FUJITSU Software
Interstage Application Server

Installation Guide (Server Package)

Linux

Preface

Purpose of This Document

This document describes the software required for installing Interstage Application Server, and the resources, installation method and uninstallation method of Interstage Application Server.

This manual is written for users who will install Interstage Application Server.

Interstage can be operated securely using the Interstage Java EE Admin Console/Interstage Management Console. For details on a model that provides secure operation, refer to "Appendix B Secure Operation from the Interstage Java EE Admin Console/Interstage Management Console".

Who Should Read this Document?

It is assumed that readers of this document have some knowledge of the following:

- Basic knowledge of the OS used

Structure of This Document

The structure of this manual is as follows:

Chapter 1 Installation Scenarios

Provides information on Interstage Application Server installation scenarios.

Chapter 2 System Requirements

Describes the requirements for installing Interstage Application Server.

Chapter 3 Important Notes on Installation

Provides important notes on Interstage Application Server application.

Chapter 4 Installation Procedure

Describes how to install Interstage Application Server.

Chapter 5 Notes on Specific Features

Contains notes on certain features.

Chapter 6 Uninstallation Procedure

Describes how to uninstall Interstage Application Server.

Appendix A Installing/Uninstalling Interstage Directory Service Software Development Kit

Describes how to install and uninstall Interstage Directory Service Software Development Kit.

Appendix B Secure Operation from the Interstage Java EE Admin Console/Interstage Management Console

Explains how to operate Interstage securely via the Interstage Java EE Admin Console/Interstage Management Console using a single operational model.

Product Notation

The notation used in this document (shown below) corresponds to the product that supports the respective software.

Notation	Description
RHEL5(x86)/(Intel64)	Interstage Application Server with Red Hat Enterprise Linux 5 (for x86) or Red Hat Enterprise Linux 5 (for Intel64) as prerequisite basic software
RHEL6(x86)/(Intel64)	Interstage Application Server with Red Hat Enterprise Linux 6 (for x86) or Red Hat Enterprise Linux 6 (for Intel64) as prerequisite basic software

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Contents

Chapter 1 Installation Scenarios

This section explains the types of Interstage Application Server "Server Package" that can be installed:

- Application Server

  Select this to install the Application Server functions of Interstage Application Server.

  This option can also be selected to install the Managed Server functions.

  For details on Managed Server operations, refer to the Interstage Application Server Operator's Guide.

- Admin Server (Enterprise Edition only)

  Select this to install the Admin Server functions of Interstage Application Server.

  Use it to execute operations when managing more than one server.

  For details on Admin Server operations, refer to the Interstage Application Server Operator's Guide.

- Web Package

  Select this to install the Web Package functions of Interstage Application Server.

  Install the Web Package to set up a web server environment on the business front-end system.

Note

To run the Admin Server and Application Server functions on the same server, first install the Application Server functions. Next, use the isaddadminfunc command to add the Admin Server functions. For details of the isaddadminfunc command, refer to the Reference Manual (Command Edition).

The Application Server function types that can be installed are as follows:

- Typical installation

  Select this to use the standard functions following a simple installation.

- Custom installation

  Select this to install the minimum set of functions, or to use JRE.

When the installation is executed, the environment required for using Interstage is set up automatically. After the installation is complete, the Interstage Java EE Admin Console/Interstage Management Console can be used for simple operation.

1.1 Functions that can be Used

1.1.1 Enterprise Edition: Application Server

If the Typical installation is selected, the functions shown as "This cannot be changed" and "Selected" in the following table are installed. If the Custom installation is selected, it is possible to select the functions that are installed.

Table 1.1 Functions Available in a Typical Enterprise Edition Installation

Function	Default status
Application Server basic functions	This cannot be changed
Java EE (*1)	Selected
Multilanguage Service Basic Function	Not Selected
Database Linkage Service	Not Selected
Event Service	Not Selected
MessageQueueDirector	Not Selected
Portable-ORB	Not Selected
Web Server (Interstage HTTP Server)	Not Selected

Function	Default status
Web Server (Interstage HTTP Server 2.2)	Not Selected
Secure Communication Service	Selected
Interstage Single Sign-on Business server (*2)	Not Selected
Interstage Single Sign-on Authentication server	Not Selected
Interstage Single Sign-on Repository server	Not Selected
Directory Service	Selected
Interstage Management Console	Not Selected
Web Server Connector (for Interstage HTTP Server)	Not Selected
Web Server Connector (for Interstage HTTP Server 2.2)	Not Selected
J2EE Compatible (*3)	Not Selected
Framework Package	Not Selected
Java SE 6	Selected
Java SE 7	Not Selected
Sample Application	Not Selected
Fujitsu XML Processor	Not Selected
Java EE 6 (*4)	Not Selected

*1 Do not install the "Java EE" function when using it as a Managed Server.

*2 This is a server that provides access control for web-based services. When using Interstage HTTP Server 2.2 on the web server, select the Interstage HTTP Server 2.2 functions.

When using JAAS API, also select the following functions to match the execution environment.

[When using Java EE]

Java EE and Web Server Connector (for Interstage HTTP Server)

[When using Java EE 6]

Java EE 6 and Web Server Connector (for Interstage HTTP Server 2.2)

[When using J2EE]

J2EE Compatible

*3 Install the "J2EE Compatible" function when using it as a Managed Server or Combined Server.

*4 This is a GlassFish v3.1-based implementation of Java EE 6. Additionally, do not install the "Java EE 6" function on a server that is managed by this product.

Note

During installation, the system scale is set to "small" when "Multilanguage Service Basic Function" or "J2EE Compatible" function is selected. For details on system scale, refer to the "Definition File Setting Values", "System Scale" Statement in the "Tuning Interstage" chapter of the Tuning Guide.

Also, the setup configuration of Interstage is different according to the selected function. If you select "J2EE Compatible" function (FJSVejb), then the setup level will be same as it would be if the isinit type1 EJB command was used. Otherwise, the setup level will be same as it would be if the isinit type1 command was used.

1.1.2 Enterprise Edition: Admin Server

In Enterprise Edition, the following functions are installed if Admin Server is selected.

Table 1.2 Functions Available in an Admin Server

Function	Default status
Application Server basic functions	This cannot be changed
Web Server (Interstage HTTP Server)	This cannot be changed
Interstage Management Console	This cannot be changed
Secure Communication Service	This cannot be changed
Directory Service	This cannot be changed
JDK 6	This cannot be changed

1.1.3 Standard-J Edition: Application Server

If the Typical installation is selected, the functions shown as "This cannot be changed" and "Selected" in the following table are installed. If the Custom installation is selected, it is possible to select the functions that are installed.

Table 1.3 Functions Available in a Typical Standard-J Edition Installation

Function	Default status
Application Server basic functions	This cannot be changed
Java EE (*1)	Selected
Web Server (Interstage HTTP Server)	Not Selected
Web Server (Interstage HTTP Server 2.2)	Not Selected
Secure Communication Service	Selected
Interstage Single Sign-on Business server (*2)	Not Selected
Interstage Single Sign-on Authentication server	Not Selected
Interstage Single Sign-on Repository server	Not Selected
Directory Service	Selected
Interstage Management Console	Not Selected
Web Server Connector (for Interstage HTTP Server)	Not Selected
Web Server Connector (for Interstage HTTP Server 2.2)	Not Selected
J2EE Compatible	Not Selected
Framework Package	Not Selected
Java SE 6	Selected
Java SE 7	Not Selected
Sample Application	Not Selected
Fujitsu XML Processor	Not Selected
Java EE 6 (*3)	Not Selected

*1 Do not install the "Java EE" function when using it as a Managed Server.

*2 This is a server that provides access control for web-based services. When using Interstage HTTP Server 2.2 on the web server, select the Interstage HTTP Server 2.2 functions.

When using JAAS API, also select the following functions to match the execution environment.

[When using Java EE]

Java EE and Web Server Connector (for Interstage HTTP Server)

[When using Java EE 6]

Java EE 6 and Web Server Connector (for Interstage HTTP Server 2.2)

[When using J2EE]

J2EE Compatible

*3 This is a GlassFish v3.1-based implementation of Java EE 6. Additionally, do not install the "Java EE 6" function on a server that is managed by this product.

Note

During installation, the system scale is set to "small" when "J2EE Compatible" function is selected. For details on system scale, refer to the "Definition File Setting Values", "System Scale" Statement in the "Tuning Interstage" chapter of the Tuning Guide.

Also, the setup configuration of Interstage is different according to the selected function. If you select "J2EE Compatible" function (FJSVejb), then the setup level will be same as it would be if the *isinit type1 EJB* command was used. Otherwise, the setup level will be same as it would be if the *isinit type1* command was used.

1.1.4 Web Package

The following functions can be used if Web Package is installed.

Table 1.4 Functions Available in Web Package

Function	Default status
Application Server basic functions	This cannot be changed
Web Server Connector (Interstage HTTP Server)	This cannot be changed
Web Server Connector (for Interstage HTTP Server 2.2)	This cannot be changed
Web Server (Interstage HTTP Server)	This cannot be changed
Web Server (Interstage HTTP Server 2.2)	This cannot be changed
Interstage Management Console	This cannot be changed
Secure Communication Service	This cannot be changed
Directory Service	This cannot be changed
Web Server Monitor (Enterprise Edition only)	This cannot be changed
JDK 6	This cannot be changed

Note

- Web Package is required for directory linkage (using LDAP authentication) and for installing the Interstage Directory Service Software Development Kit.

  For details, refer to the "Installing/Uninstalling Interstage Directory Service Software Development Kit" appendix, and then install [Interstage Directory Service Software Development Kit].

Chapter 2 System Requirements

This section explains the system requirements.

2.1 Operating System

Required Operating Systems

Operating system	Remarks
Red Hat Enterprise Linux 5 (for x86)	
Red Hat Enterprise Linux 5 (for Intel64) (*1)	
Red Hat Enterprise Linux 6 (for x86) (*2)	This software supports the operation on RHSA-2010:0842(kernel-2.6.32-71.7.1.el6) or later.
Red Hat Enterprise Linux 6 (for Intel64) (*1) (*2)	This software supports the operation on RHSA-2010:0842(kernel-2.6.32-71.7.1.el6) or later.

*1 In this environment, this runs in 32-bit compatible mode

*2 To use Interstage Single Sign-on Integrated Windows Authentication, the following packages must be installed:

- Red Hat Enterprise Linux 6 (for x86)

Package	Architecture
krb5-workstation	i686

- Red Hat Enterprise Linux 6 (for Intel64)

Package	Architecture
krb5-workstation	x86_64

Note

- The behavior of Interstage has been tested in environments in which SELinux is disabled in the following operating systems:

    - Red Hat Enterprise Linux 5 (for x86)

    - Red Hat Enterprise Linux 5 (for Intel64)

    - Red Hat Enterprise Linux 6.0/6.1 (for x86)

    - Red Hat Enterprise Linux 6.0/6.1 (for Intel64)

- The behavior of Interstage has been tested in environments in which SELinux is enabled and disabled in the following operating systems:

    - Red Hat Enterprise Linux 6.2 (for x86) or later

    - Red Hat Enterprise Linux 6.2 (for Intel64) or later

When using the Interstage Application Server, the following patches must be applied.

2.2 Required Patches

Required Patches

Operating system	Patches
Red Hat Enterprise Linux 6 (for x86)	RHBA-2011:0321-1
Red Hat Enterprise Linux 6 (for Intel64)	RHBA-2011:0321-1

2.3 Required Packages

To use this product, the package shown below is required.

When this product is installed in an environment to which the package has not been deployed, it is installed using the installer for this product.

Required Packages

Number	Package	Remarks
1	FJSVcir (CIRuntime Application)	This is "Uninstall (middleware)", the tool which is common to all Fujitsu middleware products. It is used to manage the information about Fujitsu middleware products that are installed, and to remove these products.
2	FJSVqstl (FJQSS)	This is the information collection tool which is common to all Fujitsu middleware products.

2.4 Software Compatibility Issues

Do not install Application Server on the same system as any of the software/packages in the following table.

