



Interstage Application Server

V7.0

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Fujitsu Limited

First Edition (March 2005)

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Interstage Application Server Plus
Interstage Application Server Enterprise Edition

Preface

Purpose of this Document

This manual provides additional information on the use of Interstage Application Server

Note

Throughout this manual Interstage Application Server is referred to as Interstage.

Who Should Read this Document?

This document is intended for users installing and operating Interstage Application Server.

It is assumed that readers of this manual have a basic knowledge of:

- The Internet
- Apache

Windows

- Windows NT®, Windows® 2000 and Windows 2003™ Server

Solaris OE

- UNIX

Linux

- Linux

Organization of this Document

This document is organized as follows:

- *Chapter 1 - Supported Software*

This chapter describes the supported software for application development and application execution. It also describes the client-side software products required to use client applications.

- *Chapter 2 - Restrictions*

This chapter describes the restrictions on some Interstage functions.

- *Chapter 3 - Notes on Interstage Operation*

This chapter provides notes about the operation of Interstage.

Functions that are not Supported by the Linux Version

The following functions are not supported by the Linux version. To use those functions, use the Windows version or Solaris™ Operating Environment version.

- Multi System (available only in the Solaris™ Operating Environment version)
- Cluster System
- Web Server (InfoProvider Pro)
- HTML Page Editing Service
- ebXML Message Service
- MessageQueueDirector
- MQ Communication Service
- InfoDirectory
- COBOL Web Subroutine
- COBOL/OOCOBOL development and execution environment (available on the Windows client)
- Firewall linkage function (proxy linkage and HTTP tunneling) and SSL linkage function of CORBA applications
- SMEE2 library (The SMEE3 library is available.)
- Online access management function
- Performance monitoring tool (real-time monitoring function of performance information)
- User authentication and access control of the Component Transaction Service
- AIM linkage function

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Chapter 1

Supported Software

This chapter describes the supported software.

Software Products Required for Application Development

This section describes the software products required for application development.

Table 1-1 Software Required for Application Development

No.	Software product name	Version	Remarks
1	Fujitsu COBOL85	V20L20	Required if COBOL applications or COBOL Web Subroutine applications are developed. (*1)
2	Fujitsu COBOL Version 3 Standard Edition Fujitsu COBOL Version 3 Enterprise Edition	Version 3	Required if COBOL applications are developed.
3	NETSTAGE Director	3.0	Required if the AIM linkage function, AIM linkage extension function, or AIM client linkage function is used.
4	Symfoware Server Enterprise Edition	V5.0L10	Required if database is used. (*2)
5	Oracle9i Database Enterprise Edition	R8.1.5, R8.1.6, R8.1.7, R9.0.1 or R9.2.0, or R10.1.0	Required if database is used. (*2)
6	Oracle Database Standard Edition	R8.1.5, R8.1.6, R8.1.7, R9.0.1 or R9.2.0, or R10.1.0	Required if database is used. (*2)
7	SQL Server	2000	Required if database is used. (*2)
8	Forte Developer 6 series (*3)	6	If C and C++ applications are developed, and programs for XA linkage of the database linkage service and applications using LDAP and SDK are created, then: Only the following components can be used: WS Compilers C 6 WS Compilers C++ 6

No.	Software product name	Version	Remarks
9	Sun WorkShop 4.2 series (*3)	4.2	<p>If C and C++ applications are developed, and programs for XA linkage of the database linkage service and applications using LDAP and SDK are created, then:</p> <p>Only the following components can be used:</p> <p>Sun WorkShop Compiler C 4.2 Sun WorkShop Compiler C++ 4.2 Sun WorkShop Thread Analyzer 1.2</p>
10	Sun WorkShop 5.0 series (*3)	5.0	<p>If C and C++ applications are developed, and programs for XA linkage of the database linkage service and applications using LDAP and SDK are created, then:</p> <p>Only the following components can be used:</p> <p>Sun WorkShop Compiler C 5.0 Sun WorkShop Compiler C++ 5.0</p>
11	Interstage Apworks Interstage Application Server Plus Developer (*4)(*5)(*6)	V5.0 or later	For application development of J2EE application.
			For application development of SOAP Service.
		V5.0.1 or later	For development of UDDI Client applications (*7)
12	Interstage Apworks or INTERSTAGE APWORKS (*4)	V5.0 or later V3.0 or later	For Java application development of the CORBA Service and Event Service
13	Interstage Apworks Interstage Application Server Plus Developer (*4)	V6.0L10	For Java application development of Interstage Single Sign-on
14	Systemwalker CentricMGR	5.0 , 5.2, 10.0 or later	Required for operation management and performance information real-time monitoring in linkage with Systemwalker. (*8)
15	Systemwalker OperationMGR	5.0, 5.2, 10.0 or later	Required for automatic operating with Systemwalker. (*9)
16	Interstage Traffic Director	3.1 or later	Required for construction of a load distributed system in linkage with Interstage Traffic Director.(*10)

No.	Software product name	Version	Remarks
17	Microsoft Internet Explorer or Netscape® Communicator	5.01 5.5 4.7, 4.75	Required if the Interstage Operation Tool is used. Note that the Web browser shown to the left operates only in Windows. It cannot be used with Netscape® Communicator for Solaris OE.
18	PRIMECLUSTER	4.1	Construction of the highly reliable system using PRIMECLUSTER

*1: Fujitsu COBOL85 is required.

*2: Symfoware Server Enterprise Edition or Oracle Database Standard Edition or Oracle Database Enterprise Edition is required.

Use the JDBC driver for JDK 1.2 when you use Symfoware Server Enterprise Edition and Symfoware Server. Moreover, the JDBC driver for JDK1.2 can use the version of JDK/JRE by 1.2 or later. Do not download it though it is described, 'The JNDI class library (jndi package) and JDBC2.0 Optional Package (javax.sql package) can be downloaded from the homepage of Javasoft of SUN Microsystems' in JDBC driver online manual of Symfoware when the JDBC driver for JDK1.2 is used.

Before using the balancing transaction function with Oracle10g, the following patch must be applied.

Oracle Database 10g Release 1 (10.1.0.3) Patch Set 1 or later

When the distributed transaction function with JTS and JTA is used, Oracle Database Enterprise Edition R8.1.7, R9.0.1 or R9.2.0 is required.

If SQL Server is used, use Microsoft(R) JDBC driver Service Pack2 or later.

The Microsoft(R) JDBC driver is supported with Windows(R) 2000 and Windows(R) XP.

*3: One of the Sun WorkShop 4.2 series, Sun WorkShop 5.0 series, Forte Developer 6 series is required.

*4: The Windows® version of Interstage Apworks is provided.

*5: JDK1.1 and JDK1.2 are not applicable.

*6: Since it is necessary to use the same versions of the Servlet service and Apworks when using the remote debugging function of JSP, use V7.0L10.

*7: Java Development Kit 1.3.1 or 1.4.0 is required for developing UDDI Client applications.

*8: If the version or level of the linked SystemWalker/CentricMGR is 5.0, the following functions cannot be used:

- If SystemWalker/CentricMGR version level 5.0 is used, the following functions cannot be used.

- Operation status monitoring for EJB WorkUnit (for old version compatible environment).

- Display of information of Light EJB container EJB application (for old version compatible environment).

- Monitoring of operation state of Light EJB container (for old version compatible environment).

- Information display of multi-object resident objects.

- Real-time monitoring of application processing status.

- If the version level of SystemWalker/CentricMGR is 5.0 or 5.2, this function cannot be used for the multi-system environment.

When the number of processes of an application is changed by using the *tdmodifywu* and *tdmodifyprocnum* commands, this number is not reflected on the display of process concurrency.

If the version level of SystemWalker/CentricMGR to be linked is 5.2 or earlier, information of the following EJB application types (for old version compatible environment) is not displayed.

- Bean-managed persistence Entity
- Container-managed persistence Entity

*9: If the version or level of SystemWalker/OperationMGR is 5.0, EJB WorkUnit (for old version compatible environment) automatic operation is impossible. If the version level of SystemWalker/OperationMGR to be linked is 5.0 or 5.2, this function cannot be used for the multisystem environment. Also, the following cannot be used in SystemWalker/OperationMGR V10.0L10 or earlier:

- Automatic operation of CORBA WorkUnit
- Automatic operation of Light EJB container WorkUnit (for old version compatible environment)

*10: To monitor the WorkUnit or perform multisystem load distribution, use Interstage Traffic Director Enterprise Edition 4.0 or later.

Framework

Table 1-2 lists the framework products required for application development.

Table 1-2 Framework Products Required for Application Development

No.	Function Name	Product Name	Version
1	Using database linkage components of the Framework function	Oracle Database Enterprise Edition / Standard Edition	R9.0.1, R9.2.0, or R10.1.0
2	Using XML linkage function of the Framework function	Fujitsu XML Processor (*1) - Fujitsu XML Library for Java - Fujitsu XSLT Library for Java	V5.2
3	Using Struts linkage function of the Framework function	Struts (*1)	1.1
4	Using web service application framework of the Framework function	Fujitsu XML Processor (*1) - Fujitsu XML Library for Java - Fujitsu XSLT Library for Java	V5.2

*1: These software products are bundled with this product.

Software Products Required for Application Execution

This section describes the software products required for application execution.

Table 1-3 Software Required for Application Execution

No.	Software product name	Version	Remarks
1	Fujitsu COBOL85	V20L20	Required if a COBOL Web Subroutine application or COBOL application is operated. (*1)
2	Fujitsu COBOL Version 3 Standard Edition Fujitsu COBOL Version 3 Enterprise Edition	Version 3	Required if a COBOL Web Subroutine application or COBOL application is operated.
3	NETSTAGE Director	3.0	Required if the AIM linkage function, AIM linkage extension function, or AIM client linkage function is used.
4	Symfoware Server Enterprise Edition	V5.0L10	Required if database is used. (*2)(*3)
5	Symfoware Server Standard Edition Symfoware Server Enterprise Edition	4.0 or later	Required if database is used with ssoimportum command of Interstage Single Sign-on on Solaris OE. (*4)
6	Symfoware Server Standard Edition	5.0 or later	Required if database is used with ssoimportum command of Interstage Single Sign-on on Linux.
7	Oracle Database Standard Edition Oracle Database Enterprise Edition	R8.1.5, R8.1.6, R8.1.7, R9.0.1 or R9.2.0	Required if database is used. (*5)(*6)
8	Oracle8i Database Standard Edition Oracle8i Database Enterprise Edition	8.1.5x	Required if database is used with ssoimportum command of Interstage Single Sign-on on Solaris OE. (*7)
9	Oracle9i Database Standard Edition Oracle9i Database Enterprise Edition	9.0.1x or 9.2.0x	Required if database is used with ssoimportum command of Interstage Single Sign-on on Solaris OE. (*7)(*8)

No.	Software product name	Version	Remarks
10	Oracle9i Enterprise Edition	R9.2.0	Required if database is used with ssoimportum command of Interstage Single Sign-on on Linux.
11	SQL Server	2000	Required if database is used. (*9)(*10)
12	Systemwalker CentricMGR	5.0, 5.2, 10.0 or later	Required for operation management and performance information real-time monitoring in linkage with Systemwalker. (*11)
13	Systemwalker OperationMGR	5.0, 5.2, 10.0 or later	Required for automatic operating with Systemwalker. (*12)
14	Interstage Traffic Director	3.1 or later	Required for construction of a load distributed system in linkage with Interstage Traffic Director.(*13)
15	JCE (Java Cryptography Extension)	1.2.2	Required if the CORBA/SOAP client gateway sends requests using SSL communication with client authentication.
16	Microsoft Internet Explorer or Netscape® Communicator	5.01, 5.5, 6.0	Required if the Interstage Management Console is used.
		7.1	
		5.01, 5.5	Required if the Interstage Operation Tool is used. Note that the Web browser shown to the left operates only in Windows. It cannot be used with Netscape® Communicator for Solaris OE.
		4.7, 4.75	Required if the SOAP Service information editing tool of the SOAP Service is used. Note that the Web browser shown to the left operates only in Windows. It cannot be used with Netscape® Communicator for Solaris OE.
17	PRIMECLUSTER	4.1	Construction of highly reliable system using PRIMECLUSTER(*14)
18	Microsoft Internet Information Services	5.0, 6.0	Servlet Service (Only when Microsoft Internet Information Services is used as a Web server)

*1: Fujitsu COBOL85 is required.

*2: Symfoware Server Enterprise Edition is required.

Use the JDBC driver for JDK 1.2 when you use Symfoware Server Enterprise Edition and Symfoware Server. Moreover, the JDBC driver for JDK1.2 can use the version of JDK/JRE by 1.2 or later. Do not download it though it is described, 'The JNDI class library (jndi package) and JDBC2.0 Optional Package (javax.sql package) can be downloaded from the homepage of Javasoft of SUN Microsystems' in JDBC driver online manual of Symfoware when the JDBC driver for JDK1.2 is used.

- *3: If the ssoimportum command of Interstage Single Sign-on has been used on Windows®, versions V4.0L10 or later are supported.
- *4: If the database has been used on Solaris 9 OE, use the database with version 5.0 or later.
- *5: Oracle Database Standard Edition or Oracle Database Enterprise Edition is required.
When the distributed transaction function with JTS and JTA is used, Oracle Database Enterprise Edition R8.1.7, R9.0.1 or R9.2.0 is required.
- *6: If the ssoimportum command of Interstage Single Sign-on has been used on Windows®, the following versions are supported: R8.1.7, R9.0.1, R9.2.0, and R10.1.0.
- *7: If the database has been used on Solaris 9 OE, use the database with version R8.1.7 or later. If using the JDBC driver supported by JDK1.4, use the JDBC driver contained in Oracle9i Release 2(9.2.0) or later.
- *8: If using the JDBC2.x contained in Oracle9 Database Standard Edition 9.0.1x/9.2.0x or Oracle9 Database Enterprise Edition 9.0.1x/9.2.0x or later, download the 'File system service provider, 1.2' from the JavaSoft site (<http://www.javasoft.com/>). The following files will be uncompressed from the downloaded file.
 - providerutil.jar
 - fscontext.jarNote: the download file's name is fscontext1_2beta3.zip in Dec 1, 2001, but it may be changed without prior notice.
- *9: If SQL Server is used, use Microsoft® JDBC driver Service Pack2 or later.
The Microsoft® JDBC driver is supported with Windows® 2000 and Windows® XP.
In Interstage Application ServerV7.0, JDK1.4 or later is supported if Microsoft® JDBC Driver is used.
One of the following is required
 - SQL Server Enterprise Edition
 - SQL Server Standard Edition
 - SQL Server Personal Edition
 - SQL Server Developer Edition
 - SQL Server Enterprise Evaluation Edition
 - SQL Server Desktop Engine Edition.
- *10: If the ssoimportum command of Interstage Single Sign-on has been used, one of the following editions are supported: SQL Server Enterprise Edition, SQL Server Standard Edition, or SQL Server Developer Edition.
If the ssoimportum command of Interstage Single Sign-on has been used, the versions 6.5 and 7.0 are supported.
- *11: If the version or level of the linked SystemWalker/CentricMGR is 5.0, the following functions cannot be used:
 - Operation status monitoring for EJB WorkUnit (for old version compatible environment).

- Display of information of Light EJB container EJB application (for old version compatible environment).
- Monitoring of operation state of Light EJB container (for old version compatible environment).
- Information display of multi-object resident objects.
- Real-time monitoring of application processing status.

When the number of processes for an application is changed using the *tdmodifywu* and *tdmodifyprocnum* commands, this number is not reflected on the display of process concurrency.

If the version level of SystemWalker/CentricMGR to be linked is 5.2 or earlier, information of the following EJB application (for old version compatible environment) types is not displayed.

- Bean-managed persistence Entity
- Container-managed persistence Entity

*12: If the version or level of SystemWalker/OperationMGR is 5.0, EJB WorkUnit (for old version compatible environment) automatic operation cannot be performed. Also, the following cannot be used in SystemWalker/OperationMGR V10.0L10 or earlier:

- Automatic operation of CORBA WorkUnit
- Automatic operation of Light EJB container WorkUnit (for old version compatible environment)

*13: To monitor a WorkUnit and perform multisystem load distribution, use Interstage Traffic Director Enterprise Edition 4.0 or later.

*14: Refer to the PRIMECLUSTER manuals for details on using Interstage Application Server in PRIMECLUSTER.

Framework

Table 1-4 lists the framework products required for application execution.

Table 1-4 Framework Products Required for Application Execution

No.	Function Name	Product Name	Version
1	Using database linkage components of the framework function	Oracle Database Enterprise Edition / Standard Edition	R9.0.1, R9.2.0, or R10.1.0
2	Using XML linkage function of the framework function	Fujitsu XML Processor (*1) - Fujitsu XML Library for Java - Fujitsu XSLT Library for Java	V5.2
3	Using Struts linkage function of the framework function	Struts (*1)	1.1
4	Using web service application framework of the Framework function	Fujitsu XML Processor (*1) - Fujitsu XML Library for Java - Fujitsu XSLT Library for Java	V5.2

*1: These software products are bundled with this product.

Portal Component

Table 1-5 lists the Portal component products required for application execution.

Table 1-5 Portal Component Products Required for Application Execution

No	Function Name	Product Name	Version
1	Directory server (*1)	InfoDirectory	The LDAP system enclosed by Interstage Application Server or V1.2L10
2	RDBMS for repository (*2)	Oracle Database Enterprise Edition	R8.1.6/R8.1.7/R9.0.1/R9.2.0/R10.1.0
		Oracle Database Standard Edition	R.8.1.7/R9.0.1/R9.2.0/R10.1.0
		Oracle Database Workgroup Server	R8.1.6/R8.1.7
3	Web browser(Administrative Console)	Microsoft Internet Explorer	5.5/6.0

*1) To use LDAP as an authentication system, it is necessary to install an LDAP system and to register its users. For more details, refer to the manual for your LDAP product.

*2) It is possible to change the repository (Fujitsu Enabler) of the Portal component installed by default to RDB by using the repository change command immediately after installation. For more details, refer to the Portalworks Administration Guide.

Other Functions

No.	Function Name	Product Name	Version
1	Interstage Single Sign-on (only when the Web server shown at the right is used as the business server function)	Microsoft Internet Information Services	5.0, 6.0
		Sun ONE Web Server Enterprise Edition	4.1, 6.0

Client-side Software Products Required to Use Client Applications

This section describes the client-side software products required to use client applications.

J2EE (Exclude Security)

Table 1-6 lists the J2EE (Exclude Security) client-side software products required to use client applications.

