

isCOBOL[™] Evolve isCOBOL Evolve 2016 Release 2 Overview

© 2016 Veryant. All rights reserved.

Copyright © 2016 Veryant LLC.

All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution and recompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Veryant and its licensors, if any.

Veryant and isCOBOL are trademarks or registered trademarks of Veryant LLC in the U.S. and other countries. All other marks are property of their respective owners.

isCOBOL Evolve 2016 Release 2 Overview

Introduction

Veryant is pleased to announce to selected users, the latest release of isCOBOL[™] Evolve, isCOBOL Evolve 2016 R2.

isCOBOL Evolve provides a complete environment for the development, deployment, maintenance, and modernization of COBOL applications.

To allow the "outside world" to interact with an isCOBOL program, isCOBOL 2016 R2 includes a new feature called isCOBOL Service Bridge, integrated in the isCOBOL IDE and also available from the isCOBOL Compiler command line, which allows developers to easily create SOAP and REST Web Services starting from an existing legacy COBOL program.

isCOBOL 2016R2 includes many enhancements and new UI features. For example, grids content can now be effortlessly exported in Microsoft Excel format (both .xls and .xlsx formats).

The Xinuos OpenServer 10 64-bit operating system is now supported as a target platform with pre-built setups.

Details on these enhancements and updates are included below.

isCOBOL Service Bridge facility

To allow other software to communicate with an isCOBOL program, isCOBOL 2016R2 now provides easy server-side SOAP and REST Web Services development using the isCOBOL Server Bridge feature, available in the EIS framework. With Server Bridge, every time the isCOBOL Compiler compiles a legacy COBOL program with Linkage Section, a bridge class that allows the program to be used as a Web Service is automatically generated.

This feature is enabled by setting the property iscobol.compiler.servicebridge to true, and can be customized through the Service Bridge configuration described as follows:

```
iscobol.compiler.servicebridge=true
iscobol.compiler.servicebridge.type=SOAPIREST
iscobol.compiler.servicebridge.package=...
iscobol.compiler.servicebridge.rest.prefix=...
iscobol.compiler.servicebridge.rest.response=JSONIXML
iscobol.compiler.servicebridge.soap.prefix=...
iscobol.compiler.servicebridge.soap.url=...
iscobol.compiler.servicebridge.soap.style=RPCIDocument
iscobol.compiler.servicebridge.soap.namespace=...
```

To generate a REST web service with JSON responses, for example, the following configuration should be used when compiling: iscobol.compiler.servicebridge=true iscobol.compiler.servicebridge.type=REST iscobol.compiler.servicebridge.rest.response=JSON

In addition, the generation of the Service Bridge class can be customized using \$ELK directives that need to be set before each data item in Linkage section. For example, using the code sample below, the web service will have an input/output parameter called code, an input parameter called name and an output parameter called description.

When the web service is called, the corresponding linkage data items (p1, p2 and p3) will be assigned the corresponding values.

Linkage Section. 01 params. \$ELK NAME=code 03 p1 pic 9(9). \$ELK INPUT, NAME=name 03 p2 pic x(20). \$ELK OUTPUT, NAME=description 03 p3 pic x(100). isCOBOL IDE users can rely on the isCOBOL Service Editor to automatically and graphically generate the needed configuration and directives. Using this editor, developers can map the Linkage Section data items to the Web Service parameters, as well as configure other Web Service specific parameters. As soon as changes are saved, the configuration and original source code is updated with the proper compiler directives. As depicted in Figure 1, Opening isCOBOL Service Editor, in the isCOBOL Editor you can access the new isCOBOL Service Editor, and graphically customize the Web Service generation, as shown in Figure 2, Using isCOBOL Service Editor.





