Fujitsu SPARC M12 and Fujitsu M10/SPARC M10

RCIL User Guide

FUJITSU

Manual Code: C120-E718-06EN
July 2017

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Preface

This document provides information on the Remote Cabinet Interface over LAN (referred to below as RCIL) function used to manage the power supply of I/O devices from SPARC M12 and SPARC M10 from Fujitsu, such as the Fujitsu storage system ETERNUS.
It is recommend to read the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide* to better understand the contents of this document.

Fujitsu M10 is sold as SPARC M10 Systems by Fujitsu in Japan.
Fujitsu M10 and SPARC M10 Systems are identical products.

This preface includes the following sections:

- Audience
- Related Documentation
- Safety Precautions
- Text Conventions
- Syntax of the Command Line Interface (CLI)
- Document Feedback

Audience

This document is designed for system administrators with advanced knowledge of computer networks and Oracle Solaris.

Related Documentation

All documents for your server are available online at the following locations.

- Sun Oracle software-related documents (Oracle Solaris, etc.)
  http://docs.oracle.com/en/
- Fujitsu documents
  Global site

  http://www.fujitsu.com/global/products/computing/servers/unix/sparc/downloads/manuals/

  Japanese site

  http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/downloads/manual/

For a system using the SPARC M12, see the manuals listed in "Documentation Related to the SPARC M12."

For a system using the SPARC M10, see the manuals listed in "Documentation Related to the SPARC M10."

Documentation Related to the SPARC M12

Manual Names (*1)
Fujitsu SPARC M12 Product Notes
Fujitsu SPARC M12 Quick Guide
Fujitsu SPARC M12 Getting Started Guide (*2)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Important Legal and Safety Information (*2)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Safety and Compliance Guide
Software License Conditions for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Security Guide
Fujitsu SPARC Servers/SPARC Enterprise/PRIMEQUEST Common Installation Planning Manual
Fujitsu SPARC M12-1 Installation Guide
Fujitsu SPARC M12-2 Installation Guide
Fujitsu SPARC M12-2S Installation Guide
Fujitsu SPARC M12 PCI Card Installation Guide
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Domain Configuration Guide
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 RCIL User Guide (*3)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF MIB and Trap Lists

Documentation Related to the SPARC M12 *(continued)*

Manual Names (*1)
Fujitsu SPARC M12-1 Service Manual
Fujitsu SPARC M12-2/M12-2S Service Manual
Crossbar Box for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual
PCI Expansion Unit for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Glossary

*1 The listed manuals are subject to change without notice.
*2 Printed manuals are provided with the product.
*3 This document applies specifically to the SPARC M12/M10 and FUJITSU ETERNUS disk storage system.

Documentation Related to the SPARC M10

Manual Names (*1)
Fujitsu M10/SPARC M10 Systems Product Notes
Fujitsu M10/SPARC M10 Systems Quick Guide
Fujitsu M10/SPARC M10 Systems Getting Started Guide (*2)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Important Legal and Safety Information (*2)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Safety and Compliance Guide
Software License Conditions for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Security Guide
Fujitsu SPARC Servers/SPARC Enterprise/PRIMEQUEST Common Installation Planning Manual
Fujitsu M10-1/SPARC M10-1 Installation Guide
Fujitsu M10-4/SPARC M10-4 Installation Guide
Fujitsu M10-4S/SPARC M10-4S Installation Guide
Fujitsu M10/SPARC M10 Systems PCI Card Installation Guide
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Domain Configuration Guide
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 RCIL User Guide (*3)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF MIB and Trap Lists
Fujitsu M10-1/SPARC M10-1 Service Manual
Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual
Crossbar Box for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual
PCI Expansion Unit for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual

Documentation Related to the SPARC M10 *(continued)*

Manual Names (*1)
Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Glossary

*1 The listed manuals are subject to change without notice.
*2 Printed manuals are provided with the product.
*3 This document applies specifically to the SPARC M12/M10 and FUJITSU ETERNUS disk storage system.

Notes on Safety

Read the following documents thoroughly before using or handling SPARC M12/M10.

- *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Important Legal and Safety Information*
- *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Safety and Compliance Guide*

Text Conventions

This manual uses the following fonts and symbols to express specific types of information.

Font/Symbol	Meaning	Example
AaBbCc123	What you type, when contrasted with on-screen computer output. This font is used to indicate an example of command input.	XSCF> **adduser jsmith**
AaBbCc123	The names of commands, files, and directories; on-screen computer output. This font is used to indicate an example of command output in the frame.	XSCF> **showuser -P** User Name: jsmith Privileges: useradm auditadm
Italic	Indicates the name of a reference manual.	See the *Fujitsu M10-1/SPARC M10-1 Installation Guide*.
" "	Indicates the names of chapters, sections, items, buttons, or menus.	See "Chapter 2 Network Connection."

Command Syntax in the Text

While the XSCF commands have a section number of (8) or (1), it is omitted from the text.
For details on the commands, see the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual*.

Syntax of the Command-Line Interface (CLI)

The command syntax is as follows:

- A variable that requires the input of a value is in Italics.
- An optional element is enclosed in [].
- A group of options for an optional keyword is enclosed in [] and delimited by |.

Document Feedback

If you have any comments or requests regarding this document, please take a moment to share it with us by indicating the manual code, manual title, and page, and stating your points specifically through the following websites:

- Global site
  http://www.fujitsu.com/global/contact/
- Japanese site
  http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/contact/

Chapter 1

Overview of the Remote Power Management Function of SPARC M12 and SPARC M10

This chapter provides an overview and the mechanism of the remote power management function that can be used in SPARC M12 and SPARC M10.

- About the Remote Power Management Function for SPARC M12 and SPARC M10
- Understanding the Forms of Connection for Remote Power Management
- Remote Power Management Mechanism

1.1 About the Remote Power Management Function for SPARC M12 and SPARC M10

The remote power management function for SPARC M12 and SPARC M10 (Remote Cabinet Interface over LAN: RCIL) is an interface which controls the remote power management function for the power supply between SPARC M12 and SPARC M10 systems or I/O devices. An original interface based on IPMI over LAN is used. If the following functions among the typical IPMI functions are supported, then the hardware and operating systems to be controlled can be incorporated as the targets for the remote power management without having to consider differences between them.

- Power on and off: Chassis Control
- Obtaining the power status: Get Chassis Status

Table 1-1 shows the terms and definitions that are used with the remote power management function for SPARC M12 and SPARC M10.

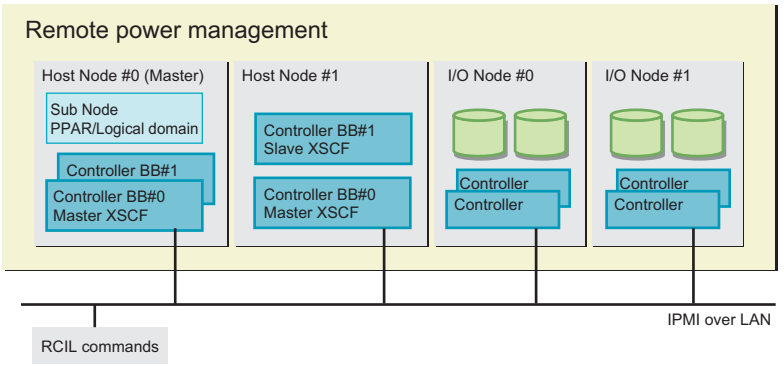
Table 1-1 Terms and Definitions Used for Remote Power Management

Term	Definition
Host node	Server that supports the remote power management function for SPARC M12 and SPARC M10. SPARC M12-1, M12-2, M12-2S, M10-1, M10-4, and M10-4S support the remote power management function for SPARC M12 and SPARC M10.
Subnode	Physical partition in SPARC M12 and SPARC M10.
I/O node	I/O devices that support the remote power management function for SPARC M12 and SPARC M10, such as the ETERNUS, and remote power distribution units.
Remote power management group	Group obtained from the grouping of remote power management targets, such as a host node, subnode, and I/O node. A unique group ID is assigned to a remote power management group.

If the remote power management function is used, create a remote power management group in combination with power-interlocked nodes. You can control remote power management per created remote power management group.

Note - Each host node, sub node, or I/O node can be set in only one remote power management group.

Figure 1-1 An Example of a Remote Power Management Group of SPARC M12 and SPARC M10



1.2 Understanding the Forms of Connection for Remote Power Management

Connect through a LAN the host nodes, sub nodes, and I/O nodes that support the remote power management function for SPARC M12 and SPARC M10.

The following table lists the connection specifications.

Table 1-2 Power Control Connection Specifications

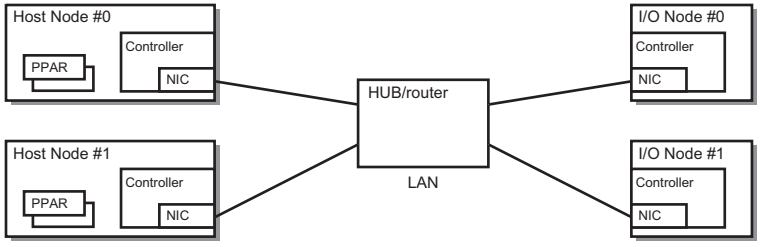
Item	Description
Forms of connection	LAN connection The connection takes either of the following forms: - Using XSCF-LAN#0 - Using XSCF-LAN#0 and XSCF-LAN#1
Transmission speed	100 Mbps or more
Internet protocol	IPv4
DHCP	Unsupported If the remote power management function for SPARC M12 and SPARC M10 is used, you must set a fixed IP address for a connection target.
Connection protocol	IPMI (*1) over LAN (Intelligent Platform Management Interface)

*1 The supported IPMI version is IPMI 2.0. In SPARC M12 and SPARC M10, IPMI can be used only by the remote power management function. IPMI cannot be used by ipmitool or any function other than the remote power management function for SPARC M12 and SPARC M10.

Standard connection for remote power management

Connect through an identical LAN the host nodes, sub nodes, and I/O nodes that are equipped with a controller that supports the remote power management function for SPARC M12 and SPARC M10.

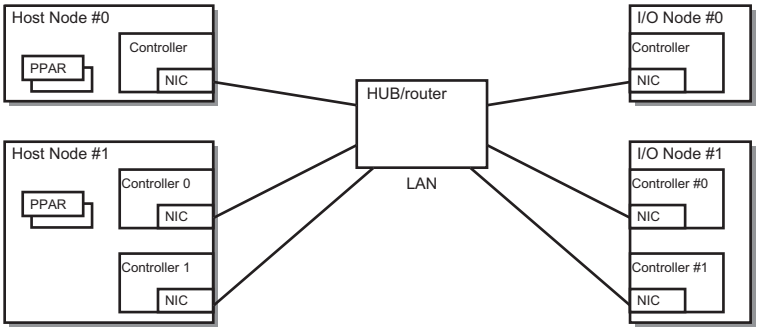
Figure 1-2 Standard Forms of Connection for Remote Power Management



Connection when the controllers are duplicated

If the host node controllers are duplicated, each controller can be connected to the same LAN. Operation of the remote power management is performed from the master XSCF.

Figure 1-3 Forms of Connection for the Remote Power Management when the Controllers are Duplicated



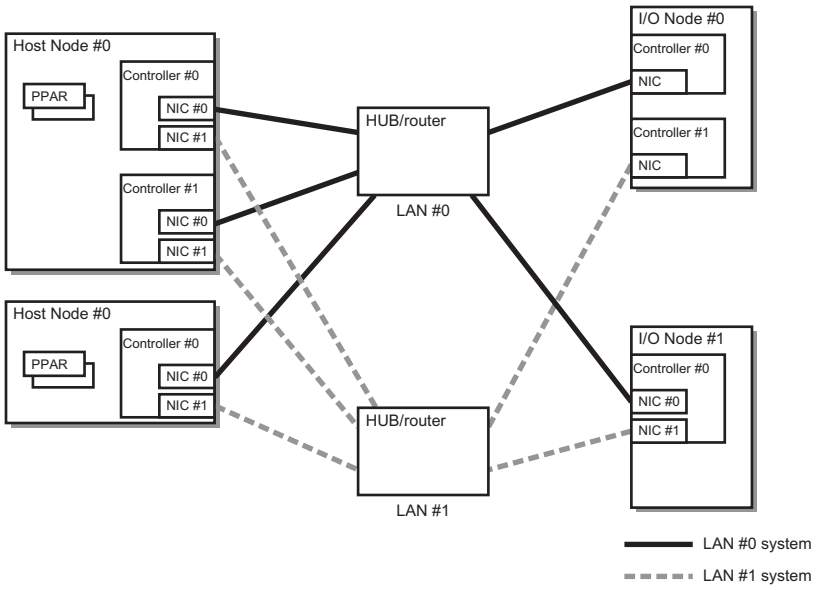
Note - Even when a controller is duplicated, if a LAN card IP address is shared as a virtual IP between the controllers, either of the controllers needs to be set.