Table 1-6 J2EE (Exclude Security) Client-side Software Required to Use Client Applications

No	Function Name	Product Name	Version
1	Java application of EJB Service (including Java applet)	Interstage Apworks Server Runtime Package (*1)	V5.0 or later
2	Java applet of EJB Service (*2) (*3)	Netscape Communicator	4.06, 4.07, 4.08, 4.5, 4.51, 4.6, 4.7, 4.72, 4.73 or 4.75
		Microsoft Internet Explorer	4.01, 5.0, 5.01 or 5.5 (*4)
3	Operation of J2EE application clients using JNDI, JMS, JavaMail.	Interstage Apworks Server Runtime Package (*5)	V5.0 or later

*1) This product is required when a Java application (including a Java applet) of the EJB service is created.

*2) To operate Java applets, the following formats are available:

- Format to download the Portable-ORB and EJB Service client from the Web Server:
The jar file (fjcontainer32_plugin.jar) for the Portable-ORB and the client of the EJB Service must first be installed (resource must be stored) in the Web Server.
The JBK plug-in provided by "J Business Kit," a component of Apworks V6.0L10, is required. The Apworks download installer must be installed in advance.
- Format to install the CORBA Service client and EJB Service client:
The CORBA Service client and EJB Service client must first be installed in the client.
If installation is performed without selecting JBK in custom installation mode, the JBK plug-in must be installed in advance.

*3) As the Web browser, either Netscape Communicator or Microsoft Internet Explorer is required.

- *4) Service Pack 1 or Service Pack 2 is necessary for Microsoft Internet Explorer 4.01. Also, Software Development Kit for Java V4.0 is necessary for creating cab files used in Microsoft Internet Explorer.
- *5) JDK1.1 and JDK1.2 are not supported.

CORBA Service / Event Service

Table 1-7 lists the CORBA Service / Event Service client-side software products required to use client applications.

Table 1-7 CORBA Service / Event Service Client-side Software Required to use Client Applications

No.	Function Name	Product Name	Version
1	Operation of Java application of CORBA Service or Event Service (Including Java applet)(*1) (*2)	INTERSTAGE APWORKS Client Runtime Package	V3.0 or later
		Interstage Apworks Server Runtime Package	V5.0 or later
2	Operation of Java applet of CORBA Service in Web browser (*3) (*4)	Netscape Communicator	4.0.6, 4.0.7, 4.0.8, 4.5, 4.5.1, 4.6, 4.7, 4.72, 4.73 or 4.75
		Netscape	6.0, 6.1, 6.2, 7.0 or 7.1
		Microsoft Internet Explorer	4.01, 5.0, 5.01, 5.5, or 6.0 (*5)
3	Operation of Java applet of Event Service in Web browser (*3) (*4)	Netscape Communicator	4.0.6, 4.0.7, 4.0.8, 4.5, 4.5.1, 4.6, 4.7, 4.72, 4.73 or 4.75
		Microsoft Internet Explorer	4.01, 5.0, 5.01, 5.5, or 6.0 (*5)
4	Operation of COBOL client application of CORBA Service or Event Service (*6)	Fujitsu COBOL Standard Edition, Professional Edition, or Enterprise Edition	V4.0 or later
		NetCOBOL for Windows Professional Edition, or Enterprise Edition	V7.0 or later

No.	Function Name	Product Name	Version
5	Operation of Object-oriented COBOL client application of CORBA Service	Fujitsu COBOL Standard Edition, Professional Edition, or Enterprise Edition	V5.0 or later
		NetCOBOL for Windows Professional Edition, or Enterprise Edition	V7.0 or later
6	Execution of OLE client application of CORBA Service	Microsoft Visual Basic	5.0 or 6.0
7	Execution of client application except Java/COBOL/OLE of CORBA Service (*6)	---	---

- *1 For Java applications operation, the following must be in place:
 - Portable-ORB is installed:
The Portable-ORB must be installed on the client.
 - A CORBA Service client is installed:
The CORBA Service client must be installed on the client.
- *2 The JRE JBK Plug-in 1.4 (or 1.3) must be installed. The JRE JBK Plug-in is contained in the client package of Interstage Application Server. Use Interstage Apworks Server Runtime Package V6.0L10 or earlier when you use JDK/JRE1.2.2. (or a previous version).
- *3 For Java applet operation the following must be in place:
 - Portable-ORB is downloaded from the Web Server:
The Portable-ORB must be (stored the resource) on the Web Server.
 - Portable-ORB is installed on client:
The Portable-ORB must be installed on the client.
 - The CORBA Service client is installed:
The CORBA Service client must be installed on the client.
- *4 JDK JBK Plug-in is required.
- *5 Service Pack 1 or Service Pack 2 for Microsoft® Internet Explorer 4.01 and the Software Development Kit for Java are required. Microsoft SDK for Java 4.0 is required to create a cab file to be used with Microsoft Internet Explorer.
- *6 The CORBA Service Client must be installed.

Security

Table 1-8 lists the security client-side software products required to use client applications.

Table 1-8 Security Client-side Software Required to Use Client Applications

No	Function Name	Product Name	Version
1	Encrypted communication with 128bit	Netscape Communicator	4.7
		Microsoft Internet Explorer and high reliability pack (128bit)	5.01

Framework

Table 1-9 lists the framework client-side software products required to use client applications.

Table 1-9 Framework Client-side Software Required to Use Client Applications

No	Function Name	Product Name	Version
1	Client (Windows®) for the web application using Framework	Microsoft Internet Explorer	5.x or 6.0
		Netscape Communicator	4.7x
		Netscape	6.2.x, 7.0x, or 7.1
2	Client (Macintosh®) for the web application using Framework	Microsoft Internet Explorer	5.1 for Mac (OS8.1 9.x) or 5.2 for Mac (OS X)
		Netscape	7.1 (Mac OS X)
		Safari	1.0
3	Using Applet linkage function of the Framework function	Interstage Application Server V7.0 Interstage Application Server Plus V7.0 Interstage Application Server Plus Developer V7.0 (*1) Interstage Apworks V7.0 (*1)	-
		Java Plug-in	1.3.1, 1.4.1, 1.4.2

*1: These software products can only be used for the purpose of application development.

Portal Component

Table 1-10 lists the Portal component client-side software products required to use client applications.

Table 1-10 Portal Component Client-side Software Required to Use Client Applications

No	Function Name	Product Name	Version
1	Web browser(User Page)	Microsoft Internet Explorer	5.0/5.01/5.5/6.0
		Netscape Navigator	4.6/4.7

Other Functions

Table 1-11 lists the client-side software products required to use client applications (other functions).

Table 1-11 Client-side Software Required to Use Client Applications (Other Functions)

No	Function Name	Product Name	Version
1	Web Server Linkage	Netscape Communicator	4.0, 4.01, 4.02, 4.03, 4.04, 4.05, 4.06, 4.07, 4.08, 4.5, 4.51, 4.6 or 4.7
		Microsoft Internet Explorer	4.0, 5.0, 5.01 or 5.5 (*1)

*1) Service Pack 1 or Service Pack 2 is necessary for Microsoft Internet Explorer 4.01. Also, Software Development Kit for Java V4.0 is necessary for creating cab files used in Microsoft Internet Explorer.

Chapter 2

Restrictions

Some functions described in this manual have restrictions. The following tables detail these restrictions.

Restrictions on Interstage HTTP Server

Table 2-1 Restrictions on Interstage HTTP Server

No.	Restriction	Remarks	Date of Removal
1	<p>When a certificate in UTF-8 format, (such as a CA certificate, site certificate, or client certificate) is used for SSL communication, the following restrictions apply:</p> <ul style="list-style-type: none">- When SSL protocol Version 3 (client certificate) is used, the CA certificate and the client certificate in UTF-8 must be registered on both the Interstage HTTP Server and the web browser.- When SSL protocol Version 2 (server authentication) is used, the CA certificate and the client certificate in UTF-8 must be registered on both the Interstage HTTP Server and the web browser.- If Interstage HTTP Server is started in either of the above SSL versions, normal access is available only via Internet Explorer 5.5 or 6.0 on Windows® 2000.	None	Not determined

Restrictions on InfoProvider Pro

Table 2-2 Restrictions on InfoProvider Pro

No.	Restriction	Remarks	Date of Removal
1	<p>When a certificate in UTF-8 format, (such as a CA certificate, site certificate or client certificate) is used for SSL communication, the following restrictions apply:</p> <ul style="list-style-type: none">- When SSL protocol Version 3 (client certificate) is used, the CA certificate and the client certificate in UTF-8 must be registered on both InfoProvider Pro and the web browser.- When SSL protocol Version 2 (server authentication) is used, the CA certificate and the client certificate in UTF-8 must be registered on both InfoProvider Pro and the web browser.- If InfoProvider Pro is started in either of the above SSL versions, normal access is available only via Internet Explorer 5.5 or 6.0 on Windows® 2000.	None	Not determined

Restrictions on the J2EE Service

Table 2-3 Restrictions on the J2EE Service

No.	Restriction	Remarks	Date of Removal
1	If the EAR file is opened using the J2EE Deployment tool and the Application Display Name of the application is changed, some contents such as class files may not be displayed in the General contents of the Web application.	None. The files can be saved or deployed even if they are not displayed.	Not determined
2	When the J2EE Deployment tool is used, a save confirmation dialog box appears before closing a file. If the Close button on the title bar of the window is used, or if Close is selected from the window menu, the operation is the same as if No was selected. (Note that the operation in this case is not the same as if Cancel was selected!)	Select the Cancel button.	Not determined
3	When the J2EE Deployment tool is used with JDK/JRE1.3, the details of the file cannot be displayed on the File selection or Directory selection screen.	None.	Not determined
4	The remote installation function of the EJB Deployment tool cannot be used if the installation destination machine is a cluster system.	Transfer the server distribution generated with the EJB Deployment tool to the operation destination machine and install it with the <i>ejbinstalleb</i> command. For details on the <i>ejbinstalleb</i> command, see Chapter 5 <i>ejbinstalleb</i> in the Reference Manual (Command Edition).	Not determined
5	It is not possible to access the database directly from a J2EE application client and a Web application while using the global transaction with the JTA interface.	When the global transaction is used with the JTA interface, be sure to access the database from an EJB application.	Not determined

No.	Restriction	Remarks	Date of Removal
6	Solaris OE When the Select File window is displayed over the Deployment Wizard window of the J2EE Deployment tool, clicking the Deployment Wizard window displays the Deployment Wizard window on top of all windows.	Move the Deployment Wizard window to another location so that the Select File window can be displayed for operation.	Not determined
7	Interstage cannot be stopped forcibly (the <i>isstop</i> command cannot be executed by specifying option -f) with the J2EE Deployment tool activated.	Stop the J2EE Deployment tool and then forcibly stop Interstage (execute the <i>isstop</i> command by specifying option -f).	Not determined

Restrictions on the Servlet Service

Table 2-4 Restrictions on the Servlet Service

No.	Restriction	Remarks	Date of Removal
1	<p>When Apworks is used for remote debugging, the following may occur:</p> <p>When a Servlet service or servlet container is stopped, the following message is output to standard output or the standard input-output log file of the servlet container:</p> <p>"Internal debug-agent exception"</p>	Ignore this message.	Not determined
2	<p>The following phenomenon may occur when performing a remote debug using Apworks:</p> <ul style="list-style-type: none"> - The Servlet service may end abnormally if JDK1.3(Java 2 Classic VM, JPDA) is used and the debug of Apworks is started before the Servlet service is started. 	Start the debug of Apworks after starting the Servlet service.	Not determined
3	<p>The sending process for the request that is displayed in "HTTP Status 405" in the browser fails if all the following conditions are met:</p> <ol style="list-style-type: none"> 1) the J2EE security function is used and the request is sent for Servlet, AND 2) There is FORM authentication, AND 3) Servlet in 1) implements javax.servlet.http.HttpServlet, AND 4) Servlet in 1) does not implement the doGet method, AND 5) HTTP POST request is sent for Servlet in 1). 	Implement the doGet method in the Servlet that is to be authenticated.	Not determined

No.	Restriction	Remarks	Date of Removal
4	<p>A request (Note 1) received after the operation will not be processed until requests received before the operation have been completed or a timeout (Note 2) occurs in the following operations:</p> <ul style="list-style-type: none"> - The <code>ijdispatchcont</code> command is executed, or - The following operations are executed using the Interstage Management Console: <ul style="list-style-type: none"> • Web application deployment/undeployment (Note 3) • Web Server Connector Log Settings • Create New Web Server Connector/Environment Settings (Note 4) 	<p>There is no user action required .</p> <p>After a request that is being processed has completed or a timeout occurs, new requests received are processed normally.</p>	Not determined
5	<p>Linux</p> <p>This is a restriction of older Servlet Service versions. The following may occur if the Servlet Service or Servlet container is started and stopped continuously at high speed using, for example, the automatic control:</p> <ul style="list-style-type: none"> - Java VM Error messages are output to the standard output log or the standard I/O of the Servlet Container. - The JavaVM log (<code>hs_err_pidxxxx.log</code>) is output to the a Servelet Container execution directory. 	<ul style="list-style-type: none"> - Ignore this error message. - Delete the Java VM output log. 	Not determined

Notes

1. This indicates that the request is for a Web application deployed in the IJServer. It also indicates that the request is for data stored on the Interstage HTTP Server (such as HTML documents and image data).
2. The value set for the timeout is as shown below.
 - "Apply the Web server and WorkUnit in the same machine" is set (Note 5)
[WorkUnit] > "WorkUnit name" > [Environment Settings] > [Servlet Container Settings] > [Timeout]
 - "Do not apply the Web server and WorkUnit in the same machine" is set (Note 5)
[Web Server] > [Web Server Connector] > "WorkUnit name" > [Environment Settings] > [Servlet Container Settings] > [Timeout]

3. This limitation does not apply if “Do not apply the Web server and WorkUnit in the same machine” have been set (Note 5) .
4. This operation is only possible if “Do not apply the Web server and WorkUnit in the same machine” have been set (Note 5).
5. In the Interstage Management Console, click [System] > [Environment Settings] > [Servlet Service Detailed Settings] > [Apply the Web server and WorkUnit in the same machine]. Select [Apply] or [Do not Apply].

Restrictions on the EJB Service

Table 2-5 Restrictions on the EJB Service

No.	Restriction	Remarks	Date of Removal
1	The long type data type cannot be used as an argument or return value for the client/server communication.	None	Not determined
2	In JDK/JRE 1.2.2, any class in which String data of 64 KB or more is set to one variable in the class cannot be used as an argument or return value for EJB applications.	None	Not determined
3	<p>In the client/server communication in JDK/JRE1.2.2, when the interface shown below is used in business method parameters and return value, the method for the stored interface type cannot be issued. This is the case, even if the interface type that can be communicated in the application execution by the RMI over IIOP was stored in that interface.</p> <ul style="list-style-type: none"> - java.util.Collection - java.util.Enumeration 	None	Not determined
4	When defining a Bean in the Rapid invoking Bean, if it uses JDK/JRE1.2.2, the return value cannot use the finder method of java.util.Enumeration or java.util.Collection.	None	Not determined
5	Using "remove" as a business method name may lead to unexpected results.	None	Not determined
6	<p>When distributed transactions are used, if any of the following methods from the javax.ejb.EJBContext API are called from some particular methods, an IllegalStateException will be thrown.</p> <ul style="list-style-type: none"> - getCallerIdentity() - getCallerPrincipal() - isCallerInRole(Identity role) - isCallerInRole(String roleName) <p>If any of the above methods are called from one of the following methods, an exception will be thrown.</p> <ul style="list-style-type: none"> - For STATEFUL Session Bean <ul style="list-style-type: none"> beforeCompletion afterCompletion - For Entity Bean <ul style="list-style-type: none"> ejbStore 	None	Not determined

No.	Restriction	Remarks	Date of Removal
7	<p>In the following cases, invoking a method that has method permission setting from an EJB application method, a RemoteException is thrown.</p> <ul style="list-style-type: none">- When the distributed transaction function is used [STATEFUL Session Bean] beforeCompletion [Entity Bean] ejbStore	None	Not determined
8	<p>If "Application" is specified in the resource connector of the deployment descriptor file, and a JDBC resource is being accessed from an EJB application method, an SQLException is thrown in the following cases.</p> <ul style="list-style-type: none">- When the distributed transaction function is used [STATEFUL Session Bean] beforeCompletion [Entity Bean] ejbStore	None	Not determined
9	<p>The distributed transaction cannot be used by the EJB application which uses the optimization processing of Entity Bean.</p>	None	Not determined
10	<p>If distributed transactions are used and the Snap output level is set to "2", an ORA-01002 error in Oracle may be thrown.</p>	None	Not determined
11	<p>Distributed Transaction in CMP2.0 cannot be used. It causes EJB1248 error at the startup when it is used.</p>	None.	Not determined
12	<p>When the following API of javax.ejb.SessionContext is executed in a specific method of EJB application that implements the Local interface, it returns Null.</p> <p>[getEJBLocalObject]</p> <p>When this method is executed, the following method returns Null.</p> <p>[In case of STATEFUL Session Bean or STATELESS Session Bean]</p> <ul style="list-style-type: none">- ejbCreate	None.	Not determined

No.	Restriction	Remarks	Date of Removal
13	<p>In a specific method of the EJB application that implements both Local and Remote interfaces, the following API of javax.ejb.SessionContext or javax.ejb.EntityContext is executed, it returns Null.</p> <p>[getEJBLocalObject]</p> <p>When this method is executed, the following methods return Null.</p> <p>[In case of STATEFUL Session Bean]</p> <ul style="list-style-type: none"> - ejbCreate - afterBegin - beforeCompletion - afterCompletion - business method - ejbRemove <p>[In case of STATELESS Session Bean]</p> <ul style="list-style-type: none"> - ejbCreate - business method - ejbRemove <p>[In case of CMP2.0 Entity Bean]</p> <ul style="list-style-type: none"> - ejbRemove 	None.	Not determined
14	<p>In a specific method of the EJB application that implements both Local and Remote interfaces, when the getEJBHome method is issued to the EJB object got by getEJBObject of SessionContext, it returns RemoteException. When the above method is executed, the following methods cause an exception.</p> <p>[In case of STATELESS Session Bean]</p> <ul style="list-style-type: none"> - ejbCreate - ejbRemove 	None.	Not determined
15	<p>When the lookup via Remote interface is done in the EJB application that implements both Local and Remote interfaces from the same EJB application, java.lang.ClassCastException occurs.</p>	See Note below	Not determined

No.	Restriction	Remarks	Date of Removal
16	<p>If the javax.naming.InitialContext, provided by EJB Service and the following javax.naming.Context APIs are executed, OperationNotSupportedException occurs.</p> <ul style="list-style-type: none">- addToEnvironment(String , Object)- bind(Name , Object)- bind(String , Object)- composeName(Name , Name)- composeName(String , String)- createSubcontext(Name name)- createSubcontext(String name)- destroySubcontext(Name name)- destroySubcontext(String name)- getEnvironment()- getNameInNamespace()- getNameParser(Name name)- getNameParser(String name)- list(Name name)- list(String name)- listBindings(Name name)- listBindings(String name)- lookup(Name name)- lookupLink(Name name)- lookupLink(String name)- rebind(Name , Object)- rebind(String , Object)- removeFromEnvironment(String)- rename(Name , Name)- rename(String , String)- unbind(Name name)- unbind(String name)	None.	Not determined

No.	Restriction	Remarks	Date of Removal
17	<p>The following conditions exist for EJB Service use in CMP1.1 and BMP. If the following conditions are not met, the EJB Service range will be V6.0 or before. EJB Service can be used unconditionally in CMP2.0.</p> <ul style="list-style-type: none"> - IJServer type environment in which the Web and EJB applications are operated in the same JavaVMSpecify a transaction attribute other than "Mandatory". - IJServer type environment in which the Web and EJB applications are operated in different JavaVMs, or in which only the EJB application is operated. Specify a transaction attribute other than "Mandatory". <p>"Mandatory" can be specified, but in this case, go to [Application Environment Settings] in the Interstage Management Console and set [Local Call] to "Do not Call".</p>	None.	Not determined

Note

When the lookup via LocalHome and Home interface is done in the EJB application that implements both Local and Remote interfaces from the same EJB application, the following works are necessary for the EJB application development and its runtime operation.