Software Compatibility Issues

Number	Product Name	Version
1	Interstage Application Server	V7.0 or later (*1) (*2)
2	Interstage Business Application Server	8.0.0 or later (*1)
3	Interstage Application Development Cycle Manager	V10.1 or later
4	Interstage Shunsaku Data Manager	V7
5	Interstage List Works	V9 or later
6	Interstage Service Integrator	V9 or later
7	Interstage Job Workload Server	V8 or later
8	Systemwalker Desktop Inspection	V12.0 or later
9	Systemwalker Centric Manager (Operation Management Server)	V11.0 or later (*3)
10	Systemwalker Centric Manager	V13.4.0 or later (*4)
11	Systemwalker Software Configuration Manager	V14.1 or later
12	Systemwalker IT Change Manager	V14 or later
13	Systemwalker Service Catalog Manager	V14.1 or later
14	Systemwalker Network Manager	V12 or later
15	Systemwalker Service Quality Coordinator Enterprise Edition	V13.4 or later (*5)
16	ServerView Resource Orchestrator Cloud Edition	V3 or later

*1 If the OS is Red Hat Enterprise Linux 5 (for Intel64) or Red Hat Enterprise Linux 6 (for Intel64), the various products that support operations in 64-bit mode cannot be installed in the same system either.

*2 This cannot be installed more than once in the same operating system, regardless of the version level or edition.

*3 This software cannot be installed with the Web Package function.

*4 Systemwalker Centric Manager cannot be installed on a machine on which the Single Sign-on server is installed.

*5 This cannot be installed on a machine on which the Systemwalker Service Quality Coordinator Enterprise Edition Dashboard/Browser Agent is installed.

2.5 Disk Space

Disk Space Requirements (Application Server Enterprise Edition: Typical Installation)

Mount point	Disk space (Unit: Mbytes)	
	RHEL5	RHEL6
/opt	535	530
/etc/opt	12	11
/var/opt	10	10

2.6 Package Requirements

The following table lists the package groups and optional packages required to run Interstage. Ensure that all options marked as "Select" are installed.

Package Requirements in RHEL5(x86)/(Intel64)

Item	Package Group	Select / Do not select
Desktop Environments	GNOME Desktop Environment	Select
	KDE (K Desktop Environment)	
Applications	Authoring and Publishing	
	Editors	Select
	Engineering and Scientific	
	Games and Entertainment	
	Graphical Internet	Select
	Graphics	
	Office/Productivity	
	Sound and Video	
	Text-based Internet	
Development	Development Libraries	
	Development Tools	Select
	GNOME Software Development	Select
	Java Development	
	KDE Software Development	
	Legacy Software Development	Select
	Ruby	Select
	X Software Development	
Servers	DNS Name Server	Select
	FTP Server	Select
	Legacy Network Server	Select (rusers-server, telnet-server, tftp-server)

Item	Package Group	Select / Do not select
	Mail Server	Select (postfix)
	MySQL Database	
	Network Server	Select (dhcp, openldap-servers, quagga, radvd, ypserv)
	News Server	
	PostgreSQL Database	
	Printing Support	
	Server Configuration Tools	Select (system-switch-mail-gnome)
	Web Server	Select (mod-authz-ldap)
	Windows File Server	
Base System	Administration Tools	
	Base	Select ([deselect] mdadm) (*3)
	Dialup Networking Support	
	Java	
	Legacy Software Support	
	System Tools	Select (createrepo, mt-st, net-snmp-utils, sysstat)
Cluster Storage (*1)	Cluster Storage	
Clustering (*1)	Clustering	
Virtualization (*1), (*2)	Virtualization	
Languages		

*1 This is displayed if [Installation Number] is entered for "Advanced Platform".

*2 This is not displayed if [Installation Number] is not entered.

*3 If "maddm" is selected, it must be removed.

Package Requirements in RHEL6(x86)/(Intel64)

Item	Package Group	Select / Do not select
Base System	Backup Client	
	Base	Select (deselect mdadm)
	Compatibility libraries	
	Console internet tools	
	Debugging Tools	Select
	Dial-up Networking Support	
	Directory Client	
	Hardware monitoring utilities	
	InfiniBand Support	
	Java Platform	
	Large Systems Performance	
	Legacy UNIX compatibility	
	Mainframe Access	

Item	Package Group	Select / Do not select
	Network file system client	
	Networking Tools	
	Performance Tools	
	Perl Support	
	Printing client	
	Scientific support	
	Security Tools	
	Smart card support	
	FCoE Storage Client	
	iSCSI Storage Client	
	Storage Availability Tools	
Servers	Backup Server	
	CIFS file server	
	Directory Server	
	FTP server	
	E-mail server	
	Network Infrastructure Server	
	NFS file server	
	Print Server	
	Server Platform	Select
	Network Storage Server	
	System administration tools	
Web Services		
Databases		
System Management		
Virtualization		
Desktops	Desktop	
	Desktop Debugging and Performance Tools	
	Desktop Platform	Select
	Fonts	
	General Purpose Desktop	Select
	Graphical Administration Tools	
	Input Methods	
	KDE Desktop	
	Legacy X Window System compatibility	Select (Select libXp in sub packages)
	Remote Desktop Clients	
	X Window System	
Applications		
Development	Additional Development	Select (Select unixODBC)

Item	Package Group	Select / Do not select
	Desktop Platform Development	
	Development tools	Select
	Eclipse	
	Server Platform Development	
Languages		

Additional Package Requirements in RHEL6(x86)

To run the Interstage Application Server on a Red Hat Enterprise Linux 6 (for x86), the following additional packages need to be installed:

Package	Architecture
alsa-lib	i686
cloog-ppl	I686
cpp	I686
file	I686
gcc	I686
gcc-c++	I686
gdb	i686
glibc-devel	i686
glibc-headers	I686
kernel-headers	I686
libICE	i686
libSM	i686
libX11	i686
libX11-common	noarch
libXau	i686
libXext	i686
libXi	i686
libXp	i686
libXt	i686
libXtst	i686
libgomp	i686
libstdc++-devel	i686
libtool-ltdl	i686
libxcb	i686
lksctp-tools	i686
make	i686
mpfr	i686
perl	i686
perl-Module-Pluggable	i686
perl-Pod-Escapes	i686

Package	Architecture
perl-Pod-Simple	i686
perl-libs	i686
perl-version	i686
ppl	i686
redhat-lsb	i686
strace	i686
tcsh	i686
unixODBC	i686

Additional Package Requirements in RHEL6(Intel64)

To run the Interstage Application Server on a 64 bit operating system, the following additional packages need to be installed:

Package	Architecture
alsa-lib	i686
audit-libs	i686
cloog-ppl	x86_64
cpp	x86_64
cracklib	i686
db4	i686
elfutils-libelf	i686
expat	i686
file	x86_64
gcc	x86_64
gcc-c++	x86_64
glibc	i686
glibc-devel	i686
glibc-headers	x86_64
kernel-headers	x86_64
libICE	i686
libSM	i686
libX11	i686
libX11-common	noarch
libXau	i686
libXext	i686
libXi	i686
libXp	i686
libXt	i686
libXtst	i686
libgcc	i686
libgomp	x86_64

Package	Architecture
libselinux	i686
libstdc++	i686
libstdc++-devel	x86_64
libtool-ltdl	i686
libuuid	i686
libxcb	i686
lksctp-tools	i686
make	x86_64
mpfr	x86_64
ncurses-libs	i686
nss-softokn-freebl	i686
pam	i686
perl	x86_64
perl-Module-Pluggable	x86_64
perl-Pod-Escapes	x86_64
perl-Pod-Simple	x86_64
perl-libs	x86_64
perl-version	x86_64
ppl	x86_64
readline	i686
redhat-lsb	i686 or x86_64
tcsh	x86_64
unixODBC	i686
zlib	i686

2.7 OS system tuning

To run the Interstage Application Server, the following system parameter file needs to be edited.

1. Edit the "/etc/sysctl.conf" file using the vi command as shown:

```
# vi /etc/sysctl.conf
```

2. Execute the following command to reflect the changes.

```
sysctl -p /etc/sysctl.conf
```

3. Execute the following command

```
sysctl -a
```

4. The parameter that was set is output, so check that the changes have been reflected.

Details on the content to be edited are as follows:

Red Hat Enterprise Linux 5 (for x86)

Before editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 0
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 4294967295
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 268435456
```

After editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 1                     # ----- Modify
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 4294967295
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 268435456
kernel.sem = 1100 35406 200 800      # ----- Add
# Controls the panic information      # ----- Add
```

```
kernel.panic = 1                        # ----- Add
kernel.panic_on_oops = 1                # ----- Add
kernel.unknown_nmi_panic = 1            # ----- Add
kernel.panic_on_unrecovered_nmi = 1 # ----- Add
```

Red Hat Enterprise Linux 5 (for Intel64)

Before editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 0
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 68719476736
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 4294967296
```

After editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 1                        # ----- Modify
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 68719476736
```

```
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 4294967296
kernel.sem = 1100 35406 200 800     # ----- Add
# Controls the panic information     # ----- Add
kernel.panic = 1                     # ----- Add
kernel.panic_on_oops = 1             # ----- Add
kernel.unknown_nmi_panic = 1         # ----- Add
kernel.panic_on_unrecovered_nmi = 1 # ----- Add
```

Red Hat Enterprise Linux 6 (for x86)

Before editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 0
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 4294967295
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 268435456
```

After editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 1                     # ----- Modify
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
```

```
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 4294967295
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 268435456
kernel.sem = 1100 35406 200 800      # ----- Add
# Controls the panic information    # ----- Add
kernel.panic = 1                       # ----- Add
kernel.panic_on_oops = 1               # ----- Add
kernel.unknown_nmi_panic = 1         # ----- Add
kernel.panic_on_unrecovered_nmi = 1 # ----- Add
```

Red Hat Enterprise Linux 6 (for Intel64)

Before editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 0
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 68719476736
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 4294967296
```

After editing:

```
# Kernel sysctl configuration file for Red Hat Linux
#
# For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and
# sysctl.conf(5) for more details.
# Controls IP packet forwarding
net.ipv4.ip_forward = 0
# Controls source route verification
net.ipv4.conf.default.rp_filter = 1
# Do not accept source routing
net.ipv4.conf.default.accept_source_route = 0
# Controls the System Request debugging functionality of the kernel
kernel.sysrq = 1                        # ----- Modify
# Controls whether core dumps will append the PID to the core filename
# Useful for debugging multi-threaded applications
kernel.core_uses_pid = 1
```

```
# Controls the use of TCP syncookies
net.ipv4.tcp_syncookies = 1
# Controls the maximum size of a message, in bytes
kernel.msgmnb = 65536
# Controls the default maximum size of a message queue
kernel.msgmax = 65536
# Controls the maximum shared segment size, in bytes
kernel.shmmax = 68719476736
# Controls the maximum number of shared memory segments, in pages
kernel.shmall = 4294967296
kernel.sem = 1100 35406 200 800      # ----- Add
# Controls the panic information    # ----- Add
kernel.panic = 1                     # ----- Add
kernel.panic_on_oops = 1             # ----- Add
kernel.unknown_nmi_panic = 1         # ----- Add
kernel.panic_on_unrecovered_nmi = 1 # ----- Add
```

Chapter 3 Important Notes on Installation

This section contains notes about the following topics:

3.1 Notes on Installing Systemwalker Centric Manager

This section includes notes about installing the server used for managing Systemwalker Centric Manager and the Interstage application server function on the same machine.

For details about operating Systemwalker Centric Manager, refer to the Systemwalker Centric Manager manual.

If the Systemwalker Centric Manager management client and the Interstage client are installed on the same machine, the Systemwalker management client cannot be used.

To use the multiserver management function, only the following server types can be used for the installation:

- Admin Server

- Standalone Server

   the OS starts up. The script command must not be executed in the oms account login shell.

3.2 Notes on Installing the CORBA Service from Another Product

The Interstage Application Server CORBA Service is also used in other products.

If you try to install Interstage, and a product containing a built-in CORBA Service has already been installed, the following message is output:

```
Since FJSVod is installed from other Fujitsu's middleware products, installation is stopped.
```

If the following product is installed in the same system, refer to 3.1 Notes on Installing Systemwalker Centric Manager

- Systemwalker Centric Manager operation Admin Server

3.3 Notes on Installing Other Fujitsu Products

The FJSVsmee and FJSVsclr packages may have been bundled with a non-Interstage Fujitsu product such as Systemwalker Centric Manager. Notes on installing Interstage in this case are described below.

Check if the FJSVsmee and FJSVsclr packages are installed. If they are installed, check the version and level.

The versions of FJSVsmee and FJSVsclr in which this version of Interstage is bundled are:

```
FJSVsmee   4.1.2
FJSVsclr   2.0.7
```

Check the installed FJSVsmee package as follows:

```
# rpm -q -i FJSVsmee | grep Version
```

Check the installed FJSVsclr package as follows:

```
# rpm -q -i FJSVsclr | grep Version
```

If the package is installed, the version information is displayed. If nothing is displayed, it means the package has not been installed. In this case, install the package in the usual way.

The version of the package contained in the Fujitsu product you are trying to install can be checked as follows:

```
# rpm -q -i -p <Name of the path on which the package is stored> | grep -E 'Version|Name'
```

The result of the execution is shown below. Check the package name and version information (bolded).

