

## Version 8 | Why Upgrade?

A new product, utility program, and more than 100 enhancements that provide new functionality or simplify development highlight Version 8. Here is a preview of what these enhancements deliver.

	The Enhancement	The Value
<b>extend<sup>®</sup> 8 Interoperability Suite</b>		
<b>New Products and Technologies</b>		
AcuXUI™	A user interface engine that allows graphical ACUCOBOL-GT <sup>®</sup> programs to exhibit their user interfaces on multiple platforms, including UNIX <sup>®</sup> and Linux <sup>®</sup> . Rather than relying on Windows <sup>®</sup> technologies to display graphical controls, AcuXUI takes advantage of the Java Runtime Environment (JRE).	<i>Portability.</i> AcuXUI allows Acucorp's graphical technology to be displayed by a Java Runtime Engine (JRE) running on a UNIX or Linux server. COBOL programs can be deployed from a Java command line, or from a Java applet on a Web page.
AcuXDBC™	Next generation product replacing AcuODBC <sup>®</sup> . First released as the sole product of Version 7.4, AcuXDBC includes new features in Version 8. See the AcuXDBC section for details.	<i>Data Access.</i> AcuXDBC has client and server components that provide access to Vision data through ODBC and JDBC compliant applications.  It further provides improvements over AcuODBC in performance, wider SQL-92 compatibility, and a System Catalog, to define and manage access to databases comprised of Vision files.
Boomerang utility	Client and server technologies for sending source and copy files to a remote server, invoking a precompiler, performing preprocessing on the server, and returning the preprocessed output to the client for additional compiling. The Boomerang client has been integrated with AcuBench <sup>®</sup> .	<i>Productivity.</i> Boomerang integrates precompilers running on remote servers with the AcuBench development environment running on the Windows platform. Automatic transfer of source files to and from the remote machine facilitates the use of popular precompilers, such as those used with Oracle <sup>®</sup> and DB2 <sup>®</sup> , that have machine-specific functions requiring preprocessing to occur in their native environments.

	The Enhancement	The Value
<b>Reengineered Products</b>		
Acu4GL® and AcuSQL® for Microsoft® SQL Server	<p>The Acu4GL for Microsoft SQL Server interface now uses ODBC to communicate with SQL Server instead of the DB-Library from Microsoft.</p> <p>The AcuSQL runtime now also uses ODBC to communicate with Microsoft SQL Server instead of the DB-Library from Microsoft. One of the key results from shifting to ODBC is that SQL statements are now automatically prepared and optimized.</p>	<p><i>Data Access. Performance.</i> Faster performance in the production environment, especially in cases where the same SQL statement is performed numerous times, but with different parameters (e.g., report production).</p> <p>Ensures the best compatibility with Microsoft SQL Server 2005 and beyond, as Microsoft indicates it will eventually drop support for connections from DB-Library or embedded SQL applications.</p>
<b>Performance</b>		
Improved computational math	Binary methodology to carry out arithmetic commands specified by the verbs ADD, SUBTRACT, MULTIPLY, DIVIDE, and COMPUTE.	<i>Performance.</i> The binary methodology is generally more efficient than the previous methodology, resulting in faster performance for programs performing arithmetic functions.
Improved internal memory management	All data is stored in a single, 32-bit addressable data space.	<i>Performance.</i> The maximum data allowed per program is now 2 GB, as is the maximum data item size.
qsort function support	You can use the system qsort function instead of the ACUCOBOL-GT built-in sort function when desired. The sort type is configurable.	<i>Performance.</i> In some applications, the sorting of large files is the most significant footprint on performance. Users can make a simple configuration change to substitute qsort, and benchmark its performance in their application.