[EJB application development]

1. Deployment Edit descriptor

Edit not to duplicate EnterpriseBean reference name for "ejb-ref-name" in the "reference EJB tag" or "reference LocalEJB tag".

2. Development of EJB application Describe not to duplicate the EJB application name specified for the argument at lookup via LocalHome interface and via Home interface. Describe EJB application name corresponding to the reference EnterpriseBean name defined in reference EJB or reference LocalEJB set by 1.

[Runtime of EJB application]

Associate it with the EJB application name specified by the argument at lookup in the reference LastName of EnterpriseBean changed by 1 and the EJB application by using the Naming Conversion file.

Restrictions on the SOAP Service

The SOAP Service can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Table 2-6 Restrictions on the SOAP Service

No.	Restriction	Remarks	Date of Removal
1	<p>The Web service information edit tool cannot edit Web service information for a server if execution of client authentication in SSL communication is set for the server.</p> <p>To use the Web service information edit tool when a Web service server application is operated with client authentication specified for SSL communication, the operation explained in the Remarks column is necessary.</p>	<p>Use two Web servers for Web service information management and Web service server application operation.</p> <p>Set SSL communication without client authentication for the Web server for Web service information management.</p> <p>Operate a SOAP Service Web application with administrator authority given to the Web service information edit tool and Web service manager in this Web server.</p> <p>Set SSL communication with client authentication for the Web server for Web service server application operation.</p> <p>Operate a SOAP Service Web application with administrator authority given to the Web service manager in this server and connect a Web service client to this server. For the Web service manager, set reference to the same Web service information management file as the file for Web information management.</p>	Not determined

No.	Restriction	Remarks	Date of Removal
2	<p>If a message with attachment is sent using the delivery guarantee function, the saved attachment data of the message may be lost and no attachment may be found in the sent message.</p> <p>When this occurs, the following message will be output:</p> <p>UX: ISSOAP: ERROR: issoap1563: Method invoke error : java.io.IOException: java.io.FileNotFoundException: /var/tmp/Soapx17284soapx</p>	None	Not determined
3	<p>If a SOAP Message object is built in a stream including attachment data and shared with multiple requests in the SOAP server application, the following problems occur in the subsequent request processing:</p> <ul style="list-style-type: none"> - An exception occurs when the attachment of the SOAP Message object is obtained and executed. - If the SOAP Message object is returned as a return message, the same message as that for the Item 2 above is output and a return message with no attachment data is sent back. 	None	Not determined
4	The user authentication function for SOAP Message cannot be used.	None	Not determined

Restrictions on the CORBA Service

This section provides information on the restrictions on the CORBA Service.

Restrictions on IDL Definitions

The IDL definitions can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Table 2-7 Restrictions on IDL Definitions

No	Restriction	Alternative Method	Date of Removal
1	Type wchar, wstring cannot be used in the <i>const</i> declaration of the IDL definition	None	Not determined
2	The following values cannot exceed 65535 in the data type declaration. - Size of the string type (string/wstring) with the specified size - Size of the sequence type (sequence) - Number of elements of the enumeration type (enum), structure (struct), union (union), and exception structure (exception) (See Note) - Size of an array	None	Not determined

No	Restriction	Alternative Method	Date of Removal
3	<p>Preprocessing declarations cannot be used under the following conditions:</p> <ol style="list-style-type: none">1) In an exception declaration2) In a struct/union/enum declaration, and in a member declaration (ending before a semicolon) <p>Example:</p> <pre>struct STR1{ long #pragma version STR1 2.3 a; string b; char c; };</pre>	None	Not determined
4	<p>The following recursive declarations cannot be used in the IDL definition:</p> <ol style="list-style-type: none">1) Recursive declaration of a structure (struct) <pre>struct STR1 { sequence<STR1> para1; };</pre> <ol style="list-style-type: none">2) Recursive declaration of a union (union) <pre>union UNI1 switch(long){ case1: sequence<UNI1> para1; };</pre>	None	Not determined
5	Type union cannot be used in the CORBA/SOAP gateway generation of the IDL definition.	None	Not determined

No	Restriction	Alternative Method	Date of Removal
6	<p>In the Java mapping of the IDL definition, the same name as the module name cannot be specified in the following declarations. When the same name is specified, a package name will become a module name + 'Package', and a Java compile error will occur.</p> <ol style="list-style-type: none">1) interface declaration2) struct declaration3) union declaration4) exception declaration <p style="text-align: center;">Example</p> <pre>module AAA { interface AAA { short op(); }; };</pre>	None	Not determined

No	Restriction	Alternative Method	Date of Removal
7	<p>When registering an updated IDL definition containing inheritance of two or more interface declarations in an interface repository, the inheritance cannot be registered in the repository under the following conditions:</p> <ol style="list-style-type: none"> 1) Another IDL definition file is included in the IDL definition, and 2) The interface declaration in the included IDL definition file is inherited in two or more IDL definition files, and 3) The two or more IDL definition files in condition 2) are updated and registered in the interface repository. <p>Example:</p> <pre>[INTF_A.idl file] interface A {...} [INTF_B.idl file] #include "INTF_A.idl" interface B:A {...} [INTF_C.idl file] #include "INTF_A.idl" interface C:A {...}</pre>	<p>When creating IDL definition files to be registered in an interface repository, do not create the same interface declaration in different IDL definition files if two or more interface declarations are to be inherited.</p> <p>Example:</p> <pre>[INTF_A.idl file] interface A {...} [INTF_BC.idl file] #include "INTF_A.idl" interface B:A {...} interface C:A {...}</pre>	Not determined
8	':' cannot be specified in the constant expression in the case statement of a union.	None	Not determined

Note

The maximum numbers of elements vary in the Java mapping.

- Enumeration (enum):
1,024
- Structure (struct), union (union), and exception structure (exception):
254 ("long long" and "double" are each counted as 2.)

Restrictions on IDL Compilation

The IDL compilation can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Table 2-8 Restrictions on IDL Compilation

No	Restriction	Alternative Method	Date of Removal
1	"-noinclude" cannot be specified for the IDL compiler.	None	Not determined
2	A prototype module definition file with no PROGRAM-ID named IDL-file-name_skel.def may be created in the COBOL mapping of IDL files.	None	Not determined
3	long long overflows are not checked when IDL is compiled	None	Not determined

Restrictions on C and C++ Programming

C and C++ Programming can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition

Table 2-9 Restrictions on C and C++ Programming

No.	Restriction	Alternative Method	Date of Removal
1	Solaris OE When a child process is generated by a server application, and the child process is terminated by exit(), the parent process is also terminated.	Use _exit() when you finish a child process only.	Not determined
2	Solaris OE If WS Compilers C++ 6 used, no context object can be used.	None	Not determined
3	Linux A context cannot be used on the C++ application.	None	Not determined

Restrictions on Java Programming

Java programming can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Table 2-10 Restrictions on Java Programming

No.	Restriction	Alternative Method	Date of Removal
1	The data type of the long long cannot be used in preinstalled type Java client and the Java server of JDK/JRE 1.3	None	Not determined
2	In Java, when the equal method is executed with TypeCode of a structural type that contains the Object type, TypeCode remotely generated and the same TypeCode generated locally do not match.	None	Not determined
3	Solaris OE Linux The green thread of HotSpot VM and Classic VM cannot be used as Java application execution environment.	None	Not determined

Restrictions on the Naming Service

Table 2-11 Restrictions on the Naming Service

No.	Restriction	Alternative Method	Date of Removal
1	Solaris OE No IP address in the IPv6 format may be specified in inithost(nshost) of a corbaloc URL schema.	None	Next version

Restrictions on the CORBA Service

Table 2-12 Restrictions on the CORBA Service

No.	Restriction	Alternative Method	Date of Removal
1	<p>Windows</p> <p>The system may not release the CORBA Service port number (eg, 8002) when the <i>isstop</i> command is run.</p> <p>When the OD_start service was started (including execution of the <i>isstart</i> command) in this status, it is possible that a communication error occurs in the application.</p>	Use the <i>netstat -a</i> command to check that the CORBA Service port number has been released then start the service.	Not determined
2	<p>Windows</p> <p>If the OD_start service is terminated before a CORBA application is terminated, the system may stop responding or "hang" while the CORBA application is terminated.</p>	Terminate all CORBA applications before terminating the OD_start service.	Not determined
3	When the server per method is used for starting a CORBA application, starting the CORBA application may fail.	None	Not determined
4	<p>Windows</p> <p>In Windows NT® Server with Service Pack 5, when simultaneous requests are issued by a client that has generated multiple threads and a communication error (COMM_FAILURE exception) occurs, the system resources used by the CORBA Service may not be released.</p> <p>This will show up as repeated communication errors, followed by all requests from client applications causing communication errors.</p>	It is necessary to stop and restart the CORBA Service.	Not determined
5	When the dynamic skeleton interface of C++ language is used with the server application, memory leak occurs. (Approximately 150 bytes for a request)	None	Not determined
6	The <i>odlistproc</i> process may output the message od10727 while quitting the CORBA service (ObjectDirector).	None No operation problems other than output messages	Not determined

Restrictions on HTTP Tunneling

HTTP tunneling is available for the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition

Table 2-13 Restrictions on HTTP Tunneling

No.	Restriction	Alternative Method	Date of Removal
1	SSL communication between the HTTP gateway and a server application is not possible.	None	Not determined

Restrictions on the Event Service

The Event Service can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

The Notification Service can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition

Table 2-14 Restrictions on the Event Service

No.	Restriction	Remarks	Date of Removal
1	The following functions cannot be used in the dynamically generated event channels. - Persistence of connection information and event data - Transaction linkage - Point-To-Point Messaging Model	None	Not determined
2	Linux In the Notification Service, if a supplier sends a StructuredEvent type message, a consumer cannot obtain the message in any type.	The consumer must obtain the message in StructuredEvent type.	Not determined

Restrictions on the Component Transaction Service

The Component Transaction Service be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Table 2-15 Restrictions on the Component Transaction Service

No.	Restriction	Remarks	Date of Removal
1	<p>Windows Solaris OE</p> <p>If Interstage is initialized in succession using the Interstage operation tool or the <i>isinit</i> command, the initialization of Interstage may fail.</p>	None	Not determined
2	<p>Windows Solaris OE</p> <p>When the Component Transaction Service is used, the start of Interstage and the start of the WorkUnit may become unusual if the installation path of Interstage exceeds 230 bytes.</p>	Set the installation path of Interstage to no more than 230 bytes	Not determined
3	<p>Solaris OE</p> <p>If the <i>tdc</i> command is executed before OD has been started, the following message is displayed ("<i>/tmp/aaa</i>" and "1.0" is variable):</p> <pre> "/tmp/aaa", line 1: CORBA_ORB_init Error tdc: Stop. IDLparser status = 4 IDLdestroy_rep (I/R) :CORBA_ORB_init :IDL:CORBA/StExcep/UNKNOWN:1.0 </pre>	Start OD, then re-execute the <i>tdc</i> command.	Not determined

Restrictions on the Database Linkage Service

The Database Linkage Service can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Plus.

Restrictions on the Locale of Languages

Table 2-16 Restrictions on the Locale of Languages

No.	Restriction	Remarks	Date of Removal
1	The client is not returned correctly when UNICODE is specified in locale when Java server applications are registered in the implementation repository and the following exceptions are caused: org.omg.CORBA.TRANSACTION_ROLLEDBACK org.omg.CORBA.TRANSACTION_REQUIRED org.omg.CORBA.TRANSACTION_INVALID_TRANSACTION	Specify NONE in locale when registering in the implementation repository	Not determined

Restrictions on Smart Repository

This section explains the following restrictions for Smart Repository:

- Restrictions on System Scale
- Restrictions on Capacity
- Restrictions on Commands and APIs
- Restrictions on Entry Administration Tool
- Restrictions on the Search Filter

Restrictions on System Scale

Table 2-17 Restrictions on System Scale

No	Restriction	Alternative Method	Date of Removal
1	Smart Repository supports a system scale of about 10,000 registered entries per repository and 20 simultaneous accesses per repository.	For systems larger than this, consult with the salesman in charge or with the system engineer.	Not determined

Restrictions on Capacity

Table 2-18 Restrictions on Capacity

No	Restriction	Alternative Method	Date of Removal
1	The maximum length of an attribute value is 1998 bytes.	None	Not determined
2	The maximum size of a binary attribute value that can be registered is 200 KB.	None	Not determined
3	The maximum length of a DN is 1998 bytes.	None	Not determined
4	The maximum repository data size per repository is 1.7 GB.	None	Not determined
5	For a search attribute value, the maximum search filter length is 1998 bytes.	None	Not determined
6	If a specified search filter character string contains "*" or "?", the maximum search filter length shortens (decreases by 3 bytes per "*" or "?").	None	Not determined

Restrictions on Commands and APIs

Table 2-19 Restrictions on Commands

No	Restriction	Alternative Method	Date of Removal
1	<p>Smart Repository does not check the schema when an entry is modified.</p> <p>This means that if an incorrect modification is performed ((for example, deletion of required attributes in an entry, adding of an unsupported attribute for an object class, and so on), the repository information will be contradicted.</p>	None	Not determined
2	<p>No error occurs if an object class with another abstract type or structure type is added to an entry included in an abstract type or structure type object class already.</p> <p>Similarly, no error occurs if an abstract type or structure type object class is modified or changed to another abstract type or structure type object class.</p>	None	Not determined
3	<p>No error occurs if a required object class attribute is deleted.</p>	None	Not determined
4	<p>The following object classes cannot be used:</p> <ul style="list-style-type: none"> - alias - extensibleObjectName - referral <p>If using the ldapmodify command, the following error occurs:</p> <p>Object class violation</p> <p>If using the JNDI, the following error occurs:</p> <p>LDAP error code:65(0x41)</p>	None	Not determined

No	Restriction	Alternative Method	Date of Removal
5	<p>The following attributes cannot be used:</p> <ul style="list-style-type: none">- aliasedObjectName- authPassword- dSAQuality- enhancedSearchGuide- krbName- personalSignature- photo- preferredDeliveryMethod- presentationAddress- protocolInformation- ref- saslAuthzTo- saslAuthzFrom- searchGuide- subtreeMaximumQuality- subtreeMinimumQuality- teletexTerminalIdentifier <p>If using the ldapmodify command, either of the following errors may occur:</p> <p>Undefined attribute type</p> <p>Invalid syntax</p> <p>If using the JNDI, either of the following errors may occur:</p> <p>LDAP error code:17(0x11)</p> <p>LDAP error code:21(0x15)</p>	None	Not determined

No	Restriction	Alternative Method	Date of Removal
6	<p>When modify the DN of an entry, if the newSuperior specification (newparent specification) is used, an error may occur.</p> <p>If using the ldapmodify command, the following errors occur:</p> <p>DSA is unwilling to perform</p> <p>Unknown error</p> <p>If using the JNDI, the following errors occur:</p> <p>LDAP error code:53(0x35)</p> <p>LDAP error code:80(0x50)</p>	None	Not determined
7	<p>Do not duplicate the following operations for one repository. If multiple operations are executed at the same time, abnormal operation may occur in the repository or Fujitsu Enabler.</p> <ul style="list-style-type: none"> - Creating repository on Interstage Management Console - Deleting repository on Interstage Management Console - Starting repository on Interstage Management Console - Stopping repository on Interstage Management Console - Backing up or exporting Smart Repository resources using the irepbacksys command - Restoring or importing Smart Repository resources using the ireprestsys command <p>Solaris OE Linux</p> <ul style="list-style-type: none"> - Starting Fujitsu Enabler using the enablerstart command - Starting repository using the irepstart command - Stopping repository using the irepstop command 	None	Not determined

Restrictions on Entry Administration Tool

Table 2-20 Restrictions on Entry Administration Tool

No	Restriction	Alternative Method	Date of Removal
1	<p>The following limitations apply to adding an entry:</p> <ul style="list-style-type: none"> - "=" cannot be specified for the DN. If it is specified, an error will occur. <p>IREP: ERROR: irep77511 invalid DN.</p> <ul style="list-style-type: none"> - No error occurs if an object class with another abstract type or structure type is added to an entry already included in an abstract type or structure type object class. - If an attribute value is omitted during entry registration, the attribute name is not registered. - If there are blank characters before or after an attribute value, the blank characters are removed in the registration. <p>(The "userPassword" attribute is an exception.)</p>	None	Not determined

No	Restriction	Alternative Method	Date of Removal
2	<p>The following limitations apply to modifying an entry:</p> <ul style="list-style-type: none"> - Smart Repository does not check the schema when an entry is modified. <p>This means that if an incorrect modification is performed (for example, deletion of required attributes in an entry, adding of an unsupported attribute for an object class, and so on), the repository information will be contradicted. Confirm the operation sufficiently when modifying an entry.</p> <ul style="list-style-type: none"> - No error occurs if modifying an abstract type or structure type object class to another abstract type or structure type object class. - No error occurs if the required attributes of an object class are deleted. - If an attribute value is omitted during entry registration, the attribute name is not registered. - If there are blank characters before or after an attribute value, these blank characters are removed in the registration. <p>(The "userPassword" attribute is an exception.)</p>	None	Not determined
3	<p>The following limitations apply to specifying the search condition:</p> <p>If there are many search results, it takes time to display the results.</p>	None	Not determined
4	<p>The following limitations apply to tree development:</p> <ul style="list-style-type: none"> - If there are many subordinate entries, it takes time to display the developed tree in the [tree view]. 	None	Not determined

