isCOBOL™ Application Platform Suite
isCOBOL 2008 Release Overview

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Introduction

Veryant is pleased to announce the latest release of the isCOBOL™ Application Platform Suite, isCOBOL 2008. The isCOBOL Application Platform Suite (isCOBOL APS) provides a complete environment for the development, deployment, maintenance, and modernization of COBOL applications. In isCOBOL 2008, Veryant has further enhanced the robust thin client and distributed processing functionality of isCOBOL™ Server and extended its innovative graphical user interface (GUI) capabilities. In addition to these improvements, the 2008 release introduces new features and enhancements in the following key isCOBOL APS areas:

isCOBOL Server

isCOBOL Server delivers high performance thin client and distributed processing.

<u>Performance</u>
Several enhancements were made to improve GUI response times for applications running in thin client and distributed modes:

- Data packet buffering and smart packing to reduce TCP/IP traffic size.

- Optimized sending of unused events.

- Implementation of CALL remote so a client can direct a server to run tasks in the background.

- Addition of a print option allowing you to print on a server instead of a client when running in thin client or distributed mode to reduce network traffic.

<u>Availability</u>
With isCOBOL 2008, distributed programs or programs running in thin client mode can now be modified without having to restart isCOBOL Server. Using `code_prefix`, instead of `classpath`, allows you to update programs on the server without a restart. This applies to any program containing a CANCEL statement.

Manageability

In isCOBOL 2008, the following administrative and configuration enhancements have been made to isCOBOL Server:

- Administrators can now view a list of connected clients and terminate individual client connections as desired. The command to use this new feature is:
  ```
  java com.iscobol.gui.client.Client [-port n] [-hostname host]
  –panel
  ```

- Programs running on a client can initiate programs running on a server and vice versa, giving programmers greater flexibility when it comes to deciding how and where to distribute processing tasks.

- Programmers can adjust where programs reside on the network by changing a single configuration file -- no change to actual COBOL program source code is required. These updates include:

  o `iscobol.remote.code_prefix` - a new property to allow you to set the URL or server machine.

  o The ability to use `iscobol.remote.code_prefix` with multiple values, for example:
    ```
    iscobol.remote.code_prefix=isc://hostname1:portnumber1\
    isc://hostname2:portnumber2
    ```

  o `iscobol.remote_conf` - a new property that allows you to set which remote configuration file to be used.

- isCOBOL Server technology natively supports CALL THREAD. This is the preferred method for calling programs asynchronously because it allows for the sending and receiving of messages using standard thread syntax. For compatibility with other COBOL platforms, support has also been added in the 2008 release of isCOBOL APS for `C$ASYNCRUN` and `C$ASYNCPOLL`. These routines allow programs to run asynchronously and be polled for completion.

- Encrypted logon was also added in isCOBOL 2008 for secure authentication.

GUI Enhancements

isCOBOL APS distributes application in a 100% Java environment, enabling unparalleled flexibility in the number and types of GUI options available for your COBOL applications. In isCOBOL 2008, GUI options have been further extended with the following enhancements:

- Support for `LAYOUT-MANAGER` and `LAYOUT-DATA` has been added, allowing GUI controls including `LM-RESIZE` layout and `LM-SCALE` to be automatically resized and repositioned. With these enhancements, the same graphical resizing of windows that is expected and delivered by most Web pages and modern application interfaces today is now easily delivered in COBOL. With isCOBOL 2008, when an end user resizes a window or moves to a monitor with a different screen resolution, everything within their interface window can readjust automatically. To enable this functionality, `LM-SCALE` performs a 'best guess' resizing so a programmer does not need to add custom code to every control that instructs a program what to do when a window has been resized.

- Support for sorting columns in `GRID` GUI controls.

- Additional improvements have been made to `AWT GRID` for PDAs and mobile devices, so graphical grid controls deployed on handheld devices will perform better.

Printing

When using thin client in isCOBOL Server, printing can be performed both on the client side and the server side.

By default, a print job is made from a client machine. To change this and initiate a print job from the server, the following are statements are used:

- o set `wprt-as-server` to true
- o call `"win$printer"` using `WINPRINT-SET-PRINTER-AS` winprint-as

Additional printing improvements in isCOBOL 2008 include the following:

- o Support for new op-code, `WINPRINT-SET-ATTRIBUTE` to set different attributes of a PDF file, including:

    – `TITLE` to specify a PDF title

- – `SUBJECT` to specify a PDF subject
- – `KEYWORDS` to specify PDF keywords
- – `AUTHOR` to specify a PDF author
- – `FONT_FOLDER` to specify the folders needed to find fonts in a PDF file without embedding fonts
- – `FONT_FOLDER_EMBED` to specify the folder needed to find fonts for a PDF file to embed fonts
- o PDF file size has been improved in isCOBOL 2008 as well. PDF files created with isCOBOL 2008 are more compact and a PDF end-user can now select text inside a PDF file to copy or search.

isCOBOL™ Web Direct

isCOBOL Web Direct leverages AJAX technology to deploy fully-interactive, zero client COBOL programs over the Web. In isCOBOL 2008, support for several new graphical controls have been added to isCOBOL Web Direct, including:

- o **Calendar date-entry**: enables easier management of date fields.
- o **Tree-View**: enables simple creation of application menus.
- o **Accordion panel**: allows accordion navigation to be added to applications that automatically opens or closes to reveal or hide desired user navigational paths.
- o **Rich Text control**: permits basic formatting such as bold, italic, underline, indenting, alignment, bullet points, change font and colors, copy and paste, undo and redo.
- o **Gain/Lost focus event**: enables better control of application text components.
- o **GRID enhancement**: greater functionality has been added to the GRID control making it easier to manage and update the properties of individual cells in a grid.
- o **New measurement units supported**: A broader set of dimensional options can now be applied to individual controls (inches, centimeters, percentage, etc.).

isCOBOL™ ESQL Generator

The isCOBOL ESQL Generator automatically generates an isCOBOL file system interface implemented with embedded SQL in COBOL, so a programmer can move from an ISAM data source to a relational database management system (RDBMS) such as Oracle without changing COBOL source code or to learning ESQL. In isCOBOL 2008, support for Microsoft

SQL Server has been added to isCOBOL ESQL Generator. Additional Oracle personalization access options have also been added (-O*).

Transitioning to isCOBOL

The following library routines and language improvements were added in isCOBOL 2008 to make transitioning to isCOBOL APS even easier:

Library routines
- o **CBL_ERROR_PROC and CBL_EXIT_PROC:** provide increased integration with the C programming language.
- o **DISPLAY_REG*:** routine corresponding to the REG* routine for managing keys in isCOBOL Server.
- o **C$SETENV and C$GETENV:** read, set and reset configuration values.
- o **C$SOCKET:** manage TCP/IP sockets directly from individual programs.
- o **C$PROGINMEM:** check to see if a program is running in memory.

Language improvements
- o LENGTH OF syntax
- o DEFINE compiler directive
- o "&" is now supported to concatenate strings
- o DIRECTIVE now supports < = and > expressions
- o ("A" OR "B") is now supported in IF, EVALUATE, PERFORM UNTIL
- o ACCEPT FROM LINE NUMBER
- o CALL PROGRAM statement
- o CHAIN statement