Figure 2. Using isCOBOL Service Editor

Service Settings							
nable Service							
rvice							
Type: REST			, Decoration: Default				
			Operations				
Settings				Orientier			_
Prefix: rest				Operation			
Response: JSON		~	procedure	SONGS			
Generate Java-Bean			_				
Prefix: bean							
Frenz. Dean							
URL: http://localhost	t:8080/services						
							_
ata Map							
inkage Section Fields		0	Service Fields				0
inkage Section Fields		0	Service Fields				0
inkage Section Fields Data Item	Value	^	Service Fields Data Item	Name	Direction	Туре	
inkage Section Fields Data Item 01 Ink-op-code pic x	Value	^	Service Fields Data Item Ink-op-code	Name	Direction	Type string	
inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data	Value	^	Service Fields Data Item Ink-op-code > Ink-song-data	Name	Direction input input	Type string string	
inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5)	Value	^	Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data	Name	Direction input input output	Type string string string	
 hta Map inkage Section Fields Data Item 01 Ink-op-code pic x 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-title pic x(3) 	Value 0)	^	Service Fields Data Item Ink-op-code Ink-song-data Ink-song-data	Name	Direction input input output output	Type string string string integer	
ata Map inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-title pic x(3) 05 Ink-sd-length pic x	Value 0) <(5	^	Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-title	Name	Direction input input output output output	Type string string string integer string	
 ta Map inkage Section Fields Data Item 01 Ink-op-code pic x 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-title pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-artist pic x(3) 	Value 0) <(5 20	^	Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-title Ink-sd-length	Name	Direction input input output output output output	Type string string string integer string string	
nta Map inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-title pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-artist pic x(3) 05 Ink-sd-album pic x	Value 0) <(5 20 <(3	<i>•</i>	Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-title Ink-sd-length Ink-sd-artist	Name	Direction input input output output output output output	Type string string string integer string string string	
ata Map inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-title pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-artist pic x(3) 05 Ink-sd-album pic x 05 Ink-sd-genre pic x)	Value 0) <(5 20 <(3 (15	<i>▶</i>	Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-id Ink-sd-length Ink-sd-artist Ink-sd-album	Name	Direction input input output output output output output output output	Type string string string integer string string string string	
ata Map inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-length pic x 05 Ink-sd-length pic x 05 Ink-sd-album pic x 05 Ink-sd-genre pic x 05 Ink-sd-label pic x	Value 0) <(5 20 <(3 (1) 30		Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-itle Ink-sd-length Ink-sd-album Ink-sd-genre	Name	Direction input input output output output output output output output output	Type string string string integer string string string string string string string	
nta Map inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-title pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-length pic x 05 Ink-sd-artist pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-album pic x 05 Ink-sd-genre pic x(3) 05 Ink-sd-label pic x(3) 05 Ink-sd-label pic x(3) 05 Ink-sd-label pic x(3) 05 Ink-sd-year pic 9(4)	Value 0) <(5 20 <(3 (1) 30		Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-itile Ink-sd-length Ink-sd-album Ink-sd-album Ink-sd-genre Ink-sd-label	Name	Direction input input output output output output output output output output output	Type string string string integer string string string string string string string string	
ata Map inkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-itle pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-length pic x 05 Ink-sd-artist pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-length pic x 05 Ink-sd-album pic x 05 Ink-sd-genre pic x(3) 05 Ink-sd-genre pic x(3)	Value Value 0) (5 20 (3 (1) 30 2) 20 20 20 20 20 20 20 20 20 20 20 20 20		Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-id Ink-sd-length Ink-sd-album Ink-sd-album Ink-sd-genre Ink-sd-label Ink-sd-year	Name	Direction input input output output output output output output output output output output output	Type string string string integer string string string string string string integer	
ata Map Linkage Section Fields Data Item 01 Ink-op-code pic x ~ 01 Ink-song-data 05 Ink-sd-id pic 9(5) 05 Ink-sd-itle pic x(3) 05 Ink-sd-length pic x 05 Ink-sd-length pic x 05 Ink-sd-album pic x 05 Ink-sd-album pic x 05 Ink-sd-genre pic x(3) 05 Ink-sd-label pic x(3) 05 Ink-sd-label pic x(3) 05 Ink-sd-genre pic x(3)	Value Value 0) (5 20 (3 (1) 30 4)		Service Fields Data Item Ink-op-code > Ink-song-data ~ Ink-song-data Ink-sd-id Ink-sd-itle Ink-sd-length Ink-sd-length Ink-sd-album Ink-sd-album Ink-sd-genre Ink-sd-label Ink-sd-year > Ink-sd-authors	Name	Direction input input output output output output output output output output output output output output output	Type string string string integer string string string string string string integer string string	

isCOBOL IDE Enhancements

The isCOBOL Evolve 2016 R2's IDE includes the new feature "Snap to Guides", which improves productivity by simplifying the alignment of components when designing a screen or report, as shown in Figure 3, *Snap to Guides*.

