

Datasheet

FUJITSU Software BS2000 JENV V9.0

BS2000 Environment for Java

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 V9.0 can be run on any platforms that have a JAVA-compatible runtime environment.



Topics

Product Description

FUJITSU Software BS2000 JENV V9.0 is an implementation of "Java Platform, Standard Edition" (Java SE) on basis of OpenJDK 9 for FUJITSU Software BS2000 OSD/BC with the complete name "BS2000 Environment for Java™ V9.0".

JENV V9.0 contains a runtime environment (JRE) which conforms to the following relevant specifications:

- "The Java™ Language Specification, Java SE 9 Edition" <http://docs.oracle.com/javase/specs/jls/se9/html/index.html>
- "The Java™ Virtual Machine Specification, Java SE 9 Edition" <http://docs.oracle.com/javase/specs/jvms/se9/html/index.html>
- Version specific API Specification "Java™ Platform, Standard Edition & Java Development Kit Version 9 API Specification" <http://docs.oracle.com/javase/9/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 V9.0 is based on OpenJDK 9.

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

- JENV V9.0 is Open Source Software.
All relevant license information can be found at: [JENV_V9.0_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.
- In JENV a FUJITSU in-house thread implementation is used.
- 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 9

- 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 V9.0 contains additional font files from the DejaVu Font Package.

Technical Details

Requirements

Technical Requirements Hardware	BS2000 Business Server
Technical Requirements Software	FUJITSU Software BS2000 JENV V9.0 is included as part of all shipments of the BS2000 operating system, i.e. JENV is shipped with BS2000 OSD/BC as of V10.0 (and therefore also with OSD/XC as of V10.0). JENV V9.0 is thus delivered as part of the basic configuration of the operating system. 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 http://manuals.ts.fujitsu.com/mainframes.html
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

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

Products

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Computing products

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

Product Support Services with different service levels agreements are recommended to safeguard each product and ensure smooth IT operation.

Solutions

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More information

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Fujitsu green policy innovation

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