



# extend Interoperability Suite 10.2.0

Release Notes

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# extend Release Notes

These release notes contain information that might not appear in the Help. Read them in their entirety before you install the product.



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# extend System Requirements



**Note:** This product includes software developed by the University of California, Berkeley and its contributors.

## Hardware Requirements

extend software has the following requirements:

### For Windows:

- The amount of disk space needed to install the ACUCOBOL-GT development system is typically less than 35 MB.
- AcuBench® requires at least 20 MB for installation.
- You need an additional 40 MB to install all of the other extend products.
- Use of .NET controls with the runtime and thin client requires .NET Framework 4.0.

### For all other platforms:

- The amount of disk space needed to install all extend products is typically less than 35 MB.

## Supported Operating Systems



**Note:** AcuBench no longer supports Windows XP or Windows Server 2003 (or any Windows platforms that pre-date these). This is because AcuBench utilizes a number of third-party libraries that have ceased to be supported on those platforms.

For this release, if you are running on the AIX 7.1 platform, the minimum requirement is version 7.1 Technology Level 4 (7100-04).

For a full list of the supported operating systems, check the Product Availability section on the Micro Focus SupportLine Web site: <http://supportline.microfocus.com/prodavail.aspx>.

## Additional Requirements

### General requirements

Linux-based platforms require `glibc` version 2.5 or later.

### AcuServer:

- Each server machine must be networked to UNIX, Linux, or Windows clients with TCP/IP. TCP/IP is not sold or supplied by Micro Focus.
- All servers must have a copy of the AcuServer license management file.
- Windows clients can run any TCP/IP software that uses a `WINSOCK2` compliant `ws2_32.dll`.
- Unless you have an unlimited license for AcuServer, all UNIX servers must run the current version of `acushare`, which is included on the AcuServer distribution media.
- All servers must have a copy of the license file activated by the product installation script. This file is named `acuserve.alc`.
- Client machines must have an ACUCOBOL-GT AcuServer-enabled runtime. All Windows runtimes Version 5.0 and later are AcuServer-enabled. To verify that your UNIX runtime is AcuServer-enabled, type `runchbl -v` in a Command prompt and look for this line.

```
AcuServer client
```

- Servers being accessed by the ACUCOBOL-GT Web runtime must have a multiple-user ACUCOBOL-GT runtime license that accommodates each concurrent user that is anticipated. (If you anticipate 100 concurrent users of the Web runtime, you need a 100-user runtime license on the server in addition to

the AcuServer license file. Alternatively, runtime users can install a local or network floating license for the runtime themselves.

### AcuBench:

- Intel Pentium III CPU, 300 MHz; Intel Pentium IV, 2 GHz recommended
- 128 MB of RAM recommended
- 120 MB of available hard disk space recommended
- mouse
- 800 x 600 VGA display or better; 1024 x 768 VGA display recommended



**Note:** On Windows 7, if you receive the following error when starting AcuBench, you need to manually install the [KB2999226 \(Universal CRT\)](#) Windows update from the Microsoft Download Center:

```
api-ms-win-crt-runtime-l1-1-0.dll is missing
```

### AcuToWeb

AIX and Solaris platforms require the Foreign Function Interface Library (libffi) is installed. More information and the installation packages can be found at the following:

**AIX platforms:** You can download an RPM package from:

<http://www.bullfreeware.com/affichage.php?id=3638>

And then install it using:

```
rpm -Uvh http://www.bullfreeware.com/download/bin/3638/  
libffi-20170516-1.aix6.1.ppc.rpm
```

**Solaris platforms:** You can download the package from:

<https://www.opencsw.org/packages/libffi6/>

General information on libffi can be found at:

<https://cffi.readthedocs.io/en/latest/installation.html>

If you are running on the Solaris 11 platform, the minimum version required to run the AcuToWeb Gateway is version 11.3.

### AcuSQL:

- Your COBOL application must run on a Windows system or a UNIX system supported by Micro Focus. Unless otherwise indicated, the references to Windows in this manual denote supported Windows operating systems. Where necessary, individual versions of those operating systems are referred to by their specific version numbers.
- AcuSQL must be installed with the ACUCOBOL-GT development system on your Windows or UNIX system.
- If using a database other than Microsoft SQL Server, you must have a working ODBC level 2 API connection to your database, including any required networking software support.
- For SQL Server, if running the AcuSQL interface to Microsoft SQL Server, you must have the SQL Server client software from Microsoft. Use the Query Analyzer to see if the SQL Server client software from Microsoft is on your system. For information on opening the Query Analyzer, see the SQL Server client documentation. If the Query Analyzer opens and you are able to connect to the database, the client libraries are most likely all present. Your SQL Server data source may be hosted on one or more of the supported server operating systems.
- If you are running the AcuSQL interface to MySQL, you must have the following software:
  - MySQL 5.0 Database Server Version 5.0.18 or later (Generally Available release). Testing was done with MySQL 5.0.18 Standard.
  - MySQL Connector/ODBC Version 3.51.11 or later (Generally Available release). Testing was done with the `libmyodbc3-3.51.12.so` library. This file is available from <http://dev.mysql.com>.

You can check the version of your server by connecting using `mysql`. The version prints upon connection. For example:

```
[testing ]: mysql
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 29 to server version:
5.0.18-standard
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.
```

Once in MySQL, you can also use the following:

```
mysql> select version();
+-----+
| version() |
+-----+
| 5.0.18-standard |
+-----+
1 row in set (0.09 sec)
```

- If your application accesses DB2 data, IBM's DB2 Connect™ software is recommended. Access to DB2 databases has been tested with DB2 Connect. However, any vendor's properly configured ODBC level 2 API connectivity software should work. Your DB2 data source may be hosted on one (or more) of the supported operating systems.

#### **Acu4GL (for ODBC) driver requirements:**

Your ODBC driver must include the following functions:

- all Core ODBC driver functions
- the Level 1 function `SQLColumns`
- the Level 1 function `SQLTables`

Depending on the method of record locking you choose, your driver may also need to support some of the following function calls:

- `SQLSetStmtOption`
- `SQLSetScrollOptions`
- `SQLExtendedFetch`
- `SQLSetPos`

See `A_ODBC_LOCK_METHOD` in the extend online help for more information.

To test the capabilities of your ODBC driver, we have included a driver test program on your Acu4GL for ODBC installation disks. You can also consult your driver documentation to ensure that it meets these requirements.

# Windows Installation

## License Files for Windows

You may request a license file for one or more users. The number of users (user limit) is set in your license agreement with Micro Focus.

When you receive your products, the package includes product codes and product keys for every product you ordered. You must have the product codes and product keys to create the license file.

When you install or update your license file, place it in the appropriate directory for your version of Windows. The location is:

```
C:\ProgramData\Micro Focus\extend\x.x.x\x86\product-license.alc
```

(Where *x.x.x* is the product version number.)



**Note:** This location is new to extend 9.0 and later, and differs from past versions of extend products. See *Appendix C - Changes Affecting Previous Versions* in the *ACUCOBOL-GT Appendices* manual for details.

When you have multiple users or products, you may copy the license file onto each machine containing the corresponding product or place the products and license file on a shared drive. Each product must be able to locate its license file in order to function.



**Note:** The ACUCOBOL-GT Transaction Server runtime license file is named `wrun32.11c`. If you are using other *extend* products, the license files must be concatenated into a special file.

## The Activator Utility

The Activator Utility automates the process of creating a license file.

During installation, select **Install License Activator** on the Installation Settings page to install the Activator Utility (`activator.exe`). It is installed in the `\AcuGT\bin` sub-directory of the installation directory.



**Note:** Always use the version of the Activator supplied with the version of the product you have installed.

To create the required license files during installation, select **Launch License Activator** on the Installation Settings page. This will launch the Activator Utility when the selected products have installed, enabling you to enter the product code and key pairs required to create the license files.

You can also create license files after the installation by running the Activator Utility (`activator.exe`) from the location detailed above or from the Start menu.

During product installation, if the Activator detects the presence of an existing license file, the extension of the existing file is changed before a new license file is created. For example, `runcbl.alc` is renamed `runcbl.al!`. If the Activator is unable to rename the existing license file, it quits with an error message, and no new license file is created. If a license file with the back-up extension already exists, the Activator attempts to overwrite it. If that fails, the Activator quits with an error message and no new license file is created. On Windows platforms, file attributes such as Read Only are also preserved.

# Changing or Updating a Windows License File

If you need to alter your license file information, contact your Micro Focus *extend* representative for updated product code(s) and product key(s). When you receive them, launch the Activator and enter the new information as prompted.



**Note:** If you have copied a license file to a non-default directory, remember to replace that file with a copy of the updated license file.

## Installation on Windows Platforms

The Windows installation requires little interaction; the setup program copies the files into a directory you designate, or `C:\Program Files\Micro Focus\extend x.x.x` (where `x.x.x` is the version number) by default. On 64-bit machines, 32-bit executables are installed to `C:\Program Files (x86)`.

Before you run an installation, you should ensure that you have your product codes and product keys, and the product media to hand. Refer to the appropriate installation instructions below.

Also, you should ensure that you do not have another version of the *extend* Interoperability Suite referenced in the `PATH` system environment variable, as having more than one version specified may cause unexpected results.

After the installation is complete, if you have installed both the compiler and runtime, you can begin to compile and execute your COBOL programs. Basic compilation and execution techniques are described in *Compiling Your Programs* and *Running Your Programs*.



**Note:** If you move or delete any `.dll` files that have been installed, your products may not run as expected.

AcuBench and AcuXDBC™ must be installed locally (on the client). Server-side products such as AcuServer™, AcuXDBC™ Server and AcuConnect® are to be installed only on server machines.

## Installation Steps



**Attention:** The installation is supplied in two formats: `.exe` and `.msi`. On the installation CD, the `.exe` is located in the top level folder, and the `.msi` is located in the `msi` folder. If you plan to install Xcentrinity Business Information Server, or start AcuServer or AcuConnect from the installer, you must run the installation with administrator privileges, from an account that is in the Administrator group.

If you install from the CD, it will automatically run the `.exe` version with administrator privileges. If you run the `.msi`, it does not automatically run with administrator privileges. To run the `.msi` with administrator privileges, click **Start**, and in the **Search programs and files** field, type `cmd.exe`, then in the list displayed, right-click **cmd.exe** and select **Run as administrator**: this opens a command prompt with administrator privileges, where you can run the install by typing the full path name of the `.msi` file.

Follow these steps to install your products.

1. Insert the product CD, or use the provided link to download the installation package from the Micro Focus website.

If you are using the CD, it runs the `.exe` version automatically.

2. If the `.exe` version does not start automatically, or you are using the downloaded installation package, do one of the following:
  - Navigate to the CD drive, then double-click the `.exe`.

- Navigate to the location of the downloaded file, then double-click it. (See the above note if you are running the .msi version.)

The installation starts.

3. On the Welcome page, click **Next**.
4. On the **End-User License Agreement** page, select **I accept the terms in the License Agreement**, then click **Next**.
5. On the **Select Installation Folder** page, click **Browse** and select installation directories for 32-bit and 64-bit (if applicable) products. Alternatively, you can accept the default location(s), then click **Next**.



**Restriction:** If you specify a mapped drive, it must map to a local directory; remote mapped drives are not supported.

6. On the **Product Selection** page, select the required products, then click **Next**.

You must have product codes and keys to activate each product; however, you can install all products now, and activate those products for which you do not have a license at a later date. (Be aware that if you attempt to use products for which you do not have a license, you may receive error messages indicating that no license file is available.)



**Note:** Ensure you select **Documentation** on this page to install and access the product user guides.

7. On the **Installation Settings** page, select one or more of the following, then click **Next**:

Select	To
Install License Activator	Install a copy of the License Activator
Launch License Activator	Launch the License Activator at the end of the installation process
Start AcuServer	Start AcuServer as a service
Start AcuConnect	Start AcuConnect as a service



**Note:** Starting either AcuServer or AcuConnect as a service will only occur if you have run the .exe or .msi version of the installer with administrator privileges (see note above). If a previous version of either product is already running on its default port, an additional prompt is displayed, asking you if you want to shut down that service; you must answer **Y** if the new version of AcuServer or AcuConnect is to start - see *Notes on AcuConnect and AcuServer Installation* for more details.