Figure 3. Snap to Guides

ToDo 🔀 🗖 test1		- <i>e</i>
😥 ToDo demo application	^	😳 Palette 🛛 👂
search	Change date	Components ⇔ ⇔
		Bar
Tasks	Activities	🔁 Bitmap 🗹 Check Box
priority tasks show expired tasks	activities	Combo Box
^		Date Entry
		Entry Field
		🔚 Frame
		I Grid
		S Java Bean
		Cabel
		EIST BOX
		Push Button
v		Kadio Button
		Scroll Bar
		The Assessment
task by due date show expired tasks	current task	Tab Accordion
^		
	Prototype for Ama	Web Resuses
	Prototype for Ana	web browser
		IIII Status Bar
		🚔 Menu
	work time for today	🔁 Containers 🛛 👳
		🔜 Tool Bar
	2n 32m	🖥 Ribbon
, i i i i i i i i i i i i i i i i i i i		
	×	
📰 screen-1 🗐 Working Storage 👼 Linkage Section 🏠 File Section 🌈 Event paragraph	-	

New User Interface Features

The Grid control has been greatly enhanced with new features, and push buttons have been upgraded as well.

Grid control

Grid content can now be copied to the clipboard and exported in Microsoft Excel XLS and XLSX formats. Those features can be added automatically or controlled by code.

The HEADING-MENU-POPUP property has new values defined in the isgui.def, or automatically generated by the Screen Painter, to allow adding the Copy and Export popup menu items.

Using COBOL code, the new ACTION property value ACTION-EXPORT will trigger the grid data export feature. Exported data file name and format can be customized using the EXPORT-FILE-NAME and EXPORT-FILE-FORMAT properties.

Using the ACTION-COPY value of the ACTION property will copy the grid contents to the clipboard.

Figure 4, *Export to Excel* shows how the user can access the new grid export feature. This can be achieved by properly setting the HEADING-MENU-POPUP property of the grid, as shown below, no coding needed!

```
05 my-grid grid

heading-menu-popup 63

export-file-name w-path-filename

export-file-format "xlsx"
```

The content of exported data into Excel will look like Figure 5, *Excel exported file*:

Figure 4. Export to Excel

isCOBOL ControlSet								_		×
IsControlSet Others										
🕕 About 🔻 🖨 Print 🔻 Control set: Grid 🤍 Exit 🛃 Right dick on ribbon or on the buttons to open the pop-up menus										
Мепи	📰 Radi	io/Check 📃 Entry-Field	Combo-Box	List-	Box 🔯 G	rid 📰 Pi	aged	Grid 📰	Java	ेनम
CONTROL SET										Grid
Radio/Check	-800	🗖 ashira dhidan					ПГ			
Entry-Field					Grid S	Sorting		column	-font	
Combo-Box		✓ row-dividers	Mode:		Column:			🗸 bitmap		
List-Box		✓ cursor-frame	Multiple Interval	\sim	Description	\sim				
Grid	-400	cursor-color	Selectable Items:		Type:			Searc	h options	
Paged Grid		divider-color	Rows V Descending			• ~	✓ Find Net			
Java-Bean										
Tab-Control	T 0	Additional info 🗸	Export to Exce	1	Copy to	Clipboard	Щ	Hide	columns	
		Description		OT	Drize	64	1	Data	N/a	
		OM graphic tablet INTLIOS3 (lassic A5	Ų.	Price	70		Date	1/11	
	01			16	223,58	60		Copy to	Clipboa	rd
- Push-button	02 WAC	OM graphic tablet GRAPHIRE	3 Studio XL A.5 NEW	05	238,80	100		Export.		
- Otherstat	03 WAC	OM graphic tablet GRAPHIRE	3 Studio A6	52	123,96	90				
	04 WAC	OM graphic tablet GRAPHIRE	3 Classic A6	23	99,00	40	Ľ	Col-U		
	05 WAC	OM graphic tablet VOLITO 2	A6 USB	50	50,00	60	Č	OT	uon	
	A5 USB	45	342,36	100	2	Price				
WACOM graphic tablet INTUOS3 A6 USB (137)					227.06	70	~	%		
	<	- *		00	237,30	70	~	Date		
							~	Y/n		
Grid Grid	Running on	Windows 10 - Application st	arted at 15/07/2016@	910:13				.,		