	The Enhancement	The Value
<b>Interoperability</b>		
Java	Java exception handling. When a Java exception occurs, an error code is returned to C\$JAVA along with the handle of the exception. The COBOL program can then call the exception object and have the exception information logged to an error file.	<i>Productivity. Troubleshooting.</i> Enables developers to determine when a program error was due to Java exception rather than a COBOL coding error.
.NET	<ul style="list-style-type: none"> <li>The NETDEFGEN utility has been enhanced to recognize .NET assemblies version 2.0.</li> <li>NETDEFGEN's interface has been simplified and a Settings dialog has been added.</li> <li>The COPY files generated by NETDEFGEN have been enhanced to improve their readability.</li> </ul>	<i>Flexibility. Productivity.</i> Lets you take advantage of older and newer .NET assemblies in your program.  Automates the generation of the options file and adds persistence to your directory selections between invocations.  Makes COPY files easier to read and understand.
Windows	Calls can be made to DRV and OCX modules.	<i>Flexibility.</i> Wider range of access to Windows-based drivers and independent programming modules for adding additional functionality to your programs.
XML	New operation codes enable XML header and processing instructions such as version, encoding, standalone, stylesheet, and Doctype to be retrieved from a parsed XML file and written to a new XML file.	<i>Performance. Productivity.</i> Automates an aspect of XML generation required when pages are accessed from different countries/languages. Using C\$XML minimizes the amount of COBOL programming required when working with XML.

	The Enhancement	The Value
<b>Graphical Technology</b>		
Bitmap scaling	New bitmap control properties enable you to programmatically resize bitmaps to fit the area on a form where the image is displayed.	<i>Productivity.</i> This eliminates the need to maintain and refer to multiple size-versions of the same image, as many developers do when preparing toolbars of different sizes, for example.
Wheel mouse support for Paged Grid and Paged List Box	New events for adding wheel mouse functionality to these graphical controls.	<i>Modern Look and Feel.</i> Enhances the user experience and adds more modern functionality to graphical controls.
Auto-scroll Windows	In cases where a window is larger than the visible bounds of the screen and controls appear in that unseen region, the runtime will automatically scroll and make those controls visible when the focus is placed on that control.	<i>Productivity</i> Enables programmers to make more and better use of single windows while maintaining user-friendliness. Programs can rely less on users manually scrolling a window to view additional controls or fields. Programmers do not have to necessarily program multiple windows, because all controls may not be visible during the initial viewing of a window.

	The Enhancement	The Value
<b>ACUCOBOL-GT Development System</b>		
<b>Compiler</b>		
--acceptrefresh (New)	Specifies whether the data areas associated with Screen Section data are updated from their corresponding Working-Storage Section items before an ACCEPT statement.	<i>Productivity.</i> Provides a method of ensuring entry-fields never show their previous values on the screen after the user presses <b>Enter</b> . Prevents you from having to program the moving of empty spaces into entry-fields. Useful in cases involving entry-fields that ACCEPT passwords.
--binaryMath --decimalMath (New)	The "--binaryMath" option uses binary methodology to carry out arithmetic commands specified by the verbs ADD, SUBTRACT, MULTIPLY, DIVIDE, and COMPUTE. The "--decimalMath" option uses decimal math, which was the default setting before Version 8.	<i>Performance.</i> Faster processing in the production environment. The binary methodology is generally more efficient than the previous methodology resulting in faster performance for programs performing arithmetic functions.
-Cv	New options for specifying either IBM OSVS or VSC2 compatibility.	<i>Compatibility.</i> More precise compatibility with IBM COBOL.
-e	Format specifiers provide additional information about error files. This includes the process ID of the runtime, current date/time, username, and hostname.	<i>Productivity. Troubleshooting.</i> Provides more descriptive filename information about a particular error file, making it easier to identify. Useful in the production environment where you can associate a particular error file to a specific user or process.

	The Enhancement	The Value
<b>ACUCOBOL-GT Development System</b>		
<b>Compiler Continued</b>		
--FpRounding (New)	Implies rounding when floating point data types are used in math statements.	<i>Productivity.</i> Avoids having to manually specify "ROUNDED" for data items that are used in mathematical statements involving floating point data types. Useful for programs originally written for IBM COBOL.
-vd (New)	Converts non-USAGE DISPLAY numeric variables (e.g., COMP) to USAGE DISPLAY before the screen display.	<i>Productivity.</i> Useful when a program needs to accept input from a user, perform a calculation using that input, and then display the result back to the user. In these cases, using "-vd" eliminates writing code that moves the data to and from numeric and display variables.
<b>Library Routines</b>		
C\$COPY	Supports text file copies between UNIX and Windows. C\$COPY handles the different terminating characters that exist between UNIX and Windows. Previously, only binary files could be used with C\$COPY.	<i>Interoperability.</i> Remote file sharing of text files between UNIX and Windows. Useful when you want to access or edit a text file created on UNIX using Windows Notepad.
C\$GETERRORFILE & C\$SETERRORFILE (New)	Returns the name of the runtime error file as specified with the "-e" option or from a call to C\$SETERRORFILE. You can use the new "-e" name specifiers to add identifying information to the error filename such as the process ID, username, date, and time.	<i>Productivity. Troubleshooting.</i> Provides more descriptive filename information about an error file, making it easier to identify. Useful in the production environment where you can associate a particular error file to a specific user or process.
C\$JAVA	Java exception handling. When a Java exception occurs, an error code is returned to C\$JAVA along with the handle of the exception. The COBOL program can then call the exception object and have the exception information logged to an error file.	<i>Productivity. Troubleshooting.</i> Provides information for troubleshooting. Enables developers to determine when a program error was due to Java exception rather than a COBOL coding error.