No	Restriction	Alternative Method	Date of Removal
5	<p>The following limitations apply to object classes:</p> <ul style="list-style-type: none"> - The following object classes cannot be used: - alias - extensibleObject - referral <p>The following error will occur: IREP: ERROR: irep77528 Schema definition violated.</p>	None	Not determined
6	<p>The following limitations apply to attributes:</p> <ul style="list-style-type: none"> - The following attributes cannot be used: - aliasedObjectName - authPassword - dSAQuality - enhancedSearchGuide - krbName - personalSignature - photo - preferredDeliveryMethod - presentationAddress - protocolInformation - ref - saslAuthzTo - saslAuthzFrom - searchGuide - subtreeMaximumQuality - subtreeMinimumQuarity - teletexTerminalIdentifier <p>The following error will occur. IREP: ERROR: irep77509 Attribute value violated schema definition.</p>	None	Not determined

No	Restriction	Alternative Method	Date of Removal
7	<p>The following limitations apply to modifying names:</p> <ul style="list-style-type: none">- "\", "=", "", "#", "+", "<", ">", ";", and "," cannot be specified for the DN or an error will occur:- IREP: ERROR: irep77518 Specified DN does not exist or there is an error in the specification.- IREP: ERROR: irep77511 invalid DN.- The name of a multi-AVA cannot be modified.- IREP: ERROR: irep77511 invalid DN.	None	Not determined
8	<p>The following limitations apply to the exporting function:</p> <ul style="list-style-type: none">- If there are many entries to be exported, it takes time to perform export processing.	None	Not determined
9	<p>The following limitations apply to the importing function:</p> <ul style="list-style-type: none">- If there are many entries to be imported, it takes time to perform import processing.	None	Not determined
10	<p>The character string of an error message may not be completely displayed.</p> <p>If the window is too small to display all of the character strings of the entry name, attribute name, attribute value, connection location, connection name, and search range, the last part of the strings will be displayed as "...".</p>	None	Not determined

Restrictions on the Search Filter

Table 2-21 Restrictions on Search Filter

No	Restriction	Alternative Method	Date of Removal
1	If the following binary attributes are specified in the search filter, a search operation cannot be performed: <ul style="list-style-type: none">- audio- authorityRevocationList- caCertificate- certificateRevocationList- crossCertificatePair- deltaRevocationList- jpegPhoto- personalSignature- photo- supportedAlgorithms- userCertificate- userPKCS12- userSMIMECertificate	None	Not determined

No	Restriction	Alternative Method	Date of Removal
2	<p>If one of the following attributes contains a blank or a Minus sign ("-"), the search operation cannot be performed with these attributes specified in the search filter:</p> <ul style="list-style-type: none"> - homePhone - mobile - pager - telephoneNumber <p>The irepmodifyent command is not executed correctly if any of the above attributes is specified in the <unique> tag of the rule file.</p> <p>If using the ldapsearch command, the search result is zero when searching the above attributes.</p> <p>If using the JNDI or the Entry Administration Tool, the search result is zero when searching the above attributes.</p> <p>If using the Entry Administration Tool, when Select All ("*") is used for the attribute value, the search result can be obtained.</p>	None	Not determined
3	<p>If "!" (logical negation) or "~=" (approximation) is specified in the search filter, an error occurs.</p> <p>If using the ldapmodify command, the following error occurs:</p> <p>Invalid syntax</p> <p>If using the JNDI, the following error occurs:</p> <p>LDAP error code:21(0x15)</p>	None	Not determined
4	<p>If two or more "character string*" (substrings) are specified, the search operation cannot be performed.</p> <p>Example)</p> <p>"(uid=*user001*)"</p>	None	Not determined

No	Restriction	Alternative Method	Date of Removal
5	<p>When specifying " " (OR) in the search filter, if three or more parallel search conditions are specified, an error occurs.</p> <p>Example)</p> <pre>"((uid=user001)(uid=user002)(uid=user003))"</pre> <p>If using the ldapmodify command, the following error occurs:</p> <p>Invalid syntax</p> <p>If using the JNDI, the following error occurs:</p> <p>LDAP error code:21(0x15)</p>	None	Not determined
6	<p>When the " " (OR) and "&" (AND) specifications are combined, an error occurs if the specification is more complicated than the following:</p> <ul style="list-style-type: none"> - "&(search condition 1)(search condition 2)" - "((search condition 1)(search condition 2))" - "&&(search condition 1)(search condition 2))(search condition 3)" - "(&(search condition 1)(search condition 2))(search condition 3)" - "&((search condition 1)(search condition 2))(search condition 3)" - "&(search condition 1)(search condition 2)(search condition 3) (search condition n)" <p>Example)</p> <pre>"&((search condition 1)(search condition 2))((search condition 3)(search condition 4))"</pre> <p>If using the ldapmodify command, the following error occurs:</p> <p>Invalid syntax</p> <p>If using the JNDI, the following error occurs:</p> <p>LDAP error code:21(0x15)</p>	None	Not determined

Restrictions on JDK/JRE

This section describes the restrictions on JDK/JRE.

Table 2-22 Restrictions on JDK/JRE

No	Restriction	Remarks	Date of Removal
1	Windows In using the GUI application on Windows 2000 or Windows XP, the screen may flicker, its display may slow down, or Windows OS may be completed depending on the case.	To avoid this, specify the following Java VM runtime option. -Dsun.java2d.noddraw=true	Not determined
2	Windows Java application cannot be run if ";", "#", "%", "^", or "!" is used for the path name of the folder in which the jar file is stored.	Don't use ";", "#", "%", "^", or "!" for the path name of a folder.	Not determined
3	Linux If JServlet is started on HotSpot VM for debugging, remote debugging of Apworks is used, and the Servlet container is shut down, the Java VM may crash generating core and hs_err_pid***.log or fjvm_pid***.log (***) is the process ID).	None	Not determined
4	Linux If the J2EE deployment tool is started, the Java VM may crash generating core and hs_err_pid***.log or fjvm_pid***.log (***) is the process ID).	None	Not determined
5	Linux The service concerned may be in a hang-up state at the time of the stop of each service that uses JavaVM.	None	Not determined

No	Restriction	Remarks	Date of Removal
6	Linux StackOverflowError cannot be caught in JDK 1.3.1 and 1.4.1. The Java VM may crash generating core and hs_err_pid***.log or fjvm_pid***.log (** is the process ID).	None	Not determined
7	Linux While performing the class which reuses a socket address inside, execution of the bind may fail 2nd henceforth.	None	Not determined

Restrictions on the Portal Component

This section explains the following restrictions on the Portal component:

- Restrictions on Scripts in Contents
- Restrictions on the Alternative Logon Function
- Restrictions on the Load Distribution Environment
- Restrictions on Using Netscape 4.6/4.7
- Restrictions on Using Web USP (List of URLs to be Excluded With Form Authentication Inherited)
- Access from PC to Secure Site (HTTPS)

Restrictions on Scripts in Contents

Table 2-23 Restrictions on Scripts in Contents

No.	Restriction	Remarks	Date of Removal
1	<p>If the connected content is applicable to the following cases, it may not be displayed properly or the script may not operate properly in the portal function.</p> <ul style="list-style-type: none"> - The content contains scripts such as JavaScript, JScript or VBScript (*1) - The content contains component(s) that performs its own communication internally (Applet, ActiveX). 	If a script error occurs, display the script on another window by pressing the button.	Not determined
2	<p>Anchor movement within a page in the brick of the Portal component differs from that displayed directly on the browser. In anchor movement in the brick of the Portal component, content is redrawn. Example: <code> to the top </code></p>	If the operation in a content performed without using the Portal component differs from that with the Portal component, display the content in a separate window.	Not determined

*1 For JavaScript and JScript, display and operation with Portal component may be impossible under the following conditions:

1. Examl:eval("document.location=" + "http://foo/bar" + query);
Examl:setTimeout("document.location = " + "http://foo/bar" + query",2000);
Examl:setInterval("document.location = " + "http://foo/bar" + query",1000);

2. A script which can be rewritten with `document.write()` or HTML is written.
Exempl:`document.write("document.location = " + "http://foo/bar" + query");`
Exempl:`document.write("");`
3. "(" or ")" is used in the rewriting target object part.
Exempl:`foo(x, y).bar.href = "http://xxxxx";`
4. Operation may not be performed correctly if the following properties are referenced in a script:
`document.URL`
`document.domain`
`document.referrer`
`location.protocol`
`location.host`
`location.hostname`
`location.port`
`location.pathname`
`location.hash`
`location.search`
`location.href`
5. A script which can be rewritten with `with()` is evaluated.
Exempl:`with(document.F1){`
 `target="newTarget";`
 `action="action.cgi";`
}
6. When the window name is set by `window.name` or `self.name`, control in the brick frame of the Portal component is disabled. (When the back icon or home icon in the brick frame of the Portal component is clicked, another window opens and displays a content.)
7. When a processing is designed so that JavaScript in HTML content controls the Cookie in the remote server, the Cookie is not posted to the remote server. If the Cookie is needed in the remote server, a problem may occur in the operation of the remote server.
8. If a method (such as `history.back();`) used to perform history operation is written in the JavaScript called by an `onLoad` event, a content may be repeatedly read in endless manner. If this symptom occurs, quit the browser and change the settings so that the relevant content is not displayed in the brick.

Restrictions on the Alternative Logon Function

Table 2-24 Restrictions on the Alternative Logon Function

No.	Restriction	Remarks	Date of Removal
1	Proxy logon cannot be executed if the one-time password authentication is used for contents form authentication.(*1)	None	Not determined
2	Form authentication alternative logon cannot be executed under the following conditions: - The logon form is displayed using the HTTP protocol redirection function.(*2)	Register the logon form URL after redirection as an alias.	Not determined
3	When the user uses a Netscape4.X browser, the maximum number of characters in each input item on the basic authentication information setting screen and form authentication information setting screen is defined as follows: a) Basic authentication information setting screen - User name: 64 bytes - Password: 64 bytes - Comment: 64 bytes b) Form authentication information setting screen - Comment: 64 bytes	None	Not determined
4	In form authentication alternative logon, the maximum size of post data sent from a browser is 8K bytes. If this value is exceeded, the message below is recorded in an event log and the alternative logon fails. [Event log message] Failed to save proxy logon information. The parameter is incorrect. [too long post data]	Send post data with length of 8K bytes or less.	Not determined

*1 In the one-time password authentication, a password that can be only once is created using such a key which changes for each request as the time in PC and counter value.

*2 The HTTP protocol redirection function in this condition requests a jump to the specified URL for a browser with response code 301 or 302 returned by the Web server for an HTTP request. The jump destination URL is written in the location header in the response header.

Restrictions on the Load Distribution Environment

Table 2-25 Restrictions on the Load Distribution Environment

No.	Restriction	Remarks	Date of Removal
1	Values set in the number of logon items and duplicate logon control under access control are managed for each server. These values are not managed totally in a load distribution environment.	None	Not determined

Restrictions on Using Netscape 4.6/4.7

Table 2-26 Restrictions on Using Netscape 4.6/4.7

No.	Restriction	Remarks	Date of Removal
1	If Portal component is used to display contents containing an ilayer or layer tag usable with contents for Netscape via a Netscape browser, error message "Not Found" is displayed and the contents cannot be displayed correctly.	None	Not determined

Restrictions on Using Web USP (List of URLs to be Excluded With Form Authentication Inherited)

Table 2-27 Restrictions on Using Web USP

No.	Restriction	Remarks	Date of Removal
1	For a dynamically created logon form, the same URL as an action URL from a logon form may be used for access to this logon form. If so, the function that inherits alternative logon and displays a new browser window does not operate.	None	Not determined

Access from PC to Secure Site (HTTPS)

Table 2-28 Access from PC to Secure Site (HTTPS)

No.	Restriction	Remarks	Date of Removal
1	"Network Error -1" may be displayed if two or more secure sites (https) are accessed in brick services in the same roll.	Reduce the number of brick services displayed in a roll, for example by dividing the roll.	Not determined

Restrictions on Using the Brick Automatic Update Function

Table 2-29 Restrictions on Using the Brick Automatic Update Function

No.	Restriction	Remarks	Date of Removal
1	If contents consisting of two or more frames are registered as Portal component service (alias), the contents may not be displayed correctly.	Select [Brick automatic update] under [Brick information] and cancel the automatic update.	Not determined

Restrictions on Other Functions

Table 2-30 Restrictions on Other Functions

No.	Restriction	Remarks	Date of Removal
1	When "SystemWalker/CentricMGR" is installed in the same system, the "SystemWalker console job monitoring" function cannot be used.	None	Not determined
2	<p>Solaris OE</p> <p>In products from SystemWalker/CentricMGR 5.0 through 5.2, the information on the following EJP application type is not displayed.</p> <ul style="list-style-type: none"> - Bean-managed persistence Entity - Container-managed persistence Entity 	None	Not determined
3	<p>Solaris OE</p> <p>Do not uninstall the following services specified in Interstage initialization in other than Interstage uninstallation:</p> <ul style="list-style-type: none"> - Service supported in operating mode - Service specified in the Interstage operating environment definition <p>If these services are uninstalled, Interstage activation and reinitialization may become impossible</p>	If a service listed in the column at left is to be uninstalled, reinitialize Interstage so that the service is not a target of initialization, and then uninstall the package.	Not determined

Restrictions on Interstage Single Sign-on

Table 2-31 Restrictions on Interstage Single Sign-on

No.	Restriction	Workaround	Schedule for cancellation
1	The authentication and business servers cannot be built on the same machine.	None	Not determined
2	Netscape 6.0 is not supported for Single Sign-on operations using the Interstage Management Console.	Use another Web browser supported by the Interstage Management Console.	Not determined
3	The Interstage Management Console cannot be used to create a path configuration containing two or more consecutive spaces.	None	Not determined
4	When a business system is operated by Microsoft(R) Internet Information Services 6.0 as the Web server, an sso03046 error occurs and an Internet Server Error with status code 500 may be reported.	To operate the business system using Microsoft(R) Internet Information Services 6.0 as a Web server, set [Isolation mode] to "Run WWW service in IIS 5.0 isolation mode" in [Internet Information Services (IIS) Manager].	Not determined

No.	Restriction	Workaround	Schedule for cancellation
5	<p>Solaris OE</p> <p>When a business server is operated by Sun ONE Web Server 6.0, if the environment configuration for the business server is invalid, Sun ONE Web Server 6.0 cannot be started.</p>	<p>Confirm the contents of the message with the output from message numbers beginning with sso to the system log, and remove the cause of the error.</p> <p>To ensure that Sun ONE Web Server 6.0 can be started, comment out the servlet configurations of magnus.conf and obj.conf of Sun ONE Web Server 6.0.</p> <p>For details, refer to "Environment Setup (Business Server Administrators)" – "Integrating into the Web Server" – "Integrating into Sun ONE Web Server Enterprise Edition 6.0" in the Single Sign-on Operator's Guide.</p>	Not determined
6	<p>Solaris OE</p> <p>When a business server is operated by Sun ONE Web Server 6.0, if the "/" (root path) is registered for protection resource, Sun ONE Web Server 6.0 cannot be started.</p>	<p>Comment out the servlet configurations of magnus.conf and obj.conf of Sun ONE Web Server 6.0.</p> <p>For details, refer to "Environment Setup (Business Server Administrators)" – "Integrating into the Web Server" – "Integrating into Sun ONE Web Server Enterprise Edition 6.0" in the Single Sign-on Operator's Guide.</p>	Not determined

Restrictions on Other Functions

Table 2-32 Restrictions on Other Functions

No.	Restriction	Remarks	Date of Removal
1	When "SystemWalker/CentricMGR" is installed in the same system, the "SystemWalker console job monitoring" function cannot be used.	None	Not determined
2	<p>Solaris OE</p> <p>In products from SystemWalker/CentricMGR 5.0 through 5.2, the information on the following EJP application type is not displayed.</p> <ul style="list-style-type: none"> - Bean-managed persistence Entity - Container-managed persistence Entity 	None	Not determined
3	<p>Solaris OE</p> <p>Do not uninstall the following services specified in Interstage initialization in other than Interstage uninstallation:</p> <ul style="list-style-type: none"> - Service supported in operating mode - Service specified in the Interstage operating environment definition <p>If these services are uninstalled, Interstage activation and reinitialization may become impossible</p>	If a service listed in the column at left is to be uninstalled, reinitialize Interstage so that the service is not a target of initialization, and then uninstall the package.	Not determined

Chapter 3

Notes on Interstage Operation

This chapter provides additional information on the use of Interstage Application Server.

Common Notes for Interstage

This section explains the following topics:

- About Netscape 6
- About the Cross-Site Scripting Problem
- Using the JSSE Function
- Monitor Screen Colors
- Setting Port Numbers Used for Individual Services
- Entering Information in the Hosts File

About Netscape 6

Do not install Netscape 6 on the same system.

About the Cross-Site Scripting Problem

What is the Cross-Site Scripting Problem?

The Cross-Site Scripting problem is a security problem that occurs when the client Web Browser sends input data based on a dynamically generated Web page back to the server. Static HTML pages and dynamically generated Web pages not using the data input, are not affected by this problem.

This is explained in the following example:

1. The following script is an example of a script that is executed when cross scripting occurs. This script is placed at the end of the input data form script, just before 'Submit'.

```
"<SCRIPT Language=JavaScript>alert("Hello");</SCRIPT>"
```

2. After the input data was sent, the dialog box with 'Hello' will be displayed.

The data input was processed but so was the script. However, if the user sends the input data directly to the reliable site there is no problem even if there are errors on the page. But when the user sends input data through an unreliable site, and the unreliable site sends this as input data to the reliable site then the script that is executed causes the Cross-Site Scripting problem.

Analysis of the Problem

When developing applications like CGI and Servlet that generate dynamic pages to be displayed by the Web browser and that generate Web pages without investigating the input data, this problem needs to be fixed.

Examples:

- Retrieved result pages
- Those checking there is no errors in the input
- Those that register the input data in databases and display the input data through key words.

Investigation Method

Review the application programs one by one from the point of retrieving input data to that of generating the Web pages. This can be done manually, by visual inspection of the source code, or, when reviewing the source program is not practical, by running tests such as the one described above.

Countermeasures

When any problem is detected, take one of the following actions.

- Stop embedding input data into Web pages
- Convert special characters (< > &) to (< > &).

Security Information

Security information regarding Fujitsu products is announced in the following url.

<http://software.fujitsu.com/en/security/main.html>

Using the JSSE Function

When Interstage Application Server is installed, a library for the Java Secure Socket Extension (JSSE) function is stored at the following location:

<Interstage installation folder>\J2EE\lib

The stored JSSE function library is classified into two types: one for JSSE1.0.2 and one for JSSE1.0.3. The names of the files that are actually stored are as follows:

- For JSSE1.0.2
 - isj2ee.jar (The class for JSSE1.0.2 is stored in this jar file.)
- For JSSE1.0.3
 - jcert.jar
 - jnet.jar
 - jsse.jar

To use the JSSE function, these files must be set with the environment variable CLASSPATH.

When JSSE1.0.2 is to be used, ensure that isj2ee.jar is set with CLASSPATH.