```
# rpm -q -i -p FJSV_Smee-4.1.2-01.i686.rpm | grep -E 'Version|Name'
Name        : FJSVsmee                    Relocations: /opt
Version     : 4.1.2                          Vendor: FUJITSU LIMITED
# rpm -q -i -p FJSVsclr-2.0.7-01.i686.rpm | grep -E 'Version|Name'
Name        : FJSVsclr                    Relocations: /opt /etc/opt
Version     : 2.0.7                          Vendor: FUJITSU LIMITED
```

3.3.1 Installing a Product Containing any of FJSVsmee or FJSVsclr Packages on a Machine in which Interstage is Already Installed

If the FJSVsmee package bundled with the other product is the same or an older version as the FJSVsmee package bundled with Interstage, continue using the FJSVsmee package bundled with Interstage.

If the FJSVsclr package bundled with the other product is the same or an older version as the FJSVsclr package bundled with Interstage, continue using the FJSVsclr package bundled with Interstage.

If any of the FJSVsmee or FJSVsclr packages bundled with the other product are later versions, install the other product as described in the following procedure.

1. If Interstage is running, stop it.

```
# isstop -f
```

Since there is a possibility that non-Interstage Fujitsu products that bundle FJSVsmee or FJSVsclr packages are also being used, stop all Fujitsu products. For details, refer to the appropriate product manual.

2. Uninstall old packages.

If the FJSVsmee package is old, execute the following:

```
# rpm -e FJSVsmee
```

If the FJSVsclr package is old, execute the following:

```
# rpm -e FJSVsclr
```

3. Install the other Fujitsu products. For details, refer to the appropriate product manual.

4. Start Interstage.

```
# isstart
```

3.3.2 Installing Interstage on a Machine in which any of the FJSVsmee or FJSVsclr Packages have been Installed by Another Product

Install Interstage according to the following procedure.

1. Stop all Fujitsu products. For details, refer to the appropriate product manual.

2. Uninstall the FJSVsmee and FJSVsclr packages.

```
# rpm -e FJSVsmee
# rpm -e FJSVsclr
```

3. Install Interstage.

4. If the version of the FJSVsmee or FJSVsclr packages bundled and installed with Interstage is older than that of the packages that were already installed, uninstall the FJSVsmee and FJSVsclr packages.

```
# rpm -e FJSVsmee
# rpm -e FJSVsclr
```

Then reinstall the FJSVsmee and FJSVsclr packages that were installed prior to Interstage installation. For details, refer to the appropriate product manual.

5. Start all products stopped in step 1. For details, refer to the appropriate product manual.

3.4 Uninstall (middleware)

When this product is installed, "Uninstall (middleware)" will also be installed.

"Uninstall (middleware)" is the tool which is common to all Fujitsu middleware products. It is used to manage the information about Fujitsu middleware products that are installed, and to start the product uninstaller.

Note

- To uninstall Interstage, perform the uninstallation from "Uninstall (middleware)".

- This tool also manages information about Fujitsu middleware products other than Interstage. This tool must not be uninstalled, except when absolutely necessary.

If "Uninstall (middleware)" was uninstalled by mistake, reinstall it according to the following procedure:

1. Either log into the installation target machine as a super user, or switch to a user that has management privileges.

2. Insert the product DVD into the DVD-ROM drive.

3. Execute the installation command.

```
<Installation DVD-ROM>/installer/cir/cirinst.sh
```

To uninstall this tool, perform the following procedure:

1. Start "Uninstall (middleware)" and check whether other Fujitsu middleware products still remain. The start method is as follows:

```
# /opt/FJSVcir/cir/bin/cimanager.sh -c
```

2. If there are no Fujitsu middleware products installed, execute the following uninstallation command:

```
# /opt/FJSVcir/bin/cirremove.sh
```

3. The following message is displayed. Type **y** to continue.

   After a few seconds, the uninstallation is complete.

```
This software is a common tool of Fujitsu products.
Are you sure you want to remove it?[y/n]:
```

4. After the uninstallation completes, delete the following directory and its files:

```
/var/opt/FJSVcir/
```

3.5 How to Mount the Product Media (DVD-ROM)

To mount the server package DVD of this product, it is recommended that you specify the HSFS file system in the *mount* command explicitly, as follows:

```
# mount -t iso9660 -r /dev/<device file name> <DVD-ROM mount directory>
```

Note

The server package DVD of this product has been created in the "UDF Bridge" format. For this reason, it is possible to mount using the ISO 9660 or UDF file systems. However, if the mount was performed using the UDF file system, the execution privileges for the execution file may sometimes be removed. In this case, problems such as being unable to execute the installer will occur.

Note that, depending on the operating system, the mount specification may sometimes be as shown below. The mount options for the mounted DVD-ROM can be checked by executing the *mount* command.

- If the DVD-ROM was mounted using automatic mount, or by omitting the file system option in the *mount* command, the mount will be performed using the UDF file system, therefore it will not be possible to execute the command on the DVD-ROM.

   Note

   - To install on a server machine that does not have a DVD-ROM device, perform the installation by sharing the DVD-ROM device of an external server.

   - If the DVD-ROM automount was performed using the automount daemon (autofs) in RHEL5 (x86)(Intel64), "noexec" will be set for the mount option, therefore it will not be possible to execute the command on the DVD-ROM.

Note

If there is no DVD-ROM device, you can install this product by sharing an external server DVD-ROM device on the NFS mount.
In such cases, use the shared install.sh shell to perform installation with the usual procedure.
However, if the file permissions on the server where installation is to be performed have been changed or are limited, then pay attention to the settings when sharing the DVD-ROM device, as normal installation cannot be performed.

Chapter 4 Installation Procedure

The following methods are available for installing the Interstage Application Server "Server Package". Select the appropriate installation method for your system.

- 4.2 Installation Using Installation Shell Script

- 4.3 Silent Installation

4.1 Pre-installation Preparation

Essential Tasks before Beginning Installation

4.1.1 Check available disk space

Verify there is sufficient available disk space for the installation. For details on disk capacity requirements, refer to "Disk Space" in "Chapter 2 System Requirements".

If there is insufficient available disk space, extend the file system.

4.1.2 Check the system parameters

System parameter tuning is required before running Interstage.

In /etc/sysctl.conf, modify the shared memory, semaphore, and message queue values appropriately. Refer to the "System Tuning" chapter of the Tuning Guide to calculate the parameter values.

4.1.3 Check this software

If an old version/level or a different edition of this software has been installed, the installation cannot be performed. Check the installation status of this software. If an old version/level or a different edition has been installed, back up the environment settings file and then remove this software before performing the installation. For details on how to back up the environment settings file, refer to the "Maintenance (Resource Backup)" chapter of the Operator's Guide. Additionally, for details on how to remove packages, refer to the "Uninstallation (Server Package)" chapter.

Note that "Uninstall (middleware)" can be used to check which version/level and edition of this software has been installed.

1. Execute the following command:

```
# /opt/FJSVcir/cimanager.sh -c
```

"Uninstall (middleware)" starts, and the names of products that are already installed are displayed.

2. To reference the product information details, enter the number for the corresponding product.

```
Loading Uninstaller...

Currently installed products
1. Interstage Application Server Enterprise Edition V11.1.0

Type [number] to select the software you want to uninstall.
[number,q]
=>1

Interstage Application Server Enterprise Edition
    Description: Interstage Application Server Enterprise Edition
    Version: V11.1.0
    Manufacturer: Fujitsu Limited.
    Install directory: /opt/FJSVisas
```

```
     Date of install: 2013-8-9

Starting the uninstall of the software. Are you sure you want to continue?
[y,b,q]
=>q
```

3. To uninstall the product that was selected, type **y**, and then press **Enter**. To return to the previous information, type **b**, and then press **Enter**. To cancel the uninstallation, type **q**, and then press **Enter**.

   Note

   - Using "Uninstall (middleware)", information about other Fujitsu middleware products can also be checked. Note that the product information for Interstage Application Server can be checked when the version/level is V11.0.0 or later. For details on supported versions for other Fujitsu middleware products, check the product manual, for example.

   - If an old version/level of this software has been installed, the version/level and edition can be checked according to the method shown below.

```
/opt/FJSVisas/bin/isprintvl
```

4.1.4 Check the hostname

Perform the following procedures to confirm and set the hostname.

1. Confirm the hostname by executing hostname.

```
# hostname <RETURN>
localhost.localdomain
```

2. If "localhost.localdomain" is output, it means the hostname has not been configured correctly. Execute "hostname FQDN".

```
ex)
# hostname host01.fujitsu.com <RETURN>
```

4.1.5 Security Modes

4.1.5.1 Secure Mode

If secure mode is selected, the software is installed in a stricter security environment. Command execution permission assigned to all users in previous Application Server versions is only granted to users belonging to a nominated group in secure mode of version 9.

If this software is to be installed in secure mode, the group that will be assigned command execution permission must be created prior to installation.

Example

Creating a group called "isusergrp"

```
/usr/sbin/groupadd -g 500 isusergrp
```

Note

- The method used to create groups differs according to system management policy. Check with the machine administrator.

- For details on security modes, refer to "Common Security Measures" in the Security System Guide and the "Notes on Using Commands" chapter of the Reference Manual (Command Edition).

4.1.5.2 Compatibility Mode

If compatibility mode is selected, security is the same as in previous Application Server versions. In this mode, no pre-installation preparation is required.

4.2 Installation Using Installation Shell Script

To install the Interstage Application Server "Server Package" using the installation shell script, execute install.sh.

Install the Server Package using the following procedures.

4.2.1 Execute install.sh

Insert the server package DVD into the DVD-ROM drive, mount on any directory, and then execute the install.sh shell.

```
# <DVD-ROM mount directory>/install.sh <RETURN>
```

Note

- After install.sh is executed, there may be short delay until the installation messages from the installer is displayed.

- If any packages to be installed are already installed, the install.sh outputs the following message:

```
<package-name> is already installed.
```

- For details on the points that should be noted when mounting the server package DVD, refer to "3.5 How to Mount the Product Media (DVD-ROM)".

To continue the installation after uninstalling this product or the packages, re-execute install.sh.

Notes

The following points must be noted if Interstage Application Server packages are already installed:

- A Typical installation cannot be performed if packages have already been installed. Use a custom installation to add functions and packages, or uninstall previously installed packages and perform the installation again.

- Admin Server functions cannot be installed if packages within the Admin Server functions are already installed. (Enterprise Edition only)

- Web Package functions cannot be installed if Application Server or Admin Server functions are already installed.

- Application Server functions and Admin Server functions cannot be installed if Web Package functions are already installed.

- If a different version of Interstage Application Server, or common packages bundled with other products are installed, uninstall these packages and then perform the installation again.

- If the message below is displayed, it is possible that either a shared package bundled with another product has been installed or that a previously installed package from this product remains. If the former is the case, then refer to "Chapter 3 Important Notes on Installation" or to the manual for the relevant product, and install using the correct procedure. If the latter is the case, then uninstall the package and reinstall the server package.
"Apart from the required package (FJSVisas), some packages are already installed. Another Fujitsu middleware product may already be installed."

4.2.1.1 Selecting the Security Mode

Select the security mode. If no value is entered, it defaults to option 1, secure mode.

```
Please select the security mode. (1: Secure mode, 2: Compatibility mode) (default: 1) [1,2,q]:
```

If 1 (secure mode) is entered, the group name must then be input.

If 2 (compatibility mode) is entered, the server type must be selected.

4.2.1.2 Nominating a Group Name for Full Control in Secure Mode

Enter the group name that will have access to run all Interstage Application Server operation commands. The group must already exist in the system. If no value is entered, this defaults to "root".