Connection when paths are duplicated

The paths of the remote power management connection can be duplicated under the following conditions.

- Two LAN cards can be mounted on the controllers of all nodes.
- Two LAN cards can be mounted on the controllers of the host nodes, and I/O nodes have either of the following configurations.
  - The controllers of the I/O nodes are duplicated.
  - Two LAN cards can be mounted on the controllers of the I/O nodes.

Figure 1-4 Forms of Connection for the Remote Power Management when Paths are Duplicated



1.3 Remote Power Management Mechanism

Remote power management for SPARC M12 and SPARC M10 is controlled per remote power management group.

Of the host nodes in a group, the host nodes with the remote power management function enabled are targeted for remote power management. The power supply status of a remote power management group is determined depending on the host node status in the group.

- On state
  The power is on to one of the host nodes in the remote power management group.
- Off state
  The power is off to all the host nodes in the remote power management group.

This section describes the mechanism of interlocking when powering on and off, with the following settings assumed.

Table 1-3 Remote Power Management Mechanism (Example)

Setting Item	Host Node #0	Host Node #1	Host Node #2	I/O Node #0	I/O Node #1
Interlocking setting	Disable	Enable	Enable	Setting disabled	Setting disabled
Master node	Yes	No	Yes	Setting disabled	Setting disabled

Mechanism of interlocking when powering on

If any of the host nodes in a remote power management group is powered on, then all of the host nodes, subnodes, and I/O nodes in the group are powered on. They are powered on in the order of host node and I/O node.

Note - You can set the length of time that the host node waits until I/O node devices are accessible. For this setting, use the setpowerupdelay command of the XSCF firmware For details, see "4.2.2 Setting/Checking the startup wait time" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.
If the length of time that the host node waits is not set, the host node may be unsuccessful in accessing an I/O node device and fail to start the system.
In addition, replacing an I/O node or changing the settings of an I/O node may change the time taken until the relevant device becomes accessible. This change in time may prevent the host node from accessing the device.
When an I/O node has been replaced or the settings of an I/O node have been changed, use the setpowerupdelay command to set the length of time that the host node waits, again.

Mechanism of interlocking when powering off

After all the host nodes in a remote power management group are powered off, all I/O nodes in the group are powered off.

Remote power management using Wake on LAN

Generally, the target nodes of the remote power management function for SPARC M12 and SPARC M10 are the hosts and I/O devices on which a controller is mounted. The controller allows IPMI communication even while the power of the hosts and I/O devices are turned off.
When all of the following conditions are satisfied, those devices on which such a controller are not mounted can also perform power supply interlocking using the remote power management function for SPARC M12 and SPARC M10.

- Device conditions
  - Wake on LAN is supported.
    Power-on is performed with Wake on LAN.
  - IPMI communication can be performed.
    After power-on using Wake on LAN, IPMI communication through the LAN is used for performing power-off and obtaining the power state.

Note - A host node with the Wake on LAN setting cannot be the master node.

Note - Wake on LAN cannot be set for SPARC M12 and SPARC M10. Therefore, Wake on LAN cannot be used to power on SPARC M12 and SPARC M10.

Note - The Wake on LAN setting varies depending on the node. See the respective node manuals.

Interlocking at the failure recovery time

If a node in a remote power management group cannot communicate when recovered from a failure or other problem, operation is as follows.

- For an I/O node failure
  If the power to the remote power management group is on, the master host node issues a power-on instruction.
- For a host node failure
  Even if the power of a remote power management group is on, the master host node does not issue a power-on instruction.

Chapter 2

Basic Flow for Configuring Remote Power Management

This section describes how to configure the remote power management function and how to use commands.

- Before Configuring Remote Power Management
- Steps for Configuring Remote Power Management

2.1 Before Configuring Remote Power Management

Before configuring remote power management, you need to connect the LAN cables, and make the network settings for the XSCF-LAN and the I/O devices for which remote power management is to be employed.

2.2 Steps for Configuring Remote Power Management

This section describes the steps for configuring remote power management. Configure the remote power management function by combining these steps. For an explanation of the actual configuration process for specific cases, see "Chapter 3 Examples of Remote Power Management Configuration."

2.2.1 Creating a Management File

A management file for configuring remote power management is created in CSV format for each remote power management group. You can create a management file at a storage location accessible by a URL with http, https, ftp, or file scheme.

The management file script format is as follows.

```
1,1,0x01,8a041209b35947899e7bfa5d578dbd3f,0x01,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,"4,5,6,7,8,9,10,11,12"
1,2,0x00,8a041209b35947899e7bfa5d578dbd40,0x03,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,
1,3,0x10,8a041209b35947899e7bfa5d578dbd41,0x03,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,
(Omitted)
1,128,0x20,8a041209b35947899e7bfa5d578dbd42,0x03,0x00,default,,10.24.0.0,0x10,
xx:xx:xx:xx:xx:xx,,,,,,,,,
```

GroupID, NodeID, NodeType, NodeIdentName, Linkage, Operation, User, Password, IP0-0, Slave0-0, MAC0-0, IP0-1, Slave0-1, MAC0-1, IP1-0, Slave1-0, MAC1-0, IP1-1, Slave1-1, MAC1-1, and SubNode are specified on each line in the order shown.

The following table describes the setting items in detail.

Table 2-1 Setting Items of a Management File

Item	Description
GroupID	Group ID of a remote power management group Specify an integer value (decimal) from 1 to 32. All group IDs in one management file must be the same.
NodeID	Node ID of an interlocking device for power supply Specify an integer value (decimal) from 1 to 128. Each node ID in one management file must be unique.
NodeType	Node type of an interlocking device for power supply Specify any of the following values: 0x00: Host node, 0x01: Mater host node, 0x10: I/O node 0x20: Remote power distribution unit
NodeIdentName	Identifier of an interlocking device for power supply Specify the system GUID or a unique arbitrary character string. For the system GUID, specify a string of 32 consecutive digits as shown in the example. The value is handled as a hexadecimal number in a case-insensitive fashion. For the arbitrary character string, specify a hexadecimal number with up to 32 digits.
Linkage	Value (hexadecimal) representing power-on interlocking Specify any of the following values: 0x00: Disable, 0x01: Enable (On), 0x02: Enable (Off), 0x03: Enable (On + Off)
Operation	Value representing the power-on method Specify either of the following values: 0x00: IPMI, 0x01: WakeOnLAN
User	IPMI user name Specify nothing, and leave this field blank. If the field is not blank, the operation cannot be guaranteed.

Table 2-1 Setting Items of a Management File *(continued)*

Item	Description
Password	IPMI password Specify nothing, and leave this field blank.
IPAddress (IP0-0/IP0-1/IP1-0/IP1-1)	IP address of the IPMI port of a controller Specify an IPv4 address value with a character string.
SlaveAddress (Slave0-0/ Slave0-1/Slave1-0/Slave1-1)	Value (hexadecimal) representing the IPMI slave address of a controller Specify "0x20".
MAC Address (MAC0-0/ MAC0-1/MAC1-0/MAC1-1)	MAC address of the IPMI port of a controller Specify a MAC address value with a character string. Example: b0:99:28:98:18:2e A value must be set even though host nodes do not support power-on via Wake on LAN. In this case, a dummy value like the following may be used: Example: 00:00:00:00:00:00
SubNodeID	Character string representing the ID of the controlled subnode The field is a value from 0 to 31 or is left blank. Delimit the target subnode IDs (in decimal) with a comma (,), and enclose all of them in double quotation marks ("). A blank field indicates control of the whole node.

2.2.2 Enabling/Disabling the IPMI Service Used for the Remote Power Management Function

When the remote power management function is to be used, the IPMI service must be enabled.
The IPMI service can be used only by the remote power management function.
Use the setpacketfilters of the XSCF firmware to enable/disable the IPMI service.

```
XSCF> setpacketfilters -c ipmi_port {enable|disable}
```

To enable the IPMI service, specify the -c ipmi_port enable option. To disable the service, specify the -c ipmi_port disable option.
The default value is disable.

Note - The setting for enabling/disabling the IPMI service is supported by XCP 2290 or later. For XCP 2280 or earlier, the IPMI service has been enabled as a fixed setting and cannot be disabled.
The settings for the IPMI service are as follows when the firmware is updated from XCP 2280 or earlier to XCP 2290 or later.
- When the remote power management function is used: Enable
- When the remote power management function is unused: Disable

2.2.3 Checking the Remote Power Management Settings

To check the contents of the remote power management settings, use the showremotepwrmgmt command of the XSCF firmware.

```
XSCF> showremotepwrmgmt [-a|-G groupid [-N gnodeid]]
```

To check all the remote power management settings, specify -a. To indicate a remote power management group, specify -G groupid. To indicate a node in a remote power management group, specify -N gnodeid.

2.2.4 Initializing the Remote Power Management Settings

To initialize the contents of the remote power management settings, use the clearremotepwrmgmt command of the XSCF firmware.

```
XSCF> clearremotepwrmgmt [-a|-G groupid]
```

To initialize the settings of all the remote power management groups, specify -a. To indicate a remote power management group, specify a group ID with the -G option. If -a and -G options are omitted, then the -a option is used by default.

2.2.5 Enabling/Disabling the Remote Power Management Function

To enable/disable the remote power management function, use the setremotepwrmgmt command of the XSCF firmware.

```
XSCF> setremotepwrmgmt -c enable|disable
```

You can enable or disable the remote power management function. To enable the remote power management function, specify the -c enable option. To disable, specify the -c disable option.

2.2.6 Setting a Remote Power Management Group

To configure a remote power management group, use the setremotepwrmgmt command of the XSCF firmware.

```
XSCF> setremotepwrmgmt -c config configuration_file
```

You can specify -c config if you configure a remote power management group. For configuration_file, specify the management file used for the settings.

2.2.7 Acquiring the setting information on a remote power management group

To acquire the setting information on a remote power management group, use the getremotepwrmgmt command of the XSCF firmware.

```
XSCF> getremotepwrmgmt -G groupid configuration_file
```

For groupid, you can specify the ID of a remote power management group whose setting information is obtained. For configuration_file, specify the name of the management file for saving the acquired setting information.

Chapter 3

Examples of Remote Power Management Configuration

This section describes how to configure the remote power management in the following cases.

- Configuring the Remote Power Management for the First Time
- Adding or Removing a Node in an Existing Remote Power Management Group
- Maintaining an I/O Node

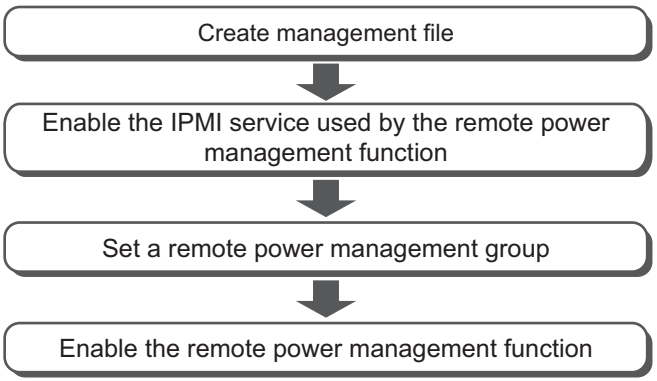
3.1 Configuring the Remote Power Management for the First Time

The following shows how to configure the remote power management for the first time.

Note - If the existing settings for the remote power management are valid, initialize the settings.