	The Enhancement	The Value
<b>ACUCOBOL-GT Development System</b>		
<b>Library Routines Continued</b>		
C\$XML	New op-codes enable XML header and processing instructions such as version, encoding, standalone, stylesheet, and Doctype to be retrieved from a parsed XML file and written to a new XML file.	<i>Performance. Productivity.</i> Proper display of XML pages in the production environment – especially useful when pages are accessed from different countries/languages. Using C\$XML minimizes the amount of COBOL programming required when working with XML.
W\$PROGRESSDIALOG (New)	Provides access to the features of the Windows progress dialog box so that a program can display a window showing a status bar and estimated time of completion for a given operation.	<i>Modern Look and Feel. Performance.</i> Useful in the production environment when operations such as a file download, copy, moving, or deleting occurs. Users can be informed on the estimated time of completion, and given the option to cancel the operation.
WIN\$PRINTER	New operation codes provide the following: <ul style="list-style-type: none"> <li>• Automatic reloading of the Windows printer list.</li> <li>• Background setting for print jobs.</li> <li>• Vertical alignment for print jobs containing varying font heights.</li> <li>• Calling of the latest print dialog function – PrntDlgEx.</li> </ul>	<i>Interoperability. Modern Look and Feel.</i>  Ensures that the COBOL program displays the most current list of available printers.  Enables print jobs to have watermarks printed.  Ensures proper page formatting and a professional look when printing tables containing multiple fonts.  Access to the most modern and feature-rich print dialog box. Particularly important if running on Microsoft Vista™, as older dialog box functions may not be supported.

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<b>ACUCOBOL-GT Development System</b>		
<b>COBOL Syntax and Compatibility Enhancements</b>	<ul style="list-style-type: none"> <li>• SORT statement can be used on elements of a Working-Storage table</li> <li>• Added support for IBM COBOL XML verbs</li> <li>• ++INCLUDE support</li> <li>• PIC 99 data item can be used as a FILE STATUS</li> <li>• FILE STATUS now supports a second status variable</li> <li>• EVALUATE WHEN supports numerous new conditions</li> <li>• COPY REPLACING and REPLACE support colon, parenthesis, and asterisk as delimiters</li> <li>• NEXT SENTENCE allowed in a READ statement</li> </ul>	<p><i>Productivity. Compatibility.</i>            Access to more functionality and capabilities of COBOL. Extending the ACUCOBOL-GT dialect to be closer in line with the ANSI 2002 standard. Provides more coding options that developers can take advantage of in their applications.</p> <p>Greater compatibility with other COBOL dialects enables developers to utilize methods, which may already be in place or with which they are already familiar.</p>
<b>New and Enhanced Configuration Variables</b>		
A_SEQ_DEFAULT_BLOCK_SIZE	Enables you to apply and set a buffer size for use with the “-load” and “-unload” commands.	<i>Performance.</i> Faster processing times in the production environment. The amount of time to load/unload data files can be drastically reduced (hours to minutes, minutes to seconds) when compared to previous <b>vutil</b> versions.
COBLPFORM	Lets you define and print to print channels 01 to 12.	<i>Productivity. Performance.</i> Used when printing to files or line printers. Provides proper line advancement and page alignment.
GRID_NO_CELL_DRAG	Specifies the behavior of not allowing cell dragging within all GRID controls. Note that there is also a new style property to specify this behavior individually for each GRID control.	<i>Productivity. Performance.</i> Straightforward method of enabling/disabling cell dragging in GRID controls. Particularly useful in thin client environments where cell dragging may hinder performance.



