earlier. 999: Other than the above
[Measures]	Check the cause of the error according to the logs of the client command base and the iSM server.

**iSM53020: Function Error has occurred name=<aaa...a>
code=<bbbb> errno=<cccc>**

[Type]	NOTICE
[Explanation]	A function error has occurred. aaa...a: Function name bbbb: Internal code cccc: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the settings related to the target function.

**iSM53021: Internal Error has occurred code=<aaaa>
errno=<bbbbbb>**

[Type]	NOTICE
[Explanation]	An internal error has occurred. aaaa: Internal code bbbbbb: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the operating environment of the client command base and the settings.

**iSM53022: Message send error has occurred
process=<aaa...a> reason=<bbb>**

[Type]	WARNING
[Explanation]	Sending a message to the message queue failed. (Output to the event log or syslog file only) aaa...a: Process name bbb: Reason of sending failure 001: Send request data invalid 002: msgsnd() failure 003: Other than the above
[Measures]	Confirm the operating environment (the system constant for the message queue) of the client command base and the settings.

iSM53023: File write error has occurred file=<aaa...a>

[Type]	ERROR
[Explanation]	Writing to the file failed. aaa...a: File name
[Measures]	Confirm the status of the target file (e.g., write authority).

iSM53024: File read error has occurred file=<aaa...a>

[Type]	ERROR
[Explanation]	Reading the file failed. aaa...a: File name
[Measures]	Confirm the status of the target file (e.g., read authority).

iSM53025: File open error has occurred file=<aaa...a>

[Type]	ERROR
[Explanation]	Opening the file failed. aaa...a: File name
[Measures]	Confirm the presence/status of the target file.

iSM53030: Last message repeated <a> times

[Type]	INFO
[Explanation]	The same message has been output repeatedly. a: Repetition count
[Measures]	Unnecessary

iSM53040: Log File has swapped, the latest backup=<aa>

[Type]	WARNING
[Explanation]	Swap of log file has been executed. aa: Latest backup file number
[Measures]	Unnecessary (informational message for operation)

iSM53060: Log File write started host=<aaa...a>

[Type]	INFO
[Explanation]	Writing to the operation log has started. aaa...a: Host name of the machine on which the client command base operates
[Measures]	Unnecessary

iSM54003: iSSMrmon process abnormally terminated reason=<aaa>

[Type]	INFO
[Explanation]	The iSSMrmon process has terminated abnormally. aaa: Cause of the abnormal termination 001: Exception 002: Socket failure 003: Memory error 005: Other than the above
[Measures]	Check the cause of the error according to the previously output message, and restart the client command base if necessary.

iSM54010: iSSMrmon service start

[Type]	INFO
[Explanation]	The status monitoring service of the iSM operation command has started.
[Measures]	Unnecessary

iSM54900: Process busy when terminate emergency, unexpected error messages maybe generated

[Type]	WARNING
[Explanation]	Emergency stop was specified, but the iSSMrmon process is unable to stop immediately.
[Measures]	Unnecessary

iSM55020: Function Error has occurred name=<aaa...a> code=<bbbb> errno=<cccc>

[Type]	NOTICE
[Explanation]	A function error has occurred. aaa...a: Function name bbbb: Internal code cccc: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the settings related to the target function and the operating environment of the client command base.

iSM55021: Internal Error has occurred code=<aaaa> errno=<bbbbbb>

[Type]	NOTICE
[Explanation]	An internal error has occurred. aaaa: Internal code bbbbbb: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the operating environment of the client command base and the settings.

iSM55100: Information sense error : info=<aaa...a>, status= failed(<bbb...b>), Disk Array=<ccc...c>

[Type]	INFO
[Explanation]	Getting disk array information failed. aaa...a: Readbuffer command name bbb...b: Error detail ccc...c: Disk array name
[Measures]	If an error occurs, the disk array configuration or setting has been probably changed. Confirm the current status, and re-execute the command.

**iSM55101: Configuration reserved Disk Array. :
Disk Array=<aaa...a>, status=<bbb...b>**

[Type] INFO

[Explanation] Configuration setting for the disk array has started.

aaa...a: Disk array name

bbb...b: Command execution status (good or failed (xxxx))

[Measures] If an error occurs, the specified disk array may be under configuration setting by another configuration setting software. Terminate all the configuration setting software, and re-execute the command.

**iSM55102: Configuration released Disk Array. :
Disk Array=<aaa...a>, status=<bbb...b>**

[Type] INFO

[Explanation] Configuration setting for the disk array has terminated.

aaa...a: Disk array name

bbb...b: Command execution status (good or failed (xxxx))

[Measures] If an error occurs, a disk array or control path failure has probably occurred. After recovering it, terminate the iSM operation command and re-execute the command.