To create a management file, collect the necessary information on the host nodes, the IP and MAC addresses of I/O nodes, etc. in advance (see Table 3-1).

Figure 3-1 Flow of Configuring the Remote Power Management for the First Time



Note - The setting for enabling/disabling the IPMI service is supported by XCP 2290 or later.

In the following sections, how to configure the remote power management is described by using the system configurations below as examples.

- System That is Configured with a Host Node and an I/O Node
- System That is Configured with a Host Node and a Remote Power Distribution Unit
- System That is Configured with Multiple Host Nodes and a Remote Power Distribution Unit
- System That is Configured with Host Nodes, in Which Physical Partitions (PPARs) are Specified as Subnodes, and a Remote Power Distribution Unit
- System in Which Multiple Remote Power Management Groups are Set

3.1.1 System That is Configured with a Host Node and an I/O Node

This section describes how to configure the remote power management by using a system that is configured with one SPARC M10-1 as a host node and one ETERNUS DX80 S2 as an I/O node as an example.

1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the remote power management will be configured. Based on the collected information, create a management file in CSV format for each remote power management group. The line feed code is LF or CR+LF.

   ETERNUS DX80 S2 supports multiple controllers. The system can be operated by setting a different IP address per controller or by setting the same IP address. (For details, see the manuals for ETERNUS.) When the system is operated by setting the same IP address for multiple controllers, set the same IP address to

IP0-0 and IP1-0 or IP0-1 and IP1-1.

However, IP0-1 cannot be set without setting IP0-0. Similarly, IP1-1 cannot be set without setting IP1-0. Select IP0-0/IP0-1 or IP1-0/IP1-1 based on the LAN port of the SPARC M10 system to be connected and the type of controller used in the ETERNUS. For example, when connecting to LAN#0 of the XSCF, set the LAN of CM#0 to IP0-0 and the LAN of CM#1 to IP1-0.

At least one master host node must be configured. When only one master host node is configured, the operation does not change if "0x00: Disable," "0x01: Enable (On)," "0x02: Enable (Off)," or "0x03:Enable (On + Off)" is set in the Linkage settings. However, "0x00: Disable" or " 0x01: Enable (On)" should be set.

Figure 3-2 System That is Configured with a Host Node and an I/O Node

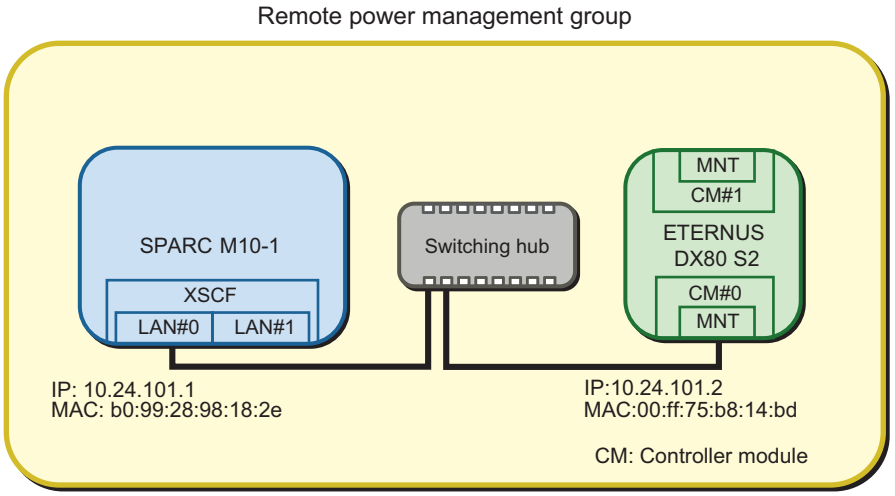


Table 3-1 Setting Values of the Management File (SPARC M10-1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:18:2e	

Table 3-1 Setting Values of the Management File (SPARC M10-1) *(continued)*

Item	Setting Value	Remarks
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-2 Setting Values of the Management File (ETERNUS DX80 S2)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

- Configure as follows when operating the system by setting a different IP address for each controller using CM#0 and CM#1 of the ETERNUS DX80 S2.

Figure 3-3 System in Which a Different IP Address are Specified for Multiple Controllers of I/O Nodes

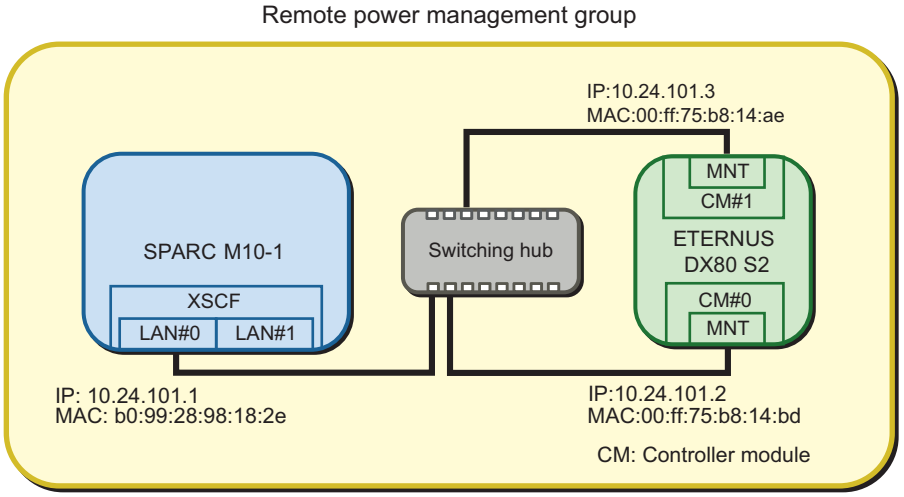


Table 3-3 Setting Values of the Management File (ETERNUS DX80 S2) (*1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	

Table 3-3 Setting Values of the Management File (ETERNUS DX80 S2) (*1) *(continued)*

Item	Setting Value	Remarks
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	10.24.101.3	
Slave1-0	0x20	Fixed value
MAC1-0	00:ff:75:b8:14:ae	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,10.24.101.3,0x20,00:ff:75:b8:14:ae,,,,,
```

- Configure the settings as follows when operating the system, setting the same IP address for multiple controllers using CM#0 and CM#1 of the ETERNUS DX80.

Figure 3-4 System in Which the Same IP Address is Specified for Multiple Controllers of the I/O Node

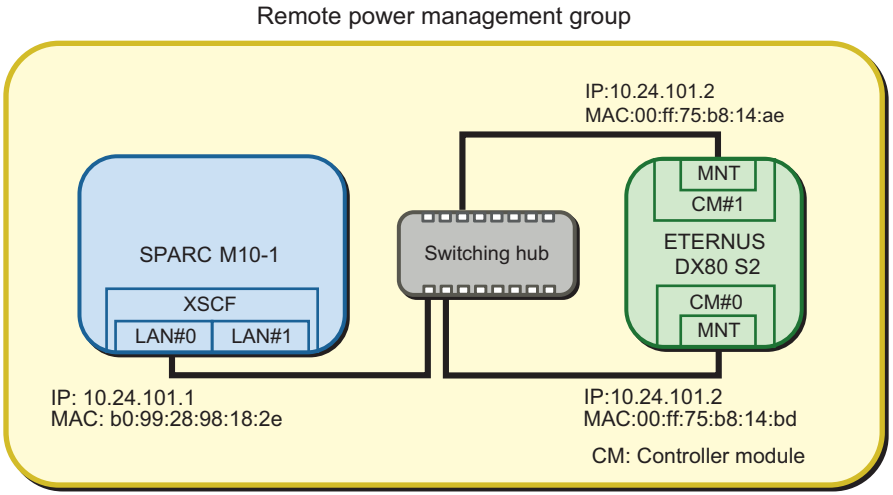


Table 3-4 Setting Values of the Management File (ETERNUS DX80 S2) (*1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	10.24.101.2	
Slave1-0	0x20	Fixed value
MAC1-0	00:ff:75:b8:14:ae	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,10.24.101.2,0x20,00:ff:75:b8:14:ae,,,,,
```

- Configure as follows when using XSCF-LAN#0 and XSCF-LAN#1 in the 4BB configuration of the SPARC M10-4S.
  XSCF-LAN#0 and XSCF-LAN#1 are connected to switches. Though the ETERNUS is connected with the same subnet as LAN#0, it is connected to LAN#1 of the SPARC M10-4S via a router.

Figure 3-5 System in Which XSCF-LAN#0 and XSCF-LAN#1 of SPARC M10-4S are Used

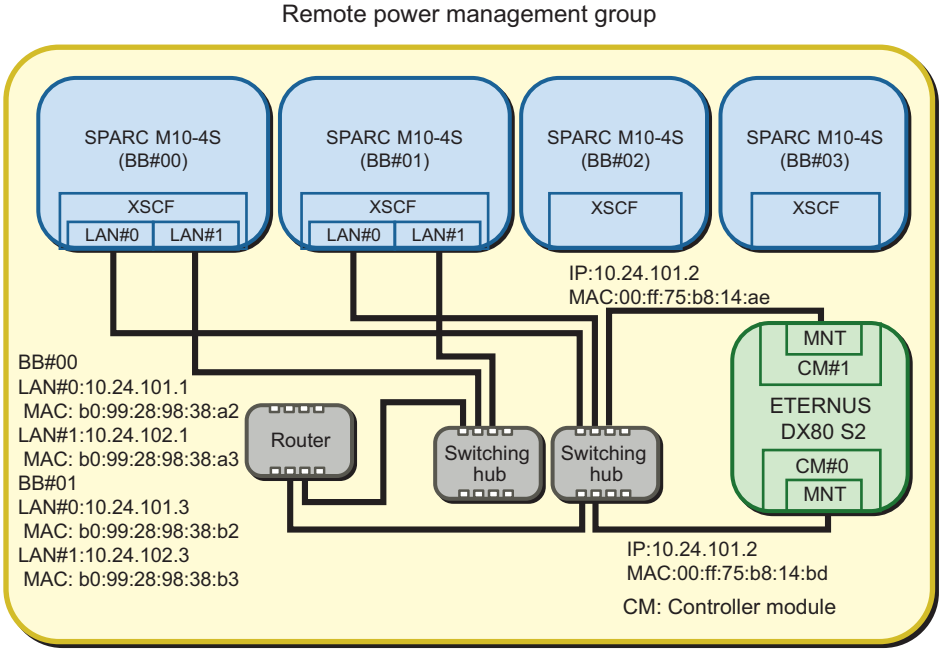


Table 3-5 Setting Values of the Management File (SPARC M10-4S)

Item	Setting Value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:a2	
IP0-1	10.24.102.1	
Slave0-1	0x20	Fixed value
MAC0-1	b0:99:28:98:38:a3	
IP1-0	10.24.101.3	

Table 3-5 Setting Values of the Management File (SPARC M10-4S) *(continued)*

Item	Setting Value	Remarks
Slave1-0	0x20	Fixed value
MAC1-0	b0:99:28:98:38:b2	
IP1-1	10.24.102.3	
Slave1-1	0x20	Fixed value
MAC1-1	b0:99:28:98:38:b3	
SubNode	Blank	

Table 3-6 Setting Values of the Management File (ETERNUS DX80 S2) (*1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bd	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	10.24.101.2	
Slave1-0	0x20	Fixed value
MAC1-0	00:ff:75:b8:14:ae	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:a2,10.24.102.1,0x20,b0:99:28:98:38:a3,10.24.101.3,0x20,b0:
99:28:98:38:b2,10.24.102.3,0x20,b0:99:28:98:38:b3,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,10.24.101.2,0x20,00:ff:75:b8:14:ae,,,,,
```

2. **Enable the IPMI service that is to be used for the remote power management function.**
   Execute it by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured.