```
Please enter the group name of the system used to operate the Interstage operation command. (default: root) [?,q]:
```

Note

If a number is specified for the group name, its validity is not checked. If using a number, ensure it is valid, as specifying an invalid number for a group name may result in installation or operation failure.

4.2.1.3 Selecting the Server Type

First, select the server type.

If Application Server is selected, select typical or custom.

(Enterprise Edition only)

```
Please choose the server type to install. (1: Application Server, 2: Admin Server, 3: Web Package) [1,2,3,q]:
```

(Standard-J Edition only)

```
Please choose the server type to install. (1: Application Server, 2: Web Package) [1,2,q]:
```

4.2.1.4 Performing a Typical Installation

To perform a typical installation, type **1** to select "typical" as the type of installation to be performed, and then press **Enter**.

```
Please select the installation type. (1: typical, 2: custom) [1,2,q]:
```

Display the port numbers to be used in Java EE. To change them, type **y**, and then press **Enter**.

```
The Java EE function default port is as follows:

Port Number of HTTP Listener:                        28080
Port Number of HTTP Listener for Operation Management: 12001
Port Number of IIOP:                                 23600
Port Number of IIOP_SSL:                             23601
Port Number of IIOP_MUTUALAUTH:                      23602
Port Number of JMX_ADMIN:                            8686


Change the default port? (default: n) [y,n,q]:
```

Set the port numbers to be used in Java EE. For each port, specify a number between 1 and 65535 that has not been set for another function.

```
Please specify the Port Number of HTTP Listener. (default: 28080) [?,q]:
Please specify the Port Number of HTTP Listener for Operation Management. (default: 12001) [?,q]:
Please specify the Port Number of IIOP. (default: 23600) [?,q]:
Please specify the Port Number of IIOP_SSL. (default: 23601) [?,q]:
Please specify the Port Number of IIOP_MUTUALAUTH. (default: 23602) [?,q]:
Please specify the Port Number of JMX_ADMIN. (default: 8686) [?,q]:
```

Select the security operation configuration of Java EE HTTP Listener for Operation Management.

```
Please select whether to use SSL encryption communication for Java EE HTTP Listener for Operation
Management. (default: y) [y,n,q]
```

Notes

If you selected not to use SSL encryption, the ID and password used to access the Interstage Java EE Admin Console are transferred across the network unencrypted. Ensure that appropriate measures are in place to prevent communication data from being intercepted.

Set the Java EE common directory.

Notes

- To change the Java EE common directory from the default value, specify a directory that does not already exist, or an empty directory that does not contain files or subdirectories. In either case, however, a parent directory must exist. Symbolic links cannot be specified.

- Do not specify "/" (the root directory) for the directory.

```
Please specify the Java EE common directory. (default: /var/opt/FJSVisjee) [?,q]:
```

Check the displayed installation settings. To start the installation, type y, and then press Enter in response to the following prompt.

```
Do you want to proceed with the installation ? [y,q]:
```

4.2.1.5 Performing a Custom Installation

To install using the install.sh shell, you may choose either **Select Function** or **Select Package**.

Choose **Select Function** to install the functions you want to use. The package required for the corresponding function is installed automatically.

Choose **Select Package** to install the packages you want to use. More packages are available for this option than for the **Select Function** option. By selecting **Select Package**, you can choose which packages you want to install.

To perform a custom installation, type **2** to select "custom" as the type of installation to be performed, and then press **Enter**.

```
Please select the installation type. (1: typical, 2: custom) [1,2,q]:
```

4.2.1.5.1 Select the "function" installation

Type **1** to select the "function" installation, and then press **Enter**.

```
Please select whether to choose functions or packages to install. (1: function, 2: package) [1,2,q]:
```

The function list is displayed. Select "all" or the number of each function to be installed.

```
Functions:
   1  Java EE
         :

Please select functions. When you choose more than one, please separate with ",".[?,??,all,q]:
```

4.2.1.5.2 Select the "package" installation

Type **2** to select the "package" installation, and then press **Enter**.

```
Please select whether to choose functions or packages to install. (1: function, 2: package) [1,2,q]:
```

Note

- Dependency relationships between packages are not automatically resolved with "Package Selection". We recommend installing with "Select Features" unless you have a high degree of knowledge about each package or the setup procedure has been clarified for you by Fujitsu technical support.

- We recommend installing all required features and packages at the same time, in a single run of the install.sh shell.

The package list is displayed. Select "all" or the number of each package to be installed.

```
Packages:
    1 FJSVtdis     The operational commands for Interstage
    2 FJSVextp     Transaction Processing Monitor
        :

Please select packages. When you choose more than one, please separate with ",". [?,??,all,q]:  all
```

Display the port numbers to be used in Java EE. To change them, type y, and then press Enter.

```
The Java EE function default port is as follows.

Port Number of HTTP Listener:                        28080
Port Number of HTTP Listener for Operation Management: 12001
Port Number of IIOP:                                 23600
Port Number of IIOP_SSL:                             23601
Port Number of IIOP_MUTUALAUTH:                      23602
Port Number of JMX_ADMIN:                            8686


Change the default port? (default: n) [y,n,q]:
```

Set the port numbers to be used in Java EE. For each port, specify a number between 1 and 65535 that has not been set for another function. The range that can be specified in the HTTP Listener port becomes 5001-65535 when Web server connector/J2EE Compatible function (FJSVjs5) has been installed or it selects it at the same time.

```
Specify the Java EE HTTP Listener port. (default: 28080) [?,q]:

Specify the Java EE HTTP Listener port for Operation Management. (default: 12001) [?,q]:

Specify the Java EE IIOP port. (default: 23600) [?,q]:

Specify the Java EE IIOP_SSL port. (default: 23601) [?,q]:
```

```
Specify the Java EE IIOP_MUTUALAUTH port. (default: 23602) [?,q]:

Specify the Java EE JMX_ADMIN port. (default: 8686) [?,q]:
```

Select the security operation configuration of Java EE HTTP Listener for Operation Management.

```
Please select whether to use SSL encryption communication for Java EE HTTP Listener for Operation
Management.
(default: y) [y,n,q]
```

Notes

If you selected not to use SSL encryption, the ID and password used to access the Interstage Java EE Admin Console are transferred across the network unencrypted. Ensure that appropriate measures are in place to prevent communication data from being intercepted.

Set the Java EE common directory.

Notes

- To change the Java EE common directory from the default value, specify a directory that does not already exist, or an empty directory that does not contain files or subdirectories. In either case, however, a parent directory must exist. Symbolic links cannot be specified.

- Do not specify "/" (the root directory) for the directory.

```
Please specify the Java EE common directory. (default: /var/opt/FJSVisjee) [?,q]:
```

Enter the port number of CORBA Service. (Enterprise Edition only)

Note

If a port number not set as "odserver" in /etc/services is used for the CORBA Service port number, then the message "Overwrite /etc/services setting? [y,n,q]:" is displayed. Make sure it will not cause a problem.

```
Please specify port number of CORBA Service. (default: 8002) [?,q]:
```

Enter the port number of Interstage Service. (Standard-J Edition only)

Note

If a port number not set as "odserver" in /etc/services is used for the Interstage Service port number, then the message "Overwrite /etc/services setting? [y,n,q]:" is displayed. Make sure it will not cause a problem.

```
Please specify port number of Interstage Service. (default: 8002) [?,q]:
```

Select whether "JDK" or "JRE" is to be used.

Note

- If multiple versions of JDK/JRE were selected, it will not be possible to install the different types (JDK and JRE). Additionally, if one version of JDK or JRE is already installed, the JDK or JRE type that is already installed will be selected automatically and this prompt will not be displayed.

- When Java EE(FJSVisjee) or Java EE 6 (FJSVisje6) is selected or has already been installed, then "JDK" will be automatically selected without the message below being displayed.

```
Please select JDK or JRE. (1: JDK, 2: JRE) (default: 1) [1,2,q]
```

Enter the port number and the hostname of the Web Server (Interstage HTTP Server).

```
Please specify host name of Web server (Interstage HTTP Server). (default: host01) [?,q]:

Please specify port number of Web server (Interstage HTTP Server). (default: 80) [?,q]:
```

Enter the port number and the hostname of the Interstage Management Console.

```
Please specify host name of Interstage Management Console. (default: host01) [?,q]:

Please specify port number of Interstage Management Console. (default: 12000) [?,q]:
```

If using SSL communication on the Interstage Management Console, type **y**, and then press **Enter**.

Note

If you selected not to use SSL encrypted communication, the ID and password used to access the Interstage Management Console are transferred across the network unencrypted. Ensure that appropriate measures are in place to prevent communication data from being intercepted.

```
Please select whether to use SSL encryption communication for Interstage Management Console.
(default: y) [y,n,q]
```

To use the Message Manual for Interstage Management Console, type **y**, and then press **Enter**.

```
Please select whether to use Message Manual for Interstage Management Console. (default: y) [y,n,q]:
```

Enter the port number of the Web Server (Interstage HTTP Server 2.2).

```
Please specify port number of Web server (Interstage HTTP Server 2.2). (default: 80) [?,q]:
```

Select the JDK to be used in Java EE 6 (for application development). This prompt is displayed when multiple versions of JDK have been installed, or are selected at the same time.

```
Please select the JDK to be used in Java EE 6 function. (1: JDK7, 2: JDK6) (default: 1) [1,2,q]:
```

Configure the Java EE 6 administrator user-related settings.

```
Specify the Java EE 6 function admin user ID. (default: admin) [?,q]:
Specify a Java EE 6 function Admin password. (between 8 and 20 characters long) [?,q]:
Re-enter the Java EE 6 function Admin password in order to confirm it. [?,q]:
```

Note

- Specify up to 255 characters for the administrator user name. Note that in addition to alphanumeric characters, it can also contain:
  _ (underscore)
  - (hyphen)
  . (period)

- Specify up to 20 characters for the administrator password. Note that in addition to alphanumeric characters, it can also contain:
  _ (underscore)
  - (hyphen)
  ' (apostrophe)
  . (period)

@ (at sign)

+ (plus sign)

The port numbers to be used by Java EE 6 are displayed - to change any of them, type **y**, and then press **Enter**.

```
The Java EE 6 function default port is as follows.

Port Number of HTTP Listener for Operation Management: 12011
Port Number of HTTP Listener:                         28282
Port Number of HTTPS Listener:                        28383
Port Number of IIOP:                                  23610
Port Number of IIOP_SSL:                              23611
Port Number of IIOP_MUTUALAUTH:                       23612
Port Number of JMX_ADMIN:                             18686


Change the default port? (default: n) [y,n,q]:
```

Type the port numbers to be used by Java EE 6 - specify values between 1 and 65535, ensuring that they do not conflict with port numbers assigned to other features.

```
Please specify the Port Number of HTTP Listener for Operation Management. (default: 12011) [?,q]:

Please specify the Port Number of HTTP Listener. (default: 28282) [?,q]:

Please specify the Port Number of HTTPS Listener. (default: 28383) [?,q]:

Please specify the Port Number of IIOP. (default: 23610) [?,q]:

Please specify the Port Number of IIOP_SSL. (default: 23611) [?,q]:

Please specify the Port Number of IIOP_MUTUALAUTH. (default: 23612) [?,q]:

Please specify the Port Number of JMX_ADMIN. (default: 18686) [?,q]:

Please specify the Java EE 6 common directory. (default: /var/opt/FJSVisje6) [?,q]:
```

Specify the Java EE 6 common directory.

```
Please specify the Java EE 6 common directory. (default: /var/opt/FJSVisje6) [?,q]:
```

Note

To change the Java EE 6 common directory from the default value, specify a directory that does not exist, or an empty directory that does not contain files or subdirectories. In either case, however, a parent directory must exist. Do not enter a forward slash ("/", root directory).

Check the displayed installation settings. To start the installation, type **y**, and then press **Enter** in response to the following prompt.

```
Do you want to proceed with the installation ? [y,q]:
```

4.2.2 Check that the installation is complete

When the installation process has been completed, the following message is displayed.

```
Installation of Interstage Application Server has ended.Please reboot system.
After restarting the system, refer to the Installation Guide and perform the required tasks.
```

Note

If an error message was displayed and the installation finished, check the error message that was displayed immediately before or during the installation, remove the cause of the error and then re-execute the installation.

4.2.3 System Reboot

Reboot the system.