If you selected **Launch License Activator** on the **Installation Settings** page, the **Activator Wizard** appears.



8. Type your first product code and key in the appropriate fields.

The License Activator is case-insensitive and displays only uppercase characters. It also ignores embedded spaces and separating characters. Product codes and keys do not contain the letters "O" or "I".



**Caution:** If you have a license for both the Windows runtime (`wrun32.exe`) and an Alternate Terminal Manager (ATM) runtime (`run32.exe`) for the same machine, be aware that the Activator Utility creates a license file named `wrun32.alc` for each of them. To avoid a situation in which the Activator Utility overwrites the license file for the second runtime:

- Make a backup copy of the Windows runtime license file prior to creating (and renaming) the ATM runtime license.
- Create the ATM runtime license and rename it to match the executable (change `wrun32.alc` to `run32.alc`) before creating the Windows runtime license.

9. If you have more than one code and key pair to enter, select **More** after typing the first code/key pair. Repeat this process until you have entered all code and key pairs, then click **Finish**.

Each time you press **More**, the License Activator creates a separate license file for the product code and key you entered and returns you to the code and key entry screen.

10. Click **Finish** on the **Installation Complete** page to complete the installation.



**Note:** If license activation was successful, but you get a message during product startup indicating that the license file cannot be found, the license file may not be in the correct directory. The License Activator determines where to place the license file based on entries in the Windows registry. If no registry entry is found, the license file is placed in the same directory as the License Activator executable file, which is the `\AcuGT\bin` sub-directory of the default installation directory. If this is not the location of the product's executable file, move the license file to the directory containing the corresponding executable file; for example, move `wrun32.alc` to the directory containing `wrun32.exe`.

## Silent Installation

On Windows platforms, you can perform a silent installation of the extend Interoperability Suite using the `msiexec` command, which requires that you use the `.msi` install package that is shipped with your product.

The syntax required is:

```
msiexec /i <msi-file> INSTALLDIR=<install-directory> [INSTALLDIR64=<64-bit-install-directory>] ADDLOCAL=<product1,product2,...> [WINDOWSVERSION=<Win-version>] /qn [/L*v <log-file>]
```

where:

#### <msi-file>

The .msi installation file. This could be a 32-bit or a 64-bit version.

#### <install-directory>

The directory in which the product will be installed.



**Restriction:** If you specify a mapped drive, it must map to a local directory; remote mapped drives are not supported.

#### <64-bit-install-directory>

The directory in which the 64-bit products will be installed. This is mandatory if you are using the 64-bit installer, because it installs both 32-bit and 64-bit versions of some products, using <install-directory> for the 32-bit versions and <64-bit-install-directory> for the 64-bit versions.



**Restriction:** If you specify a mapped drive, it must map to a local directory; remote mapped drives are not supported.

#### <product1,product2,...>

A list of products and services to be installed; see *Product Variables for Silent Installation* for the comprehensive list of options.

#### <Win-version>

This is required for Windows versions 8 and later, in order to create the Extend Start menu. The only permissible value for <Win-version> is **PostWindows7**.

#### <log-file>

The path and file name of a log file in which to log the installation details.

#### Examples

##### 32-bit installation:

For example, the following command silently installs the ACUCOBOL-GT runtime, Acu4GL for MSSQL, and the AcuSQL runtime to the C:\AcuInstallDir directory, and (on Windows 8 and later) also creates the extend start menu in the Windows program list:

```
msiexec /i "extend(R) Version 10.2.0 x86.msi" INSTALLDIR=C:\AcuInstallDir ADDLOCAL=Runtime,Acu4GLMSSQL,AcuSQLRuntime WINDOWSVERSION=PostWindows7 /qn
```

##### 64-bit installation:

For example, the following command silently installs the ACUCOBOL-GT runtime, Acu4GL for MSSQL, and the AcuSQL runtime to the C:\AcuInstallDir directory, and the 64-bit runtime, Acu4GL for MSSQL, and AcuSQL runtime to the C:\AcuInstallDir64 directory:

```
msiexec /i "extend(R) Version 10.2.0 x64.msi" INSTALLDIR=C:\AcuInstallDir INSTALLDIR64=C:\AcuInstallDir64 ADDLOCAL=Runtime,Runtime64,Acu4GLMSSQL,Acu4GLMSSQL64,AcuSQLRuntime,AcuSQLRuntime64 /qn
```

## Comments

You can also use the `msiexec` command to run the installation with a user interface: omit the `ADDLOCAL` parameter and substitute `/qn` for `/qf`.

You can also use the `msiexec` command to install the thin client `.msi` file that is supplied with your product: omit the `ADDLOCAL` parameter.

## Product Variables for Silent Installation

The following table contains a list of possible arguments that you can use with `ADDLOCAL` when running a silent installation. Most argument names are self-explanatory; the Notes column explains those that are not.

Argument name	Notes
Acu4GLDB2	
Acu4GLMSSQL	
Acu4GLMSSQL64	
Acu4GLODBC	
Acu4GLODBC64	
Acu4GLOracle	
Acu4GLOracle64	
AcuBench	
AcuConnect	
AcuConnect64	
AcuConnectDistributedProcessing	
AcuConnectThinClient	
AcuServer	
AcuServer64	
AcuSQLPrecompiler	
AcuSQLPrecompiler64	
AcuSQLRuntime	
AcuSQLRuntime64	
AcuToWeb	
AcuXDBC	
AcuXDBC64	
AcuXDBCEnterpriseEdition	The 32-bit and the 64-bit versions of <code>AcuXDBCEnterpriseEdition</code> are mutually exclusive; you may only specify one of these versions during the installation.
AcuXDBCEnterpriseEdition64	

Argument name	Notes
AcuxdbcsBat	
AcuxdbcsBat64	
AcuXDBCServer	The 32-bit and the 64-bit versions of AcuXDBCServer are mutually exclusive; you may only specify one of these versions during the installation.
AcuXDBCServer64	
BIS	
Compiler	
DevSys	The ACUCOBOL-GT Development System, which includes the following: Compiler, Runtime, WebRuntime, ThinClient, and WebThinClient.
ExtendStartMenu	The entry shown on the Windows program menu for Windows versions 8 and later. The 32-bit and the 64-bit versions of ExtendStartMenu are mutually exclusive; you may only specify one of these versions during the installation.
ExtendStartMenu64	
LicenseActivator	
LicenseActivator64	
OnlineDocumentationCHM	
Runtime	
Runtime64	
ThinClient	
VCR redistrib	Installs the Microsoft redistributable files, required by the extend products, if they are not already installed.
VortexJar	Required for AcuXDBCEE. The enterprise edition of AcuXDBC needs the <code>vortex.jar</code> file, which enables a Java client application to connect to your Vision database.
VortexJar64	
WebRuntime	
WebThinClient	

### Examples

32-bit installation:

For example, the following command silently installs the ACUCOBOL-GT runtime, Acu4GL for MSSQL, and the AcuSQL runtime to the `C:\AcuInstallDir` directory, and (on Windows 8 and later) also creates the extend start menu in the Windows program list:

```
msiexec /i "extend(R) Version 10.2.0 x86.msi" INSTALLDIR=C:\AcuInstallDir ADDLOCAL=Runtime,Acu4GLMSSQL,AcuSQLRuntime WINDOWSVERSION=PostWindows7 /qn
```

64-bit installation:

For example, the following command silently installs the ACUCOBOL-GT runtime, Acu4GL for MSSQL, and the AcuSQL runtime to the C:\AcuInstallDir directory, and the 64-bit runtime, Acu4GL for MSSQL, and AcuSQL runtime to the C:\AcuInstallDir64 directory:

```
msiexec /i "extend(R) Version 10.2.0 x64.msi" INSTALLDIR=C:\AcuInstallDir INSTALLDIR64=C:\AcuInstallDir64 ADDLOCAL=Runtime,Runtime64,Acu4GLMSSQL,Acu4GLMSSQL64,AcuSQLRuntime,AcuSQLRuntime64 /qn
```

## Windows 64-bit Installations

There are 64-bit versions of most extend products. These 64-bit versions are installed using a separate 64-bit version of the installer. The installation process follows the same steps as described in [Installation on Windows Platforms](#), with the following notable exceptions.

When running the 64-bit installer, if no 64-bit version exists for a selected product (for example, AcuBench), the 32-bit version is installed.

Products such as AcuConnect and AcuServer have 32-bit and 64-bit versions, and both are installed if you select these products during installation. You can also decide which version of the product to start on completion of the installation.

The AcuXDBC product is broken down into three installations: for the Data Interface, you can install both the 32-bit and 64-bit versions; and for the AcuXDBC Server and Enterprise Edition, you must choose which version to install.

By default, all 64-bit product versions are installed in the Program Files directory, and 32-bit product versions (and any supporting non-64-bit tools) are installed in the Program Files (x86) directory; although, you can change these locations during the installation. All the 32-bit versions are fully supported and functional in a 64-bit environment.



**Remember:** When running the license activator after the installation, the 64-bit version of the Activator utility is run, which installs license files into both the 32-bit and 64-bit directories. When running the Activator utility from the command prompt, make sure you are using the 64-bit command prompt to ensure the correct licenses are generated and placed in the correct locations; otherwise, if the 32-bit Activator utility is run, only license files for 32-bit products will be generated.

## BIN-REDIST and REDIST Installation Directories

The extend Windows distribution contains two directories: BIN-REDIST and REDIST.

REDIST contains thin client files that should be distributed along with the thin client.

BIN-REDIST contains Microsoft Redistributable files. These files are required in cases where the ACUCOBOL-GT bin directory and runtime are placed on a shared drive and users then map to that drive. The BIN-REDIST directory should be placed inside the shared bin directory.

## Uninstalling or Modifying Your Installation

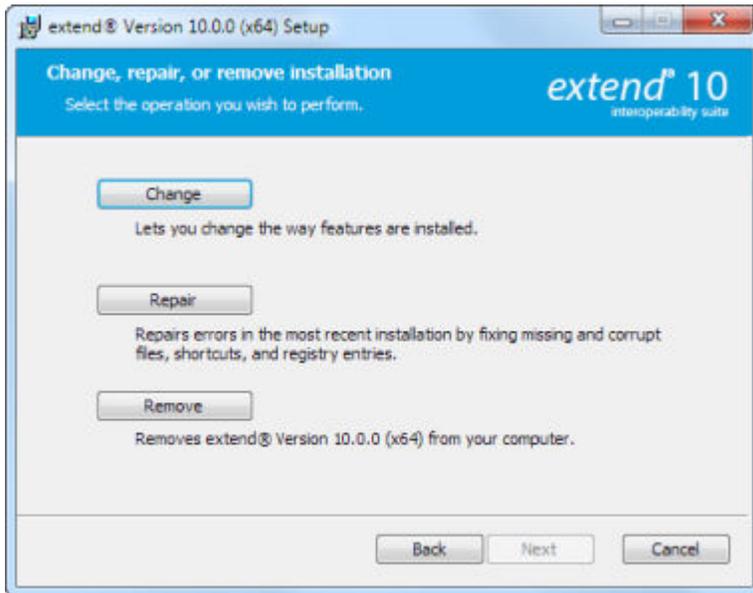
You can uninstall or amend your current installation in one of two ways: you can run the installer again, or use the Programs and Features section in Windows. Both enable you to run the Installation Wizard, where you can perform the following program maintenance:

**Change** Enables you to add or remove products to and from your current installation. Any products that were already checked that you uncheck are uninstalled. Any additions are installed using the

default installation path (C:\Program Files\Micro Focus\extend x.x.x - where x.x.x is the version number). There is no option to change to a non-default location, but you can overcome this with some products by copying the installed files from the default location to your preferred location. Note that this method will not work for AcuXDBC, AcuBench, and any server products that are registered as services.

**Repair** Enables you to reinstall the currently installed products.

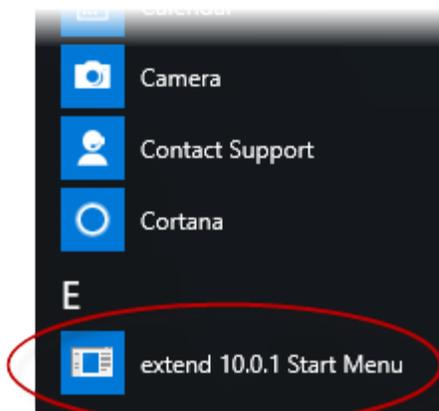
**Remove** Enables you to remove all products of your installation.