```
XSCF> setpacketfilters -c ipmi_port enable
```

3. **Configure a remote power management group using the created management file.**
   a. **Execute the showremotepwrmgmt command to confirm that the remote power management is not configured.**

      Check the above by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured. When configuring the remote power management for the first time, it is normally assumed that the remote power management is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

      If the existing settings for the remote power management are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

   b. **Execute the setremotepwrmgmt command to set a remote power management group.**

      Execute this step by logging into the XSCF shell of the master host node in the remote power management group.

      Specify the management file created in step 1 and configure a remote power management group.

      Execute the following steps to download the management file of the remote power management group to a USB memory stick.

      1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

         The USB port must be FAT32 format.

         The management file can be downloaded by using a USB port or by

specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a remote power management group**.

If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
------ ----------- --------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Execute the setremotepwrmgmt command to enable the remote power management function.**
Execute this step for all host nodes and master host nodes where the remote power management is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
```

```
------ ---------- -------------------------------- -----
 -------------------- ----------
```

3.1.2 System That is Configured with a Host Node and a Remote Power Distribution Unit

This section describes how to configure the remote power management by using a system that is configured with one SPARC M10-4 and one remote power distribution unit as an example. The basic setting process is the same as written in "3.1.1 System That is Configured with a Host Node and an I/O Node."

1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the remote power management will be configured. Based on the collected information, create a management file in CSV format for each remote power management group. The line feed code is LF or CR+LF.

   The remote power distribution unit supports the remote power management using IPMI. By connecting to an I/O device that does not support the remote power management using the WAKE on LAN through the IPMI, the power-on and power-off actions between SPARC M12 or SPARC M10 and the device can be interlocked.

   When connecting to an I/O device with multiple controllers, redundancy can be increased by connecting a remote power distribution unit to each controller. In this case, when setting the management file of a remote power management group, set multiple remote power distribution units as one I/O node.

   Up to eight I/O devices can be connected to one remote power distribution unit. When setting a remote power distribution unit to a remote power management group, set them as one I/O node in the management file regardless of how many I/O devices are connected to the remote power distribution unit.

   Set "0x00 (IPMI)" for the Operation setting of the remote power distribution unit.

   At least one master host node must be configured. Set "0x00: Disable" or "0x01: Enable (On)" for the Linkage setting of a host node. The operation does not change if "0x00: Disable," "0x01: Enable (On)," "0x02: Enable (Off)," or "0x03: Enable (On + 0ff)" is set.

   - In the following, how to configure the remote power management is described based on the configuration below.
     - Use only XSCF-LAN#0 of SPARC M10-4
     - Use the system by connecting one I/O device to a remote power distribution unit
     - Interlock the power-on and power-off actions of a remote power distribution unit

Figure 3-6 System That is Configured with a Host Node and a Remote Power Distribution Unit

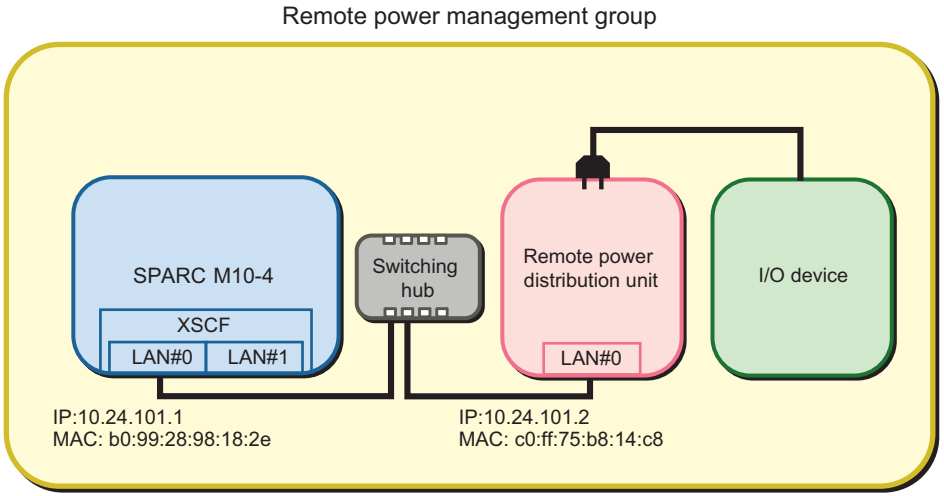


Table 3-7 Setting Values of the Management File (SPARC M10-4)

Item	Setting Value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:18:2e	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	

Table 3-7 Setting Values of the Management File (SPARC M10-4) *(continued)*

Item	Setting Value	Remarks
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-8 Setting Values of the Management File (Remote Power Distribution Unit)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

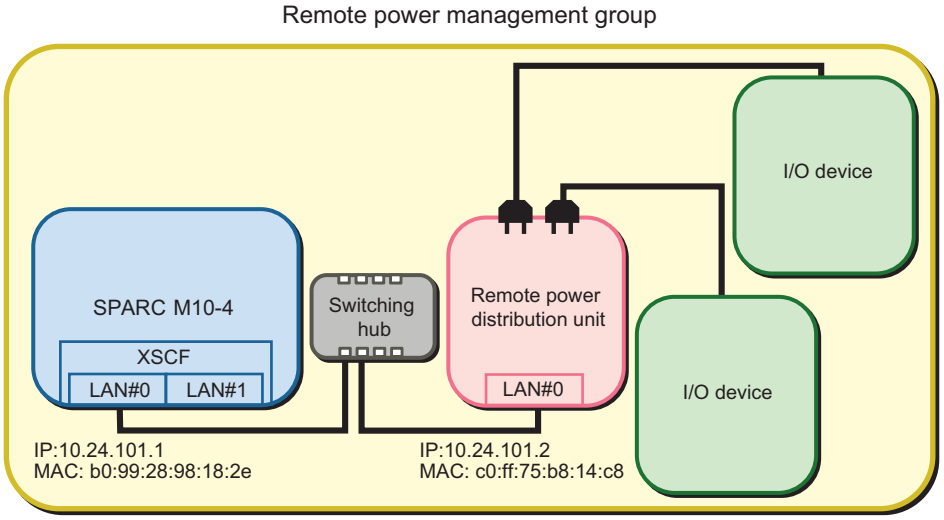
The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x20,0123456789abcdef0000000000000002,0x03,0x00,,,10.24.101.2,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

- Even when multiple I/O devices are connected to a remote power distribution

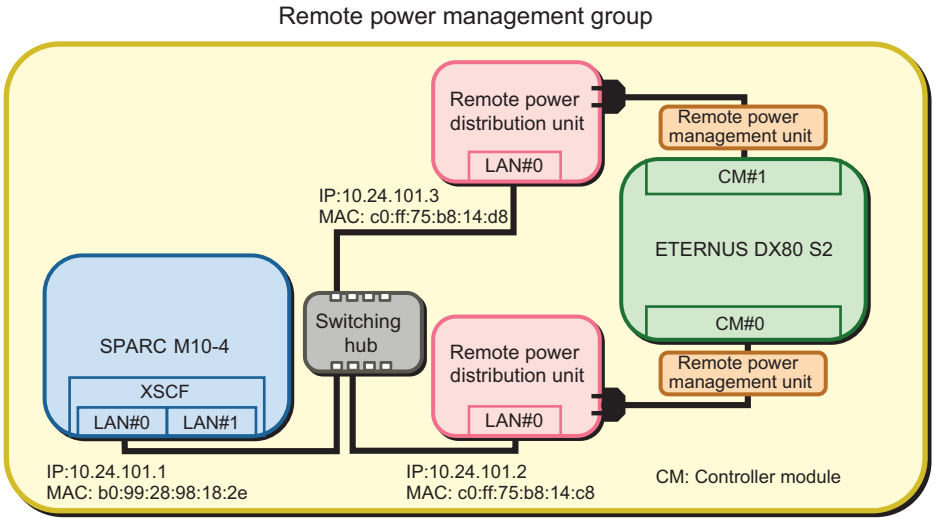
unit, set the remote power management as written in "3.1.1 System That is Configured with a Host Node and an I/O Node."

Figure 3-7 System in Which Multiple I/O Devices are Connected to a Remote Power Distribution Unit



- Set as follows when the multiple controllers of an I/O device in the system each connect to a remote power distribution unit.

Figure 3-8 System in Which the Multiple Controllers of an I/O Device Each Connect to a Remote Power Distribution Unit



Note - If a model that is older than ETERNUS DXxx S2 is used with the firmware that was updated earlier than December 2012, an interlocking unit for power supply needs to be set between the ETERNUS and a remote power distribution unit.

Table 3-9 Setting Values of the Management File (Remote Power Distribution Unit That is Connected to CM#0)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	Fixed value
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-10 Setting Values of the Management File (Remote Power Distribution Unit That is Connected to CM#1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID

Table 3-10 Setting Values of the Management File (Remote Power Distribution Unit That is Connected to CM#1) *(continued)*

Item	Setting Value	Remarks
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:d8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	Fixed value
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x20,0123456789abcdef0000000000000002,0x03,0x00,,,10.24.101.2,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
1,3,0x20,0123456789abcdef0000000000000003,0x03,0x00,,,10.24.101.3,
0x20,c0:ff:75:b8:14:d8,,,,,,,,,
```

2. **Enable the IPMI service that is to be used for the remote power management function.**
   Execute it by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured.

```
XSCF> setpacketfilters -c ipmi_port enable
```

3. **Configure a remote power management group using the created management file.**
   a. **Execute the showremotepwrmgmt command to confirm that the remote power management is not configured.**

Check the above by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured. When configuring the remote power management for the first time, it is normally assumed that the remote power management is not set.

In the following example, the remote power management is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

If the existing settings for the remote power management are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

b. **Execute the setremotepwrmgmt command to set a remote power management group.**

Execute this step by logging into the XSCF shell of the master host node in the remote power management group.

Specify the management file created in step 1 and configure a remote power management group.

Execute the following steps to download the management file of the remote power management group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a remote power management group**.

If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                    PowerLinkage
Operation
------ ----------- -------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000002 Enable                 IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 Enable                  IPM
I
```

```
------ ----------- ------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000002 OFF   Enable
   IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- --------------------------------- -----
 ---------------------- -----------
```

3.1.3 System That is Configured with Multiple Host Nodes and a Remote Power Distribution Unit

This section describes how to configure the remote power management by using a system that is configured with four SPARC M10-4 systems and a remote power distribution unit.
The basic process is the same as written in "3.1.1 System That is Configured with a Host Node and an I/O Node."

1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the remote power management will be configured. Based on the collected information, create a

management file in CSV format for each remote power management group. The line feed code is LF or CR+LF.

When connecting multiple host nodes, up to two master host nodes can be set. This helps to increase redundancy.

If "Off" is specified to the Linkage setting between a host node and master node, the power-off actions are not interlocked.

To enable the interlocking between the power-on actions of the host nodes, set "0x01: Enable (On)" to the Linkage setting. The operation does not change if "0x03: Enable (On + Off)" is set.

To disable the interlocking between power on actions in the SPARC M10 systems, set "0x00: Disable" to the Linkage setting. The operation does not change if "0x02: Enable (Off)" is set.