Figure 5. Excel exported file

- 21	А	В	С	D	E	F	G
1		Description	QT	Price	%	Date	Y/n
2	1	WACOM graphic tablet INTUOS3 Classic A5	16	223,58	60	01/01/2013	0
3	2	WACOM graphic tablet GRAPHIRE3 Studio XL A5	5	238,80	100	01/02/2013	1
4	3	WACOM graphic tablet GRAPHIRE3 Studio A6	52	123,96	90	01/03/2012	0
5	4	WACOM graphic tablet GRAPHIRE3 Classic A6	23	99,00	40	01/04/2013	1
6	5	WACOM graphic tablet VOLITO 2 A6 USB	50	50,00	60	01/05/2013	0
7	6	WACOM graphic tablet INTUOS3 A5 USB	45	342,36	100	01/06/2011	1
8	7	WACOM graphic tablet INTUOS3 A6 USB	65	237,96	70	01/07/2013	1
9	8	WACOM graphic tablet INTUOS3 A4 USB	3	490,68	100	01/08/2013	0
10	9	WACOM CintiQ graphic tablet 17 TFT Vga+DVI	15	2632,56	100	01/09/2013	1
11	10	NGS graphic tablet Draw Master 20x15cm USB	63	59,00	80	01/10/2013	1
12	11	NGS graphic tablet Cadboy 14x10cm USB	14	38,00	10	01/11/2013	0
13	12	WACOM CintiQ graphic tablet 18 TFT Vga+DVI	0	3373,44	100	01/12/2010	1
14	13	WACOM CintiQ graphic tablet 15 TFT Vga+DVI	87	1910,28	50	01/01/2013	0
15	14	WACOM graphic tablet x Notebook PEN PARTNER	14	39,00	100	01/02/2013	1
16	15	COREL CorelDraw Graphic Suite 12 (Upgrade)	63	292,00	100	01/03/2013	1
17	16	COREL CorelDraw Graphic Suite 12 (Full)	55	565,00	90	01/04/2013	0
18	17	COREL CorelDraw Graphic Suite 11 (Full)	23	99,00	40	01/05/2009	1
19	18	PINNACLE Cubasis VST 5.0	45	76,80	60	01/06/2013	1
20	19	ACD SYSTEMS AcdSee 7.0	75	99,90	30	25/07/2013	0
21	20	SONY T2XP/S Centr1.2G 512M 60G DVD±RW 10.6 XP	21	2868,00	50	01/08/2013	1

Multiple selection modes are now supported in the grid control, to allow users to more conveniently select rows or columns.

New properties in the GRID control:

- SELECTION-MODE to specify the selection type
- CELL-SELECTED-COLOR to set the selected cell color, expressed as COBOL value
- CELL-SELECTED-BACKGROUND-COLOR to set the selected cell background color, in RGB format
- CELL-SELECTED-FOREGROUND-COLOR to set the selected cell foreground color, in RGB format
- COLUMN-SELECTED-COLOR to set the selected column color, expressed as COBOL value
- COLUMN-SELECTED-BACKGROUND-COLOR to set the selected column background color, in RGB format
- COLUMN-SELECTED-FOREGROUND-COLOR to set the selected column foreground color, in RGB format
- ROW-SELECTED-COLOR to set the selected row color, expressed as COBOL value
- ROW-SELECTED-BACKGROUND-COLOR to set the selected row background color, in RGB format
- ROW-SELECTED-FOREGROUND-COLOR to set the selected row foreground color, in RGB format
- CELLS-SELECTED to retrieve the selected cells list
- COLUMNS-SELECTED to retrieve the selected columns list
- ROWS-SELECTED to retrieve the selected rows list

With the code shown below multiple row selections can be easily added in the grid:

```
05 my-grid grid

selection-mode 12

row-selected-foreground-color rgb x#9CB0E3

row-selected-background-color rgb x#2D4D9F

...
```

Grid selections are shown in Figure 6, Multiple selections in grid.