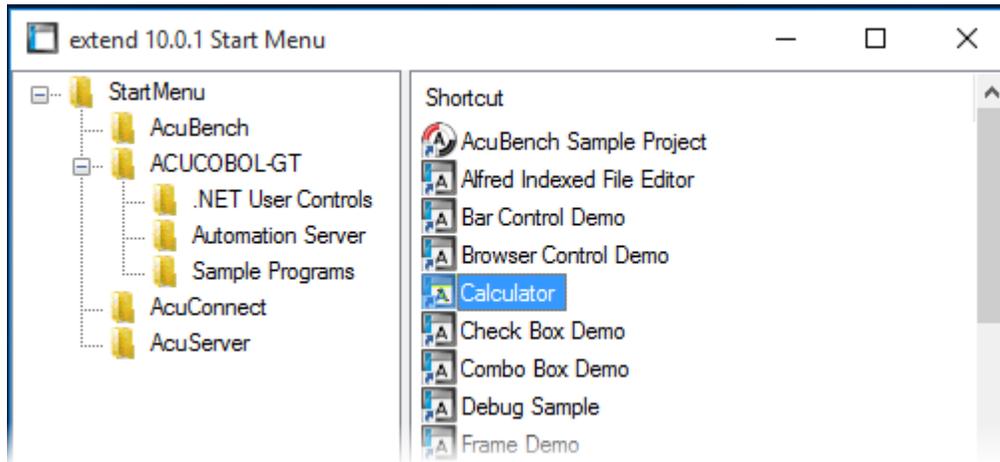
## Launching extend Products on Windows 8 or Later

Since the introduction of Windows 8, the Windows program menu does not display programs in a hierarchical way. For the extend Interoperability Suite, this would mean that all the programs relating to AcuBench, ACUCOBOL-GT, AcuConnect, etc... would be displayed as a flat list, and it would be difficult to distinguish which programs were related to which products.

In order to show the programs grouped within the products they belong to, the extend Start Menu has been introduced. After installation of the extend Interoperability Suite, there will be one entry in the Windows programs menu - **extend x.x.x Start Menu** (where x.x.x is the version number of the installed product):



Launch this application to display a hierarchy that looks similar to the Windows program menus prior to Windows 8. Simply navigate the folders displayed in the left-hand pane to display shortcuts to the related programs in the right-hand pane. Select the required shortcut: at which point, the extend Start Menu closes and the program is launched.



## Compiling Your Programs

The ACUCOBOL-GT compiler is most easily used via AcuBench. However, it is also possible to compile from the command prompt or the Windows Start menu, to establish an association between your source files and the compiler executable, or to set up one or more icons to compile individual files. For information regarding creating file associations and setting up icons, see your Windows documentation.

When you compile, if the system returns "Bad command or file name," you did not add the location of the compiler to the PATH environment variable, or you have not rebooted since installing the software.

You can check the current definition of PATH by typing `path` and pressing **Enter** at the command prompt. The default path is `C:\Program Files\Micro Focus\extend x.x.x\AcuGT\bin` (or `C:\Program Files (x86)\...` for 64-bit installations). If you do not update PATH with this entry, you must type the full path and program name to the compiler each time you compile; alternatively, you can create a `.bat` file.

Once you have verified that the compiler is in your PATH (or you have decided that you will specify the full path every time you compile), you are ready to compile your programs. Refer to *ACUCOBOL-GT User's Guide > Compiler and Runtime > Using the Compiler* for a complete list of compile options. You can also display a complete list of options by running the compiler command:

```
ccb132 -help
```

One commonly used option is `-o`. This option is used to specify the name of the output object file. Note that ACUCOBOL-GT uses the naming convention `.acu` to indicate an ACUCOBOL-GT object file. If `-o` is not used, the compiler will name the file `source-name.acu`. If your source includes COPY files, you can copy the COPY files to your current working directory, specify their location with the `-Sp` option followed by the complete path of one or more directories, or set the `COPYPATH` environment variable. A typical compilation command might look like:

```
ccb132 -Sp c:\work\lib -o sample.cbx sample.cbl
```

## Running Your Programs

After a successful compilation, the resultant object file is ready for immediate execution (no link step is required). To run your program, make a note of the full path to your object file and return to the Windows desktop.

There are a variety of ways to run your program under Windows. The basic methods are:

- Running a command from the **Start** menu.
- Placing an icon for each program in a Program Group or folder, and then starting the program by double-clicking its icon.
- Naming your COBOL object files with a common file extension and then associating the extension with the runtime. After the association is established, you can run a program by double-clicking on the name of the file as it appears in Windows.
- Using the **wrun32** (or **crun32** if you are using the console runtime) command at the command prompt.

This document describes how to run a program from the **Start** menu only (although, the command line option is almost identical). The advantage of this method is that it requires no special setup. However, it is more time-consuming (than other methods) because you must type the command line options every time you execute the program. For greater convenience, it is best to set up a program icon: to do this, or to create a file association to the runtime, please refer to your Windows documentation.

1. Click the **Start** button.
2. On the Start menu, in the entry field, type the name of your ACUCOBOL-GT Windows runtime.

The default name is `wrun32.exe`. If you changed the name of the runtime executable, enter that name.

3. Following the name of the runtime, enter any runtime options required, followed by the path and name of the COBOL executable program you want to run.
4. After you have entered the complete command line, press **Enter** to execute the program.



**Note:** If you did not add the `\bin` directory path to the PATH system environment variable (typically, that is: `c:\Program Files\Micro Focus\extend xxx\AcuGT\bin`), you will need to specify the full path to the runtime (`c:\Program Files\Micro Focus\extend xxx\AcuGT\bin\wrun32.exe`) each time in the command (and not simply `wrun32.exe`).

You can use the COBOL configuration variable `DEFAULT_PROGRAM` to specify the name of the program to execute when no program is specified on the command line. See *Appendix H* in the ACUCOBOL-GT documentation set for more configuration information.

## Printing and Spooler Issues

ACUCOBOL-GT includes extended support for printing under Windows. In addition to the basic print spooler access procedures described below, the `WIN$PRINTER` runtime library routine provides easy access to extended Windows print spooler capabilities. See the entry for "WIN\$PRINTER" in *ACUCOBOL-GT Appendices Guide > Appendix I*. Rules for printer handling are illustrated in the *ACUCOBOL-GT User's Guide > Compiler and Runtime > Filename Interpretation > Assigning Files to Printers*.

Under Windows, you may print directly to the printer by defining `PRINTER` in the configuration file as `"-D PRN"`. Be aware that this does not prevent other programs from printing at the same time and as a result you may get intermixed pages.

You may also print using the Windows spooler, even if your reports have embedded control codes. The spooler allows many programs to create print files at the same time, and also allows the user to do other tasks while the report is being printed.



**Note:** The configuration variable WIN\_SPOOLER\_PORT allows you to divert printer output to a file or port through the Windows print spooler. For more information, see *ACUCOBOL-GT Appendices Guide > Appendix H* of the ACUCOBOL-GT manual set.

Before you assign your print file to the Windows spooler, you must decide whether you want to control the format of each page directly (with embedded control codes) or whether you want the print spooler to format the pages.

## Spooler Formatting

There are two ways to use the Windows spooler to format your print file: "-P SPOOLER" and "-Q <prntername>". See [Direct Control](#) for information on controlling the formatting yourself.

### -P SPOOLER

If you want to use the default printer and font, simply assign your print file to "-P SPOOLER". For example, to assign "PRINTER1" to the spooler, enter the following line in your COBOL configuration file ("CBLCONF1"):

```
PRINTER1 -P SPOOLER
```

By default, the runtime system assigns the "PRINTER" device to the spooler. You may change this in the configuration file by assigning "PRINTER" to some other name.

When the runtime opens a file assigned to "-P SPOOLER", it automatically initiates a job with the Windows spooler and constructs print pages in accordance with your program. The runtime uses the default printer and font. If the user looks for the job in the spooler, it is named with the current title of the ACUCOBOL-GT window.



**Note:**

The Windows spooler operates by drawing your report on each page. It constructs its own control codes to handle formatting. If you assign your print file to "-P SPOOLER" and your file contains device-dependent control sequences (such as those used to shift to a condensed font, or to print a form and then fill it in), the codes will be passed to the spooler as data and thus will not be interpreted correctly. If you have reports that depend on embedded control codes, you should print those directly to the device, or assign the print file to "-P SPOOLER-DIRECT," as described below.

### -Q <prntername>

If you want the Windows spooler to format the pages of your report, but you want to use a particular printer, assign your print file to:

```
PRINTER1 -Q \\prntername
```

in the configuration file (CBLCONF1). *Prntername* is the printer designation as given in the **Devices and Printers** screen. The name may be up to 80 characters long and contain embedded spaces. The name may not include the semicolon character (;) or be surrounded by single or double quotes. The pages are printed in the manner described in "-P SPOOLER", above. The sample programs `graphprn.cbl` and `prndemox.cbl` contain examples of these functions.

To determine a valid printer name, use the WIN\$PRINTER library routine to obtain the name of the desired printer. (This is described in *Appendix I* under the WINPRINT-SET-PRINTER operation code in "Specifying a Printer".) Then add the following line to your code:

```
MOVE "-Q \\prntername" TO WS-PRINTER-NAME.
```

When the runtime opens a file assigned to "-Q <prntername>", it sets the Windows print spooler to use this printer. The printer driver must be installed on the computer from which you print. If *prntername* is not recognized by the runtime, a dialog box allows you to choose a printer manually.



**Note:**

If you want to access a printer using a UNC path, you have to print directly to the printer by defining PRINTER as "-D PRN". If you use the UNC path, Windows formatting is not supported.

## Direct Control

If you want to control the format of the printout yourself using embedded control codes, simply assign your print file to `-P SPOOLER-DIRECT` or to `-Q <printername>` using the `DIRECT=ON` option. For example, to assign the print job "PRINTER1" to the spooler and retain direct control over formatting, enter the following line in your COBOL configuration file (`CBLCONF1`):

```
PRINTER1 -P SPOOLER-DIRECT
```

Or, use the following command to assign PRINTER1 to the spooler for printing to a specific printer while retaining direct formatting control:

```
PRINTER1 -Q printername;DIRECT=ON
```

Both of these methods cause the print job to be sent to the printer via the Windows spooler, but the program does not use the spooler to format the pages. You must use embedded control codes to handle formatting (much as you would under UNIX if you used the UNIX spooler).

When using the `-P SPOOLER-DIRECT` option, you may use the `WIN$PRINTER` library routine to choose a printer, but because you completely control the printer, the various options provided by `WIN$PRINTER` are ignored. For example, `WIN$PRINTER` does not set the page size, page orientation, or font. Information returned from `WIN$PRINTER`, such as number of lines and columns on the page, may not be accurate and should not be used. This subject is discussed in detail in Appendix I "*Library Routines*" of the ACUCOBOL-GT manual set.

Because some print drivers do not flush the last page, be sure to end your last page with a form-feed (for example, `WRITE ... BEFORE ADVANCING PAGE`). This ensures that all pages are printed. The ACUCOBOL-GT runtime ensures that no extra blank pages are printed at the end.

If you code `WRITE...AFTER ADVANCING PAGE` instead of `WRITE...BEFORE ADVANCING PAGE`, you might receive a blank last page. This is because a blank line written on the new page causes the Windows subsystem to flush the page for some print drivers. ACUCOBOL-GT ensures that entirely empty lines are not sent to the device (only the form-feed will be sent). But it is essential that:

- You have specified trailing space removal in your COBOL code (the default for print files).
- You have set the configuration option `MIN-REC-SIZE` to "0".

Your other option is to specify `WRITE... BEFORE ADVANCING PAGE` to avoid this potential problem.

If the user looks for the job in the spooler, it is named with the current title of the ACUCOBOL-GT window.