When JSSE1.0.3 is to be used, set jcert.jar, jnet.jar, and jsse.jar with CLASSPATH so that these files come before isj2ee.jar.

Monitor Screen Colors

For the machine on which Interstage Application Server is installed, use a display monitor and driver for which 256 colors or more can be specified as monitor screen colors.

If a value of less than 256 colors is set, the GUI program using Java cannot start. This type of display monitor cannot be used.

Applicable Functions

J2EE common resources

- J2EE resource access definition
- J2EE development tool

Smart Repository

- Entry Administration Tool

Other

- User-developed program

Setting Port Numbers Used for Individual Services

When port numbers are set or changed for Interstage Application Server services, unique port numbers must be set for all individual services including applications in the system. If services are operated with the same port number set for different services, normal operation cannot be performed (for example, a client may fail to access a service).

Table 3-1 lists the services and functions for which port numbers are set under Interstage Application Server. The table also lists the locations where the port numbers are set.

Table 3-1 Services/Functions for Which Port Numbers are Set

Service Name/ Function Name	Port Number Setting Location
Interstage Management Console	'Port number for Interstage management console' C:\Interstage\gui\etc\httpd.conf - Port directive

Service Name/ Function Name	Port Number Setting Location
Web Server (Interstage HTTP server)	<p>'Port number for the entire Web Server (Interstage HTTP server)'</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [Services] > [Web Server] > [Web Server Settings] tab > [Port Number] <p>Or</p> <p>Windows</p> <p>The environment definition file (C:\Interstage\F3FMihs\conf\httpd.conf)</p> <ul style="list-style-type: none"> - Port directive <p>Solaris OE Linux</p> <p>The environment definition file (/etc/opt/FJSVihs/conf/httpd.conf)</p> <ul style="list-style-type: none"> - Port directive
	<p>'Port number for the virtual hosts'</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [Services] > [Web Server] > [Virtual Hosts] > [Create a new Virtual Host] > [IP Address] and [Port Number] <p>Or</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [Services] > [Web Server] > [Virtual Hosts] > [Virtual Host Name] > [Configuration] > [IP Address] and [Port Number] <p>Windows</p> <p>The environment definition file (C:\Interstage\F3FMihs\conf\httpd.conf)</p> <ul style="list-style-type: none"> - Listen directive <p>Solaris OE Linux</p> <p>The environment definition file (/etc/opt/FJSVihs/conf/httpd.conf)</p> <ul style="list-style-type: none"> - Listen directive <p>Note:</p> <p>Setting the Listen directive in the environment definition file invalidates the Port directive in the environment definition file.</p>
Web Server (InfoProvider Pro)	<p>'Port number for Web Server (InfoProvider Pro)'</p> <p>InfoProvider Pro environment definition file</p> <ul style="list-style-type: none"> - port

Service Name/ Function Name	Port Number Setting Location
CORBA Service	<p>'Port number for CORBA service'</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [System] > [Update System Settings] > [CORBA Service Settings [Show]] > [Port number] <p>Or</p> <p>The environment definition file (config)</p> <ul style="list-style-type: none"> - IIOp_port <hr/> <p>'Port number for CORBA service SSL'</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [System] > [Update System Settings] > [CORBA Service Settings [Show]] > [SSL Encryption] > [SSL listen port] <p>Or</p> <p>The environment definition file (config)</p> <ul style="list-style-type: none"> - UNO_IIOp_ssl_port
Servlet Service	<p>'Port number for Servlet service'</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [WorkUnits] > [Create a new WorkUnit] > [Detailed Settings[Show]] > [Servlet Container Settings[Show]] > [Port number] <p>Or</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [WorkUnits] > Select 'JServer name' > [Settings] > [Servlet Container Settings[Show]] > [Port number] <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [Services] > [Web Server] > [Web Server Settings] > [General Settings] > [Port number] <p>Note:</p> <p>Port numbers must be set when the Web Server connector and Servlet container are provided on separate systems (when 'Yes' is selected from 'Run Web server and WorkUnit on the same machine?' on the [System] > [Update System Settings] > [Detailed Settings [Show]] > [Servlet Container Settings[Show]]). A port number does not need to be set when these components are provided on the same machine.</p>

Service Name/ Function Name	Port Number Setting Location
Servlet Service for Interstage Management Console	<p>'Port number of Servlet Service for Interstage Management Console'</p> <p>JServlet environment definition file</p> <ul style="list-style-type: none"> - [containername].port definition <p>Servlet gateway environment definition file</p> <p>[When Web Server is Interstage HTTP Server]</p> <ul style="list-style-type: none"> - ApJServMount definition - ApJServHost definition <p>[When Web Server is other than Interstage HTTP Server]</p> <ul style="list-style-type: none"> - Container definition <p>Servlet container environment definition file</p> <ul style="list-style-type: none"> - Parameter tag
Old version (V5.0.1 or earlier) Servlet Service	<p>'Port number for old version (V5.0.1 or earlier) Servlet service'</p> <p>JServlet environment definition file</p> <ul style="list-style-type: none"> - [containername].port definition <p>Servlet gateway environment definition file</p> <p>[When Web Server is Interstage HTTP Server]</p> <ul style="list-style-type: none"> - ApJServMount definition - ApJServHost definition <p>[When Web Server is other than Interstage HTTP Server]</p> <ul style="list-style-type: none"> - Container definition <p>Servlet container environment definition file</p> <ul style="list-style-type: none"> - Parameter tag
Interstage JMX Service	<p>'Port number used for the Interstage JMX service to receive a request from the Interstage Management Console'</p> <p>Customize by specifying a value for the rmi attribute on the 'port' tag in the isjmx.xml file.</p>
	<p>'Port number required for operation of the Interstage JMX service'</p> <p>Customize by specifying a value for the internal attribute on the 'port' tag in the isjmx.xml file.</p>
Smart Repository	<p>'Port number of Smart Repository'</p> <p>Interstage Management Console</p> <ul style="list-style-type: none"> - [Port number] and [SSL Port number] of [System] > [Service] > [Repository] > [Create a New Repository] tab > [General Settings]

Service Name/ Function Name	Port Number Setting Location
Interstage Single Sign-on	Port number of Repository Server (server in single configuration or update system server in multiple configuration) Interstage Management Console - [Port number] of [System] > [Security] > [Single Sign-on] > [Authentication infrastructure] > [Repository server] > [Settings] tab > [Detailed Settings [Show]] > [Network Settings]
	Port number of Repository Server (reference system) Interstage Management Console - [Port number] of [System] > [Security] > [Single Sign-on] > [Authentication infrastructure] > [Repository server (reference system)] > [Settings] tab > [Detailed Settings [Show]] > [Network Settings]
	Port number of Authentication Server Interstage Management Console - [Port number] of [System] > [Security] > [Single Sign-on] > [Authentication infrastructure] > [Authentication server] > [Settings] tab > [Detailed Settings [Show]] > [Network Settings]
	Port number of Business Server Interstage Management Console - [Port number] of [System] > [Security] > [Single Sign-on] > [Business system] > [Business system Name] > [Settings] tab > [Detailed Settings [Show]] > [Network Settings]

Note

Smart Repository can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

The Repository server and Authentication server of Single Sign-on can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Entering Information in the Hosts File

Solaris OE **Linux**

Note the following points when registering a local host in the /etc/hosts file.

Enter an IP address that can be referenced from a remote server before setting the local host name in '127.0.0.1'. Alternatively, do not set a local host name in '127.0.0.1'.

The following example shows how to set the host 'remote01' with the IP address '10.10.10.10'.

```
10.10.10.10    remote01
127.0.0.1     remote01    localhost.localdomain  localhost
```

Notes on the Interstage Operation Tool

The Interstage Operation Tool can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Version Level of Each Service Performing the Operation

Solaris OE

The version level of each service operating with Interstage Operation Tool is limited to the service installed with the same CD-ROM. The service installed with the CD-ROM of other version levels cannot be operated.

Notes on the Interstage Integration Commands

Windows

This section provides additional information on the Interstage integration commands.

The Interstage integration commands can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

Dealing with Abnormal Command Termination

If the *isstart*, *isstop* or *isinit* command terminates abnormally, terminate the system by using the `-f` option in the *isstop* command.

To start Interstage again, use the *isstart* command.

Starting and Stopping Services

Do not start or stop the following services when using the *isgndef*, *isregistdef*, *isinit*, *isstart* or *isstop* commands:

- OD_start
- NamingService
- InterfaceRep_Cache Service
- InterfaceRep_Cache_e Service
- EventService
- TransactionDirector
- ObjectTransactionService
- Interstage API
- NS LoadBalancing Option
- F3FMwww
- Interstage JServlet
- CORBA_SOAP ClientGW

Note on Stopping Interstage

To stop Interstage, first stop all WorkUnits, then use the *isstop* command to stop Interstage.

Notes on Interstage Single Sign-on

This section explains the following topics:

- Notes on Clients
- Notes on Uninstalling
- Notes on the System Times of the Repository Server/Authentication Server/Business Server
- Notes on Interstage Portalworks Linkage Function
- Notes on a System Configuration with a Cluster of Business Servers Deployed for Load Balancing
- Notes on a System Configuration with a Cluster of Authentication Servers Deployed for Load Balancing
- Notes on a System Configuration with a Cluster of Repository Servers Deployed for Enhanced Availability
- Notes on Designing a Business System
- Notes on using Web Applications that run on a Repository Server or Authentication Server Machine
- Notes on Using the Form Authentication Function
- Notes on using Interstage Application Server Plus Developer

Notes on Clients

With Interstage Single Sign-on, users gain access to the system from a client through a Web browser or similar. Keep the following points in mind regarding clients.

Scope of Web Browser Support

The following types of Web browsers are supported:

Web browser	Version/Level
Netscape Communicator	4.6, 4.7, 4.72, 4.73, 4.75, 4.78
Microsoft(R) Internet Explorer	5.01, 5.5, 6.0

Web Browser Configuration

Configure your Web browser to:

- Accept cookies
- Enable Java scripts
- Gain access to an authentication server and business server via a proxy server if either is used
- Use SSL 2.0 and SSL 3.0.

Installing Security Patches

Defects in your Web browser could make your system vulnerable to attacks, such as the theft of cookies. As such defects are discovered, security patches to correct them are released by the developer of the Web browser. Make sure that your Web browser has the latest releases of security patches installed.

Proxies

Where Interstage Traffic Director is used to balance server loads, clients may pass different proxies depending on how Interstage Traffic Director is configured. The IP address of each proxy is identified to the authentication and business servers. This means that the client IP address will differ between the two instances of accessing the authentication server and accessing the business server, impeding the correct functionality of Single Sign-on. Configure Interstage Traffic Director so that access requests originating from the same client will use the same proxy.

Interstage Traffic Director, for example, may be configured for 'Balancing by node' to connect requests originating from the same client to the same server.

Using Basic Authentication in Internet Explorer

If the Basic Authentication dialog for password authentication is canceled, and repeated operations result in the dialog being displayed continuously, authentication may fail. This is true even if the user ID/password that is entered is correct.

In this case, re-enter the correct user ID/password in the Basic Authentication dialog, and re-execute authentication.

Notes on Uninstalling

Back up required resources before uninstalling Interstage Single Sign-on. For information on required resources, see 'Maintenance (Resource Backup)' in the Operator's Guide.

Notes on the System Times of the Repository Server/Authentication Server/Business Server

Set the correct system time for the repository server, authentication server, and business server. (*1) If their system times are not synchronized, correct user authentication might not be possible.

*1 When setting the system time for each server, pay attention to the time zone setting.

Notes on Interstage Portalworks Linkage Function

Set up all business systems that link with Interstage Portalworks in the same domain. When creating a business system setup file used to set up a business system, set [Linkage with Interstage Portalworks] to [Yes], and set the same domain name on each business system to enable authentication. To create a business system setup file from the Interstage Management Console, click [Security] > [Single Sign-on] > [Authentication infrastructure] and open the [Authentication infrastructure: Business system setup file] window.

When setting up a business server to link with Interstage Portalworks, click [Security] > [Single Sign-on] > [Business system] > [Business system Name] > [Detailed Settings [Show]]. Set [Enable Client IP Address Check?] in [Authentication Information Settings] to 'No', and set [Notify User Information?] in [Linkage with Web applications] to 'Yes' and then click the [Update] button.

Notes on a System Configuration with a Cluster of Business Servers Deployed for Load Balancing

In this system configuration, keep the following points in mind:

1. Build a cluster of business servers whose loads are to be balanced from machines running on the same platform and of the same version and edition, and with Interstage installed in the same install directory.
2. Set a load balancer such as Interstage Traffic Director so that multiple business servers are logically represented with the same host name.
3. Set a load balancer so that the requests from the same client are transferred to the same business server.
4. To use Interstage Traffic Director as the load balancer, make sure the following settings are used:
Operating mode: Bridge
Load balancing method and connection uniqueness: Node-level load balancing

Notes on a System Configuration with a Cluster of Authentication Servers Deployed for Load Balancing

In this system configuration, keep the following points in mind:

1. Build a cluster of business servers whose loads are to be balanced from machines running on the same platform and of the same version and edition, and with Interstage installed in the same install directory.
2. Using a load balancer, such as Interstage Traffic Director, configure a cluster of authentication servers to share a logically single host name.
3. Set the FQDN (Fully Qualified Domain Name) of the logical host name as the certificate owner's name in the certificate used for SSL communication.
4. Configure a load balancer to connect requests originating from the same client to the same server.
Interstage Traffic Director, for example, may be configured for 'Balancing by node' to connect requests originating from the same client to the same server.
5. To use Interstage Traffic Director as the load balancer, use the following settings:
Operating mode: Bridge
Load balancing method and connection uniqueness: Node-level load balancing
6. Set up the environments for all of the authentication servers the same way, except for the following items:
Access log
Repository server (reference system) communication setting
To set up an environment for an authentication server from the Interstage Management Console, select [Security] > [Single Sign-on] > [Authentication infrastructure] > [Authentication server] and open the [Authentication server: Settings] window.

Notes on a System Configuration with a Cluster of Repository Servers Deployed for Enhanced Availability

In this system configuration, keep the following points in mind:

1. Use repository servers (update system) and repository servers (reference system) of the same edition and version.
2. Set up all of the environments for the repository server (update system) and repository server (reference system) the same way, except for the following item:
 - Access log

To set up an environment for the repository server (update system) from the Interstage Management Console, select [Security] > [Single Sign-on] > [Authentication infrastructure] > [Repository server] and open the [Repository server: Settings] window.

To set up an environment for the repository server (reference system) from the Interstage Management Console, select [Security] > [Single Sign-on] > [Authentication infrastructure] > [Repository server (reference system)] and open the [Repository server (reference system): Settings] window.
3. When it is necessary to modify the SSO repository, make the modifications to the SSO repository of the repository server (update system).
4. Before editing the SSO repository of the repository server (update system), make sure that the SSO repository of the repository server (reference system) has not shut down for any reason. If the SSO repository has shut down, launch it promptly.
5. If the SSO repository has been shut down or has closed down for a long period, its data integrity could be lost. If irep15071 has been reported in the system log of the repository server (update system), check the message and repair the SSO repository data. For more information on messages that are output to the system log, see 'Messages with Message Numbers Beginning irep' in the Messages.

If irep15071 has not been reported, the data in the SSO repository of the data repository server (update system) will be reflected in the SSO repository of the repository server (reference system) when the repository server (reference system) is repaired. The work is completed when the last batch of update information generated in the access log of the SSO repository of the repository server (update system) is generated in the access log of the SSO repository.

Notes on Designing a Business System

When adding a business system to Interstage Single Sign-on, business server administrators should keep the following points in mind:

1. Design business system public URL to keep it modification-free during execution of Single Sign-on from the viewpoint of user influences. Interstage Single Sign-on does not permit modifying the business system public URL in service. The business system must be reconfigured to make modifications to its public URL.
2. If a business system is not communicating in SSL mode, it is necessary to check with the SSO administrator to find out if connectivity in non-SSL communication is enabled or not.
3. The business system cannot use any cookie whose name begins with 'fj-is-ss0-' or query string.

Notes on using Web Applications that run on a Repository Server or Authentication Server Machine

The SSO administrator should pay attention to the following points when running Web applications and a repository server or authentication server on the same machine:

1. Any Web application that handles requests issued to any one of the following URLs cannot be operated on the machine in which a repository server is constructed:
 - `http(s)://(repository-server-FQDN):(repository-server-port-number)/ssoatcsv (*1)`
 - `http(s)://(repository-server-FQDN):(repository-server-port-number)/resinfo (*1)`
 - `http(s)://(repository-server-FQDN):(repository-server-port-number)/roleref (*1)`
 2. Any Web application that handles requests issued to the following URL cannot be operated on the machine in which an authentication server is constructed:
 - `http(s)://(authentication-server-FQDN):(authentication-server-port-number)/ssoatcag (*1)`
 3. Any Web application that handles cookies whose names begin with 'fj-is-sso-' or query strings cannot be operated on the machine in which an authentication server is constructed.
- *1 This also includes URLs in which any character string is added after the path (example: '/ssoatcsv/'). Moreover, if static contents are arranged in the URL, they cannot be operated (i.e. sent to a client's browser).

Notes on Using the Form Authentication Function

Note the following points when using the form authentication function:

1. If a user who is not authenticated accesses 'an unprotected Web page containing protected images', the Web page is displayed. However, the protected images in the Web page are not displayed. To display all images, set the protection resource so that the HTML files and images constituting the Web page are protected together.
2. If a Web page and the images contained in it are protected, the images in the Web page may not be correctly displayed when the validity period of authentication information has expired. For example, suppose that the validity period of authentication is in effect when a client accesses a Web page but had expired when the Web browser reads images from the Web page. In this case, the Web page is displayed but the images in it are not displayed.

If this happens, the user can display the images of the Web page using the reloading function of the Web browser.

3. If the user's Web browser is Netscape Navigator, Interstage Single Sign-on error pages may be displayed in garbled text.

If this happens, the error pages can be correctly displayed by clearing the cache of the Web browser using the following procedure:

- Select [Preferences] from the [Edit] menu of Netscape Navigator.
- Select [Cache] from [Advanced] on the tree on the left side of the displayed dialog, and click the [Clear Memory Cache] button and [Clear Disk Cache] button displayed on the right.

4. If the user's Web browser is Internet Explorer and the user selects 'No' on the 'Security Warning' dialog displayed on the Web browser after a successful user authentication, the 'User was already authenticated.' message is displayed and the user cannot access the protection resource.
If this happens, the user can display the Web page by accessing the protection resource again.
5. If the user's Web browser is Netscape Navigator, and the user selects 'Cancel' on the 'New Site Certificate' dialog or 'Security Info' dialog displayed on the Web browser, the ' User was already authenticated.' message appears and the user cannot access the protection resource.
If this happens, the user can display the Web page by accessing the protection resource again.
6. If Internet Explorer is used as the Web browser, the Web browser cache function may cause the results contents of previously displayed protected resources to be displayed. When users leave their computers unattended, they should take precautions to ensure that unauthorized users cannot access the system illegally.