```
# cd / <RETURN>
# shutdown -r now <RETURN>
```

4.2.4 Start Interstage

When the machine starts, Interstage is started when an automatic setup is executed.

Note

To switch the JDK or JRE that is already installed, the Interstage Management Console settings must be modified.

4.3 Silent Installation

This section explains the silent installation of Interstage.

Normally, when this product is installed, the user is prompted to select the functionality required. However, with silent installation, the installation is executed according to the parameters specified before the installation is executed. The installation runs without user input. Note that silent installation can be used for new installations of Interstage.

Execute the silent installation according to the following procedure:

- 4.3.1 Create the Installation Parameter CSV File

- 4.3.2 Execute the Silent Installation

4.3.1 Create the Installation Parameter CSV File

Consider the server type or functionality that is required in the system operation, and then create the installation parameter CSV file according to the format shown below.

Note

The installation parameter **CSV** file samples are stored in the following directory:

```
<server package DVD>/installer/citool/sample
```

4.3.1.1 Format

Define the installation parameter CSV file in three column CSV format on each line.

```
section name,parameter name,settings
section name,parameter name,settings
        :
```

Set the following in each column:

Item	Content
Section name	Set the section name. Note that there are two types. These are as follows: "installinfo": Set the product information. "parameters": Set the settings parameter information of this product.

Item	Content
Parameter name	Set the parameter name. There are parameters which are enabled for each section.
Settings	Configure the settings.

Note

- The file cannot contain blank lines.

- Section names and parameter names cannot be omitted.

- Undefined parameters cannot be set on the line where the section name is "installInfo". Additionally, the same parameter cannot be set multiple times.

- If an undefined parameter was set on the line where the section name is "parameters", it will be ignored at the time of execution. Additionally, if the same parameter was defined multiple times, the settings on the line below will be valid.

4.3.1.2 List of Parameters

The parameters that can be set for each section are explained below.

4.3.1.2.1 installInfo Section

Parameter	Content
Name	Set the installer name. In this product, set the following fixed value: "isasinst"

Note

The parameters that can be used in the installInfo section are "softwareName", "OS", "Version", and "Edition". The settings for this parameter do not affect the silent installation.

Note that, in the settings of the parameters above, a string comprised of at least one alphanumeric character, or symbol excluding double quotes (") and commas (,), is valid.

4.3.1.2.2 Parameters Section

Enterprise Edition

Parameter	Content
ServerType	Set the server type.
InstallType	Set the installation type.
SecurityMode	Set the security mode.
SecurityGroup	Set the Interstage operator group name.
JavaSEKind	Set the Java SE JDK/JRE type.
JavaEE5HttpListenerPort	Set the "HTTP Listener Port" to be used in Java EE 5.
JavaEE5AdminListenerPort	Set the "Operation Management HTTP Listener Port" to be used in Java EE 5.
JavaEE5IiopPort	Set the "IIOP Port" to be used in Java EE 5.
JavaEE5IiopSSLPort	Set the "IIOP_SSL Port" to be used in Java EE 5.
JavaEE5IiopMutualauthPort	Set the "IIOP_MUTUALAUTH Port" to be used in Java EE 5.
JavaEE5JmxAdminPort	Set the "JMX_ADMIN Port" to be used in Java EE 5.
JavaEE5CommonDirectory	Set the "Java EE Common Directory" to be used in Java EE 5.

Parameter	Content
JavaEE5AdminSSL	Set the Interstage Java EE Admin Console security operating mode to be used in Java EE 5.
JavaEE6JdkVersion	Set the JDK version to be used in Java EE 6.
JavaEE6AdminUser	Set the administrator user ID to be used in Java EE 6.
JavaEE6AdminPassword	Set the administrator password to be used in Java EE 6.
JavaEE6DomainAdminPort	Set the "Operation Management HTTP Listener Port" to be used in Java EE 6.
JavaEE6HttpListenerPort	Set the "HTTP Listener Port" to be used in Java EE 6.
JavaEE6HttpsListenerPort	Set the "HTTPS Listener Port" to be used in Java EE 6.
JavaEE6IiopPort	Set the "IIOP Port" to be used in Java EE 6.
JavaEE6IiopSSLPort	Set the "IIOP_SSL Port" to be used in Java EE 6.
JavaEE6IiopMutualauthPort	Set the "IIOP_MUTUALAUTH Port" to be used in Java EE 6.
JavaEE6JmxAdminPort	Set the "JMX_ADMIN Port" to be used in Java EE 6.
JavaEE6CommonDirectory	Set the "Java EE Common Directory" to be used in Java EE 6.
CorbaPort	Set the port number of the CORBA service to be used in the multilanguage service basic functionality.
HostName	Set the host name.
MngConsolePort	Set the Interstage Management Console port number.
MngConsoleSSL	Set the Interstage Management Console security operating mode.
MngConsoleMessageManual	Set whether to install the Message Manual with the Interstage Management Console.
WebServerPort	Set the Web Server (Interstage HTTP Server) port number.
WebServer22Port	Set the Web Server (Interstage HTTP Server 2.2) port number.
FN_functionality name	If "custom" was specified in the InstallType parameter, set the "FN_functionality name" format parameter according to the functionality that is to be installed.

Standard-J Edition

Parameter	Content
ServerType	Set the server type.
InstallType	Set the installation type.
SecurityMode	Set the security mode.
SecurityGroup	Set the Interstage operator group name.
JavaSEKind	Set the Java SE JDK/JRE type.
JavaEE5HttpListenerPort	Set the "HTTP Listener Port" to be used in Java EE 5.
JavaEE5AdminListenerPort	Set the "Operation Management HTTP Listener Port" to be used in Java EE 5.
JavaEE5IiopPort	Set the "IIOP Port" to be used in Java EE 5.
JavaEE5IiopSSLPort	Set the "IIOP_SSL Port" to be used in Java EE 5.
JavaEE5IiopMutualauthPort	Set the "IIOP_MUTUALAUTH Port" to be used in Java EE 5.
JavaEE5JmxAdminPort	Set the "JMX_ADMIN Port" to be used in Java EE 5.
JavaEE5CommonDirectory	Set the "Java EE Common Directory" to be used in Java EE 5.

Parameter	Content
JavaEE5AdminSSL	Set the Interstage Java EE Admin Console security operating mode to be used in Java EE 5.
JavaEE6JdkVersion	Set the JDK version to be used in Java EE 6.
JavaEE6AdminUser	Set the administrator user ID to be used in Java EE 6.
JavaEE6AdminPassword	Set the administrator password to be used in Java EE 6.
JavaEE6DomainAdminPort	Set the "Operation Management HTTP Listener Port" to be used in Java EE 6.
JavaEE6HttpListenerPort	Set the "HTTP Listener Port" to be used in Java EE 6.
JavaEE6HttpsListenerPort	Set the "HTTPS Listener Port" to be used in Java EE 6.
JavaEE6IiopPort	Set the "IIOP Port" to be used in Java EE 6.
JavaEE6IiopSSLPort	Set the "IIOP_SSL Port" to be used in Java EE 6.
JavaEE6IiopMutualauthPort	Set the "IIOP_MUTUALAUTH Port" to be used in Java EE 6.
JavaEE6JmxAdminPort	Set the "JMX_ADMIN Port" to be used in Java EE 6.
JavaEE6CommonDirectory	Set the "Java EE Common Directory" to be used in Java EE 6.
CorbaPort	Set the port number of the CORBA service to be used in the multilanguage service basic functionality.
HostName	Set the host name.
MngConsolePort	Set the Interstage Management Console port number.
MngConsoleSSL	Set the Interstage Management Console security operating mode.
MngConsoleMessageManual	Set whether to install the Message Manual with the Interstage Management Console.
WebServerPort	Set the Web Server (Interstage HTTP Server) port number.
WebServer22Port	Set the Web Server (Interstage HTTP Server 2.2) port number.
FN_functionality name	If "custom" was specified in the InstallType parameter, set the "FN_functionality name" format parameter according to the functionality that is to be installed.

4.3.1.2.3 Parameters Section (for Selecting the Functionality)

If "custom" was selected in InstallType, use the parameters shown below that assign the installation functionality, and then select the installation functionality.

Enterprise Edition

Parameter	Functionality
FN_JAVAEE5	Java EE 5
FN_CORBA	Multilanguage Service Basic Functionality
FN_OTS	Database Linkage Service
FN_ES	Event Service
FN_MQD	MessageQueueDirector
FN_PORB	Portable-ORB
FN_WEBSERVER	Web Server (Interstage HTTP Server)
FN_WEBSERVER22	Web Server (Interstage HTTP Server 2.2)
FN_SECURE_COMMUNICATION	Secure Communication Service

Parameter	Functionality
FN_SSO_BS	Interstage Single Sign-on (Business Server)
FN_SSO_AS	Interstage Single Sign-on (Authentication Server)
FN_SSO_RS	Interstage Single Sign-on (Repository Server)
FN_DIRECTORY_SERVICE	Interstage Directory Service
FN_MANAGEMENT_CONSOLE	Interstage Management Console
FN_WEBSERVER_CONNECTOR	Web Server Connector (for Interstage HTTP Server)
FN_WEBSERVER_CONNECTOR22	Web Server Connector (for Interstage HTTP Server 2.2)
FN_J2EE	J2EE Compatibility
FN_FRAMEWORK	Framework
FN_JAVASE6	Java SE 6
FN_JAVASE7	Java SE 7
FN_SAMPLE_APL	Sample Application
FN_XML	Fujitsu XML Processor
FN_JAVAEE6	Java EE 6

Standard-J Edition

Parameter	Functionality
FN_JAVAEE5	Java EE 5
FN_WEBSERVER	Web Server (Interstage HTTP Server)
FN_WEBSERVER22	Web Server (Interstage HTTP Server 2.2)
FN_SECURE_COMMUNICATION	Secure Communication Service
FN_SSO_BS	Interstage Single Sign-on (Business Server)
FN_SSO_AS	Interstage Single Sign-on (Authentication Server)
FN_SSO_RS	Interstage Single Sign-on (Repository Server)
FN_DIRECTORY_SERVICE	Interstage Directory Service
FN_MANAGEMENT_CONSOLE	Interstage Management Console
FN_WEBSERVER_CONNECTOR	Web Server Connector (for Interstage HTTP Server)
FN_WEBSERVER_CONNECTOR22	Web Server Connector (for Interstage HTTP Server 2.2)
FN_J2EE	J2EE Compatibility
FN_FRAMEWORK	Framework
FN_JAVASE6	Java SE 6
FN_JAVASE7	Java SE 7
FN_SAMPLE_APL	Sample Application
FN_XML	Fujitsu XML Processor
FN_JAVAEE6	Java EE 6

4.3.1.3 Parameter Details

The section explains the content to be set for each parameter.

4.3.1.3.1 ServerType

Enterprise Edition

Content	Set the server type to be installed. Select one of:
	Application Server
	Admin Server
	WebPackage
Related functionality	Common
Valid settings	application [Application Server]
	management [Admin Server]
	webpackage [WebPackage]
Default value	application
Remarks	

Standard-J Edition

Content	Set the server type to be installed. Select one of:
	Application Server
	WebPackage
Related functionality	Common
Valid settings	application [Application Server]
	webpackage [WebPackage]
Default value	application
Remarks	

4.3.1.3.2 InstallType

Content	Set the server type to be installed. This parameter is enabled if "application" was selected in InstallType. Select one of:
	typical installation
	custom installation
	full functionality installation
Related functionality	Common
Valid settings	typical [Typical installation]
	custom [[Custom installation]
	full [Full functionality installation]
Default value	typical
Remarks	If the custom installation was specified, select the functionality that is to be installed using the "FN_functionality name" parameter. If the "FN_functionality name" parameter does not exist, or all the settings are "N", only the mandatory functionality will be installed.

4.3.1.3.3 SecurityMode

Content	Set the security mode.

Related functionality	Common
Valid settings	secure [secure mode]
	compatible [Compatibility mode]
Default value	secure
Remarks	

4.3.1.3.4 SecurityGroup

Content	Set the Interstage operator group name. This parameter is enabled if "secure" was set in SecurityMode.
Related functionality	Common
Valid settings	Group name
Default value	root
Remarks	The group that is set in this parameter must be created before the silent installation is performed.

4.3.1.3.5 JavaSEKind

Content	Set the Java SE type (JDK or JRE) that is to be installed.
Related functionality	Java SE 6
	Java SE 7
Valid settings	JDK
	JRE
Default value	JDK
Remarks	If Java EE 5 or Java EE 6 has been selected, JDK will be installed regardless of the setting of this parameter.

4.3.1.3.6 JavaEE5HTTPListenerPort

Content	Set the HTTP listener port to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Numeric (1-65535)
Default value	28080
Remarks	To install the web server connector, specify a range between 5001 and 65535.

4.3.1.3.7 JavaEE5AdminListenerPort

Content	Set the operation management HTTP listener port to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	12001
Remarks	

4.3.1.3.8 JavaEE5IiopPort

Content	Set the IIOP port to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	23600
Remarks	

4.3.1.3.9 JavaEE5IiopSSLPort

Content	Set the IIOP_SSL port to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	23601
Remarks	

4.3.1.3.10 JavaEE5IiopMutualauthPort

Content	Set the IIOP_MUTUALAUTH port to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	23602
Remarks	

4.3.1.3.11 JavaEE5JmxAdminPort

Content	Set the JMX_ADMIN port to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	8686
Remarks	

4.3.1.3.12 JavaEE5CommonDirectory

Content	Set the path of the Java EE 5 common directory to be used in Java EE 5.
Related functionality	Java EE 5
Valid settings	Path string (absolute path) To specify a path other than the default value, specify a directory that does not exist, or an empty directory that does not contain files or subdirectories. In either case, however, a parent directory must exist. Symbolic links cannot be specified.

	Paths that contain blank spaces or tabs cannot be specified.
Default value	/var/opt/FJSVisjee
Remarks	

4.3.1.3.13 JavaEE5AdminSSL

Content	Set the Java EE Admin Console security operating mode (when SSL encrypted communication is used). To use SSL encrypted communication, set "Y". If you do not want to use SSL encrypted communication, set "N".
Related functionality	Java EE 5
Valid settings	Y N
Default value	Y
Remarks	

4.3.1.3.14 JavaEE6JdkVersion

Content	Set the JDK version to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	JDK6 JDK7
Default value	JDK7
Remarks	This parameter is enabled if both Java SE 6 and Java SE 7 are installed.

4.3.1.3.15 JavaEE6AdminUser

Content	Set the administrator user ID to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	String (up to 255 characters) * Note that in addition to alphanumeric characters, it can also contain: _ (underscore) - (hyphen) . (period)
Default value	admin
Remarks	-

4.3.1.3.16 JavaEE6AdminPassword

Content	Set the administrator password to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	String (up to 20 characters) * Note that in addition to alphanumeric characters, it can also contain: _ (underscore) - (hyphen)

	. (period)
	@ (at sign)
	+ (plus sign)
Default value	None.
Remarks	You must configure this setting when installing Java EE 6.
	You must also take care how you handle the installation parameter CSV file that sets this parameter, since it is sensitive information.
	Note that when performing silent installation, you cannot use " ' " (apostrophe) in this parameter.

4.3.1.3.17 JavaEE6DomainAdminPort

Content	Set the "Operation Management HTTP Listener Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	12011
Remarks	-

4.3.1.3.18 JavaEE6HttpListenerPort

Content	Set the "HTTP Listener Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	28282
Remarks	-

4.3.1.3.19 JavaEE6HttpsListenerPort

Content	Set the "HTTPS Listener Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	* The specified port cannot be already in use.
Default value	28383
Remarks	-

4.3.1.3.20 JavaEE6IiopPort

Content	Set the "IIOP Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	23610

Remarks	-

4.3.1.3.21 JavaEE6IiopSSLPort

Content	Set the "IIOP_SSL Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	23611
Remarks	-

4.3.1.3.22 JavaEE6IiopMutualauthPort

Content	Set the "IIOP_MUTUALAUTH Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	23612
Remarks	-

4.3.1.3.23 JavaEE6JmxAdminPort

Content	Set the "JMX_ADMIN Port" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Numeric (1-65535)
	Note: The specified value cannot be the same as another port number.
Default value	18686
Remarks	-

4.3.1.3.24 JavaEE6CommonDirectory

Content	Set the path of the "Java EE Common Directory" to be used in Java EE 6.
Related functionality	Java EE 6
Valid settings	Path string (absolute path)
	To specify a path other than the default value, specify a directory that does not exist, or an empty directory that does not contain files or subdirectories. In either case, however, a parent directory must exist.
	You cannot specify "/" (the root directory).
Default value	/var/opt/FJSVisje6
Remarks	-

4.3.1.3.25 CorbaPort

Enterprise Edition

Content	Set the CORBA service port number.

Related functionality	Multilanguage Service Basic Functionality
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number. Additionally, port numbers registered in services other than "odserver" in "/etc/services" cannot be specified.
Default value	8002
Remarks	

Standard-J Edition

Content	Set the Interstage service port number.
Related functionality	Interstage Management Console, J2EE Compatibility
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number. Additionally, port numbers registered in services other than "odserver" in "/etc/services" cannot be specified.
Default value	8002
Remarks	

4.3.1.3.26 HostName

Content	Set the host name.
Related functionality	Interstage Management Console, web server
Valid settings	Host name
Default value	The value returned in uname -n is set as the default value.
Remarks	

4.3.1.3.27 MngConsolePort

Content	Set the port number to be used with the Interstage Management Console.
Related functionality	Interstage Management Console
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	12000
Remarks	

4.3.1.3.28 MngConsoleSSL

Content	Set whether to use SSL encrypted communication in the Interstage Management Console. To use SSL encrypted communication, set "Y". If you do not want to use SSL encrypted communication, set "N".
Related functionality	Interstage Management Console
Valid settings	Y N
Default value	Y
Remarks	

4.3.1.3.29 MngConsoleMessageManual

Content	Set whether to install the Message Manual that is used with the Interstage Management Console. To install the Message Manual, specify "Y". If you do not want to install the Message Manual, specify "N".
Related functionality	Interstage Management Console
Valid settings	Y N
Default value	Y
Remarks	

4.3.1.3.30 WebServerPort

Content	Set the port number to be used with Web Server (Interstage HTTP Server).
Related functionality	Web Server (Interstage HTTP Server)
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	80
Remarks	During installation of application server features (Server type), if you are installing Web Server (Interstage HTTP Server) and Web Server (Interstage HTTP Server 2.2) at the same time, you must change one of their port numbers, because their default values are identical.

4.3.1.3.31 WebServer22Port

Content	Set the port number to be used with Web Server (Interstage HTTP Server 2.2).
Related functionality	Web Server (Interstage HTTP Server 2.2)
Valid settings	Numeric (1-65535) Note: The specified value cannot be the same as another port number.
Default value	80
Remarks	During installation of application server features (Server type), if you are installing Web Server (Interstage HTTP Server) and Web Server (Interstage HTTP Server 2.2) at the same time, you must change one of their port numbers, because their default values are identical.

4.3.1.3.32 FN_functionality name

Content	Set whether to install the corresponding functionality. This parameter is enabled if "custom" was set in the InstallType parameter.
Related functionality	Common
Valid settings	Y N
Default value	N
Remarks	For details on the parameter names, refer to 4.3.1.2.3 Parameters Section (for Selecting the Functionality)".

4.3.1.4 Notes on Settings

This section explains the settings that are required when the installation parameter CSV file is created.

In the installation parameter CSV file, even if valid values have been set for each parameter, depending on the combination of functionality selected or runtime environment, note that the settings may not become enabled, or the silent installation, or environment build or operation after that, may fail.

4.3.1.4.1 All Parameters

When setting a parameter that has nothing to do with the installation functionality, appropriate values must be set so that basic checks, such as the range for strings and numerics that can be entered, for example, are performed. However, this has no impact on the installation.

4.3.1.4.2 JavaSEKind

If Java EE or Java EE 6 is installed, JRE will be ignored even if it is specified, and JDK will be installed.

4.3.1.4.3 JavaEE5HttpListenerPort

The valid range of port numbers when the web server connector (for Interstage HTTP Server) is installed at the same time is 5001-65535 (normally, this is 1-65535). However, if a value of less than 5001 was set in the corresponding condition, the silent installation will succeed, but the Java EE 5 functionality environment build or operation will fail.

4.3.1.4.4 CorbaPort

If the port number that was specified has been registered in a service other than "odserver" in "/etc/services", the execution of the installation will fail. If the corresponding service is not being used, edit "/etc/services" by commenting out the settings of the service, for example.

4.3.2 Execute the Silent Installation

This section explains how to execute the silent installation.

4.3.2.1 Pre-installation Tasks

On the machine that is used to perform the silent installation, ensure that "4.1 Pre-installation Preparation" has been performed.

Additionally, check the content of the installation parameter CSV file that is to be used, check whether the settings apply in 4.3.1.4 Notes on Settings and then store the installation parameter CSV file in any folder.

4.3.2.2 Perform the Installation

Set the server package DVD in the DVD-ROM drive, and then execute the install.sh shell. Note that this operation must be performed as a super user.