## Printing Multiple Jobs Simultaneously

If you need to print multiple jobs at the same time, you must open multiple File Descriptors that point to `"-P SPOOLER"` or `"-P SPOOLER-DIRECT"` simultaneously. For example, you may have two simultaneous print jobs:

```
SELECT FIRST-FILE
    ASSIGN TO PRINTER "-P SPOOLER" .

SELECT SECOND-FILE
    ASSIGN TO PRINTER "-P SPOOLER" .

..PROCEDURE DIVISION.

..

    OPEN OUTPUT FIRST-FILE .
    OPEN OUTPUT SECOND-FILE .
```

and both will print to the default Windows printer without interfering with each other. You can call WIN\$PRINTER USING WINPRINT-SETUP before one or both of the OPEN statements. Each file may have individual file status variables or may refer to a common file status variable.

This does not mean that you can open a single File Descriptor multiple times. For example, the following will return file status indicating that the file is already opened:

```
SELECT FIRST-FILE
      ASSIGN TO PRINTER "-P SPOOLER" .

. .

PROCEDURE DIVISION.

. .

      OPEN OUTPUT FIRST-FILE .
      OPEN OUTPUT FIRST-FILE .
```

This is normal behavior and is consistent with the way file handling is implemented in COBOL and in other programming languages.

If you are using only the verbs OPEN, CLOSE, and WRITE, no further changes to your code are needed. If you are using WIN\$PRINTER functionality (other than WINPRINT-SETUP) you will need to specify which print job is affected. This can be done in two ways:

1. The simplest way is to execute the WIN\$PRINT operation immediately after an OPEN or WRITE statement on the intended job. Every execution of OPEN and WRITE sets the current job as the default so that subsequent activity using WIN\$PRINTER is automatically directed to the job that was last accessed with an OPEN or WRITE statement.

In this situation, if you have multiple jobs running, and you close one of them, the runtime switches to the next job in the list. For example, if you are printing jobs 1, 2, and 3, and you close job 2, the close command sets the current job to 3. If there is no job 3, the runtime attempts to set to the job that preceded the closed job (which in this case is job 1). If there are no jobs, the current job is initialized.

2. The other method is to use the WINPRINT-SET-JOB operation of the WIN\$PRINTER library routine. This operation is described in *Appendix I* of the ACUCOBOL-GT manual set.

# UNIX Installation

## License Files for UNIX

UNIX users may request a license file for one or more users.

When you receive your product(s), the package includes product codes and product keys for every product you ordered. You require these product codes and product keys to create license files.

## The Activator Utility

The Activator utility automates the process of creating a license file. On UNIX platforms, the Activator utility operates through a command-line interface.

By default, the Activator utility program (`activator`) is placed in the same directory as the runtime and other binary executable files.

If you did not install the Activator utility with your other products, simply copy the file onto your computer and run it as you would any other executable.

## Changing or Updating Your UNIX License Files

If you need to alter a license file, contact your Micro Focus *extend* representative for updated product codes and product keys. When you receive them, launch the Activator utility and enter the new product codes and product keys as prompted.

## Installation Under UNIX

To install *extend* products on UNIX or Linux systems, you must have the product media, and the product codes and product keys for the products you intend to install. Your products are delivered via FTP.

## Installation Process

1. Download the product from the Micro Focus SupportLine site.



**Note:** Before running the installer, ensure that the `tar` utility is on your PATH.

2. Enter the following:

```
/path/to/installer/installer-name [options]
```

where *installer-name* will be something similar to `setup_acucob1010pmk59shACU`.

The following options can be included:

Option	Description
<code>-d installation-path</code>	Specifies a new default install location offered during the installation. If not specified, the default location is the current working directory (.). Any specified directory must already exist.

Option	Description
-EULA	This option can be combined with the <code>-EULA</code> option, but if it is, it will specify the location of the extracted EULA, and not the location of the installed product.
-help	Displays the available options that can be appended to the installation command.

 **Note:** If you install ACUCOBOL-GT as a shared object library and you don't install to the default location, you need to set an appropriate library path variable specifying the location of the shared objects. For example, on an AIX system, you would need to set the LIBPATH environment variable. Note that if you log in as root or a superuser, this variable must also be set in root's environment for ACUCOBOL-GT to start. Additionally, see [SHARED\\_LIBRARY\\_PREFIX configuration variable](#).

After installation, you must use the Activator utility to license the products installed.

- From the installation directory, enter the following command to run the Activator utility:

```
./bin/activator
```

- At the prompt, type the product code and product key pairs that came with your product package, pressing **Enter** after each pair: this updates the license file. Repeat this cycle until the code/key pairs for each product you have ordered are entered.

 **Note:** Each product searches for its license file in the same directory in which its executable resides. If you move the product's executable to a new directory, you must move its license file to the same location.

- To start the acushare license manager service, enter the following:

```
acushare -start
```

- Navigate to the `sample` sub-directory of your installation directory and try compiling and running the **tour** program, using the following commands:

```
ccbl tour.cbl
runcbl tour.acu
```

- If you get the message `Can't find entry for 'terminal' in 'term-lib'`, you need to configure your terminal for ACUCOBOL-GT. See [Configuring Your Terminals](#).
- Once you have the sample program running, we recommend that you edit the `cblconfig` file supplied with ACUCOBOL-GT to meet the needs of your site. In particular, you should configure it to support the printers you have attached to your system.
- If you are using shared memory, see the instructions for configuring acushare in *ACUCOBOL-GT User's Guide > Runtime Manual > Shared Memory > Acushare Utility Program*.

## SHARED\_LIBRARY\_PREFIX Configuration Variable

If you install ACUCOBOL-GT as a shared object library and you don't install to the default location, you need to set an appropriate library path variable (LIBPATH or LD\_LIBRARY\_PATH) specifying the location of the shared objects. The SHARED\_LIBRARY\_PREFIX variable helps the runtime find `libacInt.so` (or `libacInt.sl`) in case the LIBPATH (or LD\_LIBRARY\_PATH) variable is not set. `libcInt.so` (or `.sl`) is needed for AcuServer and AcuConnect support.

If a shared library name is specified without any directory information and the system call fails to load the shared library, the runtime will try to load the shared library from each of the directories specified in the SHARED\_LIBRARY\_PREFIX configuration variable.

The default value for SHARED\_LIBRARY\_PREFIX is `/opt/acucorp/xxx/lib:/opt/acu/lib`. The format of the value of SHARED\_LIBRARY\_PREFIX is the same as FILE\_PREFIX. You can set SHARED\_LIBRARY\_PREFIX in the configuration file or environment, or programatically with the SET verb.

Note that the runtime searches for and loads `libaclnt.so` (or `libaclnt.sl`) using the default value of `SHARED_LIBRARY_PREFIX`. This happens before reading the configuration file, environment, or running any COBOL code.

You can set `SHARED_LIBRARY_PREFIX` to an empty value if you do not want to use it.

Also, if the license is for AcuTSL, in a transactional server environment such as CICS, the runtime will add `/opt/acucorp/xxx/bin/runcbl.11c` and `/opt/acu/bin/runcbl.11c` to its list of license files to check. First the runtime checks `$ACUCOBOL/etc/license.acu`, then `/etc/license.acu`. If neither exists, the runtime will check `/opt/acucorp/xxx/bin/runcbl.11c` and finally `/opt/acu/bin/runcbl.11c`.

For cases in which users install ACUCOBOL-GT in the default location, `/opt/acucorp/xxx` or `/opt/acu`, and they have a license file, `runcbl.11c` in their bin directory, they will not need to copy the license to `/etc/license.acu`.

## Configuring Your Terminals

ACUCOBOL-GT requires data about the video environment it is running in. On Windows machines, it directly examines the hardware and configures itself appropriately. On UNIX and VMS machines, you must provide a description of the terminal you are using. This section describes briefly how to provide that information. Additional details are provided in the *Terminal Manager* section of the *ACUCOBOL-GT User's Guide*.

On systems that do not configure themselves automatically, describing the terminal to ACUCOBOL-GT involves two steps:

1. First, identify the terminal by setting the "TERM" variable.
2. Second, ensure that the terminal's characteristics are accurately described in the terminal database file.

### TERM Variable

ACUCOBOL-GT determines the type of terminal you are using by looking at the setting of the "TERM" variable. On UNIX and Linux machines, TERM is an environment variable; on VMS machines, it's a symbol. Samples for both UNIX and VMS are presented below.

TERM should be set to the name of one of the entries in the terminal database. You can examine the database file for valid names. The first field of each entry consists of a list of accepted names. Some common names are "vt100", "tv925", and "wy50" for VT100, Televideo 925, and Wyse 50 terminals, respectively.

Note that on most UNIX systems, the TERM environment variable is initialized as part of the login procedure. You will need to change this only if the name used is not one listed in the terminal database. On VMS systems, the TERM symbol defaults to "vt100" if it is not defined. Thus, you need to define the TERM symbol only if you want to use a terminal that is not VT100 compatible or if you want to use some advanced features of your terminal.

As an example, suppose you want to use a VT220 terminal. In the database, "vt220" is one of the accepted names for this type of terminal. On a VMS system, you would use the following command

```
TERM == "vt220"
```

On UNIX systems with the Bourne or Korn shell, the command would be:

```
TERM=vt200; export TERM
```

Using the C shell, the equivalent command is:

```
setenv TERM vt220
```

You may want to leave the TERM variable at its current setting to maintain compatibility with other software. If the setting is not correct for ACUCOBOL-GT, you can set the "A\_TERM" variable instead. If both the

A\_TERM and TERM variables are set, ACUCOBOL-GT uses the definition of A\_TERM. This allows you to have different settings for ACUCOBOL-GT and your other software.

## Terminal Database

ACUCOBOL-GT comes with a database of terminal descriptions. On UNIX machines, this is called "a\_termcap". On VMS machines it is called "A\_TERMS.DAT". This database contains encoded descriptions of many types of terminals. You need to select the terminal type in the database that most closely matches the terminal you are using. If you need to, you can add your own entries in the database.

By default, the terminal database should reside in a pre-selected directory on your machine. On UNIX machines, this is the "/etc" directory; on VMS machines, it is the "SYS\$LIBRARY" directory. If you want to place your terminal database somewhere else, then you must define the variable "A\_TERMCAP" to be the full name of the database file. For example, on a VMS system, you could place the database in the "SYS\$LOCAL" directory with the following command:

```
A_TERMCAP == SYS$LOCAL:A_TERMS.DAT
```

On UNIX systems (using the Bourne shell), you might use the command:

```
A_TERMCAP=/usr/local/etc/a_termcap; export A_TERMCAP
```

The *ACUCOBOL-GT User's Guide* contains more information about setting up terminals and making full use of their capabilities, and selecting terminal types.

# What's New

The following items are new for this release:

## ACUCOBOL-GT Enhancements

This section includes the enhancements related to ACUCOBOL-GT.

### ECN-4438 vutil -key now allows you to create and modify keys that do not allow duplicates

Product: ACUCOBOL-GT

Module: vutil

Machines Affected: all

#### DESCRIPTION:

The vutil -key enhancement introduced in 10.1.0 (ECN-4430) had a caveat that new and modified keys would always allow duplicates, regardless of the setting in the key description. This enhancement removes that caveat. The setting for duplicate key values in the key descriptor will now be honored and keys not allowing duplicate key values can be created. However, if duplicate key values are found while indexing the key, the key will allow duplicate key values regardless of the setting in the key description.

### ECN-4439 New vutil -info option to display key descriptor information

Product: ACUCOBOL-GT

Module: vutil

Machines Affected: all

#### DESCRIPTION:

The vutil -info function now takes a new option, d, which displays details of the key descriptors in the specified Vision file. The key descriptors are strings that describe a key and display in the same format as kdesc when vutil -key is used. For example:

```
vutil32 -info -d IDX2.vis
IDX2.vis [vision version 6]
0: 1,0,10,0
1: 1,1,40,10
```



**Restriction:** This option cannot be used with either options -k or -x.

### ECN-4440 vutil key information display reformatted

Product: ACUCOBOL-GT

Module: vutil

Machines Affected: all

**DESCRIPTION:**

The key information displayed by `vutil -info -k` has been reformatted to a simple table in order to better display keys with many segments. The following example shows a file with a key made up of 16 segments:

```
$ vutil -info -k keyfile
keyfile [vision version 6]

# of records:          9
# of deleted records: 0 (0+0)
file size:             16896 (keyfile)
file size:             61952 (keyfile.vix)
total file size:      78848
record size:          49
# of keys:            120
user count:           0
```

Key	Dups	Segment	Size	Offset
0	N	0	2	1
		1	2	4
		2	2	7
		3	2	10
		4	2	13
		5	2	16
		6	2	19
		7	2	22
		8	2	25
		9	2	28
		10	2	31
		11	2	34
		12	2	37
		13	2	40
		14	2	43
		15	2	46

## ECN-4481 Vision 2 file format support discontinued

Product: ACUCOBOL-GT

Module: Vision

Machines Affected: all

**DESCRIPTION:**

Support for the Vision 2 file format is discontinued in this version of the extend Interoperability Suite. The Vision 2 file format was not portable between systems with different architectures, and was superseded by the Vision 3 file format over 24 years ago. Use of the Vision 2 file format has not been recommended for a very long time.