- In the following, how to configure the remote power management is described based on the configuration below.
  - Use only XSCF-LAN#0 of SPARC M10-4
  - Set the first and second SPARC M10-4 systems as master host nodes
  - Use one I/O device by connecting it to a remote power distribution unit The I/O device can be shared by the connected SPARC M10-4 systems.
  - Interlock between power-on and power-off actions (only interlocking between power-on actions can be enabled for the host nodes)

Figure 3-9 System That is Configured with Multiple Host Nodes and a Remote Power Distribution Unit

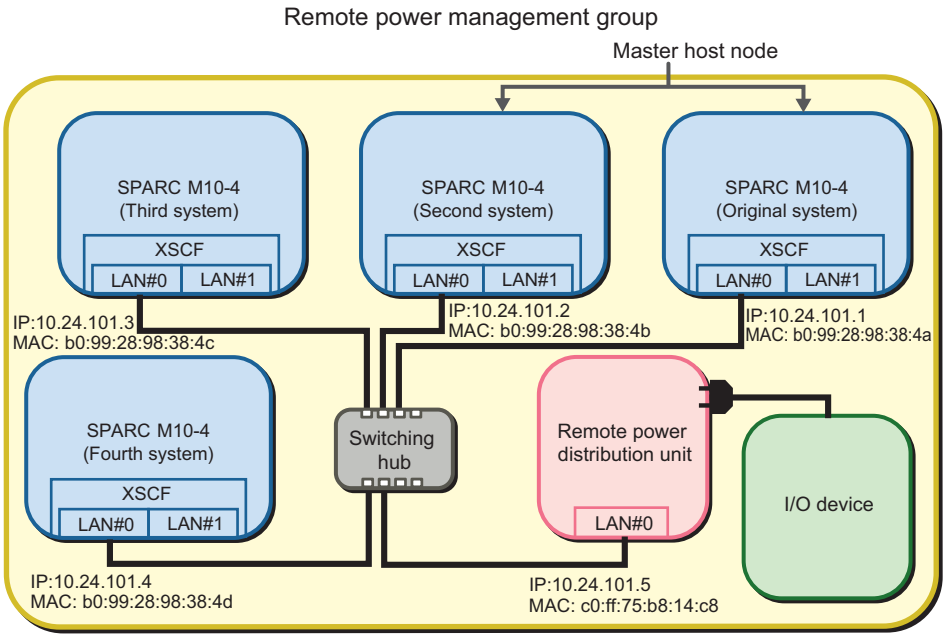


Table 3-11 Setting Values of the Management File (SPARC M10-4 (First))

Item	Setting Value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4a	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-12 Setting Values of the Management File (SPARC M10-4 (Second))

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	

Table 3-12 Setting Values of the Management File (SPARC M10-4 (Second)) *(continued)*

Item	Setting Value	Remarks
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4b	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-13 Setting Values of the Management File (SPARC M10-4 (Third))

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x00	Host node
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4c	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	

Table 3-13 Setting Values of the Management File (SPARC M10-4 (Third)) *(continued)*

Item	Setting Value	Remarks
MAC1-1	Blank	
SubNode	Blank	

Table 3-14 Setting Values of the Management File (SPARC M10-4 (Fourth))

Item	Setting Value	Remarks
GroupID	1	
NodeID	4	
NodeType	0x00	Host node
NodeIdentName	0123456789abcdef0000000000000004	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.4	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4d	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-15 Setting Values of the Management File (Remote Power Distribution Unit)

Item	Setting Value	Remarks
GroupID	1	
NodeID	5	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000005	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID

Table 3-15 Setting Values of the Management File (Remote Power Distribution Unit) *(continued)*

Item	Setting Value	Remarks
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.5	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:4a,,,,,,,,,
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:4b,,,,,,,,,
1,3,0x00,0123456789abcdef0000000000000003,0x01,0x00,,,10.24.101.3,
0x20,b0:99:28:98:38:4c,,,,,,,,,
1,4,0x00,0123456789abcdef0000000000000004,0x01,0x00,,,10.24.101.4,
0x20,b0:99:28:98:38:4d,,,,,,,,,
1,5,0x20,0123456789abcdef0000000000000005,0x03,0x00,,,10.24.101.5,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

2. **Enable the IPMI service that is to be used for the remote power management function.**
   Execute it by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured.

```
XSCF> setpacketfilters -c ipmi_port enable
```

3. **Configure a remote power management group using the created management file.**

a. **Execute the showremotepwrmgmt command to confirm that the remote power management is not configured.**

Check the above by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured. When configuring the remote power management for the first time, it is normally assumed that the remote power management is not set.

In the following example, the remote power management is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

If the existing settings for the remote power management are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

b. **Execute the setremotepwrmgmt command to set a remote power management group.**

Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

Download the management file created in step 1 with the setremotepwrmgmt command of the XSCF firmware.

Execute the following steps to download the management file of the remote power management group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

2) **Execute the setremotepwrmgmt command to set a remote power management group**.

If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                    PowerLinkage
Operation
------ ----------- -------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
```

```
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    HOST        0123456789abcdef0000000000000003 Enable(Power-On Link)  IPMI
004    HOST        0123456789abcdef0000000000000004 Enable(Power-On Link)  IPMI
005    PwrLinkBox  0123456789abcdef0000000000000005 Enable                  IPM
I
------ ----------- -------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

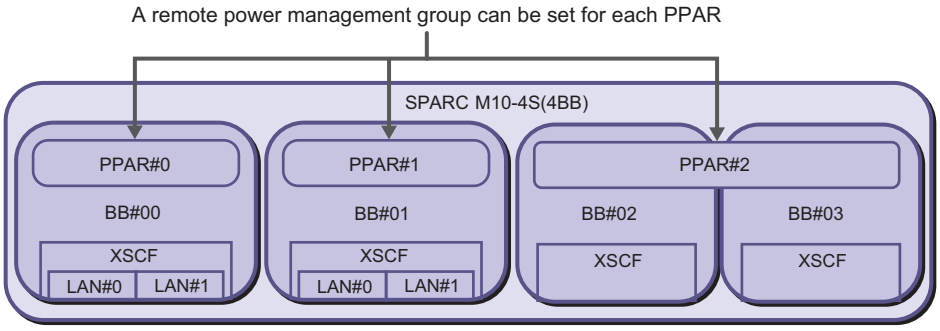
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    HOST        0123456789abcdef0000000000000003 OFF   Enable(Power-On
Link)  IPMI
004    HOST        0123456789abcdef0000000000000004 OFF   Enable(Power-On
Link)  IPMI
005    PwrLinkBox  0123456789abcdef0000000000000005 OFF   Enable
   IPMI
------ ----------- -------------------------------- -----
 ---------------------- -----------
```

3.1.4 System That is Configured with Host Nodes, in Which Physical Partitions (PPARs) are Specified as Subnodes, and a Remote Power Distribution Unit

This section describes how to configure the remote power management by using a system that is configured with one SPARC M10-4, multiple SPARC M10-4S with physical partitions (PPAR#0 and PPAR#1), and one remote power distribution unit. If multiple physical partitions are set in the SPARC M10-4S systems, a remote power management group can be set for each physical partition by specifying the physical partition as a subnode.
The basic process is the same as written in "3.1.1 System That is Configured with a Host Node and an I/O Node."

Figure 3-10 Setting of a Remote Power Management Group for Each Physical Partition



1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the remote power management will be configured. Based on the collected information, create a management file in CSV format for each remote power management group. The line feed code is LF or CR+LF.

   By specifying any physical partition in the master host nodes and host nodes, a physical partition can be assigned to a remote power management group as a subnode.

   A SubNodeID is specified by separating the PPAR-ID (any decimal number from 0 to 31), which is specified as a subnode, with a comma (,), and by enclosing all of them in double quotation marks (").

   - In the following, how to configure the remote power management is described based on the configuration below.
     - Use only XSCF-LAN#0 of SPARC M10-4/M10-4S
     - Set the remote power management only to PPAR#0 and PPAR#1 of the SPARC M10-4S system

- Use one I/O device by connecting it to a remote power distribution unit
- Interlock between power-on and power-off actions (only interlocking between power-on actions can be enabled for the host nodes)

Figure 3-11 Setting of a Remote Power Management Group for the System with Subnodes

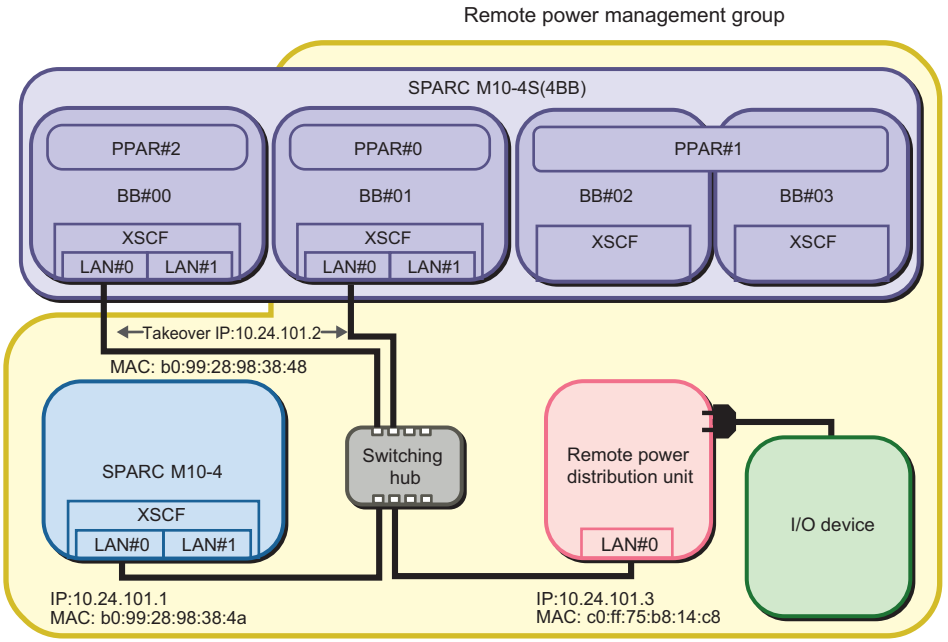


Table 3-16 Setting Values of the Management File (SPARC M10-4)

Item	Setting Value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4a	
IP0-1	Blank	

Table 3-16 Setting Values of the Management File (SPARC M10-4) *(continued)*

Item	Setting Value	Remarks
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-17 Setting Values of the Management File (SPARC M10-4S) (*1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	XSCF network takeover IP address
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:48	Specifies any of the MAC addresses of the SPARC M10-4S in the physical partitions
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	

Table 3-17 Setting Values of the Management File (SPARC M10-4S) (*1) *(continued)*

Item	Setting Value	Remarks
SubNode	"0, 1"	

*1 A colored line indicates a setting that is different from the setting of the host node when it is set as a subnode.

Table 3-18 Setting Values of the Management File (Remote Power Distribution Unit)

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:4a,,,,,,,,,
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:48,,,,,,,,,,"0,1"
1,3,0x20,0123456789abcdef0000000000000003,0x03,0x00,,,10.24.101.3,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

2. **Enable the IPMI service that is to be used for the remote power management function.**

   Execute it by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured.

```
XSCF> setpacketfilters -c ipmi_port enable
```

3. **Configure a remote power management group using the created management file.**

   a. **Execute the showremotepwrmgmt command to confirm that the remote power management is not configured.**

   Check the above by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured. When configuring the remote power management for the first time, it is normally assumed that the remote power management is not set.

   In the following example, the remote power management is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

   If the existing settings for the remote power management are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

   b. **Execute the setremotepwrmgmt command to set a remote power management group.**

   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   Download the management file created in step 1 with the setremotepwrmgmt command of the XSCF firmware.

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   2) **Execute the setremotepwrmgmt command to set a remote power management group**.

      If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                      PowerLinkage
Operation
------ ----------- ---------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000005 Enable                  IPM
I
------ ----------- ---------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command. The current setting details of a subnode of the specified node can be checked with the showremotepwrmgmt command specified with the group and node.

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                      Power PowerLinkage
   Operation
------ ----------- ---------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- ---------------------------------- -----
 ---------------------- -----------
```

```
XSCF> setremotepwrmgmt -G 1 -N 2
Remote Power Management Group Information
  GroupID                          :[01]
  Remote Power Management Status :[Enable]
  NodeID                           :[002]
  NodeType                         :[Master HOST]
  NodeIdentName                    :[0123456789abcdef0000000000000002]
  PowerLinkage                     :[Enable(Power-On Link)]
  Operation                        :[IPMI]
Power Status Information
  Node#002                         :[ON]
    SubNode#00 :[ON]
    SubNode#01 :[ON]
IPMI Information
  IPMI UserName :[pwm]
Controller#0
  LAN#0
  IPMI IP address :[10.24.101.2]
  IPMI SlaveAddress :[20]
  IPMI MAC Address :[b0:99:28:98:38:48]
XSCF>
```

3.1.5 System in Which Multiple Remote Power Management Groups are Set

If multiple physical partitions (PPARs) are set in the SPARC M10-4S system, each physical partition can be set to a different remote power management group. This section describes how to configure the remote power management by using a configuration in which a system that is configured with one SPARC M10-4, SPARC M10-4S with physical partitions (PPAR#0, PPAR#1, PPAR#2, and PPAR#3), and two remote power distribution units is divided into two groups as an example.

- Group 1: SPARC M10-4 x 1, PPAR#0 and PPAR#1 in SPARC M10-4S, Remote power distribution unit x 1
- Group 2: PPAR#2 and PPAR#3 in SPARC M10-4, Remote power distribution unit x 1

The basic setting process is the same as written in "3.1.1 System That is Configured with a Host Node and an I/O Node." However, multiple remote power management groups must be set.