(is) isCOBOL ControlSet							_		×
IsControlSet Others									
🚯 About 🔻 🚔 Print 🔻 Control set: Grid 🤍 Exit 🛃 Right dick on ribbon or on the buttons to open the pop-up menus									
Мепи	📰 Radio	/Check 📰 Entry-Field	Combo-Box	List-	Box 🔯 Gr	id 📻 Pa	aged Grid 📰	Java	ीजाम
CONTROL SET									Grid
📰 Radio/Check	-800								
Entry-Field	-	column-dividers	Selection		Grid S	orting	column-	font	
Combo-Box	-	✓ row-dividers	Mode:		Column:		🔽 bitmap		
List-Box	-	🗹 cursor-frame	Multiple Interval	\sim	Description	~			
🤯 Grid	-400	cursor-color	Selectable Items:		Type:		Search	options	
···· 📰 Paged Grid	-	divider-color	Rows	Ascending Find Next					
···· 📰 Java-Bean	-								
Tab-Control		Additional info 🗸	Export to Exce	el -	Copy to (Clipboard	Hide o	olumns	
📰 Frame							·	0	
📰 HTML		Description	laggic AE	QT	Price	%	Date	Y/n	
📰 Bitmap	01 WACC	M graphic tablet GRAPHIRE	3 Studio XI A.5 New	16	223,58	60	01/01/2013		<u> </u>
Others	03 WACO	M graphic tablet GRAPHIRE	3 Studio A6	52	123.96	90	01/03/2012		•
	04 WACC	M graphic tablet GRAPHIRE	3 Classic A6	23	99,00	40	01/04/2013		
	05 WACO	M graphic tablet VOLITO 2 /	A6 USB	50	50,00	60	01/05/2013		
	06 WACC	M graphic tablet INTUOS3 A	15 USB	45	342,36	100	01/06/2011		
	07 WACC	M graphic tablet INTUOS3 A	AG USB NEW	65	237,96	70	01/07/2013		
	08 WACO	M graphic tablet INTUOS3 A	4 USB	03	490,68	100	01/08/2013		
	09 WACO	M CintiQ graphic tablet 17 T	FT Vga+DVI	15	2632,56	100	01/09/2013		~
	<								>
Grid Running on Windows 10 - Application started at 17/06/2016@14:31									

Figure 6. Multiple selections in grid

To provide better looking and easier to read grids, when multiple header rows are used, heading cells can now span horizontally or vertically

- CELL-ROWS-SPAN spans a header cell vertically on multiple rows
- CELL-COLUMNS-SPAN spans a header cell horizontally on multiple columns

In Figure 7, *Heading cells spanning*, the SPAN CELLS feature is used to vertically span the first 4 columns and to horizontally span the Album Info cell, using the code below

```
05 my-grid grid
column-headings
num-col-headings 2
...
modify my-grid(1, 1) cell-rows-span 2
modify my-grid(1, 2) cell-rows-span 2
modify my-grid(1, 3) cell-rows-span 2
modify my-grid(1, 4) cell-rows-span 2
modify my-grid(1, 5) cell-columns-span 3
```