**iSM55138: Set Disk Array update : status=<aaa...a>,
Disk Array=<bbb...b>**

[Type] INFO

[Explanation] Storage control software was updated.

aaa...a: Command execution status (good or failed (xxxx))

bbb...b: Disk array name

[Measures] If an error occurs, the disk array configuration or setting has been probably changed. Confirm the current status, and re-execute the command.

**iSM55300: Internal Error has occurred : code=<aaaaaaaa>
Disk Array=<bbb...b>**

[Type] NOTICE

[Explanation] An internal error has occurred.

aaaaaaaa: Detail code

bbb...b: Disk array name

[Measures] Confirm the operating environment of the client command base and the settings.

**iSM55900: Process busy when terminate emergency,
unexpected
error messages maybe generated**

[Type] WARNING

[Explanation] The configuration setting process determined to enter the emergency stop state, but it is unable to terminate immediately.

[Measures] Unnecessary

**iSM56020: Function Error has occurred name=<aaa...a>
code=<bbbb> errno=<cccc>**

[Type]	NOTICE
[Explanation]	A function error has occurred. aaa...a: Function name bbbb: Internal code cccc: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the settings related to the target function and the operating environment of the client command base.

**iSM56021: Internal Error has occurred code=<aaaa>
errno=<bbbb>**

[Type]	NOTICE
[Explanation]	An internal error has occurred. aaaa: Internal code bbbb: Error number (set by system calls or libraries) (For the details, refer to the document of the operating platform (operating system).)
[Measures]	Confirm the operating environment of the client command base and the settings.

A.2 Server Messages

The messages below are output to an iSM server if a Integration Base CMD is connected with the iSM server.

If the iSM server is under UNIX, the messages 02140, 02141, 02142, and 02143 are output to the syslog and the operation log. If the iSM server is under Windows, they are output to the operation log.

If the iSM server is under UNIX, the messages 02160 and 02161 are output to the syslog. If the iSM server is under Windows, they are not output.

iSM02140: Integration Base(C) connected user=<aaa...a> ip=<bbb...b>

[Type]	INFO
[Explanation]	It shows that the client command base is connected. aaa...a: User name (for Integration Base only) bbb...b: IP address of the client command base
[Measures]	Unnecessary (This message indicates that the operation is completed as required)

iSM02141: Integration Base(C) terminated user=<aaa...a> ip=<bbb...b>

[Type]	INFO
[Explanation]	It shows that the client command base has exited. aaa...a: User name (for Integration Base only) bbb...b: IP address of the client command base
[Measures]	Unnecessary (This message indicates that the operation is completed as required)

iSM02142: Integration Base(C) disconnected user=<aaa...a> ip=<bbb...b> reason=<ccc>

[Type]	NOTICE
[Explanation]	It shows that the client command base has been disconnected. aaa...a: User name (for Integration Base only) bbb...b: IP address of the client command base ccc: Reason of the disconnection 001: Hindrance generated in the client command base 002: Time out generated in the client command base 003: Others
[Measures]	Connect the client command base again if necessary.

iSM02143: Integration Base(C) connect failed user=<aaa...a> ip=<bbb...b> reason=<ccc>

[Type]	NOTICE
[Explanation]	<p>It shows that the client command base failed to connect.</p> <p>aaa...a: User name (for Integration Base only)</p> <p>bbb...b: IP address of the client command base</p> <p>ccc: Reason of the disconnection</p> <p>001: Incorrect user's name</p> <p>002: Incorrect password</p> <p>003: Incorrect IP address</p> <p>004: Excessive connection of client command bases</p> <p>005: Resource shortage</p> <p>006: Reconnection demand during the process of disconnection of the client command base</p> <p>007: Start terminating iSM server</p> <p>008: Internal error generated</p> <p>009: Others</p> <p>010: Time out generated in the iSM server</p>
[Measures]	Resolve the problem from the reason of disconnection and reconnect the client command base.

A.3 Screen Messages

A.3.1 iSMcmd Command

iSMcmd56001: Base function connect error.

- [Explanation] Connection to the client command base was unsuccessful.
[Measures] Check if the client command base is active, and re-execute iSMcmd.

iSMcmd56002: Communication error occurred.

- [Explanation] A communication error occurred.
[Measures] Check if the iSM server and client command base are active after iSMcmd is terminated. If not, start them.

iSMcmd56003: Login incorrect.

- [Explanation] An authentication error occurred.
[Measures] Confirm the user name and password for the iSM server, and enter them correctly.

iSMcmd56004: Disconnect host.