Notes on using Interstage Application Server Plus Developer

If Interstage Application Server Plus Developer is used in an environment in which an authentication server and a business server have been set up on the same machine, it may cause the client certificate request window to be displayed at the time of authentication.

Notes on the Interstage HTTP Server

Interstage HTTP Server is a Web server based on Apache 1.3.22.

In addition to the basic functions provided through Apache 1.3.22, the following functions are supported to meet various functional requirements on Web servers.

- Online Collation Function (LDAP)
- SSL

Refer to the 'Apache HTTP Server Version 1.3' manual for details of the Apache functions available when using Interstage HTTP Server.

Open the following files on the Web browser when the Interstage HTTP Server starts, and refer to the 'Apache HTTP Server Version 1.3' manual.

```
http://Host name:Port number/manual/index.html
```

Host name

Host name or IP address of the system that installs Interstage HTTP Server.

Port number

Port number. If the port number of the host is 80, it can be omitted (The colon (:) is not required when omitting the port number).

This section provides notes on the Interstage HTTP Server.

Starting and Stopping Interstage HTTP Server

To start or stop Interstage HTTP Server, the following methods are available:

- If the Interstage Management Console is to be used, start the Interstage Management Console to log in to the system, and perform the start or stop operation in the following window:
 - To start or stop Interstage HTTP Server
[System] > [Services] > [Web Server] > [Web Server: Web Server Status] screen
 - To start or stop Interstage HTTP Server in conjunction with Interstage
[System] > [System: View System Status] screen

- If the Interstage setup command is used, use the commands below to perform the start or stop operation. Note that these commands can be used only in the Interstage Application Server Enterprise Edition.
 - To start Interstage HTTP Server

```
isstop -f  
  
ismodifyservice -a FJapache (When the Interstage HTTP Server service has not been added to the Interstage operating environment)  
  
isstart
```
 - To stop Interstage HTTP Server

```
isstop
```
- To use the service, log in with Administrator permission, open [Control Panel] > [Administrative Tool] > [Services], select 'FJapache,' and click the start or stop operation.

Note

- The provided *apache* command cannot be used in a Windows(R) system.
- To stop the Interstage HTTP Server, use the same method as the start method.
- If the Interstage HTTP Server is started using Interstage general command (*isstart*), always stop the Interstage HTTP Server using the Interstage general command (*isstop*). When checking the starting state of an Interstage HTTP Server started using the *isstart* command, 'FJapache execute' is displayed.

Windows

- Interstage HTTP Server install/uninstall and Interstage HTTP Server start/stop operations can be used only by Administrators or users with Administrator authority.

Operating Interstage HTTP Server

Solaris OE Linux

Do not delete the following process management files while operating Interstage HTTP Server.

```
/opt/FJSVihs/logs/httpd.pid
```

If the file is deleted, the operation of Interstage HTTP Server cannot be guaranteed. Restart the system again to operate normally.

Operating Interstage Management Console

Interstage HTTP Server allows a user to set up the Web server environment definition using the Interstage Management Console.

Online Collation Function (LDAP) and SSL Settings

For the setting methods of the Online Collation function (LDAP) and SSL, refer to the Security System Guide.

Access Log and Error Log Settings

For the setting methods of the access log and error log, refer to 'ihsrlog' in the Reference Manual (Command Edition).

Environment Definition File (*httpd.conf*) Settings

Do not change the definition of the *PidFile* directive in the environment definition file (*httpd.conf*). If the definition is changed, the Interstage HTTP Server may not work correctly.

Notes on the InfoProvider Pro

Windows **Solaris OE**

This section provides notes on the InfoProvider Pro.

(1) Authority to Use the Web Server

Web server install/uninstall and Web Server start/stop operations can be used only by Administrators or users with Administrator authority.

(2) SQL Gateway

Articles about the SQL gateway have been deleted from V4.0. This function can still be used in the current version. Those who use the SQL gateway of V3.0 or earlier and require the manual should refer to the manuals of V3.0 or earlier.

(3) When accessing from a Web browser using the IPv6 Protocol

When accessing from a Web browser using the IPv6 protocol, use an OS product and Web browser which support the IPv6 protocol officially.

Notes on J2EE

1) J2EE Application Operation

To use the following XML files while the web application or the J2EE application client is operating, add the Java VM heap area, which is calculated from the formula shown below, to the specified value for the maximum Java VM heap area size.

- Target XML files during operating web application
 - Web application environment definition file (web.xml)
 - Name conversion file (FJebeProperties.xml).
- Target XML files during operating J2EE application client
 - Deployment descriptor file
 - Name conversion file.

Java VM heap area size calculation

Use the following formula to calculate the Java VM heap area size of each XML file. Add them to find the total required area:

$((a * 460) + b) / 1024 + 500) * c$ (unit: kilobytes)

a: Number of lines in an XML file

b: XML file size (unit: bytes)

c: Number of clients accessed at the same time (when operating the Web application), or the number of threads that issue lookups (when operating the J2EE application client)

The specification method of Java VM heap area size

When operating the Web application

Specify the size for the JavaVM option at [WorkUnits] > 'IJSERVER name' > [Settings] tab.> [WorkUnit setting[Show]] > [Java VM Options] on the Interstage Management Console

Example of specifying 512 megabytes for the maximum Java VM heap area size:

```
-Xmx512m
```

When operating the J2EE application client

Use the -Xmx option of the Java command, and specify the size as shown below:

Example of specifying 128 megabytes for the maximum Java VM heap area size:

```
java -Xmx128m ClientAPL
```

Event resulting when the Java VM heap memory becomes insufficient

When an application is operated, if the Java VM heap area size to be used is not added to the maximum size, the following event may occur:

```
javax.naming.NamingException:com.fujitsu.interstage.j2ee.def.FJDefException: unknown error:
java.lang.OutOfMemoryError
```

2) Use of the J2EE Management Tool or J2EE Deployment Tool

Do not use the 'Release Deployment' or 'Deleting IJServers' functions of the J2EE Management tool, or the J2EE Deployment tool on a Web application with the following set up:

- A Web service container of SOAP Service

If these functions are used, re-installation is required before the Web application can be used again. Refer to the SOAP Service User's Guide for details of Web service containers.

The Interstage Management console can be used to deploy an EJB application with Remote Interface to an IJServer running both a Web application and the EJB application on separate JavaVMs. However, after doing this, do not deploy an EJB application with the same name using the J2EE management tool, J2EE Deployment tool, or ejbinstall command.

If the above deployment has been performed already, undeployment must be performed using the J2EE management tool, J2EE Deployment tool, or ejbinstall command. Then, in order to use an EJB application with the same name on the Interstage Management console again, perform an update by going to [IJServer name] > [Environment Settings] > [Update] tab on the Interstage Management Console.

3) Operation Environment for the J2EE Deployment Tool/J2EE Deployment Command/J2EE Resource Access Definition

Solaris OE

The operating environment of the J2EE Deployment tool, J2EE Deployment commands, and J2EE Resource Access Definition requires the common desktop environment (CDE) on the X server (standard build on the SPARC family Solaris(TM) Operating Environment OS).

Linux

The operating environment of the J2EE Deployment tool, J2EE Deployment commands, and J2EE Resource Access Definition requires the GNOME or KDE environment on the X server built in the Linux OS as standard.

Solaris OE Linux

If operating under another environment, the J2EE Deployment tool and J2EE Deployment commands may not be started normally. Even if they are started, the screen of the J2EE Deployment tool may not be displayed properly. Ensure that logging on is done from the above environment. In order to start the J2EE Deployment Tool, execute a J2EE Deployment command or start J2EE Resource Access Definition.

4) Warning Messages Displayed when Starting the J2EE Deployment Tool, J2EE Deployment Commands or J2EE Resource Access Definition

Solaris OE **Linux**

When starting the J2EE Deployment tool, J2EE Deployment command or J2EE resource access definition, a warning message may display indicating that a font required for the Java Development Kit (JDK) and Java Runtime Environment (JRE) was not found.

If this occurs, a message similar to the following warnings is displayed, but will not affect operation.

Font specified in font.properties not found

[-monotype-arial-regular-r-normal--*-%d-*-*p-*-*iso8859-1]

Font specified in font.properties not found

[-monotype-courier new-bold-i---*-%d-*-*p-*-*iso8859-1]

Font specified in font.properties not found

[-monotype-times new roman-bold-r---*-%d-*-*p-*-*iso8859-1]

Font specified in font.properties not found

[-monotype-times new roman-regular-r---*-%d-*-*p-*-*iso8859-1]

Font specified in font.properties not found

[-wadalab-gothic-medium-r-normal--*-%d-*-*c-*-*jisx0201.1976-0]

5) When a J2EE Resource Access Definition or fjj2eeadmin Command is Employed by the Default System

Solaris OE

When a J2EE resource access definition / fjj2eeadmin command is employed by the default system, do not specify the -M option as a command for starting.

6) Use of Databases

Linux

Although the Symfoware database can be selected from the Interstage Management Console, the Symfoware database itself cannot be used.

Notes on the Servlet Service

1) Servlet Service Execution Environment

The Servlet Service execution environment is based on Tomcat 4.1.2. Tomcat 4.1.x differs from Tomcat 4.1.24 in specification. Therefore, even if the Servlet and JSP application can operate with Tomcat 4.1.x, they may not operate with the Servlet service of this product.

2) Execution Environment of Old Version (V5.0.1 or earlier) Servlet Service

An old version (V5.0.1 or earlier) Servlet Service (servlet execution environment based on tomcat 3.1) is not compatible with the Microsoft Internet Information Server of Windows 2003 Server.

When the Windows 2003 Server is used, use the Interstage Application Server Web server.

3) Session Management Cookie of Servlet Service

When the Web Server runs in an SSL environment, the Secure attribute is automatically added to the session management cookie.

If the Web Server runs in non-SSL (HTTP) mode while the SSL accelerator is used, the Secure attribute is not automatically added. Use the following method to add the Secure attribute:

V6.0 or later Servlet Service

Refer to Environment Setup for Servlet Service in Chapter 12 of the Security System Guide.

Old Version (V5.0.1 or earlier) Servlet Service

Modify the following JServlet properties file:

Definition file name: jservlet.properties

Storage location: C:\Interstage\F3FMjs2\conf

Definition item: com.fujitsu.interstage.jservlet.session.cookie.secure.mode=auto|secure

– auto: Default value

When the Web Server runs in an SSL environment, the Secure attribute is automatically added to the session management cookie.

– secure:

Be sure to add the Secure attribute to the session management cookie.

Select this option when the Web Server runs in non-SSL (HTTP) mode while the SSL accelerator is used.

Definition example: com.fujitsu.interstage.jservlet.session.cookie.secure.mode=secure

Notes When Servlet Service V5.0.1 or Earlier is Used

Also note the following points when Servlet Service V5.0.1 or earlier is used.

1) The JSP Reloading Function

In V3.0, the reloading function of JSP is always enabled. However, in V4.0, the reloading function can be enabled or disabled through the environmental definition to improve operational performance. The reloading function is defined by the reloadable attribute of the environment definition for the Web application contained in the Servlet container environment definition file. In V4.0, the reloading function is disabled by default.

2) Before Using the JDK/JRE1.3 Environment

When using the Servlet Service in the JDK/JRE1.3 environment, do not log off Windows. If Windows is logged off, the Servlet container (JavaVM) terminates abnormally due to a bug in JDK1.3 (Bug Id: 4323062). For detailed information about the JDK1.3 bugs, refer to Bug parade of Sun Microsystems. This bug has been corrected in JDK1.3.1. For the JDK1.3.1 environment, specify -Xrs in 'default.bin.parameters or [containername].bin.parameters' of the JServlet environment definition file.

3) About the Access Log Format of the InfoProvider Pro

Windows **Solaris OE**

The URI format of the access log of the InfoProvider Pro has been changed from V4.0. The URI required by the Web browser was output to the REQUEST_URI up to V3.0, but will be output directly in V4.0.

Up to V3.0

```
localhost - - [24/Jul/2001:13:44:26 +0900] 'POST
/F3FMjs2/jsgw.dll?REQUEST_URI=/sample/servlet/HelloServlet HTTP/1.1' 200 270
```

V4.0

```
localhost - - [24/Jul/2001:13:44:26 +0900] 'POST /sample/servlet/HelloServlet HTTP/1.1' 200 270
```

4) Reinstallation of the Session Registry Server

Solaris OE

Before reinstalling the Session Registry server into a directory other than the default install directory using the session recovery function, save required files from the following directories and then delete all directories.

```
/opt/FJSVjs2sr
/etc/opt/FJSVjs2sr
/var/opt/FJSVjs2sr
```

5) Connection from Both SSL Environment and Non-SSL Environment Servers

In a configuration where the same servlet container is connected from both SSL environment and non-SSL environment servers, the session information created when a connection is established via the SSL environment Web server cannot be referenced when connection is established via the non-SSL environment server.

6) Notes Depending on the Java Language Specification

The following problems may occur in V7.0 and later. In any of the following cases, make the required changes in the applications.

a. JDK1.4 is used

Conformance with the Java language specification is a compulsory requirement, and a JSP containing any code that does not conform to the Java language specification cannot comply.

In this case, correct any problematic code in the application.

b. When the following conditions are met, an `InvalidClassException` may occur:

- JDK1.4 is used, and
- A serializable inner class that inherits an unmounted method from the interface exists in a JSP, and
- Objects of the above-mentioned inner class are serialized or restored.

If this problem occurs, an explicit serialized version UID must be set for the serializable class. For details, refer to 'Incompatibility between Java 2 Platform, Standard Edition, v1.4.0 and v1.3' in the SDK documents.

Notes on Using the EJB Service

This section provides information on using the EJB Service.

Version of Java Development Kit/Java Runtime Environment

The same version of Java Development Kit (JDK)/Java Runtime Environment (JRE) is recommended from development to execution.

The application class created by the Java Development Kit 1.1.x *javac* command is not always executable in the Java Development Kit/Java Runtime Environment 1.2, 1.3, or 1.4 execution environments. In this case, recompile in a Java Development Kit 1.2, 1.3 or 1.4 environment before execution.

The application class created by JDK 1.2.x, 1.3.x or 1.4.x *javac* command is not executable in a Java Development Kit/Java Runtime Environment 1.1.x execution environment.

Notes on the EJB Customize Tool

Windows

1. Due to JDK/JRE restrictions, the Customize Tool display colors may be unstable or the system cannot be started if 256 colors or less is selected for display in screen properties. Select more than 256 colors.

In addition, if the customize tool is started using Terminal Service of Windows® 2000 or Server/Windows® 2000 Advanced Server, the number of colors that appears in the display is 256, and the displayed colors become unstable. This does not affect the tool's operation.
2. When the EJB Service is installed over another edition, specify the path setting information for the Web browser Customize Tool again after installation in order to initialize it.
3. EJB applications created in Interstage V2 in a JDK/JRE 1.3 or later environment cannot be selected with the Customize Tool when it is started with the *ejbcust* command. Run setup again after installation.
4. The startup performance is improved (V5.0) for the rapid invocation definition screen of the customize tool started by *ejbcustx*. Since the processing used to acquire information on an installed Enterprise Bean when it is listed is accelerated, if Enterprise Beans of the EJB1.1, EJB2.0, or EJB1.0 specification are installed in the invoking Bean, they are also listed. If an Enterprise Bean of the EJB1.0 specification is selected, an error message appears, and the edit cannot be performed. As for V3.0, in order not to display an Enterprise Bean of the EJB1.0 specification on the rapid invocation definition screen when it is listed, add the *-v3* or *-V3*. option to the *ejbcustx* command and execute it. However, in this case, the processing time remains the same as that is for V3.0.

5. In an environment where screen response is slow (such as when using the customize tool in the terminal service), buttons may be operated in succession during the operation of the customize tool without visible effect. For example, it may take time to mask the button after it is pressed.

The following are specific operations where this behavior may be in evidence:

Multiple dialogs may be opened in these circumstances:

- When you select a button in the definition information (Note1) panel
- When you select a button on the path settings screen of the Web browser
- When you select the Change or Add buttons to access the environment definition screen
- When you select the Delete button.
- When you select EJB Application Runtime Environment Definition in the File menu.
- When you select Rapid invocation definition in the Tool menu.
- When you select DB access environment definition in the Tool menu.
- When you select Path settings of the Web browser in the Help menu.
- When you select Version information of the Help menu.

If multiple screens or dialogs open, close the unnecessary ones before starting the operation.

Notes on the Operation Command of the Customize Tool

When the EJB application deployed on the IJServer or EJB container is customized using the `ejbdefexport`, `ejbdefimport`, or `ejbcustx` command, specify `[-i IJServer namd]`, or `[-s EJB container name]` as command options.

When Interstage JDBC Driver is Used

Windows

1) Data Type

The support range of the data type is as follows.

Supported Data Types

- integer type (int, smallint)
- round number type (float, real)
- character string type (char, varchar, text)
- binary type (binary, varbinary, image)
- money type and smallmoney type
- decimal type and numeric type
- datetime type and smalldatetime type
- Other data types (timestamp)

The timestamp type of the SQL Server is for fetching only and can be used in the BMP.

Unsupported Data Types

- integer type (tinyint, bigint)
- bit type (bit)
- other data types (cursor, uniqueidentifier, sql_variant, table)
- Unicode character type (nchar, nvarchar, ntext, sysname)
- User-defined type

2) Format of the datetime Type and smalldatetime Type

When updating the data of the column of the datetime type and smalldatetime type, specify the data in the following format.

Description Format

YYYY-MM-DD hh:mm:ss

- YYYY=year
- MM=month
- DD=day
- hh=hour
- mm=minute
- ss=seconds

Note: millisecond is not supported.

3) Stored Procedure

A stored procedure cannot be used.

4) API when datetime Type is Used

When the following API is used for the datetime type, only the values within the smalltime type are valid.

- PreparedStatement.setTimestamp(int parameterIndex, Timestamp x)

5) Unsupported API

Among the JDBC API standard specifications, the following APIs are not supported.

