
# isCOBOL™ Application Platform Suite

## isCOBOL APS 2008 SP1 Release Overview

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# isCOBOL APS 2008 SP1 Release Overview

## Introduction

Veryant is pleased to announce the latest update to the isCOBOL™ Application Platform Suite (APS), isCOBOL APS 2008 Service Pack 1 (SP1). isCOBOL APS provides a complete environment for the development, deployment, maintenance, and modernization of COBOL applications. In isCOBOL APS 2008 SP1, Veryant helps developers reduce development time with an Eclipse-based Integrated Development Environment (IDE) and advanced diagnostic capabilities. Details on the Eclipse-based IDE and other new features are included below:

## isCOBOL™ IDE

*The isCOBOL IDE is an integrated, graphical, and flexible environment for key COBOL development task such as design, coding, testing, and debugging.*

Built on Eclipse, the isCOBOL IDE features a COBOL code editor, integrated debugger with remote debugging capability, the ability to debug COBOL and Java together, and all of the other features available to the Eclipse community. The isCOBOL IDE is Java-based and runs on platforms including Windows®, Linux®, Solaris®, AIX®, MAC OS®, and HP-UX®.

Core COBOL development functions such as COBOL syntax highlighting, compiling, and project handling are supported in a single, flexible environment. Outline views, code completion assistance, and templates are provided; developers can edit from both a code generation and a debug perspective while taking advantage of common IDE features such as bookmarks, automatic build options, refactoring, and various compile settings.

Other development features of the isCOBOL IDE include:

- The ability to collapse and expand logical sections of code such as paragraphs and divisions.
- Dynamic “as you type” syntax checking that flags syntax errors and warnings before compilation by marking them in the “Vertical Ruler” to the left of the editor window, the “Overview Ruler” to the right, and describing them in detail upon mouseover.

- A detailed hierarchical list of errors, warnings, and other messages in the "Problems View" that can be double-clicked on to go to the precise location of the problem in the source code.

An integrated debugger is included with the isCOBOL IDE. Debugging can be performed within the code editor instead of a separate window. Remote debugging is also available to debug programs running in other processes or on another machine, and now Java and COBOL can now be debugged in the same environment.

Team work, code sharing, and collaboration is enhanced through integration with CVS and SVN.

In addition to fundamental programming tasks, developers can leverage plug-ins that extend the Eclipse platform to view related data sources and files, develop Web services, and integrate COBOL-based programs with Java and other technologies. Developers can also take advantage of the numerous free and commercial Eclipse-based products, newsgroups, mailing list discussions, articles, and books in the Eclipse ecosystem.

**isCOBOL™ Runtime Environment**

*Written 100% in Java, the isCOBOL Runtime Environment provides a framework that enables applications to run on any device supporting a Java Virtual Machine (JVM) -- from mainframes to mobile phones -- this includes application logic, user interface, and data access.*

Abend Diagnostic Snapshot

The isCOBOL Runtime Environment Framework can now be configured to produce a detailed report, the Abend Diagnostic Snapshot (ADS), describing the state of an application at the moment that an abnormal termination occurs. This report can be used to identify the root cause of a problem -- providing all of the information available to the isCOBOL Runtime Framework at the point where the error occurred.

The ADS report contains information such as:

- The name of the exception that occurred along with the Java package and class that raised the exception.
- The reason the exception occurred as reported by the class that raised the exception.
- The numeric code associated with the exception.

- The name of the COBOL program, name of the paragraph, name of the COBOL source file and COBOL source line number of the code that was executing when the exception occurred.
- Information about the particular COBOL operation that was executing when the exception occurred.
- The COBOL call stack at the time the exception occurred, including the names of all COBOL programs in the stack, the names of the associated COBOL source files, and the line numbers in those source files of the particular CALL statement.
- The date and time when the exception occurred.
- The version of the isCOBOL™ Compiler used to compile the COBOL program.
- The command line arguments used to start the COBOL program.
- The version of the isCOBOL Runtime Framework in use.
- The version of the Java Runtime Environment in use.
- The currently loaded COBOL programs.
- A dump of COBOL working-storage memory, including each data-item name, offset, length, value and hexadecimal byte dump of the data-item contents.

3 new properties are used to configure this feature:

- `iscobol.exception.dump(`Boolean) enables/disables the ADS "dump";
- `iscobol.exception.message=3` outputs the ADS report to a file named `<progname>nnnn.ads.log`;
- `iscobol.exception.prefix` specifies the filename prefix and path for the ADS report file;

COBOL call stack

With isCOBOL APS 2008 SP1, when a COBOL program abends, the isCOBOL Runtime Framework now reports the COBOL call stack instead of the Java exception stack. A new property `iscobol.exception.java` can be set to true to configure the runtime framework to report the Java exception stack (the behavior prior to the 2008 SP1 release).

Including COBOL source information in the call stack

A new –g compiler option has been added in isCOBOL APS 2008 SP1. Now when a program abends, if compiled with the –g option, the isCOBOL Runtime Framework reports the COBOL program name, source file name, and line number where the error occurred and the source file name and line number next to each program in the CALL stack.

Simplified deployment

isCOBOL APS 2008 SP1 simplifies deployment of applications by eliminating the need for the `coblib.jar`. All routines that used to be in `coblib.jar` are now available in both `iscobol.jar` and `isrun.jar` – with the exception of application server utilities (AS$ADMIN and AS$PANEL) that are now in `utility.jar`.