	The Enhancement	The Value
<b>ACUCOBOL-GT Development System</b>		
<b>Utilities Continued</b>		
<b>NETDEFGEN</b> – .NET Definitions Generator	<ul style="list-style-type: none"> <li>• The NETDEFGEN utility has been enhanced to recognize .NET assemblies version 2.0.</li> <li>• NETDEFGEN’s interface has been simplified and a Settings dialog has been added.</li> <li>• The COPY files generated by NETDEFGEN have been enhanced to improve their readability.</li> </ul>	<p><i>Interoperability. Productivity.</i> Lets you take advantage of latest .NET assemblies in your program.</p> <p>Eliminates the need to hand-generate an options file and adds persistence to your directory selections between invocations.</p> <p>Makes COPY files easier to read and understand.</p>
Vision and <b>logutil</b>	Enhanced to allow transaction log files larger than 2GB.	<p><i>Performance.</i> Greater capacity and readiness in the production environment to handle increase in demand.</p>
<b>vutil</b> – buffering for loading/unloading data files	A new configuration variable enables you to apply and set a buffer size for use with the “-load” and “-unload” commands.	<p><i>Performance.</i> Faster processing in the production environment. The amount of time to load/unload data files can be drastically reduced (hours to minutes, minutes to seconds) when compared to previous <b>vutil</b> versions.</p>

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<b>AcuBench</b>		
Boomerang support	Graphical interface to the Boomerang client, which is used to send source files to a remote server for preprocessing. The compiled source is then sent back to AcuBench including status and error messaging.	<i>Time Savings. Interoperability.</i> Boomerang integrates precompilers running on remote servers with the AcuBench development environment running on the Windows platform. Automatic transfer of source files to and from the remote machine facilitates the use of popular precompilers, such as those used with Oracle® and DB2®, that have machine-specific functions requiring preprocessing to occur in their native environments.
AcuXUI support	Ability to launch programs via AcuXUI or the standard runtime. You can set the necessary environment variables and issue AcuXUI commands from the IDE.	<i>Productivity. Portability.</i> Easy, graphical access to AcuXUI. Flexibility to launch programs from standard runtime or Java command line.
HTML report improvement	You can now collapse or preserve embedded spaces in controls such as labels and entry fields.	<i>Productivity. Modern Look and Feel.</i> More professional and easier to read reports.
Automated control labels	When you use the drag-and-drop interface to create certain types of controls, a label is automatically drawn and associated with that control.	<i>Time Savings.</i> Saves you from having to separately draw and associate labels for each control. Increases productivity.
Wheel mouse support for paged grids and list boxes.	Automatic code generation for paged grids and list boxes that handle wheel mouse events.	<i>Time Savings.</i> You can create these controls in minutes rather than hours. Increases productivity.
Printing output	You can print the contents of the output window to your default printer by right-clicking anywhere in the output window.	<i>Productivity.</i> You can share the output from a given build session with others or study it away from your computer environment.
Navigation tabs	Each opened window, such as each instance of the code editor and graphic design window, has a corresponding tab that displays just above the output window. Clicking a tab activates and brings that window to the front.	<i>Productivity.</i> Easier navigation and identification of the active window.

	The Enhancement	The Value
<b>AcuConnect® – Distributed Processing</b>		
Calling a remote COBOL object from a non-COBOL program on the client	AcuConnect can be used to execute remote COBOL objects from client applications developed in C, C++, Java, .NET, Delphi, or Visual Basic.	<i>Interoperability.</i> Other languages besides COBOL can interact with a remote COBOL application.
<b>AcuConnect – Thin Client</b>		
Mouse support for items in a character Screen Section	Users can select and activate items such as entry fields with their mouse.	<i>Modern Look and Feel.</i> Easier navigation for end users. Developers do not have to rely on programming hotkeys in order for users to navigate the character screen.
C\$FILEINFO	The “@{DISPLAY:}” notation is now allowed for the FILE-Name parameter.	<i>Performance.</i> Provides a direct way to detect the presence of a file on a client system.
Remote host not responding message	This message is now customizable via the TEXT configuration variable.	<i>Flexibility.</i> Particularly useful when you need to display this message in a language other than English.
LABEL titles larger than 1024 characters	The length of a LABEL title under thin client was limited to 1024 characters. This limit has been lifted.	<i>Productivity.</i> Greater flexibility to use larger labels without having to break them into separate labels.
GRID_NO_CELL_DRAG	Specifies the behavior of not allowing cell dragging within all GRID controls. Note that there is also a new style property to specify this behavior individually for each GRID control.	<i>Performance. Productivity.</i> Straightforward method of enabling/disabling cell dragging in GRID controls. Particularly useful in thin client environments where cell dragging may hinder performance.