- [Explanation] The iSM server was disconnected because an authentication error occurred three times.
[Measures] Confirm the user name and password for the iSM server, and enter them correctly.

iSMcmd56005: Invalid host.

- [Explanation] The specified host does not exist.
[Measures] Confirm the host name or IP address of the connection destination, and re-execute the operation.

iSMcmd56006: Server connect error.

- [Explanation] Connection to the specified host was unsuccessful.
[Measures] Check if the iSM server is active with the connection destination host after iSMcmd is terminated. If not, start the iSM server, and then connect it again.

iSMcmd56008: Number of connection was exceeded.

- [Explanation] The number of units connected to the iSM server has exceeded the limit.
[Measures] Check if an already connected client command base exists.

iSMcmd56009: The server is not supported.

[Explanation] The iSM server is not supported.
[Measures] Confirm the iSM server version.

iSMcmd56010: File open error occurred.

[Explanation] Opening a file failed.
[Measures] Confirm the file path and file name.

iSMcmd56011: File read error occurred.

[Explanation] Reading a file failed.
[Measures] Confirm the file status.

iSMcmd56012: File write error occurred.

[Explanation] Writing to a file failed.
[Measures] Confirm the free disk space and the file status.

iSMcmd56013: File close error occurred.

[Explanation] Closing a file failed.
[Measures] Confirm the file status.

iSMcmd56014: The file specified by “-output” option has already exist.

[Explanation] The file specified by the -output option already exists.
[Measures] Specify a new file name or the -overwrite option, and retry the operation.

iSMcmd56015: File format error.

[Explanation] A batch setting file format error has occurred.
[Measures] Confirm the batch setting file contents.

iSMcmd56020: Illegal function name.

[Explanation] The function name specified in iSMcfg is invalid.
[Measures] Confirm the function name specified in iSMcfg.

iSMcmd56021: Illegal command name.

[Explanation] The specified command is invalid.
[Measures] Confirm the command name.

iSMcmd56022: Illegal character is used.

- [Explanation] The specified parameter is invalid.
- [Measures] Check if the parameter includes any of the following that are not permitted to be used:
Ampersand (&), pipe (|), semicolon (;), and redirect (<>)

iSMcmd56023: “iSMcfg stop” is not executed.

- [Explanation] The iSMcfg stop command was not executed.
- [Measures] Execute the iSMcfg stop command before the iSMchsvr and exit commands.

iSMcmd56030: Autaset was interrupted.

- [Explanation] A command execution error occurred during batch setting, and batch setting was stopped.
- [Measures] Confirm the batch setting file contents and the disk array status.

iSMcmd56031: Autaset was completed.

- [Explanation] Batch setting has terminated.
- [Measures] Unnecessary

iSMcmd56032: Nothing executed.

- [Explanation] Nothing was executed during batch setting.
- [Measures] Confirm the batch setting file contents.

iSMcmd56200: Service LED operation completed successfully.

- [Explanation] Service LED operation execution succeeded.
- [Measures] Unnecessary

iSMcmd56201: Service LED operation failed. (<aaa...a>)

- [Explanation] Service LED operation failed.
- aaa...a: Error number (set by system calls or libraries)
(For the details, refer to the document of the operating platform (operating system).)
- [Measures] Check the specification and disk array status, and then re-execute the operation.

iSMcmd56996: The OS is not supported.

- [Explanation] Operation was started with an unsupported OS.
- [Measures] Confirm the OS type.

iSMcmd56997: The unexpected error occurred.

- [Explanation] An unexpected error has occurred.
- [Measures] Check if the client command base or iSM server contains an error.

iSMcmd56998: iSMcmd already executed.

- [Explanation] iSMcmd is already active.
- [Measures] Terminate another iSMcmd, and then restart the target iSMcmd.

iSMcmd56999: System call error occurred.(*<aaa...a>*)

- [Explanation] A system call error occurred.
- aaa...a: Detailed error information
- [Measures] Confirm the system status.

A.3.2 iSMcfg Command

iSMcfg00001: [**<aaa...a>**] Command completed successfully.

[Explanation] The function indicated by aaa...a was executed successfully.
 aaa...a: Name of the executed function

[Measures] Unnecessary

iSMcfg00002: [**<aaa...a>**] Illegal option value. - **<bbb...b>** **(<ccc...c>) <ddd...d>**

[Explanation] The specified option contains an invalid value.
 aaa...a: Name of the executed function
 bbb...b: Name of the option in which an invalid value is specified
 ccc...c: Detailed error information (May be omitted.)
 ddd...d: Number of lines in the setting file that contain an SVP setting error (May be omitted.)

