

# Datasheet

## FUJITSU Software BS2000 JENV V8.1

BS2000 Environment for Java

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### Abstract

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 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 V8.1 can be run on any platforms that have a JAVA-compatible runtime environment.



# Topics

## Product Description

FUJITSU Software BS2000 JENV V8.1 is an implementation of "Java Platform, Standard Edition" (Java SE) on basis of OpenJDK 8 for FUJITSU Software BS2000/OSD-BC with the complete name "BS2000Environment for Java™ V8.1".

JENV V8.1 contains a runtime environment (JRE) which conforms to the following relevant specifications:

- "The Java™ Language Specification, Java SE 8 Edition" <http://docs.oracle.com/javase/specs/jls/se8/html/index.html>
- "The Java™ Virtual Machine Specification, Java SE 8 Edition" <http://docs.oracle.com/javase/specs/jvms/se8/html/index.html>
- Version specific API Specification "Java™ Platform Standard Edition 8 API Specification," <http://docs.oracle.com/javase/8/docs/api/>

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

To deliver high performance on SQ-systems and x86-based Server Units of BS2000 SE series, a variant optimized for this platforms has been provided. The HotSpot client VM contained in it generates x86 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 implementation of JENV V8.1 is based on OpenJDK 8.

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.

## Important License information

- Since V8.1 JENV is Open Source Software.  
All relevant license information can be found at: [JENV V8.1 License Information](#).

## 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.
- State-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.

## New Function

- JENV V8.1 contains as new feature the Java-COBOL-Interface (JCI).

## Differences to OpenJDK 8

- Audio-Features, JDGA (Java Direct Graphic Access) and Class Data Sharing is not supported.
- As VM technology only the HotSpot-Client-VM is used.
- OpenJDK demo programs are not embedded in the product.
- JENV V8.1 contains additional font files from the DejaVu Font Package.

# Technical Details

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## Requirements

Technical Requirements Hardware	BS2000 Business Server
Technical Requirements Software	FUJITSU Software BS2000 JENV V8.1 is included as part of all shipments of the BS2000 operating system, i.e. JENV is shipped with BS2000/OSD-BC as of V9.0 (and therefore also with OSD/XC as of V9.0). 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, BLSSERV, CRTE-BASYS, C/C++ compiler..., correction levels as described in the Release Note are to be used.
Demands on the user	Knowledge of BS2000

## Installation and operation

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 and training

Documentation	The documentation is available as online manuals, see <a href="http://manuals.ts.fujitsu.com/mainframes.html">http://manuals.ts.fujitsu.com/mainframes.html</a>
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## Purchasing

Conditions	This software product is supplied to the customer under the conditions laid down in our system contract.
Ordering and delivery	The software product may be obtained from your local Fujitsu Technology Solutions GmbH regional office. JENV V8.1 is part of all shipments of the BS2000 operating system and is delivered free of charge automatically with SOLIS.

# More information

## Fujitsu products, solutions & services

### Products

<http://www.fujitsu.com/fts/products/>

In addition to BS2000, Fujitsu offers a full portfolio of other computing products:

- Storage systems: ETERNUS
- Server: PRIMERGY, PRIMEQUEST, Fujitsu SPARC M10, BS2000 Mainframe
- Client Computing Devices: LIFEBOOK, STYLISTIC, ESPRIMO, FUTRO, CELSIUS
- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

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## More information

To learn more about BS2000, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website. <http://www.fujitsu.com/fts/bs2000>

## Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at: [www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)



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