

Datasheet

FUJITSU Software BS2000 BS2IDE

Integrated Development Environment for BS2000 based on Eclipse™

BS2IDE supports developers of BS2000 applications on typical tasks and integrates the benefits of modern development environments. By combining the most important tools of the software development process in one unified user interface, BS2IDE supports developers throughout the whole development cycle and raises the productivity in BS2000 software development and service.

Central functions of BS2IDE:

- Syntax aware editors
- Control of compilers and binder on BS2000
- Placement of problem markers directly in the corresponding lines of code
- Source oriented, graphical remote debugging
- openFT connection to BS2000 (Remote System Explorer)
- Local or remote source storage
- Support of open revision control systems (e.g. git)

BS2000 supports the most common **programming languages** of BS2000:

- COBOL85 and COBOL2000 (incl. ESQL)
- Assembler
- C/C++



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Topics

Overview

BS2IDE establishes a connection to BS2000 via openFT. An openFT client is necessary on the developer's workstation to achieve this. Via this openFT connection files and library elements can be opened in the so called Remote System Explorer (RSE), edited in the integrated editor and written back to BS2000. Connections to revision control systems such as Subversion and git (open world), but also LMS (BS2000) can be established. Furthermore a dialog connection is established to retrieve further information (e.g. file attributes). This connection is independent of other terminal emulations and is also used for source oriented debugging.

SDF/SDF-P Editor

Even for the BS2000 job control and command language SDF a syntax aware editor is part of BS2IDE. This editor recognises distinct abbreviated SDF commands and highlights those. The mouse over help shows the full command as well as its guaranteed abbreviation.

COBOL Editor

A specially for BS2IDE adapted COBOL editor, the *P3/COBOL editor for BS2IDE*, is developed by the company *EasiRun Europa GmbH* and can be ordered by Fujitsu as an optional add-on against a surcharge. Apart from syntax highlighting this editor offers a wide range of features to support the developer.

Remote launching of compilers and binder on BS2000

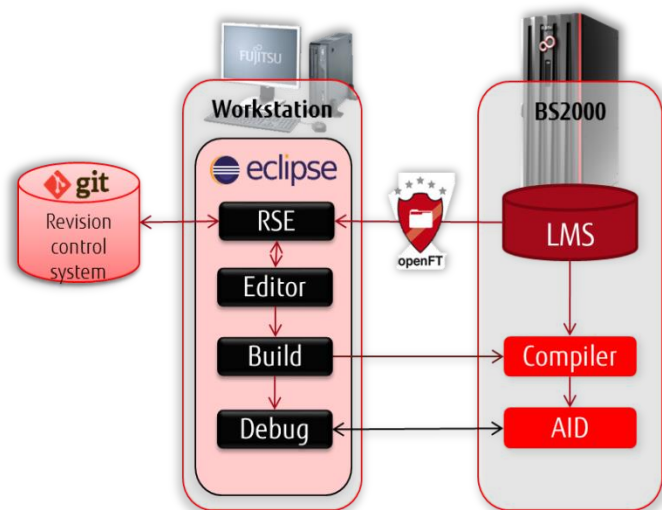
By using pre-defined rules and change tracking, BS2IDE detects automatically what sources need to be compiled. If necessary, locally changed sources are transferred to BS2000 via openFT and a previously defined compile procedure is started. After successful translation, a binding procedure may be started.

Placement of problem markers directly in the corresponding lines of code

After compilation the resulting source listing is fetched and analysed by BS2IDE. Possible error and warning messages are then marked in the corresponding line of code. By putting the cursor on those markers, the user can retrieve the original message of the compiler and therefore concentrate on error correction.

Source-oriented Debugging

The so called Debug Perspective of Eclipse lets programmers remotely debug their BS2000 application and offers the common and typical advantages of the open world. So breakpoints can be set in the source and as soon as a program is suspended, the current line of code is highlighted directly in the source. The user has then the possibility to step through the code line by line while being notified of any variables changing their values. It is also possible to watch the values of a specific set of variables or to change variable values. Of course the Debug Perspective can also be customized by the user.



From Eclipse a compilation procedure in BS2000 can be started. The result of this procedure is shown in the development environment and any fault appears directly in the editor at the corresponding point in the program code.

Description of the most important functions

Syntax-aware Editors

Eclipse offers a basic text editor to edit all kind of text files. Syntax-aware editors are available for the programming languages COBOL, Assembler and C/C++ as well as for the command language SDF/SDF-P. Apart from syntax highlighting these editors offer code completion and outline features.