- Connection class
 - nativeSQL(String sql)
 - setCatalog(String catalog)
 - getCatalog()
- DatabaseMetaData class
 - getCatalogTerm()
 - isCatalogAtStart()
 - supportsCatalogsInProcedureCalls()

- supportsCatalogsInTableDefinitions()
- getMaxCatalogNameLength()
- getCatalogSeparator()
- supportsCatalogsInDataManipulation()
- supportsCatalogsInIndexDefinitions()
- supportsCatalogsInPrivilegeDefinitions()
- getTableTypes()
- getCatalogs()
- getColumnPrivileges(String catalog, String schema, String table, String columnNamePattern)
- getVersionColumns(String catalog, String schema, String table)
- getCrossReference(String primaryCatalog, String primarySchema, String primaryTable, String foreignCatalog, String foreignSchema, String foreignTable)
- getTablePrivileges(String catalog, String schemaPattern, String tableNamePattern)
- getBestRowIdentifier(String catalog, String schema, String table, int scope, boolean nullable)
- getImportedKeys(String catalog, String schema, String table)
- getExportedKeys(String catalog, String schema, String table)
- PreparedStatement class
 - setBoolean(int parameterIndex, boolean x)
 - setByte(int parameterIndex, byte x)
 - setLong(int parameterIndex, long x)
 - execute()
 - setObject(int parameterIndex, Object x)
 - setObject(int parameterIndex, Object x, int targetSqlType)
 - setObject(int parameterIndex, Object x, int targetSqlType, int scale)
 - setBigDecimal(int parameterIndex, BigDecimal x)
When column data type is round number type(real type, float type)
 - setTimestamp(int parameterIndex, Timestamp x)
When column data type is character string type(char type, varchar type)
 - setString(int parameterIndex, String x)
When column data type is datetime type and smalldatetime type
- ResultSetMetaData class
 - getCatalogName(int column)
 - getColumnLabel(int column)

- Statement class
 - setEscapeProcessing(boolean enable)
 - getQueryTimeout()
 - setQueryTimeout(int seconds)
 - cancel()
 - getMoreResults()
 - getResultSet()
 - getUpdateCount()

- JDBC 2.0

In the JDBC 2.0, some of the methods that were supported in JDBC1.X are positioned as 'not recommended methods' and others are supported in place of them. Also, new classes and methods are supported.

The JDBC driver supports the following methods only in place of those no longer recommended. All other new APIs are not supported yet.

- CallableStatement class
 - getBigDecimal(int parameterIndex)
- ResultSet class
 - getBigDecimal(int columnIndex)
 - getBigDecimal(String columnName)
- DriverManager class
 - getLogWriter()
 - setLogWriter(PrintWriter out)

6) Fetching a Line from a Text Type and a Table Containing an Image Type

With regard to fetching a line from a text type and a table containing an image type; in BMP, specify the row of the text type and the image type such that they are placed last in the selected list.

- Example 1: Specify the line of the text type and the image type so that they are placed in the COL3.

```
SELECT COL1, COL2, COL3 FROM SCM.TBL WHERE COL1=?
```
- Example 2: When handling multiple lines of the text type and the image type, specify the line of the text type and the image type so that they are placed in the COL2 and COL3 respectively.

```
SELECT COL1, COL2, COL3 FROM SCM.TBL WHERE COL1=?
```

In CMP, when operating the text type and a table containing an image type, specify the row of the text type and the image type last in the CMF mapping definition.

Note on Class Names

When installing multiple EJB applications on the same machine, if there is a class (such as HOME interface, Remote interface, Enterprise Bean class, and primary key class) that has the same name but different implementation, the incorrect operation occurs. Therefore, when developing EJB applications, determine a package name so that the class name does not get duplicated.

Starting DB Access Environment Definition

In DB access environment definition of the customize tool, if the same port number of the existing product is specified by mistake, much time is required for starting and an error occurs. Specify a correct port number and restart.

Notes for EJB Application Processing

Do not control signals using the Java Native Interface (JNI) from EJB applications. If signal control is performed, operation may not be correct.

Notes on Samples

Explanations related to the sample applications are written in EUC code. If those explanations cannot be viewed correctly, perform a code conversion according to the environment.

Notes on Starting up the VM

Use Java HotSpot(TM) Client VM or Java HotSpot(TM) Server VM to start up the IJServer on which the EJB application was deployed. If the EJB application is used on the Java 2 Classic VM, it will terminate abnormally.

When J2EE Management Tool or J2EE Deployment Tool is Used

Do not use the 'Release Deployment' or 'Deleting IJServers' functions of the J2EE Management tool or the J2EE Deployment tool on a Web application of a Web service container. If these are used, re-installation is needed in order to use the Web application of the Web service container again.

Notes on the CORBA Service

This section provides additional information on the CORBA Service.

Notes on Installation and Environment Settings

Windows **Solaris OE**

1. When the CORBA Service is installed and linked to the Systemwalker/CentricMGR operation management tool, particular care is needed when stopping the CORBA Service and when setting up the environment uninstalling.

Stopping

The SystemWalker/CentricMGR operation management tool cannot be used when the CORBA Service (ObjectDirector) has been stopped

Setting up the Environment

Setting up the CORBA Service environment may affect the SystemWalker/CentricMGR operation management tool if it is using ObjectDirector. Pay attention to the environments for this product when setting up the CORBA Service environment.

Uninstalling

The SystemWalker/CentricMGR operation management tool cannot be used when CORBA Service (ObjectDirector) has been uninstalled.

Windows

2. When the `odadmin_ex` command is used to set up the environment in Windows® 2000, the following message may be displayed, indicating that environment setup has failed:

```
ObjectDirector environment setup failed
Return code
2
Error details
odsetns : error occurred code = 402, 1072
Cannot execute command. : odsetns
```

In this case, run the process again and set up the environment correctly. If the **Service** property screen is displayed, close the screen and repeat the processing.

Notes about Setting Applications

Windows

1. When specifying environment variables in **env** when registering the implementation repository, do not specify multiple character strings delimited by semicolons (;). The system recognizes semicolons as delimiters between different environment variables.

Examples of acceptable settings:

- (1) env = Path=C:\WINDOWS
- (2) env = Path=C:\WINDOWS;LIB=C:\USER

Example of unacceptable setting:

- (1) env = Path=C:\WINDOWS;C:\WINDOWS\SYSTEM

If it is necessary to specify values delimited by semicolons in the PATH environment variable, do not register the variable in the implementation repository, but use one of the following methods:

- Set the necessary path in the PATH system environment variable
- Set the environment variable by the application itself (putenv function)

Also note that system and user environment variables other than those specified in **env** are invalid.

2. If a server-per-method server is called continuously, increase the value in `proc_conc_max`.

Solaris OE

3. To operate COBOL applications in a Shift JIS environment, specify `CBR_CODE_CHECK=no`.

Solaris OE

4. If the `odadmin` command, `isinit` command or CORBA Service is executed during operation of a CORBA application or WebGateway, the following message is output to the console.

Stop the CORBA application or WebGateway.

```
'UXOM 1.0:SEV=E,acf=init :demon start fails'
```

Notes on the IDL Compiler

The IDL Compiler can be used with the following products:

- Interstage Application Server Enterprise Edition
 - Interstage Application Server Standard Edition
 - Interstage Application Server Plus
1. If the IDL compiler is used in a client, install CORBA Service Client and CORBA Service Development Tool.
 2. The IDL file suffix, 'idl' must be in lower-case letters. If the suffix is in upper-case letters (such as when the file is moved with ftp), change the suffix to the lower-case letters, and then execute the IDL compile.
 3. When the IDL compiler is used, it is necessary to set the environment variable OD_HOME.

Notes on the Java Environment

1. The applet viewer in JDK/JRE 1.3 cannot be used.

Solaris OE

2. In the operation of Java applet, if InfoProvider Pro is used as Web Server and if cab file is written in HTML file, file extension 'cab' as data type 'application/octet-stream' must be specified to the file specified as 'content-type' in InfoProvider Pro environment definition file.

Notes on SSL Communication

- SSL linkage cannot be used from the clients of a version of Interstage earlier than V2.0L10. In addition, the Object Reference for the SSL linkage cannot be registered to the Naming Service of Interstage earlier than V2.0L10.
- In SSL linkage, requests from the clients cannot be received in the following cases:
 - Certificates become invalid or expired after starting the CORBA Service (ObjectDirector).
 - Nicknames of certificates were omitted in setting the SSL environment or in executing the *odsetSSL* command.
- When deleting or canceling (CRL: Registering in the list of invalid certificates) the certificates that have been set in the CORBA Service, first terminate the CORBA Service.
- When the server host names or IP addresses from the clients cannot be solved in the SSL communication, set the server host information in the 'hosts' file or DNS.

Notes on CORBA Service Operation

1. In Windows Server 2003, a message with an event ID of 7039 is output to the event log of the system at the time of starting the CORBA Service. This does not mean that a problem is expected with CORBA Service operation.

Notes on HTTP Tunneling

HTTP tunneling is available for the following products:

- Interstage Application Server Enterprise Edition
 - Interstage Application Server Standard Edition
1. When HTTP tunneling is used for a client application that operates by multithread and there is a competing request at the time of initial communication, it may not operate correctly. Do not make a simultaneous request by multithread until the initial request has completed.

Notes on the Event Service

The Event Service can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

The following notes relate to the operation of the Event Service.

Note on Reinitializing Interstage

When Interstage is to be reinitialized after the event channel has been generated with the *esmkchnl* command, use the *esrmchnl* command to delete the event channel before reinitializing Interstage. If Interstage is to be initialized without deleting the event channel, after initialization, delete the event channel that existed before initialization.

Notes on the Event Service Application

Event Service applications can be developed with the following products.

- Interstage Application Server Enterprise Edition
 - Interstage Application Server Standard Edition
1. Create Event Service applications as CORBA applications.
 2. When the event service application is used, do not issue the disconnect method in the event data wait state by issuing the pull and pull_wait methods. Before issuing the disconnect method, cancel the wait state for the event data by issuing the pull_cancel method. Then issue the disconnect method.
 3. When the exception and minor codes are reported from the Event Service application, check the action, referring to 'Exception Information Minor Codes to be Reported from the CORBA Service' and 'Exception Information Minor Codes to be Reported from the Event Service' in Messages.

The pull or the pull_wait method can not be reissued when the exception 'COMM_FAILURE' and the minor code '0x464a01c1' or '0x464a09c1' are reported from pull or the pull_wait method, and do not reissue pull or the pull_wait method when other exceptions and the minor codes are reported.
 4. Do not share the Proxy object between threads when you operate the application of the Event Service in the thread mode. (The Proxy object is an object reference in the interface to communicate with the Event Channel.) Maintain a unique Proxy object an individual thread.

Notes on the Notification Service Application

Notification Service applications can be developed with the following products.

- Interstage Application Server Enterprise Edition

The Notification Service application can be developed in C, C++, or Java.

Notes on SSL Communication

To perform SSL communication in the event service, the SSL environment of the CORBA service must have been set in advance.

Note on Unit Generation

Windows

To generate a unit during persistent channel operation, the storage folder of each control file must specify a drive whose file system is NTFS. For unit generation, refer to *esmunit* in the Reference Manual (Command Edition).

Note on Persistent Channel Applications

If the connection is forcibly disconnected due to a system failure, applications of the persistent channel must be restarted. If processing continues without restarting persistent channel applications, a system exception COMM_FAILURE with the minor code 0x464a0109 (invalid data received) may be returned.

Notes on Multi-IP Address Operation

Host Name

When the host name is set to either of the following, the Multi-IP address function cannot be used:

- 'Corba Host Name' in the Interstage operating environment definition file
- 'IIOP_hostname' in the CORBA Service config file

Port Number

Set either of the following for the port number:

When SSL communication is invalid:

- 'Corba Port Number' in the Interstage operating environment definition file
- 'IIOP_port' in the CORBA Service config file

When SSL communication is effective:

- 'SSL Port Number' in the Interstage operating environment definition file
- 'UNO_IIOP_ssl_port' in the CORBA Service config file

Refer to the Reference Manual (Command Edition) for the method of specifying the host name and the port number of the Event Service.

Notes on the Component Transaction Service

The Component Transaction Service can be used with the following products:

- Interstage Application Server Enterprise Edition
- Interstage Application Server Standard Edition
- Interstage Application Server Plus

This section provides additional information on the Component Transaction Service.

Note on Messages in Windows® 2000

Windows

If the system locale value is changed after Interstage is installed in Windows® 2000, EXTP messages may not be displayed correctly.

About CORBA Service Termination using the *isstop* Command

Solaris OE

When the *isstart* command is executed, CORBA Service cannot be stopped using the *isstop* command. If this occurs, immediately execute the *isstop* command with *-f* specified.

Monitoring during Interstage Operation

Solaris OE

If Interstage is started using the *isstart* command and one of the Interstage services terminates abnormally during operation, execute the following recovery processing:

- If CORBA Service, Naming Service, Interface Repository, Load Balance, Component Transaction Service, Database Linkage Service, Web Server or Servlet Service terminates abnormally, stop the Component Transaction Service, Database Linkage Service, resource control program, Web Server and Servlet Service.
- If the Event Service terminates abnormally, then Interstage continues operation. Even if the service is stopped using an individual command (*tdstop* for Component Transaction Service), execute recovery processing in the same manner as when the service terminates abnormally.

Notes on the Database Linkage Service

This section explains the following topics:

- Notes on OTS Command Execution
- Notes on the Use of Oracle
- Notes on Development using Functions for the Java Language Provided by the Database Linkage Service of Interstage 1.1 or Earlier
- Maximum Number of Resources for One Transaction
- Sample Provided with Database Linkage Service
- CORBA Server Application is Operated using Multi Thread

Notes on OTS Command Execution

Windows

If an OTS command is executed in an environment in which the CORBA Service has not been installed, an application error dialog box may be displayed.

In this case, install and start the CORBA Service and re-execute the *otssetrsc* command.

Notes on the Use of Oracle

Solaris OE

Use of Oracle Database by Java Server Application

Use Oracle 8.0.5 or later.

Using Oracle8

An error message is displayed at recovery and an unsolved transaction is left in both the following scenarios:

- By ROLLBACK FORCE, forced rollback using manual rollback function of Oracle8 on the unresolved function.
- Resource management program restarted. The output messages are shown below.

OTS: WARNING: 9666 System memory or system resource is insufficient.

The following message would be displayed if committed using the command 'otspendlist.'

OTS: ERROR: 9348 Error occurred in commit operation.

Discharge in-doubt status by entering command 'otspendlist'.

Installation of Oracle8i(8.1.6)

When Oracle8i(8.1.6) is used for distributed transaction linkage, the installation must be carefully performed. Install the necessary functions for using the user application in process environment.

Notes on Development using Functions for the Java Language Provided by the Database Linkage Service of Interstage 1.1 or Earlier

Solaris OE

Use environment under Database Linkage Service installation directory/pc/lib/J11.

Maximum Number of Resources for One Transaction

Solaris OE

The maximum number of resources that can be used in a transaction using the *isinit* command is four. This value cannot be changed.

Sample Provided with Database Linkage Service

Solaris OE

Use Pro*COBOL1.8.27 when you precompile the COBOL data base cooperation service sample application. When Pro*COBOL R8.0.5 is used, the following line should be deleted from the COBOL sample:

```
COPY SYMBOL-CONST IN CORBA
```

According to this, reserved words declared in the COBOL register and library (\$OD_HOME/include/COBOL/CONST.cbl) cannot be used.

CORBA Server Application is Operated using Multi Thread

Solaris OE

If resource management program or OTS system is re-started under the CORBA server application operation, do not call CORBA server application from client. Restart after start.

Notes on Smart Repository

This section explains the following topics:

- Notes on Disk Space Required for Operation
- Notes on Entry Operation
- Notes on the Entry Administration Tool

Notes on Disk Space Required for Operation

For the database storage directory, a disk area determined by the following calculation is required. Specify a disk with sufficient space as determined by this calculation.

$$0.1 * n * s / 500 + 200 \text{ MB}$$

'N' represents the number of entries and 'S' represents the size (in bytes) of one entry when it is described in LDIF.

For a replication environment, the following calculation applies only to the master repository:

$$0.2 * n * s / 500 + 200 \text{ MB}$$

The calculation provides a rough indication. Be sure to retain sufficient disk space capacity.

If the disk space specified for the database storage directory is insufficient, the message irep30023 is displayed and the repository is stopped forcibly. For details of the required user action in response to irep30023, refer to 'Messages Beginning with 'irep"' in the Interstage Application Server Messages.

Notes on Entry Operation

An entry containing an attribute consisting of only a blank value cannot be registered.

An attribute consisting of only a blank value cannot be added to an entry.

For an attribute value, two or more consecutive blank characters cannot be specified.

For an attribute value of an attribute that is specified for RDN, a blank character cannot be specified in the first or last character.

For an attribute value of an attribute that is specified for RDN, a colon (':') cannot be specified in the first character.

If searching an entry whose RDN contains '+', '\', or ',', these special characters are displayed as follows:

Special character	Search result in Smart Repository
'+'	'\2b'
'\'	'\5c'
'\''	'\2c'

In addition, if the special characters above are specified for RDN, they must be escaped using '#'.

Object class names (attribute values of object classes) contained in search results are displayed in lower-case as follows:

```
dn: cn=user001,ou=interstage,o=fujitsu,dc=com
objectClass: top <-- Displayed in lower case letters.
objectClass: person <-- Displayed in lower case letters.
objectClass: organizational person <-- Displayed in lower case letters.
objectClass: inetorgperson <-- Displayed in lower case letters.
cn: user001
sn: Fujitsu
telephoneNumber: 1234
```

If modifying the attribute value of an attribute specified for RDN, upper-case can be changed to lower-case or vice versa only when the new RDN has the same name as the old one.

When an entry is registered, modified, or deleted, or the DN is changed, the specified value of the DN and the attribute are case-sensitive. Therefore, it is necessary to specify identical character strings for the DN value and RDN attribute value.

The following entry cannot be registered.

```
dn: cn=USER001,ou=interstage,o=fujitsu,dc=com <-- The attribute value of cn does not match.
objectClass: top
objectClass: person
objectClass: organizational person
objectClass: inetorgperson
cn: user001 <-- The attribute value of cn does not match.
sn: Fujitsu
telephoneNumber: 1234
```

If modifying the DN of an entry that has many subordinate entries, a timeout may occur. To modify the DN of such an entry, export the entry with its subordinate entries to an LDIF file, perform replacement editing with the LDIF file, and then import the LDIF file to the repository again. After the import has completed successfully, delete entries with the old name.

Notes on the Entry Administration Tool

1. If the development operation of one entry is performed in the tree view continuously, subordinate entries may be displayed one or more times.
In this case, click the [Refresh] button to display the tree view again. The information of subordinate entries developed in the tree view can then be displayed correctly.
2. If the character string of an entry being modified is longer than the old one, the last part of the entry name is omitted and displayed.
Double-click the entry that has been modified in the tree view. The modified entry name is displayed.
3. If developed subordinate entries are not displayed, the [tree view] display is distorted, or the display looks obviously incorrect, click the [Refresh] button to display the latest information. If the latest information is still not displayed, restart the Entry Administration Tool to re-execute the processing.
4. If the Entry Administration Tool is used with JRE1.3 or JDK1.3, characters may not be deleted by using the Delete key.
If the Delete key cannot be used, use the BackSpace key instead.
5. If the Entry Administration Tool is used with JRE1.3 or JDK1.3, when a button is selected with the mouse, explanation of the button may display as blank.
If blank explanation is displayed, change the selection position of the button, and then try to display the correct explanation again.