[Measures] Confirm the parameter contents and retry the operation.

iSMcfg00003: [**<aaa...a>**] Missing necessary option.

[Explanation] A mandatory option has not been specified.
 aaa...a: Name of the executed function

[Measures] Confirm the parameter contents and retry the operation.

iSMcfg00004: [**<aaa...a>**] Illegal option.

[Explanation] The specified option is invalid, or an option, which must not be specified at the same time, has been specified.

aaa...a: Name of the executed function

[Measures] Confirm the parameter contents and retry the operation.

iSMcfg00010: [**<aaa...a>**] Server connect error.

[Explanation] Connection to the iSM server was unsuccessful.
 aaa...a: Name of the executed function

[Measures] Confirm the server status. If the server is not active, start the server and then retry the operation.

iSMcfg00011: [**<aaa...a>**] System call error occurred.(**<bbb...b>**).

[Explanation] Detailed information contained an operational error at execution of System Call.
 aaa...a: Name of the executed function
 bbb...b: Detailed information

[Measures] Confirm the detailed information and server log.

iSMcfg00012: [<aaa...a>] Base function connect error.

[Explanation] Connection to the base function was unsuccessful.

aaa...a: Name of the executed function

[Measures] Confirm the base function status.

iSMcfg00014: [<aaa...a>] Server time out.

[Explanation] Communication with the server ended up with a timeout.

aaa...a: Name of the executed function

[Measures] Confirm the operating environments of the iSM server and the client command base, and retry the operation.

iSMcfg00015: [<aaa...a>] Server error occurred.

[Explanation] A server error has occurred.

aaa...a: Name of the executed function

[Measures] Confirm the server log.

iSMcfg00016: [<aaa...a>] communication error occurred.

[Explanation] A communication error occurred.

aaa...a: Name of the executed function

[Measures] Confirm the server log or client command base log, and restart the server if necessary.

iSMcfg00111: [<aaa...a>] “iSMcfg start” was not executed.

[Explanation] The “iSMcfg start” command has not been executed.

aaa...a: Name of the executed function

[Measures] Execute the “iSMcfg start” command.

**iSMcfg00121: [<aaa...a>] The unexpected error occurred.
 (<bbb...b>).**

[Explanation] An unexpected error has occurred.

aaa...a: Name of the executed function

bbb...b Detailed information

[Measures] Confirm the detailed information and server log.

**iSMcfg00122: [<aaa...a>] Disk Array Subsystem reboot
 processing is time out.**

[Explanation] Reboot processing for the disk array ended up with a timeout error.

aaa...a: Name of the executed function

[Measures] Turn off the disk array, and then turn it on.

iSMcfg10001: [*<aaa...a>*] Specified Disk Array Subsystem is using for configuration.

- [Explanation] The specified disk array is under configuration setting by another software application.
 aaa...a: Name of the executed function
- [Measures] Wait until another software application finishes the configuration setting, and retry the operation.

iSMcfg10005: [*<aaa...a>*] “iSMcfg start” was already executed.

- [Explanation] The “iSMcfg start” command has been executed.
 aaa...a: Name of the executed function
- [Measures] Unnecessary

iSMcfg30007: [*<aaa...a>*] Specified parameter is already configured.

- [Explanation] The specified parameter has been set.
 aaa...a: Name of the executed function
- [Measures] Unnecessary

iSMcfg30008: [*<aaa...a>*] Not ready, so could not execute “iSMcfg start”.

- [Explanation] Configuration information is being prepared, so configuration setting cannot be started.
 aaa...a: Name of the executed function
- [Measures] Wait for a while, and retry the operation.

iSMcfg30009: [*<aaa...a>*] Option count is over maximum.

- [Explanation] There are too many options.
 aaa...a: Name of the executed function
- [Measures] Confirm the specification, and retry the operation.

iSMcfg30010: [*<aaa...a>*] Specified option is duplicated. -- *<bbb...b>*

- [Explanation] The option is specified in duplicate.
 aaa...a: Name of the executed function
 bbb...b: Specified option
- [Measures] Confirm the specification, and retry the operation.

iSMcfg30011: [*aaa...a*] Illegal option name. -- *<bbb...b>*

[Explanation] The specified option is invalid.
 aaa...a: Name of the executed function
 bbb...b: Specified option

[Measures] Confirm the specification, and retry the operation.

iSMcfg30013: [*aaa...a*] Requested function is not supported.

[Explanation] The software is not supported in the configuration setting command, so the command cannot be executed.
 aaa...a: Name of the executed function

[Measures] Unnecessary

iSMcfg30018: [*aaa...a*] Specified subcommand is not supported.