(is) isCOBOL ControlSet							– 🗆 X	
IsControlSet Others								
🚯 About 🔻 🚔 Print 🔻 Control set: Paged Grid 🤍 Exit 🛃 Right dick on ribbon or on the buttons to open the pop-up menus								
Мепи		Radio/Check 📰 Ent	ry-Field	Combo-Box	🚍 List-Box 📰 Gi	rid 🔯 Paged G	arid 📰 Java-Bean 🛛	
							Paged Grid	
···· 📰 Radio/Check								
Entry-Field						Album Info		
Combo-Box		Title	Length	Artist	Name	Genre	Label	
List-Box	01	Let It Be	4:03	Beatles	Let It Be	Рор	Apple Records	
	02	Yellow Submarine	2:40	Beatles	Revolver	Рор	Apple Records	
	03	Help!	2:21	Beatles	Help!	Рор	Parlophone	
Tab-Control	04	Yesterday	2:07	Beatles	Help!	Рор	Parlophone	
Frame	05	Angie	4:30	The Rolling Stones	Goats Head Soup	Rock	R.S.Records	
	06	Start Me Up	3:32	The Rolling Stones	Tattoo You	Rock	Rolling Stones records	
Bitmap								
···· 📰 Push-button		- Action				- Sort on Occurs		
🖂 Others						Column to sort:		
		action	-first-pa	ge action-l	ast-page	Code	~	
		action-n	revious	action of	ext-page	Sort Type:		
		dealarp	i e vious j	deuorn	iext page	Ascending	~	
		action	n-previou	us actio	n-next	SORT		
Paged Grid Running on Windows 10 - Application started at 15/07/2016@17:32								

Figure 7. Heading cells spanning

Push buttons

Alignment styles LEFT, RIGHT, TOP, BOTTOM, CENTER are now supported in push-buttons and can be set dynamically, as shown in the Dynamic title position of Figure 8, *Push-button alignment*

is is COBOL ControlSet		– 🗆 X
IsControlSet Others		
(1) About v 🚔 Print v Control set:	Push-button 🗸 Exit 🛃 Right click on ribbon or on the buttons to op	pen the pop-up menus
Мели	l Grid 📰 Java-Bean 📰 Tab-Control 📰 Frame 📰 HTML 📰 Bitmap 🞲 Push	-button 📰 Others
		Push-button
Radio/Check		
Entry-Field	- Text button	
Combo-Box	Left Center Right	Inabled
List-Box		
	- Bitmap and Text button	
	Position 1 D Position 2 Position 4	Color
		Oefault
		○ Red
Bitmap	Bitmap button	0
🞲 Push-button		
Others		Bitmap
		Wireframe cube
		O Blue cube
	- Dinamic title position	- Alignment
		00
		Ĭ
		$ \dot{\phi} \circ \dot{\phi} $
	Text (1) Title	
Durk hutter		
Push-Dutton R	unning on windows 10 - Application started at 14/0//2016@1/:55	1.

Figure 8. Push-button alignment

Framework Improvements

The isCOBOL framework has yet again been improved to aid developers gain productivity while debugging and increase performance of running applications.

C\$WRITELOG

Multiple parameters are now supported in C\$WRITELOG, to output several items at once, as shown below.

CALL "C\$WRITELOG" using "value of var1:" var1 ", var2=" var2

<u>W\$FLUSH</u>

The W\$FLUSH library routine has two new op-codes:

- o WFLUSH-DISABLE-UI to disable the user interface updates
- WFLUSH-ENABLE-UI to restore the user interface updates

The new opcodes can improve performance in scenarios where a long computation contains several unnecessary DISPLAY or MODIFY statements. Disabling the UI drawing will speed up performance and, at the end of the computation, UI drawing can be re-enabled to update the user interface. It can be used as show below.

CALL "W\$FLUSH" **using** WFLUSH-DISABLE-UI PERFORM DO-LONG-OPERATION-WITH-UNNECESSARY-UI-UPDATES CALL "W\$FLUSH" using WFLUSH-ENABLE-UI

External logging

External logging can now be configured using the new configuration property:

iscobol.logclass=com.iscobol.logger.Slf4jLogger

This allows the use of external logging libraries, such as Log4J, and take advantage of their advanced features, like rolling and zipping.

isUPDATER

isUPDATER can now automatically check for software updates by adding the -update option in the command line used to run an isCOBOL application, such as

iscrun -update MYPROG

isUPDATER loads from CLASSPATH the isupdater.properties configuration file, containing information on the update server, such as

swupdater.site=http://192.168.0.123:10996

using this configuration, isUPDATER is leveraging the -hs option of iscserver, which starts an HTTP server on the default 10996 port, where updates might have been stored.

isCOBOL Compiler Enhancements

isCOBOL Evolve 2016 R2 includes several changes to the isCOBOL Compiler that improve productivity and simplify migration from other COBOLs.