```
# su -<RETURN>
# mount -t iso9660 -r /dev/<device file name>  <DVD-ROM mount directory><RETURN>
# <DVD-ROM mount directory>/install.sh -s <Installation parameter CSV file>
```

Note

- If the shell was executed after specifying the "-c" option instead of the "-s" option, the installation information (the packages to be installed and various settings information) is output without the installation being performed. Firstly, it is recommended that you check the installation information with the "-c" option before performing the actual installation.

- For details on the points that should be noted when mounting the server package DVD, refer to 3.5 How to Mount the Product Media (DVD-ROM)

4.3.2.3 Check the Installation Results

Check the content that is displayed when installing this product.

An explanation of each return value is shown below.

Return value	Description	Action
0	The installation completed normally.	
3	Installation of part of a package or setup has failed.	The package was partially installed, therefore it cannot operate normally. Uninstall the package that was installed, remove the cause of the error that was displayed, and then re-execute the installation.
5	There was a problem in the runtime environment or in the method of execution, therefore the installation was aborted.	Possible causes are as shown below Remove the cause of the error and then re-execute the installation. The operating system is unsupported The execution was performed by a user other than a root user
6	There was a problem in this product, which has already been installed, or in the status of a related product, therefore the installation was aborted.	Possible causes are as shown below. Remove the cause of the error and then re-execute the installation. The service is starting Another edition of this product, or a product that cannot be installed with this one, has been installed.
7	There was no functionality to be installed, therefore the installation was aborted.	Check the installed package and installation parameter CSV file settings to find out whether the functionality that was specified has all been installed.
10	The package installation failed, therefore the installation was aborted.	The installation of the package failed, however the system has not been changed. Remove the cause of the error that was displayed, and then re-execute the installation.
20	The command argument is invalid.	Execute using the correct argument.
21	Failed to read the installation parameter CSV file.	Check the path of the installation parameter CSV file that was specified in the argument.
22	The content that was set in the installation parameter CSV file is invalid.	Check the settings of the parameter that was displayed.
23	Failed to parse the installation parameter CSV file.	The content and/or format, that was defined in the installation parameter CSV file is invalid. Check the installation parameter CSV file.
30 or other numbers	System error	Investigate according to the error message that was displayed. If the cause is unknown, collect the following information, and then contact Fujitsu technical support: Installation parameter CSV file Error message that was displayed Installer log file FJSVcir log file

Note

- The installer log file is normally output to "/var/opt/FJSVisas/interstage_install.log". However, if an error has occurred in the installer, it may sometimes be output to "/tmp/interstage_install.log", depending on the timing of the error.

- The FJSVcir (CIRuntime Application) log file is output under "/var/opt/FJSVcir/cir/logs".

4.4 If an Error Message is Displayed During Installation

4.4.1 Notes on Handling Servlet Service Error Messages Output when the Web Package is Installed

This section describes how to recover from the following Servlet Service error message, which may be generated when the Web Package is installed.

Could not make the Servlet Service environment default settings.

This error indicates that the initialization settings for running an IJServer and the Web server on separate servers could not be made.

If necessary, on the server machine used for the IJServer and on the server used for the Web server, from the Interstage Management Console of each, click [System] > [Settings] > [Update System Settings] > [Servlet Service Settings] > [Run Web server and WorkUnit on the same machine?] > [No].

4.4.2 Action to take if an Error Message is Output when the Java EE Function is Installed

This section explains the action to take if the message below is output and the Java EE function is installed:

ijinit: ERROR: Message that starts with ISJEE_IJINIT

ijinit failed.

If any of the above messages is output during installation, then complete the installation and execute the *ijinit* command. For details on the *ijinit* command, refer to the Java EE Operator's Guide.

Moreover, set the security authority by executing the *issetsecuritymode* command after executing the *ijinit* command (for details, refer to the Reference Manual (Command Edition)). You must select the same security mode that was selected during installation.

4.4.3 Messages with the ID IJ6INIT

If a message with IJ6INIT ID is output during installation, follow the action advised in it to remove the cause of the error, and then perform installation again.

4.5 Post-installation

This section explains the following aspects of post-installation:

4.5.1 Environment Variable Settings

Set the environment variables required for operating Interstage.

In Interstage, the following shell scripts are offered as support tools for setting the environment variables.

  - /opt/FJSVisas/bin/setISASEnv.sh

  - /opt/FJSVisas/bin/setISASEnv.csh

The methods for setting environment variables using the support tool are shown below.

Bourne shell or bash method

This method uses the "*dot*" command to execute setISASEnv.sh in each machine used for operating.