[Explanation] The specified subcommand is not supported in the configuration setting command, so the command cannot be executed.
 aaa...a: Name of the executed function

[Measures] Check if the setting of the subcommand is permitted in the target disk array.
 * For details, refer to 4.1.2 “Function List” of Chapter 4 “Configuration Setting Commands”.

iSMcfg30024: [*aaa...a*] Specified Disk Array Subsystem is not found.

[Explanation] The specified disk array does not exist.
 aaa...a: Name of the executed function

[Measures] Confirm the specification, and retry the operation.

iSMcfg30032: [*aaa...a*] Please wait for a moment...

[Explanation] Wait until the command terminates.
 aaa...a: Name of the executed function

[Measures] Unnecessary

iSMcfg30048: [*aaa...a*] The reboot of a disk array is failure.

[Explanation] Reboot of the disk array failed.
 aaa...a: Name of the executed function

[Measures] Turn off the disk array, and then turn it on to use the product.

iSMcfg30064: [<aaa...a>] Shutdown processing is failure.

[Explanation] Shutdown processing failed.
 aaa...a: Name of the executed function

[Measures] Confirm the disk array state, and retry the operation.

iSMcfg30065: [<aaa...a>] Storage control software update execution is failure.

[Explanation] The storage control software update failed.
 aaa...a: Name of the executed function

[Measures] Confirm the disk array state, and retry the operation.

iSMcfg30066: [<aaa...a>] The reboot of a disk array is failure after update.

[Explanation] Reboot of the disk array failed after the storage control software update.
 aaa...a: Name of the executed function

[Measures] Turn off the disk array, and then turn it on so that the operating system recognizes the disk array.

iSMcfg30067: [<aaa...a>] Revision of storage control software has not been checked after update.

[Explanation] Revision of the storage control software cannot be checked after the software update.
 aaa...a: Name of the executed function

[Measures] Confirm that the storage control software revision has been updated.

iSMcfg30068: [<aaa...a>] The revision of storage control software setup is failure.

[Explanation] Setting of the storage control software revision failed.
 aaa...a: Name of the executed function

[Measures] Confirm the disk array state, and retry the operation.

iSMcfg30069: [<aaa...a>] The completion check of download of a FW is failure.

[Explanation] Completion check for firmware download failed.
 aaa...a: Name of the executed function

[Measures] Confirm the disk array state, and retry the operation.

iSMcfg30070: [*<aaa...a>*] Correspondence with storage control software is not materialized.

[Explanation] Firmware download succeeded. However, the downloaded firmware does not match the storage control software.

aaa...a: Name of the executed function

[Measures] Other resources must be downloaded. Confirm the storage control software revision after all resources are downloaded.

iSMcfg30071: [*<aaa...a>*] Monitoring is starting. Failed to start.

[Explanation] Start of the configuration setting failed since the monitoring operation is not ready.

aaa...a: Name of the executed function

[Measures] Confirm that the state monitoring is being executed or not being executed for the target disk array, and retry the operation.

A.3.3 iSMSM Command

iSM51400: This function is not supported

[Explanation] An invalid parameter was specified for iSMSM.
 [Measures] Check the iSMSM parameters.

iSM51411: iSMSM start accepted

[Explanation] The client command base started.
 [Measures] Unnecessary

iSM51412: iSMSM stop accepted

[Explanation] The client command base stopped.
 [Measures] Unnecessary

iSM51422: iSMSM stop not accepted

[Explanation] Failed to stop the client command base.
 [Measures] Check the startup status of the client command base, and retry the operation.

iSM51430: Rejected: System function error(<aaa...a> <bbb...b>)

[Explanation] A system function error occurred.
 aaa...a: System function name
 bbb...b: Error number set by a system call and library.
 (Refer to the document of each platform for details.)
 [Measures] Check the client command base log, and restart the server if necessary.

iSM51431: Rejected: Not ready or Termination in progress

[Explanation] The operation cannot be executed because the client command base is not started or is stopped.
 [Measures] Check the startup status of the client command base, and retry the operation.

iSM51432: You are not a super user

[Explanation] The operation cannot be executed because you do not have super user privileges.
 [Measures] Retry the operation with super user privileges.

**iSM51901: Function Error has occurred name=<aaa...a>
code=<bbbb> errno=<cccc>**

- [Explanation] An internal function error occurred.
- aaa...a: Function name
 - bbbb: Internal code
 - cccc: Error number set by system call and library.
- (Refer to the document of each platform for details.)
- [Measures] Check the log of the client command base, and restart the server if necessary.