\$SET to set compiler properties on each program

\$SET directive can now be used to set compiler properties for each program, to allow customization of compiler properties inside the source code, without the need for additional configuration files, such as:

```
$set "easylinkage" "1"
$set "easylinkage.package" "com.veryant"
PROGRAM-ID. GETCUSTID.
```

Enhanced compatibility with other COBOLs

New library routines have been implemented: CBL_EQ and CBL_IMP for logical operator, CBL_SPLIT_FILENAME to split a filename. New intrinsic functions have been added: E, EXP, EXP10, FRACTION-PART, PI, SIGN to simplify migration from Micro Focus COBOL.

Vision version 6 indexed files are now supported in the com.iscobol.io.ScanVision file handler – used in ISMIGRATE - to allow data migration from ACUCOBOL-GT Extend 10.

A new configuration property, iscobol.gui.screen_col_zero=1, has been added to emulate the RM/COBOL behavior of the DISPLAY statement with the COLUMN 0 phrase.

ESQL TRUNCATE statement is now supported to simplify migration from Pro*COBOL to isCOBOL with JDBC database access.

IsCOBOL Server Improvements

isCOBOL Thin Client can now be updated without needing any client configuration changes. By properly configuring isCOBOL Server, isUPDATER automatically updates client components.

Client updates can now be configured on isCOBOL Server, using the new iscobol.as.clientupdate.site property, by declaring the HTTP server location where updates are located, such as

iscobol.as.clientupdate.site=http://192.168.0.123:10996

The above configuration takes advantage of the -hs option of isCOBOL Server which starts an http server on port 10996. Client components are then guaranteed to match the server version.

If minor server updates are not wanted on the clients, these can be skipped by setting the client runtime version to the desired value using the new server configuration property iscobol.as.clientupdate.version, i.e.

iscobol.as.clientupdate.version=875.2

Single clients can be configured to skip updates with the new client option:

-noupdate

iscclient -hostname ipserver -port 10999 -noupdate MYPROG

isCOBOL EIS improvements

Servlet prefix

You can now customize the prefix used by the servlet to map the web service operation to the program generated by Service Bridge, by setting the iscobol.http.servlet.prefix configuration property.

For example, if the Service Bridge was used to generate a Rest web service, the prefix must be configured as

iscobol.http.servlet.prefix=rest

while if a SOAP web service was generated, then the prefix should be

```
iscobol.http.servlet.prefix=soap
```

If Service Bridge was configured with custom prefixes when the program was generated, then you need to specify the same prefix

iscobol.http.servlet.prefix=custom

Utility improvements

isUPDATER enhancements

isUPDATER has been enhanced to supports folder names for updates in addition to zip files. Native, OS specific updates, can be downloaded as needed by appropriately setting the isUPDATER configuration file. This will save time and bandwidth, by allowing the download of only necessary components.

An example of multiple OS configuration settings:

```
swupdater.version.iscobol=875.2
swupdater.lib.iscobol=lib
swupdater.version.iscobolNative=875.2
swupdater.lib.linux.32.iscobolNative=native/linux32_libs
swupdater.lib.linux.64.iscobolNative=native/linux64_libs
swupdater.lib.win.32.iscobolNative=win32_libs
swupdater.lib.win.64.iscobolNative=win64_libs
```

New supported platform

OpenServer 10

Starting from this version, a new platform is available for download: Xinuos OpenServer 10 64-bit, an operating system based on the popular FreeBSD and designed to support business applications within an enterprise environment. OpenServer 10 supports the latest hardware and peripherals and gives you more choices for business applications. New support, security, and management tools boost performance, scalability, and reliability, allowing businesses to runs more smoothly.

Veryant supports OpenServer 10 by providing dedicated .tar setups, including native components, in order to simplify the installation process.

c-treeRTG is also available on OpenServer 10, allowing easy porting of an entire isCOBOL application to this operating system, and increasing the total number of target platforms and increase the potential customer base.

More information about Xinuos OpenServer 10 is available on http://www.xinuos.com