C/C++ Editor

A syntax aware editor for C and C++ is part of the so called Eclipse C Development Toolkit (CDT) and can also be used together with BS2IDE.

ASSEMBH Editor (BS2000 Assembler Language)

A syntax aware editor for the BS2000 Assembler Language is part of BS2IDE itself. This editor highlights assembler instructions and provides a mouse-over help and auto completion.

Technical Details

Requirements

Technical Requirements Hardware	BS2000 Server current workstation PC (recommended: min. 2GB RAM, min. HD ready screen resolution)
Technical Requirements Software	<p>on BS2000:</p> <ul style="list-style-type: none"> ■ Component of FUJITSU Software BS2000 OSD/BC as of V10.0 (on special release request use on BS2000/OSD-BC V9.0 possible) ■ FUJITSU Software openFT (BS2000) as of V11.0 ■ Compiler/Assembler for the desired programming language (Fujitsu) ■ For use of source oriented debugging function: FUJITSU Software BS2000 AID as of V3.4 ■ optionally: <ul style="list-style-type: none"> - FUJITSU Software BS2000 LMS as of V3.4 - FUJITSU Software BS2000 JV as of V15.0 - FUJITSU Software BS2000 SDF-P as of V2.4 <p>on PC of the developer:</p> <ul style="list-style-type: none"> ■ PC operating systems, which is supported by Eclipse, as well as by openFT; this include: <ul style="list-style-type: none"> - Windows 7 or later (suggested) - current Linux and Solaris versions ■ Eclipse Framework as of V4.3 (Kepler), see http://www.eclipse.org ■ Eclipse-PlugIn Remote System Explorer (RSE) as of V3.4 ■ Java Runtime Environment, as of JRE 7 ■ FUJITSU Software openFT (Windows/Unix Systeme) as of V11.0, media and right of use (for Windows systems the openFT Client license) ■ optionally: further Eclipse PlugIns, e.g. for versioning
Demands on the user	Knowledge of Eclipse and BS2000
Installation and operation	
Operating mode	Dialog
Implementation language	Java
User interface	Graphic, English
Installation	By the customer according to the BS2IDE Installation Guide (see BS2IDE homepage: http://bs2000.ts.fujitsu.com/bs2ide)
Documentation and training	
Documentation	The latest version of the user manual and news can be found on the BS2IDE homepage http://bs2000.ts.fujitsu.com/bs2ide
Training	See course offer (German) of Fujitsu Training Academy. On request customized trainings are also offered.
Purchasing	
Conditions	BS2IDE is available to the user with reduced maintenance. For removal of possible errors a customized maintenance contract can be concluded with Fujitsu Technology Solutions GmbH. Errors in third-party products (especially in Eclipse and RSE) and any resulting errors in the BS2IDE cannot be covered by a maintenance contract. Fujitsu strives to find solutions for such cases anyhow.
Ordering and delivery	BS2IDE is free part of the operating system FUJITSU Software BS2000 OSD/BC V10.0 (for customers, who still have BS2000/OSD-BC V9.0 in use, the BS2IDE can be offered on special release request). The operating system OSD/BC may be obtained from your local Fujitsu Technology Solutions GmbH regional office. BS2IDE is offered as PlugIn to Eclipse. The access data for the download of BS2IDE are delivered in a license document together with the operating system.

With these access data, the BS2IDE can be installed in Eclipse via a so-called p2 update page. Alternatively the BS2IDE can also be downloaded via the link on the BS2IDE homepage.

openFT is not part of BS2IDE and must be ordered separately.

The **P3/COBOL editor for BS2IDE** of the company EasiRun Europa GmbH can be ordered from Fujitsu.

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

Solutions

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

Infrastructure Solutions are customer offerings created by bringing Fujitsu's products, services and technologies together with those from partners.

Industry Solutions are tailored to meet the needs of specific verticals.

Business and Technology Solutions provide a variety of technologies developed to tackle specific business issues such as security and sustainability, across many verticals.

Services

www.fujitsu.com/fts/services/

Application Services support the development, integration, testing, deployment and on-going management of both custom developed and packaged applications.

Business Services respond to the challenge of planning, delivering and operating IT in a complex and changing IT environment.

Managed Infrastructure Services enable customers to deliver the optimal IT environment to meet their needs.

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

www.fujitsu.com/global/about/environment/ 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/



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