Any remaining Vision 2 files should be rebuilt to a newer Vision file format; see *Rebuilding Files* for more details. Vision 3 is a portable single-file format containing the index and records in a single file, and is limited to file sizes less than 2GB; Vision 4 and Vision 5 are portable dual file formats using multiple segments to support large files; and Vision 6 is a portable dual file format supporting files larger than 2GB. Vision 6 is the default Vision file format, and for best results use this file format where possible.

## ECN-4484 New control properties for AcuToWeb styles

RPI Number: 626320

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

### DESCRIPTION:

Two new properties for controls and windows have been introduced to allow you to control their appearance when run through AcuToWeb. The two properties are able to correspond with a class or ID set in the cascading style sheet used as a theme when running through the AcuToWeb gateway.

The two new properties are:

- **ATW-CSS-CLASS** - Set to a string value that corresponds to a class in the cascading style sheet used as the current theme in AcuToWeb. This property can be applied to more than one control in your program.
- **ATW-CSS-ID** - Set to a string value that corresponds to an ID in a cascading style sheet used as the current theme in AcuToWeb. This property must have a unique value and be applied to just one control in your program.

These properties take a string as their value and can be applied to the control or window through editing the source code, or via the **Properties** pane in AcuBench.

The following excerpt contains a screen with two push buttons. The first button (Pb-1) has specified the class `basicpbclass`, and the second button (Pb-2) has specified the ID `runpbid`.

```
...
01 Screen1.
   03 Pb-1, Push-Button, COL 38.30, LINE 15.00,
      LINES 3.50 CELLS, SIZE 14.00 CELLS, ATW-CSS-CLASS "basicpbclass" ID IS
1, CANCEL-BUTTON, TITLE "Exit".
   03 Pb-2, Push-Button, COL 1.80, LINE 10.10,
      LINES 3.50 CELLS, SIZE 28.40 CELLS, EXCEPTION-VALUE 81, ID IS 2, ATW-CSS-
ID "runpbid"
      TITLE "Run" .
...
```

If you run the full program through AcuToWeb whilst using a theme containing definitions for both the class and ID, these push buttons will be styled appropriately; for example:

```
.basicpbclass{
    border-width: 1px;
    border-radius: 2px;
    background-color: #ff2247 !important;
}
#runpbid{
    border-width: 1px;
    border-radius: 4px;
    background-color: #21ff43 !important;
}
```

## ECN-4487 New intrinsic function: INTERVAL-TIMER

Product: ACUCOBOL-GT

Module: Compiler/Runtime

Machines Affected: All

Known Versions Affected: All

### DESCRIPTION:

A new intrinsic function has been introduced, `INTERVAL-TIMER`, that is suitable for measuring short time intervals with comparatively high precision. It can be useful in cases where `ACCEPT FROM TIME` does not report enough resolution.

The function takes no parameters, and returns a value of some number of seconds starting from an arbitrary point. Typically, you will want to use the function twice or more in order to take differences between the return values in order to time an interval.

Another potential use would be to get a higher-resolution timestamp to distinguish items with identical keys.

Refer to *Appendix F Intrinsic Functions* for full syntactical details and notes of the function.

## ECN-4489 Intrinsic function syntax enhancement

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

### DESCRIPTION:

As a programming convenience, you can now replace the word `FUNCTION` with `$` when calling an intrinsic function. For example:

```
compute result = function max( function sqrt(src), last-result )
```

can now also be written as:

```
compute result = $max( $sqrt(src), last-result )
```

## ECN-4490 New intrinsic functions

Product: ACUCOBOL-GT

Module: Compiler/Runtime

Machines Affected: All

Known Versions Affected: All

### DESCRIPTION:

The following intrinsic functions have been added to assist with text handling:

- **TRIM** - Trims a particular character from the start and end of an alphanumeric string.
- **COUNT-LEADING** - Returns the number of consecutive times that a character appears at the beginning of a string.
- **COUNT-TRAILING** - Returns the number of consecutive times that a character appears at the end of a string.

Refer to *Appendix F Intrinsic Functions* for full syntactical details of each function.

## ECN-4491 x64 and AMD64 native code generation

Product: ACUCOBOL-GT

Module: cblutil

Machines Affected: All

Known Versions Affected: All

## DESCRIPTION:

It is now possible to generate native 64-bit object code for Intel x64 and AMD64 processors. The benefit to native code is substantially superior performance for CPU-heavy portions of code; however, the drawback remains that portability of the object files is limited to similar platforms.

Use the `ccbl` and `cblutil -native` syntax, followed by one of the new parameters to generate x64 native code:

- `--x64_Win`
- `--x64_Unix` (or `--x64_Linux`)

Note that x64 object code is not portable between Windows and Unix/Linux platforms, hence the two distinct options. The `--x64_Unix` and `--x64_Linux` options are synonymous with each other.

## Examples:

To compile a COBOL program to x64 native code for a UNIX platform:

```
ccbl --x64_Unix program.cbl
```

To assemble a number of COBOL program to x64 native code for a UNIX platform:

```
cblutil -native --x64_Unix *.acu
```

# ECN-4501 ACCEPT statement enhanced with AcuToWeb TERMINAL-ABILITIES

RPI Number: 623474

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

## DESCRIPTION:

When using AcuToWeb to run a remote program, the runtime now returns the following information when executing `ACCEPT FROM TERMINAL-ABILITIES`.

```
03 ATW-BROWSER-NAME PIC X(30).
03 ATW-BROWSER-VERSION PIC X(10).
03 ATW-ENGINE-NAME PIC X(30).
03 ATW-ENGINE-VERSION PIC X(10).
03 ATW-CLIENT-OS-NAME PIC X(30).
03 ATW-CLIENT-OS-VERSION PIC X(10).
03 ATW-CLIENT-DEVICE-TYPE PIC X(30).
03 ATW-CLIENT-DEVICE-VENDOR PIC X(30).
03 ATW-CLIENT-DEVICE-MODEL PIC X(30).
```

If you are not using AcuToWeb, these fields will remain blank.

# ECN-4519 New PDF printing library routine for UNIX and Windows

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: all

## DESCRIPTION:

A new library routine, C\$PDF, has been introduced to enable PDF printing.

The library routine calls into the `libharu` PDF printing library (<http://libharu.org/>) to give a comprehensive range of PDF print functionality that you can embed in your COBOL programs. It provides more flexibility than using the existing PDF printing mechanism (-P PDF option).

For example, the following COBOL calls are used to create a new PDF document and add a page:

```
call "C$PDF" using HPDF-NEW
              giving HPDF-DOC.
call "C$PDF" using HPDF-ADDPAGE,
                  HPDF-DOC,
                  giving HPDF-PAGE.
```

The run time then passes the resulting information to the `libharu` API to run its equivalent functions:

```
HPDF_Doc HPDF_New (HPDF_Error_Handler user_error_fn,
                  void *user_data);
HPDF_Page HPDF_AddPage (HPDF_Doc pdf);
```

## Acu4GL Enhancements

This section includes the enhancements related to Acu4GL.

### ECN-GL557 Multi-subnet clustering support

Product: Acu4GL

Module: MSSQL

Machines Affected: Windows

#### DESCRIPTION:

Acu4GL now supports connecting to a Microsoft SQL Server running a multi-subnet failover cluster. To use this feature requires changes to the connection string sent to the server, which is accomplished by using the following 4 new configuration variables:

- **A\_MSSQL\_MULTI\_SUBNET\_FAILOVER** - set to TRUE to enable a connection that supports multi-subnet failover support. If set to FALSE (the default) support is not enabled, and the other configuration variables have no effect.
- **A\_MSSQL\_FAILOVER\_PARTNER** - the name of the failover partner used. Refer to your SQL Server documentation for valid values.
- **A\_MSSQL\_FAILOVER\_PARTNER\_SPN** - the name of the failover partner SPN used. Refer to your SQL Server documentation for valid values.
- **A\_MSSQL\_SERVER\_SPN** - the name of the Server SPN. Refer to your SQL Server documentation for valid values.

### ECN-GL558 Column type GUID now supported for Microsoft SQL Server

Incidents: 2886841

RPI Number: 1108310

Product: Acu4GL

Module: MSSQL

Machines Affected: Windows

Known Versions Affected: All

**DESCRIPTION:**

Acu4GL for SQL Server now supports columns of type GUID for existing SQL tables.

A new configuration variable, `A_MSSQL_IGNORE_GUID_COLUMNS`, determines the behavior when handling existing tables that contain a column of this type. Acu4GL cannot create a new column of this type.

When `A_MSSQL_IGNORE_GUID_COLUMNS` is set to its default setting of `FALSE`, you must use COBOL data items that are at least 36 characters in size for GUID columns, otherwise an error is returned when the row is read. When writing or rewriting a row when the GUID data item is too small, SQL Server may produce an error. If you have a GUID that is larger than 36 characters, Acu4GL will only read the first 36 characters; the rest are padded with spaces.



**Note:** Older ODBC drivers may not be able to handle GUID column types, in which case, the results of those operations are undefined.

If you set `A_MSSQL_IGNORE_GUID_COLUMNS` to `TRUE`, columns of type GUID are ignored for any `SELECT`, `UPDATE`, or `INSERT` statements sent to the server. You do not need to specify a COBOL data item for these columns when reading or writing a row.

## ECN-GL561 Acu4GL for ODBC now available on Linux/UNIX platforms

Product: Acu4GL

Module: ODBC

Machines Affected: Linux/UNIX

Known Versions Affected: All

**DESCRIPTION:**

Acu4GL for ODBC is now available on Linux/UNIX platforms if you have a shared libraries build of the extend Interoperability Suite and use one of the following supported UNIX ODBC Driver Managers:

- **unixODBC** ([www.unixodbc.org](http://www.unixodbc.org))
- **DataDirect** ([www.progress.com](http://www.progress.com))
- **iODBC** ([www.iodbc.org](http://www.iodbc.org))

Contact the appropriate vendor for information about how to install and configure these driver managers. When correctly configured, you need to ensure that the `lib` directory of the driver manager, and the `lib` directory for the ACUCOBOL-GT install is included in the `LD_LIBRARY_PATH` environment variable.

## ECN-GL563 MSSQL is now available on Linux platforms

Product: Acu4GL

Module: MSSQL

Machines Affected: Linux only

**DESCRIPTION:**

Acu4GL for MSSQL is now available on certain Linux platforms if you are running a 64-bit shared libraries build of the extend Interoperability Suite; see the Microsoft SQL Server support web pages for an up-to-date list of specific supported platforms.

Your Linux clients can connect to an MSSQL Server on a Linux machine or a Windows machine. You can also use a Windows client to connect to an instance of SQL Server running on Linux. (Note that setting up SQL Server on a Linux machine is beyond the scope of our documentation.)

If you are connecting to a Windows SQL Server, set up your Linux client in the same way that you would when using a Windows client. For setting up a connector to a Linux database, you must run a new script (`ms_inst.sh`), included with your install, to create the SQL script that creates the stored procedures, tables, error messages, etc. required to connect to the server. Run this script in the same way that you would run `ms_inst.cmd` on Windows: you execute the script using an argument of the name of a database that will hold the lock tables.

Running this script produces a `.sql` script, which you must execute using the tools supplied with your SQL Server installation.

The runtime configuration settings are the same for Windows and Linux. See your Acu4GL for MSSQL documentation for those variables.

