Data Sheet

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JENV (BS2000/OSD) Version 5.0

BS2000/OSD Environment for Java™

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Product Characteristics

The Internet programming language Java™ and its corresponding runtime environment are having a significant impact on the whole of enterprise computing. The Java concept ("write once, run anywhere") allows applications to be run via networks of heterogeneous computer systems - embracing the most varied platforms and operating systems.

The BS2000/OSD Environment for Java™ (JENV) enables BS2000 systems to run all Java programs created on any platform. Similarly, Java applications and Java applets developed for BS2000 can also run on other platforms.

Programs created with JENV V5.0 can be run on any platforms that have a JAVA-compatible runtime environment.

Product Description

JENV (BS2000/OSD) V5.0 contains a runtime environment (JRE) which conforms to the following relevant specifications:

- "The Java Language Specification, Third Edition" http://java.sun.com/docs/books/jls/
- "The Java Virtual Machine Specification, Second Edition" http://java.sun.com/docs/books/vmspec/
- The version-specific API specification "Java 2 Platform Standard Edition API Specification, 5.0" http://java.sun.com/j2se/1.5.0/docs/api/

Conformance to these specifications has been certified by Sun Microsystems with the granting of the "Java Compatible" logo.

The components for running Java programs comprise:

- the Java runtime system (java, also referred to as the Java Virtual Machine, JVM) together with some utilities,
- a highly optimizing HotSpot® client VM

The client characteristics of the HotSpot VM have been implemented in JENV V5.0A (as in previous versions since V1.4A).

To deliver high performance on SX systems, a variant optimized for this platform has been provided. The HotSpot client VM contained in it generates Sparc code directly.

The product also includes a development environment (JDK) providing a wide array of development tools. These can be used to develop applications or applets conforming to the above-mentioned API specification.

The components for developing java programs comprise:

- Java compiler (javac)
- Java debugger (jdb)
- The Java classes

The program for Java archive files (jar), the applet viewer and other utility programs.

Functional Description

The main functions of Java can be summarized as follows:

- Java programs are platform-independent and portable. As soon as the virtual machine (VM) is part of the operating system, Java applications can run immediately without recompilation.
- Java applications are secure, even when loaded off the internet. The virtual machine provides a separate runtime environment enabling integrated, flexible, finely tunable control over access to the software and data.
- The Java syntax is simple. It is based on C++, but avoids the latter's complexity and potential error sources (memory leaks).
- Java supports the current object-oriented concepts such as classes, polymorphism, or simple inheritance.
- Java is very robust. Memory bottlenecks are avoided by automatic garbage collection, while runtime errors can be intercepted and dealt with by exception handling.
- Java programs are interpreted, thus enabling shorter development cycles.
- Green threads are used in JENV for thread implementation.
- Large files (> 32GB) are also supported.

JENV contains the package JRIO (Java Record I/O), a collection of Java classes enabling direct (native) access to files with a record- and/or block structure, and supporting record- and/or page-oriented input/output to/from such files. These, of course, include in particular BS2000 DMS/DVS files.

Technical Requirements

Hardware

JENV:

All BS2000/OSD business servers, S and SX line

Optionally for graphical user interfaces:

X-compatible terminal or PC with Exceed.

Resource requirements

Disk space required for JENV V5.0:

approx. 77,000 PAM Pages on S/390

or approx. 115,000 PAM pages on SPARC platforms

Installation directory of POSIX file system: approx. 56 MB

RAM / Address space: approx. 512 MB

(depending on the size of the application)

Software

JENV V5.0 is included as part of all shipments of the BS2000/OSD operating system after 01.2006, i.e. JENV is shipped with BS2000/OSD-BC and OSD/XC.

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JENV V5.0 runs on /390 platforms BS2000/OSD-BC V5.0 or later, and on Sparc platforms OSD/XC V1.0 or later.

For developing "Java native interfaces" (C or C++ code called by Java programs) you need a C/C++ compiler or and CRTE.

For the components POSIX-BC, BLS, CRTE-BASYS, C/C++ compiler,..., correction levels as described in the Release Note are to be used.

Operating mode

Dialog or batch

Implementation language

C++, C, Assembler and Java

User interface

Alphanumeric or graphical

Installation

By user as per Release Notice

Documentation

BS2000/OSD Environment for Java™ V5.0

download via: http://manuals.fujitsu-siemens.com/servers/man/man_de/java_man.htm

Demands on the user

Programming knowledge

Conditions

This software product is supplied to the customer under the conditions laid down in our system contract.

Warranty

Class:	A
Delivery format:	Machine language

Order and delivery

The software product may be obtained from your local Fujitsu Siemens Computers regional office. JENV V5.0 is part of all shipments of the BS2000/OSD operating system later than 01.2006, i.e. JENV is shipped with BS2000/OSD-BC and OSD/XC.

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