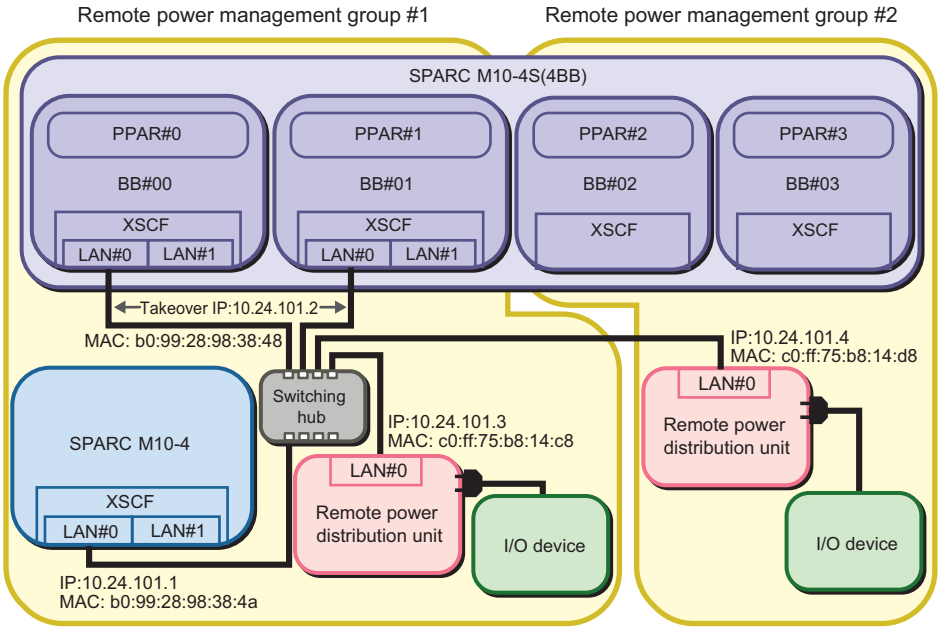
1. **Collecting necessary information to create management file, and creating file.**
   Collect the IP address and MAC address of the device where the remote power management will be configured. Based on the collected information, create a management file in CSV format for each remote power management group. The line feed code is LF or CR+LF.

   When multiple remote power management groups are set, a management file must be created for each remote power management group. For details of the items, see "3.1.2 System That is Configured with a Host Node and a Remote Power Distribution Unit."

Set a unique "GroupID" for the management file of each remote power management group.

- In the following, how to configure the remote power management is described based on the configuration below.
  - Use only XSCF-LAN#0 of SPARC M10-4/M10-4S
  - Set the remote power management by classifying the entire SPARC M10-4 and PPAR#0 and PPAR#1 of the SPARC M10-4S system as group 1
  - Set the remote power management by classifying PPAR#2 and PPAR#3 of the SPARC M10-4S system as group 2
  - Use the system by connecting one I/O device to a remote power distribution unit
  - Interlock between power-on and power-off actions (only interlocking between power-on actions can be enabled for the host nodes)

Figure 3-12 Configuration of a System in Which Multiple Remote Power Management Groups are Set



- Setting of the remote power management group 1

Table 3-19 Setting Values of the Management File for Group 1 (SPARC M10-4)

Item	Setting Value	Remarks
GroupID	1	
NodeID	1	
NodeType	0x01	Master host node

Table 3-19 Setting Values of the Management File for Group 1 (SPARC M10-4) *(continued)*

Item	Setting Value	Remarks
NodeIdentName	0123456789abcdef0000000000000001	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.1	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:4a	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

Table 3-20 Setting Values of the Management File for Group 1 (SPARC M10-4S) (*1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	2	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000002	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:48	Specifies any of the MAC addresses of the SPARC M10-4S in the physical partitions

Table 3-20 Setting Values of the Management File for Group 1 (SPARC M10-4S) (*1) *(continued)*

Item	Setting Value	Remarks
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	"0, 1"	

*1 A colored line indicates a setting that is different from the setting of the host node when it is set as a subnode.

Table 3-21 Setting Values of the Management File for Group 1 (Remote Power Distribution Unit)

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:c8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	

Table 3-21 Setting Values of the Management File for Group 1 (Remote Power Distribution Unit) *(continued)*

Item	Setting Value	Remarks
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:38:4a,,,,,,,,,
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:48,,,,,,,,,"0,1"
1,3,0x20,0123456789abcdef0000000000000003,0x03,0x00,,,10.24.101.3,
0x20,c0:ff:75:b8:14:c8,,,,,,,,,
```

- Setting of the remote power management group 2

Table 3-22 Setting Values of the Management File for Group 2 (SPARC M10-4S) (*1)

Item	Setting Value	Remarks
GroupID	2	
NodeID	1	
NodeType	0x01	Master host node
NodeIdentName	0123456789abcdef0000000000000004	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	Specifies the takeover IP address of a system that is configured with multiple SPARC M10-4S
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:38:48	Specifies any of the MAC addresses of the SPARC M10-4S in the physical partitions
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	

Table 3-22 Setting Values of the Management File for Group 2 (SPARC M10-4S) (*1) *(continued)*

Item	Setting Value	Remarks
SubNode	"2, 3"	

*1 A colored line indicates a setting that is different from the setting of the host node when it is set as a subnode.

Table 3-23 Setting Values of the Management File for Group 2 (Remote Power Distribution Unit)

Item	Setting Value	Remarks
GroupID	2	
NodeID	2	
NodeType	0x20	Remote power distribution unit
NodeIdentName	0123456789abcdef0000000000000005	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.4	
Slave0-0	0x20	Fixed value
MAC0-0	c0:ff:75:b8:14:d8	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The CSV file for group 2 is created as follows.

```
2,1,0x01,0123456789abcdef0000000000000004,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:38:48,,,,,,,,,"2,3"
2,2,0x20,0123456789abcdef0000000000000005,0x03,0x00,,,10.24.101.4,
0x20,c0:ff:75:b8:14:d8,,,,,,,,,
```

2. **Enable the IPMI service that is to be used for the remote power management function.**

Execute it by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured.

```
XSCF> setpacketfilters -c ipmi_port enable
```

3. **Configure a remote power management group using the created management file.**
   a. **Execute the showremotepwrmgmt command to confirm that the remote power management is not configured.**

      Check the above by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is configured. When configuring the remote power management for the first time, it is normally assumed that the remote power management is not set.

      In the following example, the remote power management is not set.

```
XSCF> showremotepwrmgmt -a
Remote power management group is not configured.
```

      If the existing settings for the remote power management are valid, initialize the settings according to the following process.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

   b. **Execute the setremotepwrmgmt command to set a remote power management group.**

      Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

      Specify the management file created in step 1 and configure a remote power management group.

      Execute the following steps to download the management file of the remote power management group to a USB memory stick.

      1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

         The USB port must be FAT32 format.

         The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

      2) **Execute the setremotepwrmgmt command to set a remote power management group**.

         If the settings of the downloaded management file are correct, enter "y" for "Continue? [y|n]:" to apply them.

   - Setting of the remote power management group 1

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                      PowerLinkage
Operation
------ ----------- ---------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 Enable                  IPM
I
------ ----------- ---------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

- Setting of the remote power management group 2

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-2.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :02
NodeID NodeType    NodeIdentName                      PowerLinkage
Operation
------ ----------- ---------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000004 Enable(Power-On Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000005 Enable                  IPM
I
------ ----------- ---------------------------------- ----------------------
 -----------

Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Execute the setremotepwrmgmt command to enable the remote power management function.**

   Execute this step for all host nodes and master host nodes where the remote power management is set.

   This step does not need to be executed for host nodes and master host nodes in each group if they are registered in multiple remote power management groups. Executing this command once will enable the remote power management function for the multiple remote power management groups.

   Enable the remote power management function by logging in to the master

XSCF for each SPARC M12 or SPARC M10 and executing the command.

```
XSCF> setremotepwrmgmt -c enable
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

- Example of executing from the host node that belongs to the remote power management group 1 (SPARC M10-4)

```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- --------------------------------- -----
 ---------------------- -----------
```

- Example of executing from the host node that belongs to the remote power management groups 1 and 2

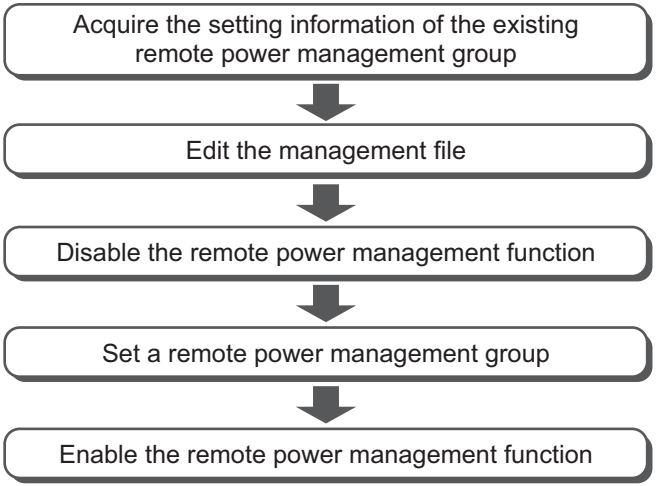
```
XSCF> showremotepwrmgmt

[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType NodeIdentName Power PowerLinkage Operation
------ ----------- --------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    PwrLinkBox  0123456789abcdef0000000000000003 OFF   Enable
   IPMI
------ ----------- --------------------------------- -----
 ---------------------- -----------
[Remote Power Management Group#02 Information]
Remote Power Management Status      :[Enable]

NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
```

```
------ ----------- --------------------------------- -----
 ---------------------- ------------
001    Master HOST 0123456789abcdef0000000000000004 OFF   Enable(Power-On
Link)  IPMI
002    PwrLinkBox  0123456789abcdef0000000000000005 OFF   Enable
   IPMI
------ ----------- --------------------------------- -----
 ---------------------- ------------
```

3.2 Adding or Removing a Node in an Existing Remote Power Management Group

The following shows how to add or remove a node in an existing remote power management group.

Figure 3-13 Flow when Adding/Removing a Node in an Existing Remote Power Management Group



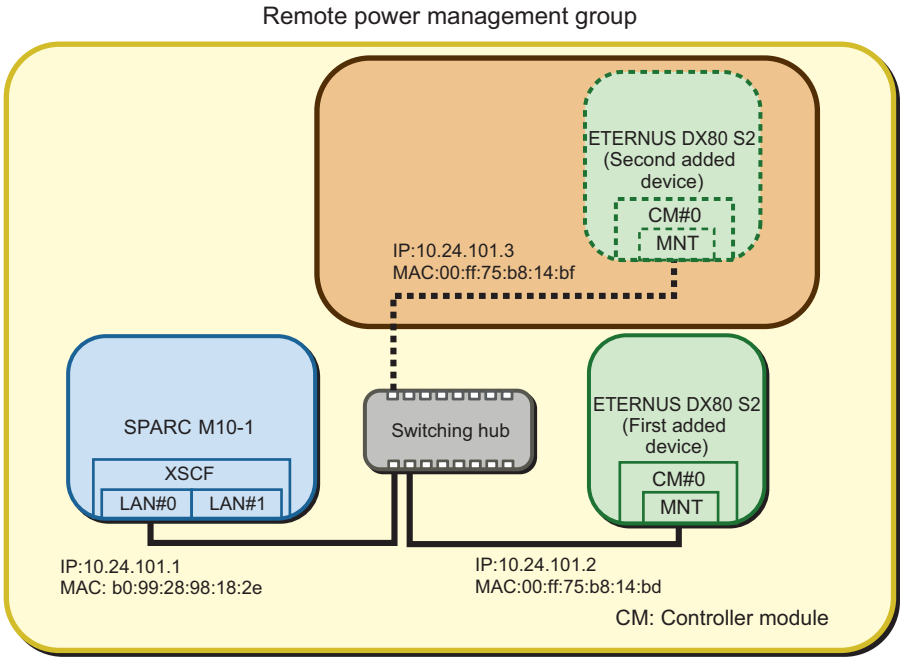
In the following sections, how to configure the remote power management is described by using the system configurations below as examples.