The connector itself is included as a shared object that can be loaded dynamically by the runtime, so no relinking of the runtime is necessary in order to use the functionality described above.

## AcuBench Enhancements

This section includes the enhancements related to AcuBench.

### ECN-WB661 AcuToWeb properties available in AcuBench

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

#### DESCRIPTION:

In this release, ECN-4484 introduced new properties for use with AcuToWeb cascading style sheets: ATW-CSS-CLASS and ATW-CSS-ID. These two properties are now available in the AcuBench user interface.

As with other controls/properties, there are also '*property-name* VARIABLE' versions of these properties, enabling you to create working-storage items for the properties in your source code.

## AcuConnect Enhancements

This section includes the enhancements related to AcuConnect.

### ECN-AC099 AcuConnect Control Panel enhancements

Product: AcuConnect

Module: AcuRCL

Machines Affected: Windows

Known Versions Affected: All

#### DESCRIPTION:

The AcuConnect Control Panel now includes the following enhancements:

- The **Access** tab automatically opens the most recently used access file. If required, click **Open** to open another access file.
- The **Alias** tab automatically opens the most recently used alias file. If required, click **Open** to open another alias file.
- The Services tab includes two new options:

**Edit config ...**

This option enables you to edit the server configuration file specified for the selected service. If one does not exist, you are prompted to create one. The file is opened in Notepad, where you can edit and save it, as required.

**Edit error file ...**

This option enables you to view or edit the error file specified for the selected service. If the service is currently running, then the file will be in use; therefore, a snapshot of the file is taken, and it this copy that is displayed. The file is opened in Notepad, where you can view, edit, and save it, as required.



**Note:** Whilst using either of these options, the control panel is in a 'wait' state, and you need to close Notepad before continuing to use the control panel.

## AcuServer Enhancements

This section includes the enhancements related to AcuServer.

### ECN-AS161 AcuServer Control Panel enhancements

Product: AcuServer

Module: AcuServe

Machines Affected: Windows

Known Versions Affected: All

**DESCRIPTION:**

The AcuServer Control Panel now includes the following enhancements:

- The **Access** tab automatically opens the most recently used access file. If required, click **Open** to open another access file.
- The Services tab includes two new options:

**Edit config ...**

This option enables you to edit the server configuration file specified for the selected service. If one does not exist, you are prompted to create one. The file is opened in Notepad, where you can edit and save it, as required.

**Edit error file ...**

This option enables you to view or edit the error file specified for the selected service. If the service is currently running, then the file will be in use; therefore, a snapshot of the file is taken, and it this copy that is displayed. The file is opened in Notepad, where you can view, edit, and save it, as required.



**Note:** Whilst using either of these options, the control panel is in a 'wait' state, and you need to close Notepad before continuing to use the control panel.

## AcuSQL Enhancements

This section includes the enhancements related to AcuSQL for this release.

# ECN-SQL155 No longer required to relink the runtime to use AcuSQL on UNIX

Product: AcuSQL

Module: Runtime

Machines Affected: UNIX

Known Versions Affected: All

## DESCRIPTION:

In the past, to use AcuSQL on UNIX you were required to relink the runtime to include the ODBC level 2 API software library. This is no longer necessary if you use a shared libraries build of the extend Interoperability Suite and use one of the supported ODBC Driver Managers:

- **unixODBC** ([www.unixodbc.org](http://www.unixodbc.org))
- **DataDirect** ([www.progress.com](http://www.progress.com))
- **iODBC** ([www.iodbc.org](http://www.iodbc.org))

Contact the appropriate vendor for information about how to install and configure these driver managers. When correctly configured, you need to additionally ensure that the `lib` directory of the driver manager is on the `LD_LIBRARY_PATH`.



**Note:** If you have a static version of extend Interoperability Suite or you do not want to rely on this new layer of software, you must still relink the runtime to include the functionality. See the *Installation Under UNIX* topic in the Getting Started section of the AcuSQL product documentation for more details.

## AcuToWeb Enhancements

This section includes the enhancements related to AcuToWeb.

# ECN-AW042 Gateway configuration file now supports plain text format

RPI: 627632

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

## DESCRIPTION:

The AcuToWeb configuration file, named `gateway.conf` by default, is now supported as a plain text file, as well as the existing JavaScript format. As a plain text file, you can include comments in the configuration file. Syntax rules for the plain text format are:

- Lines starting with `#` are comments
- All other lines are key-value pairs
- Key-value pairs are separated by spaces, tabs or `=` characters
- Keys are case insensitive

By default, the `gateway.conf` file resides in `C:\etc` (Windows) or `/etc` (UNIX) directory.

If you use the AcuToWeb Control Panel to specify an existing `gateway.conf` file that is in JavaScript format, it is automatically converted to plain text format.

## ECN-AW052 AcuToWeb Control Panel enhancements

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: Windows

Known Versions Affected: All

### DESCRIPTION:

The AcuToWeb Control Panel now includes the following enhancements:

- The **Access** tab automatically opens the most recently used access file. If required, click **Open** to open another access file.
- The **Alias** tab automatically opens the most recently used alias file. If required, click **Open** to open another alias file.
- The Services tab includes two new options:

#### **Edit config ...**

This option enables you to edit the server configuration file specified for the selected service. If one does not exist, you are prompted to create one. The file is opened in Notepad, where you can edit and save it, as required.

#### **Edit error file ...**

This option enables you to view or edit the error file specified for the selected service. If the service is currently running, then the file will be in use; therefore, a snapshot of the file is taken, and it this copy that is displayed. The file is opened in Notepad, where you can view, edit, and save it, as required.



**Note:** Whilst using either of these options, the control panel is in a 'wait' state, and you need to close Notepad before continuing to use the control panel.

## ECN-AW056 fillcombo.js file location now configurable

RPI: 628360

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### DESCRIPTION:

The contents of the drop list available on the Alias field of the Connection Setup screen is configurable using the `fillcombo.js` file. The location (on the AcuToWeb server) of this file can now be configured using the `PATH_FILL_COMBO` configuration variable. This variable should be specified in your AcuToWeb Gateway configuration file:

`PATH_FILL_COMBO C:\path\to\fillcombo.js`

## ECN-AW073 Navigating AcuToWeb on mobile devices

RPI: 628692

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

To enable existing desktop applications to run on mobile devices usually requires a certain amount of redesign and redevelopment, and often results in a mobile version of the application being produced. One of the main reason that a redesign is required is for navigational issues - if your application relies on extended keyboard functionality such as function keys, the ability to use these keys is often lost unless the program is rewritten to accommodate them on a mobile device.

With AcuToWeb, you can enable a mobile virtual keyboard, which provides extended keyboard functionality such as function keys and navigational keys, by displaying additional icons along the top of your application. This should compliment the alphanumeric virtual keyboard that your mobile device already provides.

You enable the mobile virtual keyboard using the **Show Mobile Virtual Keyboard** option on the **Connection Setup** screen.

 **Note:** This option is enabled by default; however, if you are running on a non-mobile device, this option will have no effect.



## ECN-AW080 Message Box buttons now display using OS language

RPI: 1109208

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

Type 4 message boxes now display using the default language of the operating system.

## ECN-AW081 Additional W\$BITMAP support added

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

AcuToWeb now supports the following operations of W\$BITMAP:

- WBITMAP-CAPTURE-IMAGE
- WBITMAP-CAPTURE-DESKTOP

## AcuXDBC Enhancements

This section includes the enhancements related to AcuXDBC.

### ECN-XD113 Hexadecimal literals in a WHERE clause containing a binary field

RPI: 631197

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: all

#### DESCRIPTION:

In a query, you can now use a WHERE clause containing a field that is specified as \$xfd BINARY; for example:

```
SELECT some_binary_field FROM  
public.table WHERE some_binary_field = 0xFFFE2020
```

### ECN-XD114 Wildcards now support forward slashes when connecting to a Windows Server

RPI: 1112306

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: all

#### DESCRIPTION:

When using wildcards to resolve a DSN, forward slashes in the wildcard string are now working correctly when attempting to access a mapped drive on a Windows server.

# Resolved Issues

The following are resolved issues for the extend products.

## ACUCOBOL-GT ECN List

This section includes the ECNs relating to ACUCOBOL-GT:

### **ECN-4456 A level 78 item changes size of group item**

RPI Number: 1107567

Product: ACUCOBOL-GT

Module: compiler

Machines Affected: All

Known Versions Affected: All

#### **DESCRIPTION:**

A level 78 using a VALUE LENGTH OF phrase no longer prematurely terminates an immediately preceding group item. Previously, under certain circumstances, it could, consequently altering its size.

### **ECN-4462 RAND and SRAND library functions upgraded**

RPI Number: 616821

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all

Known Versions Affected: N/A

#### **DESCRIPTION:**

The RAND and SRAND library functions, implemented for RM/COBOL compatibility, have been modified to use the internal ACUCOBOL-GT random number generator, rather than calling `srand()` and `rand()` directly. The internal ACUCOBOL-GT random number generator is high quality and provides identical results across platforms.

### **ECN-4477 Runtime not responding to ESC key when returning from IBM JAVA**

RPI Number: 1106836

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all UNIX

Known Versions Affected: all

**DESCRIPTION:**

The UNIX runtime used to rely on a signal interrupting a system call in order to implement a timed READ operation. This implementation is now deemed unsuitable for multi-threaded environments, as a signal may be delivered to any thread, and not interrupt the READ operation as expected, and as a result was causing problems with the timed READ that was used to intercept escape sequences.

A more modern way of performing a timed READ operation has now been implemented, using the `select()` system call, which avoids the issues with threads and signals.

This change should be seamless from a user perspective. However, on some systems, if the new implementation results in different timing characteristics for interpreting escape sequences, you can adjust the timing by using the `FAST_ESCAPE` configuration variable.

## **ECN-4493 32-bit Linux ports on file systems with 64-bit inodes**

Incidents: 3108002

RPI Number: 1110093

Product: ACUCOBOL-GT

Module: portunix

Machines Affected: 32-bit Linux

Known Versions Affected: all with large file support pre-10.1

**DESCRIPTION:**

32-bit Linux ports of ACUCOBOL-GT now behave as expected on file systems with 64-bit inodes. Previously, for example with an XFS file systems larger than 1TB, unexpected behavior may have included issues running the license activator, license loading, and Vision files spuriously returning error 98,01 upon OPEN.

## **ECN-4496 Incorrect Screen Size Handling**

Incidents: 3111426

RPI Number: 1109933

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

**DESCRIPTION:**

Support was adding for multiple monitors as part of ECN-4433, but this caused an error in the calculation for the maximum size of a floating window: displaying large windows (those which try to take up the entire monitor) could actually create a slightly smaller window. This has now been resolved.

## **ECN-4497 C\$GETEVENTDATA causing memory access violations through thin client**

Incidents: 3115640

RPI Number: 1110459

Product: ACUCOBOL-GT

Module: AcuThin.exe

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

When the COBOL program calls C\$GETEVENTDATA, the runtime no longer crashes when getting detailed information about an event. Previously, when an ActiveX control generated an event, it would not necessarily transmit the details of that event to the host runtime, but would only send the fact that an event occurred. Retrieving details information of the event would cause the memory access violation.

## **ECN-4498 Exception thrown when using Excel with the 64-bit runtime**

Incidents: 3114036

RPI Number: 1110312

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

When using an ActiveX control that returns a dispatch table, the 64-bit runtime no longer returns the wrong value, which was causing an error when that handle was used.

## **ECN-4499 Setting entry field to empty will leave blanks**

Incidents: 3115299

RPI Number: 1110342

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

### **DESCRIPTION:**

If an entry field contains only spaces, and the COBOL program sets it to SPACES, the runtime leaves the contents alone. Previously, older versions of the runtime (any pre-10.0.0 runtime) would empty the entry field so that it had nothing in it.

## ECN-4500 C\$XML fails to read data

Incidents: 3118065

RPI Number: 1110568

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All UNIX/Linux

Known Versions Affected: 10.1.0 and later

### DESCRIPTION:

C\$XML now transfers XML data to the COBOL variable as expected. Previously, when the length of the data to be read was greater than or equal to the size of the working-storage variable that would hold the data, then C\$XML would not transfer the data to the COBOL variable.