**isCOBOL™ Compiler**

*The isCOBOL Compiler is a Java-based, 100% portable COBOL compiler supporting the latest ANSI standards and common legacy dialects. The isCOBOL Compiler includes support for ESQL, Object Oriented COBOL, Unicode, and JavaBean graphical controls.*

With isCOBOL APS 2008 SP1, compile times have been improved and are now up to 4x faster in some specific source code situations.

**Indexed file and RDBMS performance and access**

isCOBOL™ ISAM Server

*isCOBOL ISAM Server is a fast and secure client-server-enabled indexed file system.*

With isCOBOL APS 2008 SP1, isCOBOL ISAM Server performance has been greatly improved. This feature is enabled with the `iscobol.ctree.ace=true` property. Using this setting, the isCOBOL Runtime Framework will make direct calls to the isCOBOL ISAM Server API (in `ctreedbs.dll` on Windows, `libctreedbs.so` on UNIX/Linux) instead of using a client/server connection. Developers can take advantage of this feature for isCOBOL APS while operating in single-user mode or for multiple users in thin client deployments.

In addition to supporting TCP/IP, isCOBOL ISAM Server now supports shared memory communications on Windows platforms.

***isCOBOL™ JISAM***

*isCOBOL JISAM is a Java-based indexed file system that works on a range of Java-compatible platforms and includes the JUTIL utility for basic file management.*

In isCOBOL APS 2008 SP1, two features have been added to the JUTIL utility for checking and rebuilding JISAM files: `-check` and `–rebuild`.

ISMIGRATE enhancement

Included with the isCOBOL Compiler, the ISMIGRATE utility now allows developers to migrate data from one relational database RDBMS to another RDBMS when used in conjunction with isCOBOL™ ESQL Generator. For example, ISMIGRATE can migrate data from Microsoft® SQL SERVER to ORACLE®.

Prior to the isCOBOL APS 2008 SP1 release, ISMIGRATE could move data from supported ISAM files to a RDBMS or vice-versa and from one supported ISAM file system to another.

The following new properties enable these migrations:

`iscobol.ISMIGRATE_input_jdbc_driver` : JDBC driver for input source

`iscobol.ISMIGRATE_input_jdbc_url`: JDBC URL for input source

`iscobol.ISMIGRATE_input_jdbc_driver` : JDBC driver for output source

`iscobol.ISMIGRATE_input_jdbc_url` : JDBC URL for output source

For example, to migrate from JDBC-ODBC to Oracle:

```
iscobol.ISMIGRATE_input_jdbc_driver=sun.jdbc.odbc.JdbcOdbcDriver

iscobol.ISMIGRATE_input_jdbc_url=jdbc:odbc:;DRIVER=Microsoft
Access Driver (*.mdb);DBQ=source.mdb;

iscobol.ISMIGRATE_output_jdbc_driver=oracle.jdbc.OracleDriver

iscobol.ISMIGRATE_output_jdbc_url=jdbc:oracle:thin:system/
admin@fabrizio2000:1521:oradb
```

EXTFH interoperability

With the isCOBOL APS 2008 SP1 release, bidirectional EXTFH interface support has been added for indexed, relative, and sequential files.

Developers can configure isCOBOL APS to use an EXTFH interface using the following properties:

```
iscobol.file.input=com.iscobol.extfh.ExtfhInput
iscobol.file.output=com.iscobol.extfh.ExtfhOutput
iscobol.file.sequential=com.iscobol.extfh.ExtfhRelative
iscobol.file.relative=com.iscobol.extfh.ExtfhRelative
iscobol.file.index=com.iscobol.extfh.ExtfhIndex
```

The vendor of a site's environment must supply the libraries that contain EXTFH-compatible functions for any data sources that need to be accessed. Those libraries need to be used in `Makefile` of `libEXTFH.so` under the `$ISCOBOL/native/extfh` directory.

By default, the isCOBOL Runtime Framework loads `libEXTFH.so` or `EXTFH.dll`. To change this default name, set: `iscobol.extfh.libname=myEXTFH`.

Since the isCOBOL EXTFH interface is bi-directional, if an external application needs to access a supported isCOBOL file system, it can take advantage of the EXTFH linking `libiscobolc.so` or `libiscobolc.a` libraries.

**UniKix™ rehosting software integration**

isCOBOL APS 2008 SP1 is the first Veryant release to be officially integrated with UniKix mainframe rehosting technology from Clerity Solutions, Inc. (Clerity). This integration delivers a choice of COBOL compilers to enterprise-class customers with rehosted mainframe CICS, IMS, and related legacy assets.

isCOBOL APS works in conjunction with UniKix mainframe rehosting technology as any other COBOL compiler. The UniKix translator, `kixclt`, performs the same translation of COBOL II format programs whether using isCOBOL APS or another platform. Support was added in UniKix software for isCOBOL native file formats, UniKix™ Transaction Processing Environment software, and UniKix™ Batch Processing Environment software. UniKix customers are now able to develop, debug, and compile programs in the isCOBOL IDE.

**GUI enhancements**

*isCOBOL APS distributes applications in a 100% Java environment, enabling unparalleled flexibility in the number and types of GUI options available for your COBOL programs.*

In isCOBOL APS 2008 SP1, GUI options have been further extended with the following enhancements:

- Wide character support, allowing display of characters that take up more than one screen column in character mode (such as found in Chinese, Japanese, Korean, and other East Asian languages).
- New ADJUSTABLE-ROWS `GRID` control support, allowing users of `GRID` control to manually adjust the height of every row in a grid.
- Automatic localization of message box buttons based on the operating system local or display language setting.