```
. /opt/FJSVisas/bin/setISASEnv.sh
```

C shell method

This method uses the *source* command to execute setISASEnv.csh in each machine used for operating.

```
source /opt/FJSVisas/bin/setISASEnv.csh
```

4.5.2 Setting up the Port Number of the Web Server

If the port number of the following web servers is installed using the default value (80), that same port number will be configured for the Apache HTTP Server (Apache HTTP Server bundled with the basic software).

- Interstage HTTP Server (web server based on Apache HTTP Server Version 2.0)

- Interstage HTTP Server 2.2 (web server based on Apache HTTP Server Version 2.2)

If the web servers are being operated alongside each other, you must set different port numbers for each of them.

Depending on the web server usage conditions, refer to the table below and perform the required action:

Web Server Usage Conditions	Action		
	Interstage HTTP Server	Interstage HTTP Server 2.2	Apache HTTP Server
If using Interstage HTTP Server as the normal web server (port number: 80)	No action required	Action 2	Action 3
If using Interstage HTTP Server 2.2 as the normal web server (port number: 80)	Action 1	No action required	Action 3
If using Apache HTTP Server as the normal web server (port number: 80)	Action 1	Action 2	No action required
If using a web server not listed above as the normal web server (port number: 80)	Action 1	Action 2	Action 3

Action 1

    Edit the environment definition file (httpd.conf) of the Interstage HTTP Server

Action 2

    Edit the environment definition file (httpd.conf) of the Interstage HTTP Server 2.2

Action 3

    Edit the Apache HTTP Server file below - change Listen Directive to a number between 1 and 65535 (excluding 80):

```
/etc/httpd/conf/httpd.conf
```

4.5.3 Checking the Certificate Fingerprint for Interstage Java EE Admin Console SSL Encrypted Communication

If "Use SSL encryption" was selected during Interstage installation, an Interstage certificate is generated for Interstage Java EE Admin Console SSL encrypted communication. To ensure that connection from the web browser to the Interstage Java EE Admin Console is correct, check the generated certificate's fingerprint as described below.

If "Do not to use SSL encryption" was selected, the certificate is not generated, and this check is unnecessary.

To check the certificate fingerprint, execute the following:

```
cd [Java EE common directory]/domains/interstage/config
[JDK directory]/bin/keytool -list -keystore keystore.jks -alias s1as -storepass changeit -v
```

The certificate fingerprint is displayed as follows:

```
MD5:  0B:CD:73:56:9F:6B:68:1D:69:3D:FC:3F:75:D7:80:3C
SHA1: 60:7B:C5:85:E0:F5:70:41:00:94:D2:D8:D7:43:3D:29:DC:D2:6A:08
```

Record the fingerprint that is output.

This Interstage certificate is generated automatically by the product to activate SSL encryption of communication between the Interstage Java EE Admin Console and the web browser immediately following installation. For enhanced security, certificates issued by a CA can be used. For details on how to switch to using CA certificates, refer to "Java EE Application Security Functionality", "SSL" in the "Java EE Function Security" chapter of the Java EE Operator's Guide.

4.5.4 Checking the Certificate Fingerprint for Interstage Management Console SSL Encrypted Communication

If "Use SSL encryption" was selected during Interstage installation, an Interstage certificate is generated for Interstage Management Console SSL encrypted communication. To check that connection from the Web browser to the Interstage Management Console is correct, check the generated certificate's fingerprint as described below.

If "Do not to use SSL encryption" was selected, the certificate is not generated, and this check is unnecessary.

To check the certificate fingerprint, execute the following:

```
cd [SSL environment settings command storage destination]
cmdspcert -ed /etc/opt/FJSVisgui/cert -nn SSLCERT | grep FINGERPRINT
```

For details on the command storage destinations and other details, refer to "cmdspcert" in the "SSL Environment Setting Commands" chapter of the Reference Manual (Command Edition).

The certificate fingerprint is displayed as follows:

```
FINGERPRINT(MD5):    40 79 98 2F 37 12 31 7C AE E7 B4 AB 78 C8 A2 28
FINGERPRINT(SHA1):   07 28 BE 26 94 89 6D F9 ... <(20 bytes of data are displayed in hexadecimal
notation.)
FINGERPRINT(SHA256): F7 16 00 6E A1 6E A2 14 ... <(32 bytes of data are displayed in hexadecimal
notation.)
```

Record the fingerprint that is output.

This Interstage certificate is generated automatically by the product to activate SSL encryption of communication between the Interstage Management Console and the web browser immediately following installation. For enhanced security, certificates issued by a CA can be used. For details on how to switch to using CA certificates, refer to "Customizing SSL Encrypted Communication for the Interstage Management Console" in the "Security" chapter of the Operator's Guide.

4.5.5 Setting up Web Applications Quickly Using ijsmartsetup

The *ijsmartsetup* command is provided so that you can quickly start using web applications that are Java EE 5 compatible, even without knowledge of this product. For details, refer to "ijsmartsetup" in the "Java EE Operation Commands" chapter of the Java EE Operator's Guide.

Chapter 5 Notes on Specific Features

This section contains notes about the following topics:

5.1 Notes on Using JDK/JRE

Characters recommended for the host name

Use the following characters for the host name:

- Uppercase (A to Z)

- Lowercase (a to z)

- Numbers (0 to 9) (*1)

- Hyphens ("-") (*2)

- Periods (".") (*2)

*1 Numbers cannot be used after the last periods of the host name.

*2 Hyphens and periods cannot be used as the first character of the host name. Periods cannot be specified after the host name.

Characters used in the host name must not violate RFC2396.

In the javax.management.remote.JMXServiceURL class that was added from JDK/JRE 5.0, the host names that can be specified follow RFC2609. RFC2609 has the constraint that periods (".") cannot be specified after the host name for RFC2396.

If JDK/JRE is used, underscores ("_") cannot be used in the host name.

If non-recommended characters such as underscores are used in the host name, the installation processing period is extended and an error dialog informing you that the Interstage Operation Tool service failed to start is displayed at the time of installation.

Although installation processing continues after the error dialog is displayed, an error dialog informing you that the creation of the IJServer failed.

After the installation is complete, and you log in to the Interstage Management Console, the following message is output, and Interstage operations cannot be executed.

IS: ERROR: is40003: Could not connect to Interstage JMX service

If an error is displayed because non-recommended characters were used in the host name, refer to "Characters recommended for the host name" above, and modify the host name.

Java Monitoring

JDK must be installed to use Java monitoring.

5.2 Notes on Using Interstage Data Store

- About the Registration of the oms Account

    When Interstage data store is installed, the oms account will be automatically registered if it does not already exist.

    The oms account must exist, otherwise Interstage data store will not start.

- Port Numbers

    The initial value of the port number used by Interstage data store services is [9700].

    To change the initial value of the port number used by Interstage data store services, change it to a number that is not being used by another application or Interstage data store using the *omschangeport* command as follows:

```
/opt/FJSVena/Enabler/server/bin/omschangeport -u "New port number"
```

To change the port number used by Interstage data store services, first stop the Interstage data store services by executing the following command:

```
/opt/FJSVena/Enabler/server/bin/enablerstop
```

The port number can also be changed while the Interstage data store services are running. To do this, the following conditions must be met:

- The Interstage Directory Service repository must not be running

The port number used by the Interstage data store service is defined in the file below.

The value defined in "OMS_SERVICE=" is the port number used by the Interstage data store service.

```
/opt/FJSVena/Enabler/server/param/enabler.conf
```

The initial value of the port number used by the repository is a number from 6000 to 65535 that was not being used when the repository was generated. To change the initial port number used by the repository, change it to a number that is not being used by another application or Interstage data store using the *omschangeport* command as follows:

```
/opt/FJSVena/Enabler/server/bin/omschangeport "Repository name" -pn "New port number"
```

Use the *omslist* command as shown below to check the port number used by the Interstage data store:

```
/opt/FJSVena/Enabler/server/bin/omslist
```

Output from omslist **Command**

```
[Example]
-----------------------------------------
rep001:    server=host01    port=6000    XF
rep002:    server=host01    port=6001    XF
-----------------------------------------
```

The "port" value is the port number used by the Interstage data store.

- Using the script command in oms account login processing

If the script command is executed in the oms account login shell, then the Interstage data store service will not start when the OS starts up. The script command must not be executed in the oms account login shell.

5.3 Notes on Using Web Server (Interstage HTTP Server)

The Web server operating environment is not created immediately after Admin Server function installation. If you need to run a Web server on a system in which the Admin Server function is installed, create the Web server operating environment using the *ihscreate* command. For details, refer to the "Interstage HTTP Server Operation Commands" chapter of the Reference Manual (Command Edition).

Chapter 6 Uninstallation Procedure

6.1 Pre-uninstallation

Essential Tasks before Beginning Uninstallation

- Close any applications that are running.

- Check if any repositories of Interstage Directory Service are running by using the [System] > [Services] > [Repository], [Repository: View Status] page in the Interstage Management Console. Stop any running repositories.

  Back up the repositories if necessary, and then delete all repositories. For details on backing up repositories, refer to "Backing up and Restoring Interstage Directory Service" in the "Operating and Maintaining Repositories" chapter of the Directory Service Operator's Guide.

  Additionally, save any required files from the following directories

  - /opt/FJSVirep

  - /etc/opt/FJSVirep

  - /var/opt/FJSVirep

  - /opt/FJSVirepc

  - /var/opt/FJSVirepc

- If Interstage and Systemwalker Centric Manager Operation Management Server have been installed on the same server, stop all Systemwalker Centric Manager functions. For details of the stop method, refer to the Systemwalker Centric Manager manual.

- If the Provisioning feature (Systemwalker Resource Coordinator Linkage) has been used, clear the registration for linkage with Systemwalker Resource Coordinator using the *isunregistrc* command (for details on this command, refer to the Reference Manual (Command Edition)). (x86 Enterprise Edition only)

  Note

  - For details on how to stop the various services provided by Java EE, refer to the Java EE Operator's Guide.

  - For details on how to stop the various services provided by Java EE 6, refer to the Java EE Operator's Guide (Java EE 6 Edition).

Pre-uninstallation Preparations

- If FJSVots has been installed, delete the Database Linkage Service operating environment.

```
isstop
IS_CMD_LOCK=off;export IS_CMD_LOCK (*1)
otssetup -d (*2)
```

  *1 Only required if initialized with the Interstage integration command. This environment variable should be set only during this operation.

  *2 When this command is executed, the CORBA service and naming service must already be running.

- Before beginning uninstallation of the Interstage Application Server "Server Package", stop all services and applications of Interstage Application Server by executing the following commands:

```
# isstop -f
# /opt/FJSVihs/bin/ihsstop -all
# tdunsetup
# /opt/FJSVisgui/bin/S99isstartoptool stop
# /opt/FJSVisjmx/bin/isjmxstop
# /opt/FJSVjs2su/bin/jssvstop
```

- When installing FJSVisjee, stop all services for Java EE 5 features.

  1. Stop Interstage Java EE Node Agent services.

  ```
  /opt/FJSVisjee/bin/ijnastop
  ```

  2. Stop Interstage Java EE DAS services.

  ```
  /opt/FJSVisjee/bin/ijdasstop
  ```

  3. If a message broker is running, then stop it.

  ```
  /opt/FJSVisjee/imq/bin/imqcmd shutdown bkr -b <host>:<port>
  ```

  4. If Java DB is running in a client/server environment, then stop it.

  ```
  /opt/FJSVisjee/bin/asadmin stop-database --dbhost <host> --dbport <port>
  ```

  If you are running the Java DB in an embedded environment, you must also stop the Java VM used by the Java DB.

Note

- For details on how to stop Java EE 5 services, refer to the Java EE Operator's Guide.

- Uninstallation will proceed even if Java DB is running, in which case files in /opt/FJSVisjee/javadb might not be deleted. If this happens, restart the system, execute "6.3 Tasks to Perform After Uninstallation", and delete the remaining files. Additionally, delete files in the Java DB system directory if necessary.

- When installing FJSVisje6, stop all services for Java EE 6 features.

  1. Stop Interstage Java EE 6 DAS services.