## ECN-4502 C\$XML unable to add children to newly-created parser

Incidents: 3120591

RPI Number: 1110816

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

### DESCRIPTION:

Creating a new parser using C\$XML now works as expected. Previously, when adding a child (a top-level element) to the parser, it would fail without any indication; and then any subsequent information added to the XML document would also fail (again without indication). When finally writing the XML document there would be no information to save, leaving an empty file.

## ECN-4503 Issues re-linking the runtime on UNIX platforms

Incidents: 3121985

RPI Number: 1110945

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All UNIX

Known Versions Affected: 10.1.x

### DESCRIPTION:

When re-linking the runtime on UNIX platforms, you no longer receive the following error:

```
> make runcbl  
cc: ./libhpdf.a: No such file or directory
```

## **ECN-4504 Random crash on CLOSE of a DIRECT-SPOOLER print file**

Incidents: 3118360

RPI Number: 1111146

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

### **DESCRIPTION:**

When closing a DIRECT-SPOOLER print file, the runtime would occasionally crash, which was due to an optimization error in the Microsoft C compiler. This has been resolved.

## **ECN-4505 C\$XML not processing trailing low-values correctly**

Incidents: 3123700

RPI Number: 1111223

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.1 and later

### **DESCRIPTION:**

C\$XML now correctly processes element names that are passed as variables defined with trailing LOW-VALUES. Previously, C\$XML would treat the size of the variable as the data to use, rather than the actual text.

## **ECN-4506 Character corruption when creating menu whilst TRANSLATE\_TO\_ANSI is on**

Incidents: 3120546

RPI Number: 1110817

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows only

Known Versions Affected: 10.1.1 and later

### **DESCRIPTION:**

You can now create menus that don't contain additional character corruption. Previously, when creating a menu, the runtime would not terminate the string correctly when translating from OEM to ANSI, which was causing the extra text to display on menus.

## **ECN-4507 Memory access violation in AcuThin when sending many property changes**

Incidents: 3122025

RPI Number: 1111069

Product: ACUCOBOL-GT

Module: Thin Client

Machines Affected: Windows only

Known Versions Affected: 10.1.1 and later

### **DESCRIPTION:**

COBOL programs now behave as expected when sending multiple property changes to the thin client. Previously, the socket buffer could fill and need to split, which could cause problems.

## **ECN-4508 C\$REGEXP MATCH issues when using a non-zero START**

Incidents: 3124401

RPI Number: 1111290

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: All

### **DESCRIPTION:**

When using a non-zero START parameter for the MATCH opcode, C\$REGEXP now provides the expected results. Previously, the search would start searching at the correct location, but it would still look for matches for LENGTH bytes, which may be beyond the string passed.

## **ECN-4509 Threaded applications could hang within thin client**

Incidents: 3125544

RPI Number: 1111376

Product: ACUCOBOL-GT

Module: Thin Client

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

When a COBOL program has multiple ACCEPT statements active at once (via threading), the thin client no longer hangs.

## **ECN-4510 C\$SOCKET fails to open client connection**

Incidents: 3123988

RPI Number: 1111175

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: All

### **DESCRIPTION:**

The C\$SOCKET function now creates a client connection as expected. Previously, it has always assumed that the server-name parameter that is passed is filled with LOW-VALUES on the right. If this was not the case, the function would occasionally fail; this change means you are no longer required to terminate the server-name parameter with LOW-VALUES.

## **ECN-4511 Compiler crash when ANSI characters used in numeric literals**

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

### **DESCRIPTION:**

The compiler now reports an error when scanning numeric literals that contain non-ASCII characters.

## **ECN-4512 Vision error on 32-bit Linux systems**

Incidents: 3127459

RPI Number: 1111442

Product: ACUCOBOL-GT

Module: Vision

Machines Affected: Linux 32-bit

Known Versions Affected: all

### **DESCRIPTION:**

One of the system calls that Vision uses (`pread`) was not performing correctly on 32-bit Linux due to a missing compiler macro. This could cause a spurious error when reading at the 2GB boundary. This error could manifest itself as a failed rebuild of a file or other file error. The proper compiler macro setting now corrects this issue.

## ECN-4514 AcuToWeb CSS variables not working in browser

Incidents: 3131271

RPI Number: 1111809

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: 10.1.0

### DESCRIPTION:

When running a program through AcuToWeb, the special properties ATW-CSS-CLASS and ATW-CSS-ID are now working as expected.

The following excerpt is an example DISPLAY statement using the AcuToWeb special properties:

```
DISPLAY Floating GRAPHICAL WINDOW LINES 26.20, SIZE 35.00, CELL HEIGHT 10,  
      CELL WIDTH 10, BIND TO THREAD, COLOR IS 65793, ERASE, LABEL-OFFSET 0,  
MODELESS,  
      NO SCROLL, WITH SYSTEM MENU, TITLE "Little Screen - Floating Window",  
      TITLE-BAR, USER-GRAY, USER-WHITE, NO WRAP,  
      ATW-CSS-CLASS"modalwindow-medium", ATW-CSS-ID "modalwindow",  
      HANDLE IS Screen2-HANDLE
```

## ECN-4515 Incorrect XML attributes when using European characters

Incidents: 3127151

RPI Number: 1111405

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

### DESCRIPTION

Unicode data is now correctly encoded when adding attributes whilst creating XML files.

## ECN-4516 Connection refused when server is busy

Incidents: 2869197

RPI Number: 1109945

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: All

**DESCRIPTION:**

When the AcuConnect or AcuServer processes are so busy that a connection attempt is refused, the client will now immediately re-attempt the connection up to five times; thus, you should no longer receive `Connection refused` error messages.

## ECN-4517 .NET methods crashing the runtime

Incidents: 3128510

RPI Number: 1111687

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.1 and later

**DESCRIPTION:**

Calling a .NET method in a `.dll` file no longer corrupts memory and crashes the runtime.

## ECN4518 Black border displaying in resizable window

Incidents: 2874630

RPI Number: 1106603

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.0.1 and later

**DESCRIPTION:**

A minor display issue, where some application windows were created slightly larger in 10.0.1 and later than in previous versions, causing a thin black line to appear on the right-hand side, has been fixed.

## ECN-4520 Memory access violations after using CANCEL ALL in XML Extensions

Incidents: 3117157

RPI Number: 1110688

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 9.0.0 and later

**DESCRIPTION:**

When using XML Extensions, and executing CANCEL ALL, the runtime no longer cancels the modules needed for XML Extensions. Previously, it was, which when attempting to use XML Extensions again would cause the memory access violation.

## **ECN-4522 Runtime crashing when memory is low**

Incidents: 3137101

RPI Number: 1112388

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: All

### **DESCRIPTION:**

The runtime no longer crashes when it is running out of memory; previously, it could crash due to not detecting the invalid pointer returned from the allocation routine.

## **ECN-4523 Compilation error during native code generation**

Incidents: 3137435

RPI Number: 1112400

Product: ACUCOBOL-GT

Module: library

Machines Affected: Linux 32-bit

Known Versions Affected: 10.1.x

### **DESCRIPTION:**

An offset compilation error no longer occurs when generating native code on 32-bit Linux ports.

## **ECN-4524 RESIZE-FREELY causes initial window to be too large**

RPI Number: 631771

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

### **DESCRIPTION:**

When using the AUTO-RESIZE property on a Window, and setting RESIZE-FREELY to TRUE, the initial size of the window no longer defaults to the window size that Windows sets, instead it correctly defaults to the size specified in the COBOL program.

## **ECN-4525 Large files fail to copy using C\$COPY through thin client**

Incidents: 3126528

RPI Number: 1111370

Product: ACUCOBOL-GT

Module: acuthin.exe

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

The thin client no longer hangs when copying a large file from the application host to the display host (using @[DISPLAY]: syntax for the destination file).

## **ECN-4526 The wrong opcode used for one-byte comparisons**

Incidents: 3141004

RPI Number: 1112759

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: all

Known Versions Affected: 5.0 - 10.1.1

### **DESCRIPTION:**

The compiler no longer uses an incorrect opcode for a one-byte equality comparison.

## **ECN-4527 BITMAP-SCALE fails to scale bitmaps through thin client**

Incidents: 3140499

RPI Number: 1112693

Product: ACUCOBOL-GT

Module: Thin client

Machines Affected: All

Known Versions Affected: 10.0.0 and later

### **DESCRIPTION:**

When running through thin client and using BITMAP-SCALE to scale bitmaps to the current size, the bitmap was displaying before setting the scale, which was causing the scale to not be honored. This has now been corrected.

## **ECN-4528 Frame title not removed when setting it to SPACES**

RPI Number: 631767

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

When modifying a frame to set the title to SPACES, the old frame is now completely removed.

## **ECN-4529 Unicode key letters not working as expected**

Incidents: 3141951

RPI Number: 1112843

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

When a non-ASCII character is set as the key letter of a control, the runtime now correctly activates the appropriate control when the key letter is pressed in conjunction with the **Alt** key.

## **Acu4GL ECN List**

This section includes the ECNs relating to Acu4GL:

## **ECN-GL560 A4GL\_WHERE\_CONSTRAINT not applied to the first operation when connecting to Oracle**

Incidents: 3122501

RPI Number: 1111022

Product: Acu4GL

Module: Oracle

Machines Affected: all

Known Versions Affected: all

### **DESCRIPTION:**

The A4GL-WHERE-CONSTRAINT is now being correctly applied to the first applicable operation when connecting to an Oracle database.

## **ECN-GL562 START operation that specifies a date returns wrong record on Oracle database**

Incidents: 3120672

RPI Number: 1110881

Product: Acu4GL

Module: Oracle

Machines Affected: all

Known Versions Affected: all

### **DESCRIPTION:**

When using Acu4GL for Oracle, a START operation no longer returns the wrong record when a key includes a Julian date field.

## **AcuBench ECN List**

This section includes the ECNs relating to AcuBench:

### **ECN-WB663 Unable to open template files**

RPI Number: 629092

Product: AcuBench Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

### **DESCRIPTION:**

When opening a new file (**File > New > File**), and selecting **Template**, the file no longer opens as a blank document.

### **ECN-WB664 Maximum record size not available in File Designer**

Incidents: 3111367

RPI Number: 1110014

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 6.0.0 and later

### **DESCRIPTION:**

AcuBench File Designer now allows you to specify the same maximum record size for a file that ACUCOBOL--GT allows.

## **ECN-WB665 Generating a program deletes ActiveX resource loading**

Incidents: 3115464

RPI Number: 1110413

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

If a screen has an ActiveX control that uses a resource tag, then generating the COBOL program with that screen no longer causes the resource tag to be deleted. Previously, generating the program would remove the resource load and destroy paragraphs.

When this happens, if you don't have the program structure file (.psf) from before the generate was executed, you must add the resource tag back in to the ActiveX control.

## **ECN-WB666 AcuBench crashes when generating programs**

Incidents: 3125183

RPI Number: 1111428

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows only

Known Versions Affected: 10.1.1 and later

### **DESCRIPTION**

When generating a program (or regenerating an entire workspace), AcuBench no longer crashes.

## **ECN-WB667 Generating programs that contain errors are causing further errors**

Incidents: 3129551

RPI Number: 1111617

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All?

### **DESCRIPTION:**

When the background compile to get section information fails due to an error in the COBOL source, the compilation process no longer compounds the problem by adding further errors to the resulting generated

program. Previously, in such a situation, Procedure Division code would end up in the Identification Division, for example.

## **ECN-WB668 Tab stops not working correctly**

Incidents: 3121721

RPI Number: 1110920

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.1.1 and later

### **DESCRIPTION:**

When pressing **Tab**, the cursor in the code editor now jumps to the correct tabbed position. Previously, the indicator on the ruler showed the tab stops off by one column. This issue only occurred when you have options set to replace Tab characters with spaces.

## **ECN-WB669 Tab characters corrupting display of file after Delete is pressed**

Incidents: 3124869

RPI Number: 1111230

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

Files that contain Tab characters no longer corrupt the display when the Delete key is pressed.

## **ECN-WB670 Page breaks missing in reports**

Incidents: 3131650

RPI Number: 1112082

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.1.1 and later

### **DESCRIPTION:**

A report no longer displays on a single page when generated without any controls in the HEADER section. Previously, the HTML generated would not include any page breaks.