- Adding an I/O Node
- Adding a Host Node
- Removing an I/O Node
- Removing a Host Node

3.2.1 Adding an I/O Node

This section describes how to configure the remote power management by using a case in which one ETERNUS DX80 S2 is added to a system that is configured with one SPARC M10-1 and one ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.1.1 System That is Configured with a Host Node and an I/O Node." Collect the IP address and MAC address of the I/O node to be added, to edit the management table.
The MAC address of the RCIL host node must be set to all LANs used (entry that sets the IP address to IP0-0/IP0-1/IP1-0/IP1-1).

Figure 3-14 Adding an I/O Node



1. **Acquire the management file of a remote power management group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   After checking the group ID of the remote power management group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check the group ID of the remote power management group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                      Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- -------------------------------- -----
 ---------------------- -----------
```

Execute the following steps to download the management file of the remote power management group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be acquired by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the remote power management group.**
Make changes to the management file of the remote power management group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Assume that the management file of the remote power management group that is acquired in step 1 has the following values.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Table 3-24 Setting Values of the ETERNUS DX80 S2 to be Added

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bf	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

After changing the management file, it will be as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

3. **Disable the remote power management function.**

To reset the remote power management group using the changed management file, the remote power management function set for all the host nodes and master nodes in the remote power management group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is set.

Note - If multiple host nodes exist in the remote power management group that is currently set, disable the remote power management function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the remote power management group using the management file of the remote power management edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the remote power management group.**

      If the settings of the downloaded management file are as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
003    I/O         0123456789abcdef0000000000000003 Enable
WakeUpOnLAN
```

```
------ ----------- ------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

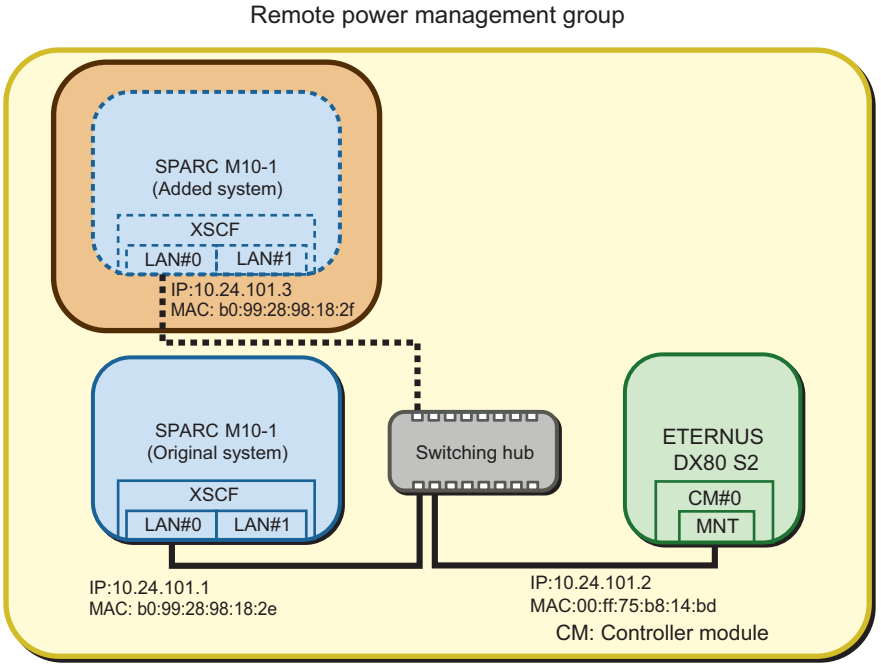
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- ------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
 ------ ----------- ------------------------------- -----
 ---------------------- -----------
```

3.2.2 Adding a Host Node

This section describes how to configure the remote power management by using a case in which one SPARC M10-1 is added to a system that is configured with one SPARC M10-1 and one ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.2.1 Adding an I/O Node." Add the setting to the management table by checking the IP address of a host node to be added. Up to two host nodes can be set as master host nodes in the same remote power management group. If two or more host nodes are connected, we recommend to set two master host nodes.

Figure 3-15 Adding a Host Node



1. **Acquire the management file of a remote power management group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   After checking the group ID of the remote power management group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check the group ID of the remote power management group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- -------------------------------- -----
 ---------------------- -----------
```

Execute the following steps to download the management file of the remote

power management group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be acquired by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the remote power management group.**
Make changes to the management file of the remote power management group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Assume that the management file of the remote power management group that is acquired in step 1 has the following values.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Table 3-25 Setting Values of the SPARC M10-1 to be Added

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x01	Master host node

Table 3-25 Setting Values of the SPARC M10-1 to be Added *(continued)*

Item	Setting Value	Remarks
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID
Linkage	0x01	Interlocking power-on actions
Operation	0x00	IPMI
User	Blank	
Password	Blank	
IP0-0	10.24.101.3	
Slave0-0	0x20	Fixed value
MAC0-0	b0:99:28:98:18:2f	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
1,3,0x01,0123456789abcdef0000000000000003,0x01,0x00,,,10.24.101.3,
0x20,b0:99:28:98:18:2f,,,,,,,,,
```

3. **Disable the remote power management function.**
   To reset the remote power management group using the changed management file, the remote power management function set for all the host nodes and master nodes in the remote power management group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is set.

Note - If multiple host nodes exist in the remote power management group that is currently set, disable the remote power management function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Enable the IPMI service that is to be used for the remote power management function.**
   Execute it by logging into the XSCF shell of the added host node or master host node.

```
XSCF> setpacketfilters -c ipmi_port enable
```

5. **Reset the remote power management group using the management file of the remote power management edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the remote power management group.**

      If the settings of the downloaded management file are as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                    PowerLinkage
Operation
------ ----------- -------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
003    Master HOST 0123456789abcdef0000000000000003 Enable(Power-On Link)  IPM
I
------ ----------- -------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

6. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

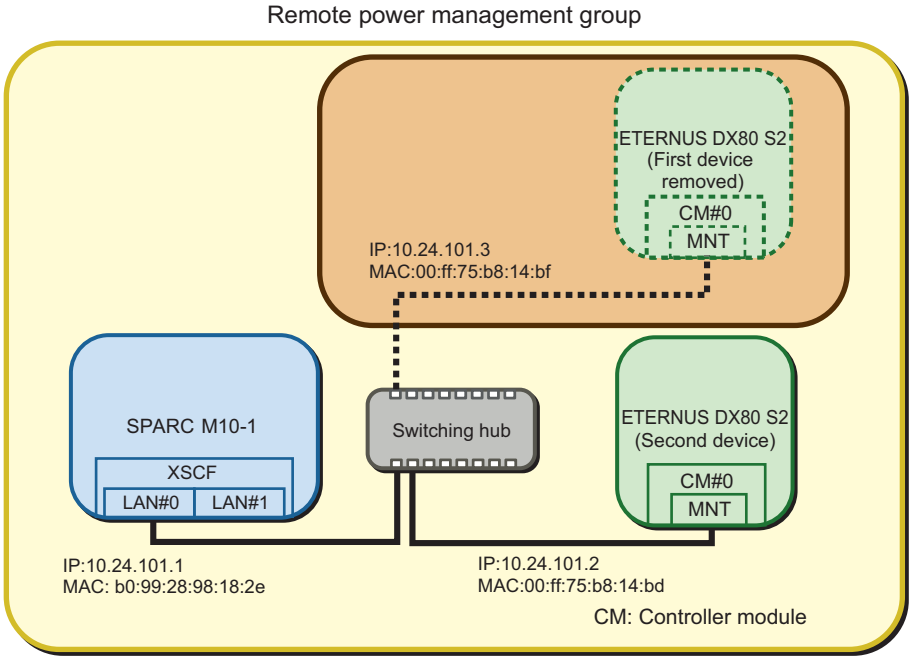
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
003    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
 ------ ----------- -------------------------------- -----
 ---------------------- -----------
```

3.2.3 Removing an I/O Node

This section describes how to configure the remote power management by using a case in which one ETERNUS DX80 S2 is removed from a system that is configured with one SPARC M10-1 and two ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.2.1 Adding an I/O Node." The I/O node to be removed is deleted from the management table.

Figure 3-16 Removing an I/O Node



1. **Acquire the management file of a remote power management group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   After checking the group ID of the remote power management group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check the group ID of the remote power management group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- ------------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
------ ----------- -------------------------------- -----
 ---------------------- ------------
```

Execute the following steps to download the management file of the remote power management group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the remote power management group.**
Make changes to the management file of the remote power management group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Here it is assumed that the management file of the following remote power management group is acquired and the I/O node (ETERNUS DX80 S2) with MAC address "00:ff:75:b8:14:bd" is removed.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

Note - If a node ID is deleted because of removing an I/O node, there is no problem reassigning the node ID in the management file.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

3. **Disable the remote power management function.**
   To reset the remote power management group using the changed management file, the remote power management function set for all the host nodes and master nodes in the remote power management group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is set.

Note - If multiple host nodes exist in the remote power management group that is currently set, disable the remote power management function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the remote power management group using the management file of the remote power management edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the remote power management group.**

      If the settings of the downloaded management file are as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
```

```
NodeID NodeType    NodeIdentName                       PowerLinkage
Operation
------ ----------- ---------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 Enable
WakeUpOnLAN
------ ----------- ---------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

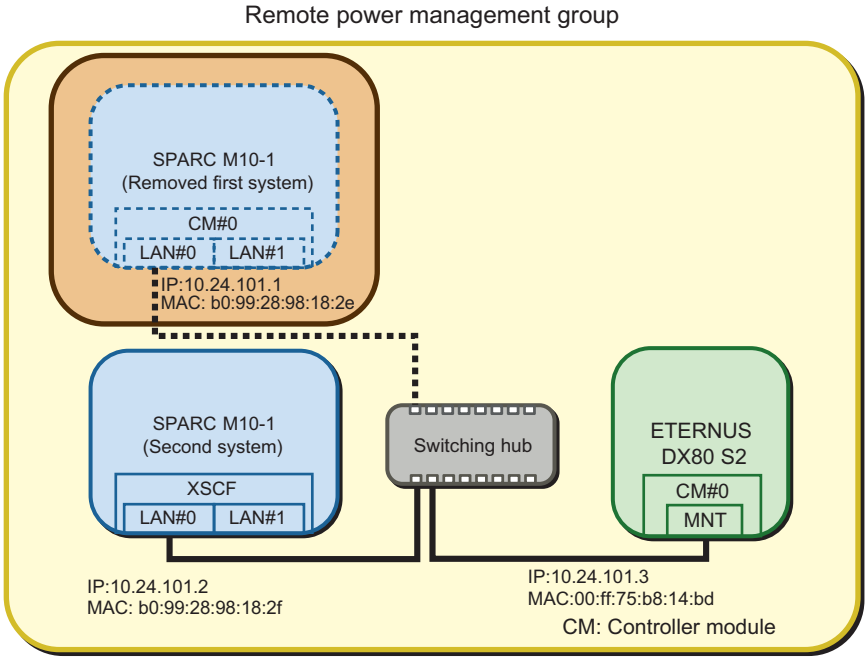
Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                       Power PowerLinkage
   Operation
------ ----------- ---------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
 ------ ----------- ---------------------------------- -----
 ---------------------- -----------
```

3.2.4 Removing a Host Node

This section describes how to configure the remote power management by using a case in which one SPARC M10-1 is removed from a system that is configured with two SPARC M10-1 and one ETERNUS DX80 S2 as an example. The basic setting process is the same as written in "3.2.1 Adding an I/O Node." The host node to be removed is deleted from the management table.

Figure 3-17 Removing a Host Node



1. **Acquire the management file of a remote power management group.**
   Execute this step by logging into the XSCF shell of any host node or master host node in the remote power management group except the host node to be removed.

   After checking the group ID of the remote power management group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check the group ID of the remote power management group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- -----
 ---------------------- ------------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    HOST        0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
------ ----------- --------------------------------- -----
 ---------------------- ------------
```

Execute the following steps to download the management file of the remote power management group to a USB memory stick.