  ```
  /opt/FJSVisje6/glassfish/bin/asadmin stop-domain
  ```

  2. If a message broker is running, then stop it.

  ```
  /opt/FJSVisje6/mq/bin/imqcmd shutdown bkr -b <host>:<port>
  ```

  3. If Java DB is running in a client/server environment, then stop it.

  ```
  /opt/FJSVisje6/glassfish/bin/asadmin stop-database --dbhost <host> --dbport <port>
  ```

  If you are running the Java DB in an embedded environment, you must also stop the Java VM used by the Java DB.

  4. Run the RC script to stop the PCMI services.

  ```
  /var/opt/FJSVisje6/pcmi/isje6/FJSVpcmi stop
  ```

Note

- When using a Java EE 6 command, specify its full path. For details, refer to "Java EE 6 Operation Commands" in the Java EE Operation Guide (Java EE 6 Edition).

- Uninstallation will proceed even if Java DB is running, in which case files in /opt/FJSVisje6/javadb might not be deleted. If this happens, restart the system, perform "6.3 Tasks to Perform After Uninstallation", and delete the remaining files. Additionally, delete files in the Java DB system directory if necessary.

- Environment definition files and log files are deleted during uninstallation - back them up before uninstallation if necessary.

6.2 Uninstallation

The following methods are available for uninstalling the Interstage Application Server "Server Package". Select the appropriate uninstallation method for your system. In normal cases, it is recommended that the uninstallation is executed using the uninstall.sh shell.

- 6.2.1 Uninstalling from [Uninstall (middleware)]

This is the uninstall method using uninstall.sh.

Note

- As shown below, to continue using functionality that is used in other products, the uninstall.sh shell should be used to uninstall the Server Package so that functionality that is still required is not also removed.

    - CORBA Service can also be used in the following products. If these products are installed, do not uninstall CORBA Service.

        - Systemwalker Centric Manager operation Admin Server

    - The Interstage Directory Service Software Development Kit may be in use by other products. For this reason, do not uninstall it.

6.2.1 Uninstalling from [Uninstall (middleware)]

This section explains the procedure to uninstall Interstage from "Uninstall (middleware)".

Note that, if Interstage is uninstalled from "Uninstall (middleware)", all the packages that were installed using Interstage will be removed.

1. Become a superuser on the system.

```
# su <RETURN>
```

2. Execute the following command:

```
# /opt/FJSVcir/cimanager.sh -c
```

3. "Uninstall (middleware)" starts, and the names of products that are already installed are displayed.

    Type the number for the corresponding product.

```
Loading Uninstaller...


Currently installed products
1. Interstage Application Server Enterprise Edition  V11.1.0

Type [number] to select the software you want to uninstall.
[number,q]
=>1
```

4. Details about the product that was selected are displayed. To continue, type **y**.

    To return to the previous information, type **b**. To cancel, type **q**.

```
Interstage Application Server Enterprise Edition
    Description: Interstage Application Server Enterprise Edition
    Version: V11.1.0
    Manufacturer: Fujitsu Limited.
    Install directory: /opt/FJSVisas
    Date of install: 2013-8-9



Starting the uninstall of the software. Are you sure you want to continue?
[y,b,q]
=>y
```

5. If the uninstallation was successful, the following content will be displayed:

```
Uninstalling...

Interstage Application Server Enterprise Edition is being uninstalled now.
    100% ############################


The following products have been uninstalled successfully:
    Interstage Application Server Enterprise Edition


Exiting Uninstaller.
```

6. Reboot the system.

```
# cd / <RETURN>
# /usr/sbin/shutdown -y -i6 -g0 <RETURN>
```

6.2.2 Uninstallation Using uninstall.sh

To change the functionality that is used, or to uninstall Interstage so that packages used in other products are not removed, the use of uninstall.sh makes it possible to uninstall only the package that was selected.

Uninstallation of the Interstage Application Server "Server Package" must be performed by a superuser.

Uninstallation of the Server Package is performed using the following procedures.

1. Execute uninstall.sh

   Execute uninstall.sh.

   ```
   # /opt/FJSVisas/uninstall/uninstall.sh <RETURN>
   ```

   Perform the uninstallation answering the uninstall.sh prompts.

   Note

   FJSVisas and FJSVisco are packages required for maintenance and problem investigation, so do not remove them if you decide to leave any packages (they should only be removed after all packages have been deleted). In particular, if FJSVisas was removed, the product information that is registered in uninstall.sh and "Uninstall (middleware)" will be deleted.

   This step should only be performed when you want to ensure that packages used in other products are not removed.

2. System Reboot

   When the uninstallation process has been completed, the following message is displayed.

   ```
   Uninstallation of "Interstage Application Server" has ended.
   ```

   Reboot the system.

   ```
   #cd / <RETURN>
   #shutdown -r now <RETURN>
   ```

6.3 Tasks to Perform After Uninstallation

6.3.1 Directory Deletion

There may be cases where files or folders that should have been deleted still remain. If this happens, delete the following directories (back them up beforehand, if necessary):

- /opt/FJSVod

- /etc/opt/FJSVod

- /var/opt/FJSVod

- /opt/FJSVisas

- /etc/opt/FJSVisas

- /var/opt/FJSVisas

- /opt/FJSVtd

- /etc/opt/FJSVtd

- /var/opt/FJSVtd

- /opt/FJSVisgui

- /etc/opt/FJSVisgui

- /var/opt/FJSVisgui

- /var/opt/FJSVisjmx

- /opt/FJSVihs

- /etc/opt/FJSVihs

- /var/opt/FJSVihs

- /opt/FJSVj2ee

- /etc/opt/FJSVj2ee

- /var/opt/FJSVj2ee

START:"X64"

- J2EE common directory

END:"X64"

- /opt/FJSVjs2su

- /etc/opt/FJSVjs2su

- /var/opt/FJSVjs2su

- /opt/FJSVisjee

- /etc/opt/FJSVisjee

- /var/opt/FJSVisjee

- /opt/FJSVejb

- /etc/opt/FJSVejb

- /var/opt/FJSVejb

- orb.properties (only when using Java)

- /opt/FJSVirepc

- /var/opt/FJSVirepc

- /opt/FJSVjms

- /var/opt/FJSVjms

- /etc/opt/FJSVjms

- /opt/FJSVirep

- /etc/opt/FJSVirep

- /var/opt/FJSVirep

- /opt/FJSVispw

- /etc/opt/FJSVispw

- /var/opt/FJSVispw

- /opt/FJSVextp

- /etc/opt/FJSVextp

- /var/opt/FJSVextp

- /opt/FJSVawjbk

To reinstall this product and reuse the MQD system, delete the following directories:

- Directories under /opt/FJSVmqd (except for /opt/FJSVmqd/mqd)

If you do not want to reuse the MQD system, delete the following directories:

- /opt/FJSVmqd

- /opt/FJSVssocm

- /var/opt/FJSVssocm

- /opt/FJSVssoaz

- /etc/opt/FJSVssoaz

- /var/opt/FJSVssoaz

- /opt/FJSVssoac

- /etc/opt/FJSVssoac

- /var/opt/FJSVssoac

- /opt/FJSVssofs

- /etc/opt/FJSVssofs

- /var/opt/FJSVssofs

- /opt/FJSVssosv

- /etc/opt/FJSVssosv

- /var/opt/FJSVssosv

- /opt/FJSVena

- /var/opt/FJSVena

- /opt/FJSVisje6

- /etc/opt/FJSVisje6

- /var/opt/FJSVisje6

- /opt/FJSVisscs

- /etc/opt/FJSVisscs

- /var/opt/FJSVisscs

6.3.2 Tasks required if the Interstage data store has been uninstalled

If the oms account is not registered in the system, then Interstage data store registers it during installation. After Interstage data store uninstallation, delete the oms account if no longer required.

6.3.3 Tasks required if the process continuity management infrastructure has been uninstalled

Delete the following files if they are not deleted during uninstallation.

- /etc/rc.d/init.d/FJSVpcmiisje6

- /etc/rc.d/rc2.d/S99FJSVpcmiisje6

- /etc/rc.d/rc3.d/S99FJSVpcmiisje6

- /etc/rc.d/rc4.d/S99FJSVpcmiisje6

- /etc/rc.d/rc5.d/S99FJSVpcmiisje6

- /etc/rc.d/rc0.d/K00FJSVpcmiisje6

- /etc/rc.d/rc1.d/K00FJSVpcmiisje6

- /etc/rc.d/rc6.d/K00FJSVpcmiisje6

6.4 Notes

This section contains notes on the following topics:

- 6.4.1 Notes about Uninstalling CORBA Service

- 6.4.2 Notes about Uninstalling FJSVsmee and FJSVsclr

6.4.1 Notes about Uninstalling CORBA Service

The CORBA Service included in Interstage is also used by the following products. If CORBA Service is used by another product, do not uninstall it.

- Systemwalker Centric Manager operation Admin Server

6.4.2 Notes about Uninstalling FJSVsmee and FJSVsclr

The FJSVsmee and FJSVsclr packages may be included in Fujitsu non-Interstage products such as Systemwalker Centric Manager. If a product containing the FJSVsmee and FJSVsclr packages is installed on the server machine from which Interstage is to be uninstalled, do not select FJSVsmee and FJSVsclr when Interstage is uninstalled.

Appendix A Installing/Uninstalling Interstage Directory Service Software Development Kit

This appendix describes the procedure for installing and uninstalling Interstage Directory Service Software Development Kit ("Interstage Directory Service SDK").

If Directory linkage is used in the functions used in Web Package, Interstage Directory Service SDK must be installed according to the procedure described in this chapter.

Execute the procedure described in this chapter with superuser authority.

- A.1 Installing Interstage Directory Service SDK

- A.2 Uninstalling Interstage Directory Service SDK

A.1 Installing Interstage Directory Service SDK

Check that the installation is not affected by other user operations, and then perform the installation in multi user mode.

1. Mount the DVD-ROM of the server package.

```
# mount /media/cdrom<RETURN>
```

2. Specify FJSVirepc package on the DVD-ROM of the server package, and execute rpm.

```
rpm -ivh /media/cdrom/RPMS/<os>/<FJSVirepc package><RETURN>
```

Note: The name of the FJSVirepc package is "FJSVirepc-<version>-<release number>.<architecture>.rpm".

3. If you specify to install the FJSVirepc package, the following menu will be displayed.

```
Preparing...                ######################################### [100%]
   1:FJSVirepc               ######################################### [100%]
```

4. Unmount the DVD-ROM.

```
# umount /media/cdrom<RETURN>
```

A.2 Uninstalling Interstage Directory Service SDK

Check that the uninstall process is not affected by other user operations, and then uninstall the Interstage Directory Service SDK in multi user mode.

1. Use rpm(8) to uninstall the Interstage Directory Service SDK (FJSVirepc).

```
# rpm -e FJSVirepc<RETURN>
```

Appendix B Secure Operation from the Interstage Java EE Admin Console/Interstage Management Console

The Interstage Java EE Admin Console/Interstage Management Console integrates the operation view for Interstage Application Server services to allow centralized control.

The information in this chapter is for secure operation from the Interstage Java EE Admin Console/Interstage Management Console of Standalone Server standard installations.

For details on the Interstage Java EE Admin Console, refer to the Java EE Operator's Guide.

For details on the Interstage Management Console, refer to "Login Authentication for the Interstage Management Console" in the "Configuring the Interstage Management Console" chapter of the Operator's Guide.

The following four configuration items must be set to ensure secure operation from the Interstage Java EE Admin Console/Interstage Management Console on a Standalone Server standard installation:

- Place a "No Entry" system applications section on the machine used for installing Interstage to keep out non-trusted users.

- Disable all remote login services to the OS.

- During installation, when the "Interstage Java EE Admin Console Settings"/"Interstage Management Console Settings" dialog is displayed, select [Use SSL encryption].

- Limit users of the Interstage Management Console to those who have responsibility imposed by a role, and those who will not act dishonestly. For details on roles, refer to the Operator's Guide.

- Limit users of the Interstage Java EE Admin Console to those who have responsibility, and those who will not act dishonestly. For details, refer to the Java EE Operator's Guide.