Notes on Multi Server Management

This section explains Multi Server Management.

1) Previous Versions of Interstage

Servers on which a version of Interstage before V6 has been installed cannot be managed by multiserver management (i.e they cannot be added to the site).

2) Single Sign-on

To use Single Sign-on in a Managed Server, use the Interstage Management Console of the Managed Server to set up the environment.

To set up the environment for the business server to run on the repository server, authentication server, or Interstage HTTP Server, execute the following procedure:

1. Log in to the Interstage Management Console of the Admin Server.
2. In the Interstage Management Console, click [Application Management] > [Interstage] > [Interstage Application Server] > [Services] > [Web Server] > [Server Group Name or Server Name]. Click the [Get Definition] tab, and select the repository server, authentication server, or the Managed Server on which the environment setup of the business server has been executed on Interstage HTTP Server. Click the [Select] button, and then click [Update].
3. In the Interstage Management Console, click [Application Management] > [Interstage] > [Interstage Application Server] > [Services] > [Web Server]. Select the Server Group or Managed Server to be operated, and then click [Start].

Alternatively, click [Application Management] > [Interstage] > [Interstage Application Server] > [Services] > [Web Server] > [Server Group Name or Server Name], and then click [Start].

If Managed Servers are included in the Server Group, first set up the environment for all the Managed Servers, and then execute the above procedure.

Notes on JDK/JRE

This section explains the following topics:

- Notes on Java VM
- JDK/JRE Tools Provided by Fujitsu
- Notes on OutOfMemoryError Caused by a Permanent Area Shortage
- Notes on `java.lang.Object.wait(long timeout)`
- Notes on using `java.lang.Runtime.exec()`
- Notes on Simple Infinity Group Processing
- Notes on the Return Value of `java.beans.PropertyDescriptor.getWriteMethod()`
- Changing the char Encoding From JDK1.4.1
- Notes Specific to Linux
- The Download Installer
- Environment Settings

Notes on Java VM

The default JavaVM when using JDK/JRE1.3 and 1.4 is Fujitsu Java VM (FJVM). This default is synonymous with specifying '-fjvm' in the java command option.

JDK/JRE Tools Provided by Fujitsu

Qualyzer is provided for use in performance tuning or memory leak detection during development or testing of a Java program. The following directories contain tools for use during problem investigation:

Windows

- When the JDK1.3 system is used: <Interstage installation folder>\jdk13\tools
- When the JRE1.3 system is used: <Interstage installation folder>\jre13\tools
- When the JDK1.4 system is used: <Interstage installation folder>\jdk14\tools
- When the JRE1.4 system is used: <Interstage installation folder>\jre14\tools

Solaris OE

- When the JDK1.3 system is used: /\$DIR/FJSVawjkb/jdk13/tools
- When the JRE1.3 system is used: /\$DIR/FJSVawjkb/jre13/tools
- When the JDK1.4 system is used: /\$DIR/FJSVawjkb/jdk14/tools
- When the JRE1.4 system is used: /\$DIR/FJSVawjkb/jre14/tools

'\$DIR' is a relative directory specified during installation. The system recommended name for '\$DIR' is 'opt.'

Notes on OutOfMemoryError Caused by a Permanent Area Shortage

The Permanent area is one heap area used to manage objects (Java classes and methods) that are permanently referenced by HotSpot VM (including FJVM), which is a Java VM introduced to JDK/JRE 1.3 and later. For a Java application that uses many classes and methods, the size of the Permanent area must be increased. Especially if an OutOfMemoryError occurs irrespective of how much the maximum heap value (specified in -Xmx) is increased, a Permanent area shortage may be one of the possible causes. The default maximum size of the Permanent area is as follows:

- JDK1.3(HotSpot Client VM): 32MB
- JDK1.3(FJVM, HotSpot Server VM): 64MB
- JDK1.4(HotSpot Client VM): 64MB
- JDK1.4(FJVM, HotSpot Server VM): 64MB

The maximum size of the Permanent area can be specified using Java VM option '-XX:MaxPermSize.'

Example: Set the maximum size of the Permanent area to 128 MB:

```
-XX:MaxPermSize=128m
```

Notes on java.lang.Object.wait(long timeout)

For reasons due to JDK/JRE implementation, java.lang.Object.wait (long timeout) may be released (spurious wakeups) with neither notification nor time-out.

Reference: The Java(TM) Programming Language Third Edition, by Ken Arnold, James Gosling and David Holmes. Addison-Wesley,2000,ISBN 0-201-70433-1

Notes on using java.lang.Runtime.exec()

When actual memory or virtual memory is insufficient during execution of another program with java.lang.Runtime.exec(), java.io.IOException may occur. If this happens, install additional actual memory or virtual memory, or reduce the maximum heap size using the heap size option (-Xmx) for the Java VM.

Notes on Simple Infinity Group Processing

When a Java application that processes simple infinite looping is running, the system may hang if the Java VM cannot be stopped using `System.exit()` or something similar. Do not describe a simple infinite loop as shown below in a Java application.

```
for (int i = 0; i < 10; i++) { i--; }
```

Notes on the Return Value of `java.beans.PropertyDescriptor.getWriteMethod()`

JDK/JRE 1.3.1_08 and 1.4.0_01 solved the problem 'bean methods may not be obtained,' which was caused by a problem in `java.beans.Introspector.getBeanInfo()`. The operation of the `java.beans.Introspector` that may have produced different results on different Java VMs (because the order in which methods should return has not been defined in the JavaBeans specifications) has been corrected. Accordingly, for an application in which the parameter data type of the `set***()` method that sets bean properties does not match the data type of the return value of the `get***()` method that obtains bean properties, null will be returned as a return value from `PropertyDescriptor.getWriteMethod()`. For this reason, make a program so that these data types match.

Changing the char Encoding From JDK1.4.1

Although the char encoding for Shift_JIS and Windows-31J is similar, the way that the encoding is handled for Shift_JIS has changed from JDK/JRE1.4.1.

- Before JDK1.4.0: If the following encoding name is specified, the MS932 converter is used
- JDK1.4.1 and later: If the following encoding name is specified, the SJIS converter is used
 - `shift_jis`
 - `ms_kanji`
 - `x-sjis`
 - `csshiftjis`

This reason for this change is that the number of Web applications that can interpret the MIME tag for contents required for Java correctly according to the specified IANA alias has increased.

For this reason, if the above alias is specified in the encoding name in an application before JDK1.4.0, it might appear as garbled characters in JDK1.4.1 or later. To display the alias as it was displayed before JDK1.4.0, specify Windows-31J.

Default file encoding in Windows is the same as in Windows-31J, so this problem does not occur.

Notes Specific to Linux

Linux

1. If, while Java is being used, Japanese (for example, `ja_JP.eucJP`) is set in the LANG environment variable, the X input manager (for example, `kinput2`) is not started up, and a GUI application is executed, a `java.awt.AWTEException` may occur. Use English for the LANG environment variable (for example, `en_US`), or start the X input manager before executing the GUI application.
2. If, while Java is being used, Japanese (for example, `ja_JP.eucJP`) is set in the LANG environment variable, and a GUI application is executed, a font warning message may be output. Take one of the following actions:
 - Install the wadalab font.
 - Refer to `font.properties.ja.Turbo` and overwrite the font used by `font.properties.ja` with another Japanese font.
 - Run the LANG environment variable using a language other than Japanese.
3. If the Servlet Service or Servlet container are used in Linux, and the Servlet Service or Servlet container is continuously started/stopped quickly, the Java VM may crash, and the core and Java VM log files (`hs_err_pid***.log` or `fjvm_pid***.log` (***) is the process ID)) may be generated. For this reason, do not continuously start/stop the container.
4. If one of the following packages is in the installed development environment, and the application that is being developed uses JNI (Java Native Interface), the compile may fail or other unexpected behavior may occur. Uninstall the package before developing an application that uses JNI.
 - `libgcj-devel`
 - `libgcj-ssa-devel`
 - `gcc-java`
 - `gcc-java-ssa`
5. In an environment that uses the GNOME window manager `metacity`, `Frame.MAXIMIZED_HORIZ` and `Frame.MAXIMIZED_VERT` behave the same way as `Frame.MAXIMIZED_BOTH` if the `java.awt.Frame` class is used. This is a feature of `metacity`, and can be avoided by changing the window manager.
6. In a desktop environment that uses GNOME, if `AwtRobot` API is used for input from the keyboard, more than one key event may occur. This problem also occurs in non-Java applications, and can be avoided by changing the desktop environment.
7. Do not use the `sigaltstack` function in a JNI processing module (a native module with a JNI interface). If this function is used in a JNI processing module that uses a Linux version JDK/JRE, it may cause a memory leak in the processing module.

The Download Installer

Windows Solaris OE

Business Kit ('JBK') has the following installer (EXE format file) for downloading from the server to the client and then installing.

The client folder JBK installation directory contains either of the following installers:

- JBKP13.EXE (for installing JDK/JRE1.3)
- JBKP14.EXE (for installing JDK/JRE1.4)

The EXE format of the installer mentioned above is the same as for the JBK plug-in and JRE installer that were created with the JBK development environment download installer. The JBK plug-in and JRE can be installed in the client by forwarding the installer to the Web server and downloading it.

Procedure

1. Store the EXE format installer on the Web server.
2. Download the installer on the client machine.
3. Execute the installer on the client machine.

When the installer is executed, it is decompressed, and the JBK plug-in and JRE are installed on the client machine automatically.

Notes

- Purchasing the Interstage Apworks client application package

A separate Interstage Apworks client application package must be purchased for each client machine installed with the installer.

- Customizing the plug-in settings file

If the following settings are required in the client machine, the JBK plug-in settings must be customized. In this case, use the JBK development environment download installer to create the installer.

- If class path settings for the client file on the client machine and JAR file are required
- If security authority settings are required

- Installation notes

- If JBK is already installed on the machine, the JBK plug-in cannot be installed in the same folder as the JBK installation folder. Install the JBK plug-in in a different folder.
- If the machine was installed using this installer, the existing installation cannot be installed by overwriting. Uninstall the program, and then reinstall it.
- To uninstall the program, select [Control Panel]>[Add/Remove Programs]>[JBK Plug-in Download Install].

When this installer is executed on the machine that it is installed on, it behaves as an uninstaller, not as an installer.

- Do not specify folder names that contain the following characters in the installation directory.
';', '#', '%', '^', '!'

Download Installer Details

Refer to the following online manuals for details of the download installer. These manuals are included as part of the JBK development environment product.

- Interstage Apworks Enterprise Edition
- Interstage Apworks Standard Edition
- Interstage Apworks Modelers-J Edition
- Interstage Application Server Plus Developer

Environment Settings

Solaris OE

When the product is installed, the environment variable required for JDK is set in the installer. The following environment settings template shell script is also stored for the installer:

- JDK1.3/JRE1.3 template storage directory
\$(JDK/JRE1.3installation directory)/config3
- JDK1.4/JRE1.4 template storage directory
\$(JDK/JRE1.4installation directory)/config4

Notes on Portal Component

This section explains the following topics:

- Notes on Contents Use
- Notes at Logon
- Notes on Portal Component Server Operating Mode
- Notes on USP Use
- Notes when Applying Portal Component Independent Authentication to Operation Management
- Notes on Using Operation Management Tool Commands
- Notes on Portal Component Repository Database Operation
- About the Specification of Keep-alive between WebUSP and Back Server
- Notes when Using a Long Character String for Alias
- Notes on Using Administrative Console
- Setting the Heap Size in the Java Execution Environment

Notes on Contents Use

A homepage (Web page) or the individual contents (text, images, music, etc.) on the homepage are copyrighted. Therefore, using these copyrighted materials may infringe the copyright. It is recommended that the permission of the copyright owner is obtained before using the homepage or its contents.

Notes at Logon

When logging on to Portal component, IDs/passwords of common users are sent without being encoded. To improve security, it is recommended that the SSL environment be set up by the Web Server.

For a detailed description of the setup method, refer to the manual for the Web Server to be used.

Notes on Portal Component Server Operating Mode

When opening the Portal component server to the Internet, a secure environment must be built. In such cases, it is recommended that an environment that places the SecurityDirector on DMZ and Portal component on IDC, and connects the access to Portal component via SecurityDirector is built.

Always register the Portal component server in the DNS (Domain Name System).

Notes

- DMZ (DeMilitarized Zone)
This is a segment that is separated from the Internet and IDC by a firewall.

- IDC (Internet Data Center)
This is a secure data center connected to the Internet.

Windows

Communicate between the Internet zone and DMZ (SecurityDirector) using HTTPS protocol. Only HTTP and HTTPS protocols are valid between DMZ (SecurityDirector) and Portal component.

When opening the Portal component server to the Internet, use the procedure described below to execute file access right commands. This prevents illegal file modification by Windows end users.

1. Logon to the Windows server using the user ID that installed Portal component.
2. Confirm that Portal component installation is completed.
3. Open the command prompt.
4. Execute the following program:
 - <Interstage install directory>\portalworks\bin\pwinetop.exe -d|-w

When this system is installed to 'C:\Interstage\portalworks' on a machine belonging to the domain.

```
C:\Interstage\portalworks\bin\pwinetop.exe -d
```

When the system is installed to 'C:\Interstage\portalworks' on a machine (work group machine) that does not belong to the domain.

```
C:\Interstage\portalworks\bin\pwinetop.exe -w
```

Solaris OE Linux

- Communicate between the Internet zone and DMZ (SecurityDirector) using HTTPS protocol. Only HTTP and HTTPS protocols are valid between DMZ (SecurityDirector) and Portal component.
- When Portal component is connected to a server on IDC using USP, set up a firewall between DMZ and IDC to let only packets from the Portal component server be filtered out.
- The recommended protocol to be filtered out through DMZ and IDC is HTTPS.
- The database server and LDAP server should be run on the IDC. The data in IDC is kept hidden.

Notes on USP Use

Notes on Web USP Use

1) Processing when 'Network Error:503' Occurs

If 'Network Error: 503' is displayed when a Web page was added as a private client, check that the following are specified correctly:

- URL description
- [Bypass the proxy server for addresses beginning with] setting at Proxy server specification

If 'Network error: 503' is generated even when the above processing is performed, the Web Server may have stopped.

2) Processing when 'No response from service' Occurs

The message 'No response from service. Processing interrupted by timeout.' may be displayed in the brick.

Check for the following probable causes:

- The server power of the connection destination server is down, etc.
- Some kind of problem occurred in the communication path up to the connection destination server

Notes when Applying Portal Component Independent Authentication to Operation Management

The password can be changed using the command. The previous password is not required. However, the command must be called on the server where the Portal component operation control is operating, and the Servlet must be stopped.

Windows

Modification Method

Start the command prompt on the server that runs Portal component.

Invoke new command prompt for this command execution. When executing command continuously, exit the command prompt once and invoke it again.

1. Stop the [PortalServer] WorkUnit.
2. Move to '<Interstage install folder>\portalworks\bin\'
3. Input 'pwadminpasschg.bat {new password}'. '{' and '}' are unnecessary.
Example: 'pwadminpasschg.bat pwadmin_password'
4. Start the [PortalServer] WorkUnit.
5. Start Portal component operation management and check the password change.

Solaris OE Linux

Modification Method

1. Stop the [PortalServer] WorkUnit.
2. Move to '/opt/FJSVispw/bin/'
3. Input 'pwadminpasschg.sh {new password}'. '{' and '}' are unnecessary.
Example: 'pwadminpasschg.sh pwadmin_password'
4. Start the [PortalServer] WorkUnit.
5. Start Portal component operation management and check the password change.

Notes on Using Operation Management Tool Commands

When each command of the operation management tool starts, a message that shows the start state may be displayed. This message shows that the command is running normally. If command execution generates an error, a report message is displayed. Check the error contents by means of this message.

Notes on Portal Component Repository Database Operation

The following precautions are necessary when starting and ending a database (Fujitsu Enabler or Oracle) used as a Portal component repository.

1. If the [PortalServer] WorkUnit was made automatic the starting service, Portal component start fails depending on the start sequence with the database. In this case, restart the [PortalServer] WorkUnit.
2. If the database was stopped and restarted during Portal component operation, restart the [PortalServer] WorkUnit.

About the Specification of Keep-alive between WebUSP and Back Server

If HTTP communication between WebUSP and back server (or proxy, load distribution device) does not use keep-alive, add '-Dhttp.keepAlive=false' to the [Java VM option] by the Interstage Management Console.

Notes when Using a Long Character String for Alias

If the message shown below was output at the user's window, the system may enter the URL not handled state because the alias character name is long. Check the alias or scenario name.

```
ERROR: 400(Bad Request)
```

```
The demanded request is an illegal demand.
```

Notes on Using Administrative Console

Solaris OE **Linux**

- If only a host name is specified to start the Administrative console, an error may occur when the operation control function is used because of the DNS settings.

Example: `http://hostA/portalworks/PWAdminSystem`

In such cases, specify FQDN as shown in the following example. In addition, when the URL is specified for adding USP, be sure to specify FQDN.

Example: `http://hostA.domain.com/portalworks/PWAdminSystem`

Setting the Heap Size in the Java Execution Environment

It is recommended to set the heap size in the Java execution environment to 256 MB or more.

The procedure for changing the heap size is as follows:

1. Start the Interstage Management Console.
2. Select [System], [WorkUnit], and then [PortalServer].
3. Add the following options to [JavaVM option]:
`-XX:NewSize=64m -XX:MaxNewSize=64m -Xms256m -Xmx256m`
4. Restart [PortalServer] WorkUnit.
Select the [Operation] tab and restart [PortalServer].

Change the values for `-XX:NewSize`, `-XX:MaxNewSize`, `-Xms`, and `-Xmx` according to the environment of the machine on which the Portal component is installed and the scope of using the Portal component.

-Xmsn

Specify the number of bytes for the initial size (n) of the memory allocation pool.

The value to be specified must be a multiple of 1024 that is greater than 2 megabytes.

To specify the value in kilobytes, suffix the value with character k or K.

To specify the value in megabytes, suffix the value with character m or M.

The default is 64 megabytes.

-Xmxn

Specify the number of bytes for the maximum size (n) of the memory allocation pool.

Specify the same value as the size specified for the `-Xms` option.

-XX:NewSize=64m, -XX:MaxNewSize=64m

When specifying 256 MB or more for the maximum size of the memory allocation pool, specify also these three Java execution options.

Notes on Framework

This section explains the following topics:

- Security on the Internet
- Redistributable Files

Security on the Internet

When using applications that use framework on the Internet, design them considering the security of application development. Security may also be necessary depending on the firewall or other infrastructure products.

Redistributable Files

The following files can be redistributed. These files can be distributed to the client environment and used.

C:\Interstage\APC\redist\applet\ujiapplet.jar

C:\Interstage\APC\redist\ejb\ujiejbcl.jar

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