	The Enhancement	The Value
<b>AcuSQL</b>		
Rewrite of AcuSQL for Microsoft SQL Server	The AcuSQL runtime now uses ODBC to communicate with SQL Server instead of the DB-Library from Microsoft. One of the key results from shifting to ODBC is that SQL statements are now automatically prepared and optimized.	<p><i>Data Access. Performance.</i> Faster performance, especially in cases where the same SQL statement is performed numerous times, but with different parameters (e.g., report production).</p> <p>Ensures the best compatibility with Microsoft SQL Server 2005 and beyond, as Microsoft indicates it will eventually drop support for connections from DB-Library or embedded SQL applications.</p>
Process SQL in COPY files	AcuSQL can now locate and process embedded SQL statements in COPY files.	<p><i>Time Savings.</i> Prevents you from having to manually code SQL statements into your program. Enables you to use existing resources (COPY files).</p>
<b>Acu4GL</b>		
Rewrite of Acu4GL for Microsoft SQL Server	The Acu4GL for Microsoft SQL Server interface now uses ODBC to communicate with Microsoft SQL Server instead of the DB-Library from Microsoft.	<p><i>Data Access. Performance.</i> Especially in cases where the same SQL statement is performed numerous times, but with different parameters (e.g., report production).</p> <p>Ensures the best compatibility with Microsoft SQL Server 2005 and beyond, as Microsoft indicates it will eventually drop support for connections from DB-Library or embedded SQL applications.</p>
COBOL trigger support	A new XFD directive instructs Acu4GL that a COBOL trigger is to be executed. COBOL triggers are used to automatically execute a predefined program in response to a specific I/O event performed on a database file.	<p><i>Performance. Productivity.</i> Triggers enable multiple programs to access a single program, which can be used to carry out a multitude of tasks such as enforcing business rules, launching other programs, sending an email, etc. With triggers, the code for these tasks remains in one program, as opposed to replicating the functionality in each program.</p>

	The Enhancement	The Value
<b>AcuXDBC</b>		
Next generation product replacing AcuODBC	First released as the sole product of Version 7.4, AcuXDBC includes new features in Version 8.	<p><i>Data Access. Flexibility.</i> AcuXDBC has client and server components that provide access to Vision data through ODBC and JDBC compliant applications.</p> <p>It further provides improvements over AcuODBC in performance, wider SQL-92 compatibility, and a System Catalog, to define and manage access to databases comprised of Vision files.</p>
SUBTABLE Directive	New XFD directive used to handle arrays and the OCCURS clause. When specified for a particular array, a subtable is created under the main table.	<p><i>Data Access. Productivity.</i> Provides a method of describing and eventually displaying COBOL arrays in a relational table format.</p>
Enhanced XDBCutil and XFDs	Compile options such as those used to indicate a file's sign compatibility, maximum digits, and period and comma character are now included in the XFD and automatically read by XDBCutil.	<p><i>Data Access.</i> Automates the process of ensuring that the tables created and described by XDBCutil accurately reflect the definitions that may have been applied to the corresponding Vision file.</p>

**For more information on these enhancements, contact your Acucorp Sales Professional today.**

**Acucorp Corporate Headquarters** 800.262.6585 (within the U.S. and Canada) or +1 858.689.4500 | [info@acucorp.com](mailto:info@acucorp.com)

**European Offices** France: 0800.835.135 | Germany: 0800.1825443 | Italy: +39 0523.606234

The Netherlands: +31 (23) 5689.138 | UK: 0800.328.4967

**Worldwide Locations** For a complete listing, visit [www.acucorp.com](http://www.acucorp.com)