1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the remote power management group.**
Make changes to the management file of the remote power management group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Here it is assumed that the management file of the following remote power management group is acquired and the master host node with IP address "10.24.101.1" is removed.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x00,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:18:2f,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Note - If a master host node is removed, change a host node to a master host node so that a master host node exists in the remaining host nodes. If a node ID is deleted because of removing a host node, there is no problem reassigning the node ID in the management file.

The management file is created as follows.

The value in bold type indicates the changed value.

```
1,2,0x01,0123456789abcdef0000000000000002,0x01,0x00,,,10.24.101.2,
0x20,b0:99:28:98:18:2f,,,,,,,,,
1,3,0x10,0123456789abcdef0000000000000003,0x03,0x01,,,10.24.101.3,
0x20,00:ff:75:b8:14:fe,,,,,,,,,
```

3. **Disable the remote power management function.**
   To reset the remote power management group using the changed management file, the remote power management function set for all the host nodes and master nodes in the remote power management group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is set.

Note - If multiple host nodes exist in the remote power management group that is currently set, disable the remote power management function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the remote power management group using the management file of the remote power management edited in step 2.**
   Execute this step by logging into the XSCF shell of any host node or master host node in the remote power management group except the host node to be removed.

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                    PowerLinkage
Operation
------ ----------- -------------------------------- ----------------------
 -----------
```

```
002    Master HOST 0123456789abcdef0000000000000002 Enable(Power-On Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 Enable
WakeUpOnLAN
------ ----------- -------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- -----------
002    Master HOST 0123456789abcdef0000000000000002 OFF   Enable(Power-On
Link)  IPMI
003    I/O         0123456789abcdef0000000000000003 OFF   Enable
   WakeUpOnLAN
 ------ ----------- -------------------------------- -----
 ---------------------- -----------
```

6. **Initialize the remote power management setting for the removed host node or master host node (only if a host node or master host node is removed).**
   Initialize the remote power management setting by logging into the XSCF shell of the removed host node or master host node.

```
XSCF> clearremotepwrmgmt -a
All remote power management group informations are cleared.Continue? [y|n]: y
```

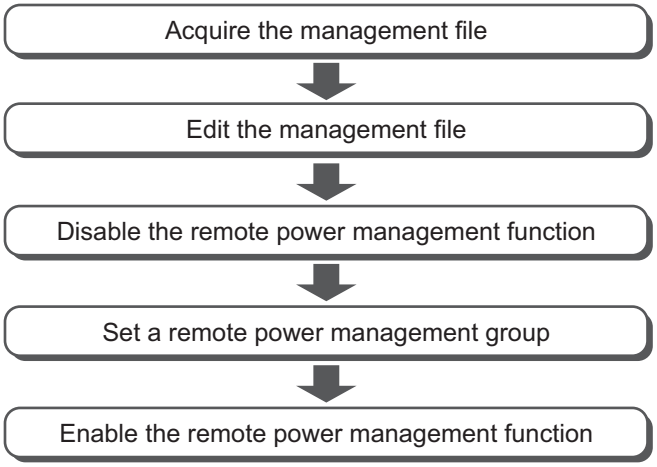
7. **Disable the IPMI service that is to be used for the remote power management function of the removed host node or master host node.**
   Execute it by logging into the XSCF shell of the removed host node or master host node.

```
XSCF> setpacketfilters -c ipmi_port disable
```

3.3 Maintaining an I/O Node

The following shows how to configure the remote power management when maintaining a controller of the I/O node, such as ETERNUS, whose power supply is interlocked using the Wake on LAN.

Figure 3-18 I/O Node Maintenance Flow



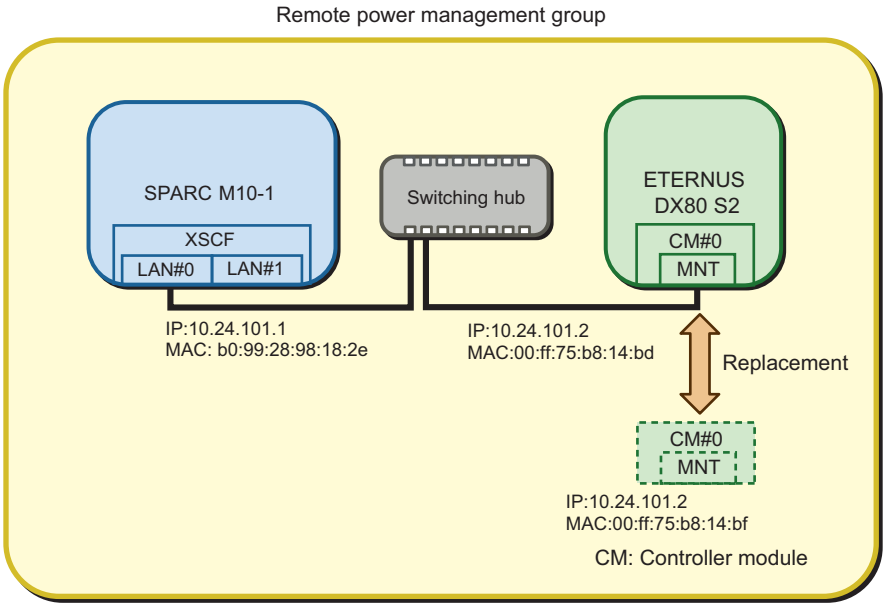
In the following section, how to configure the remote power management is described by using the system configurations below as an example.

- Maintaining an ETERNUS

3.3.1 Maintaining an ETERNUS

This section describes how to configure the remote power management by using a case in which an I/O node (an ETERNUS DX80 S2 controller (CM#0)) in a system that is configured with one SPARC M10-1 and one ETERNUS DX80 S2 is replaced as an example. Edit the management file by checking the MAC address of the I/O node (CM#0 of ETERNUS DX80 S2) to be replaced.

Figure 3-19 Maintaining an ETERNUS



1. **Acquire the management file of a remote power management group.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   After checking the group ID of the remote power management group that is currently set with the showremotepwrmgmt command, acquire the management file with the getremotepwrmgmt command.

   a. **Execute the showremotepwrmgmt command to check the group ID of the remote power management group.**

      The group ID is displayed in the "Group#xx" format.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                     Power PowerLinkage
   Operation
------ ----------- --------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 OFF   Enable
   WakeUpOnLAN
------ ----------- --------------------------------- -----
 ---------------------- -----------
```

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   1) **Insert a USB memory stick into the USB port, on which "MAINTENANCE**

ONLY" is printed, on the back panel of the XSCF unit.

The USB port must be FAT32 format.

The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

b. **Execute the getremotepwrmgmt command to acquire the management file by specifying the group ID checked in step a.**

If the group ID of the management file to be acquired is correct, enter "y" to "Continue? [y|n]:" to apply the setting.

```
XSCF> getremotepwrmgmt -G 1 -v file:///media/usb_msd/rpm_group.1.conf
Group#01 remote power management group information is got.Continue? [y|n]:y
Making sure mount point is clear
Trying to mount USB device /dev/sda1 as /media/usb_msd
Mounted USB device
file '/media/usb_msd/rpm_group.1.conf' already exists
Do you want to overwrite this file? [y|n]: y
removing file 'file:///media/usb_msd/rpm_group.1.conf' ... done
reading database ... ..............*done
creating temporary file ... done
starting file transfer ...transfer from '/tmp/rpm_group.1.conf.HE1RZa' to
'file:///media/usb_msd/rpm_group.1.conf'
done
removing temporary file ... done
Unmounted USB device
The command completed successfully.
XSCF>
```

2. **Edit the management file of the remote power management group.**
Make changes to the management file of the remote power management group that is acquired in step 1 using a text editor. The line feed code is LF or CR+LF.

Assume that the management file of the remote power management group that is acquired in step 1 has the following values.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bd,,,,,,,,,
```

Table 3-26 Setting Values of the ETERNUS DX80 to be Maintained (*1)

Item	Setting Value	Remarks
GroupID	1	
NodeID	3	
NodeType	0x10	I/O node
NodeIdentName	0123456789abcdef0000000000000003	Unique ID that consists of a hexadecimal number with 32 digits, such as System GUID

Table 3-26 Setting Values of the ETERNUS DX80 to be Maintained (*1) *(continued)*

Item	Setting Value	Remarks
Linkage	0x03	Interlocking power-on and power-off actions
Operation	0x01	Wake On LAN
User	Blank	
Password	Blank	
IP0-0	10.24.101.2	
Slave0-0	0x20	Fixed value
MAC0-0	00:ff:75:b8:14:bf	
IP0-1	Blank	
Slave0-1	Blank	
MAC0-1	Blank	
IP1-0	Blank	
Slave1-0	Blank	
MAC1-0	Blank	
IP1-1	Blank	
Slave1-1	Blank	
MAC1-1	Blank	
SubNode	Blank	

*1 A colored line indicates that the setting is different from the original setting.

The management file is created as follows.

```
1,1,0x01,0123456789abcdef0000000000000001,0x01,0x00,,,10.24.101.1,
0x20,b0:99:28:98:18:2e,,,,,,,,,
1,2,0x10,0123456789abcdef0000000000000002,0x03,0x01,,,10.24.101.2,
0x20,00:ff:75:b8:14:bf,,,,,,,,,
```

3. **Disable the remote power management function.**
   To reset the remote power management group using the changed management file, the remote power management function set for all the host nodes and master nodes in the remote power management group needs to be disabled. Execute this step by logging into the XSCF shell of all the host nodes and master host nodes where the remote power management is set.

Note - If multiple host nodes exist in the remote power management group that is currently set, disable the remote power management function in the host nodes that are not master and then disable the master host nodes. If two master host nodes exist, there is no specified order to disable the function.

```
XSCF> setremotepwrmgmt -c disable
Remote power management is disabled. Continue? [y|n]: y
The command completed successfully.
XSCF>
```

4. **Reset the remote power management group using the management file of the remote power management edited in step 2.**
   Execute this step by logging into the XSCF shell of either a host node or master host node in the remote power management group.

   Execute the following steps to download the management file of the remote power management group to a USB memory stick.

   a. **Insert a USB memory stick into the USB port, on which "MAINTENANCE ONLY" is printed, on the back panel of the XSCF unit.**

      The USB port must be FAT32 format.

      The management file can be downloaded by using a USB port or by specifying an http, https, or ftp server.

   b. **Execute the setremotepwrmgmt command to set the management file of the remote power management group.**

      If the settings of the downloaded management file are as expected, enter "y" to "Continue? [y|n]:" to apply them.

```
XSCF> setremotepwrmgmt -c config file:///media/usb_msd/path/rpmgroup-1.conf
Mounted USB device
Download successful: 29184Byte at 1016.857KB/s
Checking file...
The following Remote Power Management Group setting will be applied:
GroupID :01
NodeID NodeType    NodeIdentName                     PowerLinkage
Operation
------ ----------- --------------------------------- ----------------------
 -----------
001    Master HOST 0123456789abcdef0000000000000001 Enable(Power-On Link)  IPMI
002    I/O         0123456789abcdef0000000000000002 Enable
WakeUpOnLAN
------ ----------- --------------------------------- ----------------------
 -----------
Continue? [y|n]: y
The command completed successfully.
XSCF>
```

5. **Execute the setremotepwrmgmt command to enable the remote power management function.**
   Execute this step for all host nodes and master host nodes where the remote power management is set. There is no specified order to execute this step.

```
XSCF> setremotepwrmgmt -c enable -y
Remote power management is enabled. Continue? [y|n]: y
The command completed successfully.
```

Current setting details can be checked with the showremotepwrmgmt command.

```
XSCF> showremotepwrmgmt
[Remote Power Management Group#01 Information]
Remote Power Management Status      :[Enable]
NodeID NodeType    NodeIdentName                    Power PowerLinkage
   Operation
------ ----------- -------------------------------- -----
 ---------------------- -----------
001    Master HOST 0123456789abcdef0000000000000001 OFF   Enable(Power-On
Link)  IPMI
 002    I/O         0123456789abcdef0000000000000002 OFF   Enable
    WakeUpOnLAN
 ------ ----------- -------------------------------- -----
 ---------------------- -----------
```