## **ECN-WB671 Incorrectly generated lines when line splits at quoted string**

Incidents: 3129043

RPI Number: 1111570

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

### **DESCRIPTION:**

When AcuBench is generating lines of code, it now correctly handles the splitting of lines of code where the split occurs at a quoted literal. Previously, the split process would add an extra quote to the beginning of the literal.

## **ECN-WB672 Print Preview window for AcuBench reports not showing correctly**

Incidents: 3123647

RPI Number: 1111220

Product: AcuBench

Module: AcuBenchPrint.dll

Machines Affected: Windows

Known Versions Affected: All

### **DESCRIPTION:**

When running an AcuBench-generated report, and using the print preview, the preview window now opens correctly. Previously, it was opening, but its dimensions were too small, and it was hidden behind other windows.

## **ECN-WB673 Using the integrated debugger hangs AcuBench**

RPI Number: 631558

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

### **DESCRIPTION:**

The integrated debugger no longer hangs AcuBench when using the **Run to cursor...** command.

## **ECN-WB674 Numerous problems with TAB character behavior**

RPI Number: 631561

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

### **DESCRIPTION:**

A number of issues with TABs for both ANSI and terminal format have been fixed.

## **ECN-WB675 Unable to open a COPY file from the menu or toolbar**

Incidents: 3139946

RPI Number: 1112646

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows only

Known Versions Affected: 10.0.0 and later

### **DESCRIPTION:**

When your cursor is on a line containing a COPY statement, you can now open the COPY file from either the pop-up menu or the toolbar icon, as expected.

## **ECN-WB676 Blank first page in reports**

Incidents: 3136447

RPI Number: 1112518

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

The first page of a HTML report is no longer blank.

## **AcuConnect ECN List**

This section includes the ECNs relating to AcuConnect:

## **ECN-AC100 Memory leak and uninitialized memory error in connection phase**

Product: AcuConnect

Module: AcuRCL

Machines Affected: all

Known Versions Affected: all

### **DESCRIPTION:**

A memory leak and an uninitialized memory error in the connection phase has been rectified.

## **AcuServer ECN List**

This section includes the ECNs relating to AcuServer:

### **ECN-AS162 DELETE FILE operation now supported when using FILE-PREFIX**

Incidents: 2829015

RPI Number: 612771

Product: AcuServer

Module: acuserve

Machines Affected: all

Known Versions Affected: all

### **DESCRIPTION:**

The DELETE FILE operation is now supported when using the FILE-PREFIX variable in the AcuServer configuration file.

### **ECN-AS163 AcuServer connections limited to 63 on Windows**

Incidents: 3116832

RPI Number: 1110519

Product: AcuServer

Module: acuserve.exe

Machines Affected: Windows only

Known Versions Affected: 10.1.0 and later

### **DESCRIPTION:**

A recent change to the Microsoft header files caused the number of client connections to be limited to 63 concurrent connections; this has now been increased to 1023 connections.

## **ECN-AS164 Buffer overrun when opening file**

Product: AcuServe

Module: acuserver

Machines Affected: All

Known Versions Affected: All

### **DESCRIPTION:**

If the server access file is a remote file, opening the file no longer causes AcuServer to crash.

## **AcuSQL ECN List**

This section includes the ECNs relating to AcuSQL:

### **ECN-SQL156 Source format selection for INCLUDE files not retained after AcuSQL preprocessor**

Incidents: 3129595

RPI Number: 1111662

Product: AcuSQL

Module: AcuSQL

Machines Affected: all

Known Versions Affected: 10.0.0 - 10.1.1

### **DESCRIPTION:**

The AcuSQL preprocessor now retains the user's chosen source code format when processing an INCLUDE directive.

## **AcuToWeb ECN List**

This section includes the ECNs relating to AcuToWeb:

### **ECN-AW028 Missing TREE VIEW control properties**

RPI: 625165, 625166, 625147

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The following properties of the TREE VIEW control have been added:

- Tvs\_SHOW\_LINES

- Tvs\_SHOW\_SEL\_ALWAYS
- NEXT\_ITEM

Also, AcuToWeb now supports the ability for the user to edit an item in the tree-view control.

## **ECN-AW029 Missing FRAME control properties**

RPI: 625159, 1110857, 631824

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The following properties of the FRAME control have been implemented:

- Fp\_HIGH\_COLOR
- Fp\_LOW\_COLOR

Also, the following issues have been addressed:

- A centered frame title is not displaying correctly; it is displayed at the bottom of the frame.
- The CURSOR-FRAME-WIDTH property is not being applied.

## **ECN-AW030 Missing LABEL control properties**

RPI: 625153

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The following properties of the LABEL control have been implemented:

- Ls\_NO\_KEY\_LETTER

## **ECN-AW031 Missing ENTRY FIELD control styles and properties**

RPI: 625149, 625148, 625150, 1111159, 1111497, 631780, 631809 , 631814

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The following styles and properties of the ENTRY FIELD control have been implemented:

- Styles:
  - Efs\_SPINNER
  - Efs\_VSCROLL

- Efs\_VSCROLL\_BAR
- Properties:
  - Efp\_CURSOR\_ROW
  - Efp\_CURSOR\_COL

Also, the following issues have been addressed:

- When an entry field has NUMERIC set to TRUE, a warning is displayed correctly when a non-numeric character is entered.
- After inserting a numeric value in an entry field that is defined as PIC 9, you can now use the **Enter** key to navigate away from the field; previously, you would be prompted with a message "Number Required".
- The MODIFY CURSOR-ROW and CURSOR-COL properties, and the USE-TAB property of a multiline entry field was not working.
- The spinner property was not providing proper focus.

## ECN-AW032 Missing BAR control properties

RPI: 625162

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### DESCRIPTION:

The following properties of the BAR control have been implemented:

- COLORS
- SHADING
- POSITION-SHIFT

## ECN-AW035 Date formatting includes quotation marks

RPI: 1110666

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### DESCRIPTION:

When using a date format such as `YYYY' / 'MM' / 'dd`, the quotation marks are now correctly omitted.

## ECN-AW043 BEFORE/AFTER procedures stop between DATE and ENTRY fields

RPI: 1111124

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

Moving between from DATE field and ENTRY fields now works as expected regardless of the method you use to navigate between the fields. Previously, if you used the mouse to move between fields, the BEFORE/AFTER procedures only worked the first time you move from the DATE field to an ENTRY field.

## ECN-AW044 Missing TAB control styles

RPI: 625160, 625161, 1112777

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

The following styles of the TAB control have been implemented:

- FLAT\_BUTTONS
- NO\_DIVIDERS
- NO\_FOCUS
- BUTTONS
- FIXED\_WIDTH
- HOT\_TRACK

Also, there is no longer a sizing issue when using the TAB control.

## ECN-AW045 Message box not accepting keyboard input

RPI: 1111118

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

A message box now accepts the keyboard inputs Y and N to action Yes/No message boxes.

## ECN-AW053 Missing RADIO BUTTON control styles

RPI: 625155 625156, 1112219, 1112319

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

The following styles of the RADIO BUTTON control have been implemented:

- Rbs\_NO\_GROUP\_TAB
- Rbs\_SQUARE

- Rbs\_FRAMED
- Rbs\_UNFRAMED

Also, the multi-line property is now working as expected when running in Internet Explorer.

## ECN-AW054 Missing CHECK BOX control styles

RPI: 625154

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### DESCRIPTION:

The following styles of the CHECK BOX control have been implemented:

- Cbs\_SQUARE
- Cbs\_FRAMED
- Cbs\_UNFRAMED

## ECN-AW055 Missing PUSH BUTTON control styles

RPI: 625152 625151 1112450, 1112774

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### DESCRIPTION:

The following styles of the PUSH BUTTON control have been implemented:

- Pbs\_SQUARE
- Pbs\_FRAMED
- Pbs\_UNFRAMED
- Pbs\_NO\_AUTO\_DEFAULT

Also, the SPACEBAR now correctly activates a push button that is in focus, and the arrow keys can now be used to navigate between two PUSH BUTTON controls.

## ECN-AW070 Missing GRID control properties, and GRID column issues

RPI: 625163, 625164, 1110533, 1110962, 1110773, 1110929, 1110959, 1111399, 1111449, 1111481, 1111494, 1111501, 1111660, 1111863, 1111869, 1111848, 1112066, 1112223, 1112276, 1112402, 1112403, 1112517, 1112520, 1112757, 632076

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### DESCRIPTION:

The following GRID control properties have been added:

- Grp\_ROW\_DIVIDERS
- Grp\_DISPLAY\_COLUMNS
- Grp\_CURSOR\_FRAME\_WIDTH

Also, the following issues have been addressed:

- It was possible to manipulate the grid-columns property to hide a particular column: this is now working through AcuToWeb as it would through the normal runtime.
- The sorting of grid columns when using Internet Explorer 11 is now working as expected.
- Grid search options are now correctly refreshing the item searched for.
- The Up and Down arrows are now displayed correctly.
- Issues with the grid becoming unresponsive have been fixed.
- A Msg-Goto-Cell event no longer immediately triggers a Msg-Finish-Entry event, and so now allows the user to interact properly with the targeted cell.
- A grid with scroll bars now scrolls as expected.
- The VSCROLL-POS special property is now working as expected.
- Data no longer incorrectly copied when focusing on a cell.
- When a grid cell is in edit-mode, the text entered is always in upper case.
- Column resizing not working.
- Using the SHIFT key in a paged grid duplicates data.
- Incorrect number of grids showing in certain browsers.

## **ECN-AW071 Setting a monitor on a variable whilst debugging not working**

RPI: 629590

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

Whilst debugging, placing a monitor on a variable now displays the value in the correct pane.

## **ECN-AW072 Missing common styles added**

RPI: 625146

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The following common styles have been implemented:

- OVERLAP\_LEFT
- OVERLAP\_TOP
- NOTIFY (for PushButton, CheckBox, and RadioButton controls)

## **ECN-AW075 Display of Labels and Push buttons differs between browsers**

RPI: 1110524, 1110556, 1110746, 631822

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

Labels and Push Button controls no longer display differently, in different browsers, when compared to when running in the normal runtime.

Label text also now wraps correctly. Also, the FLAT property for push buttons and radio buttons now displays correctly.

## **ECN-AW076 Sub-menu navigation problems**

RPI: 1111438, 1111772

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

When navigating the menu system and viewing a sub-menu, the following issues have been fixed:

- Sub-menus now correctly close when expected. Previously, a sub-menu would only close when another sub-menu was opened.
- **Alt** key shortcuts are now working as expected within sub-menus.

## **ECN-AW077 Placement of main screen incorrect**

RPI: 629666

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The placement of the screen when you first run your program is now as expected, based on the size and location of the browser.

## **ECN-AW078 Control focus erratic on mobile devices**

RPI: 1110600

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

When running on a mobile device, placing focus on a control now behaves as expected. Previously, focus would sometimes be random and cause the screen to zoom.

## **ECN-AW079 C\$SYSTEM hangs when using Internet Explorer 11**

RPI: 1110647

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

A call to C\$SYSTEM no longer hangs when running in Internet Explorer 11.

## **ECN-AW082 Building a screen by reading a data file not working correctly**

RPI: 1109919

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

You can now successfully build a screen layout through AcuToWeb by reading in records from a Vision file. Previously, although working correctly through the normal runtime and thin client, it would not handle the individual DISPLAYs correctly through AcuToWeb.

## **ECN-AW084 Problems with list box controls**

RPI: 1110718, 1111618, 1112268, 1112454

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

List boxes should now be working as expected after the following issues were fixed:

- Previously, after selecting an item in a list box, it became difficult to get the focus to leave the list box.
- If you had a list longer than the displayed list box, scrolling down the list was not allowing you to select items lower in the list.
- Sorting items in a list box returns the items in a different order to when sorted using the normal runtime.

## **ECN-AW085 Date picker values not retained**

RPI: 1111420, 1111124

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

When entering dates into the date picker, the values are now retained when moving focus away from the control. Also, navigation using the BEFORE and AFTER procedures is now working as expected when navigating to and from a date picker.

## **ECN-AW086 Drop-down combo box events not triggered**

RPI: 1111508

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

In a drop-down combo box that has an event, that event is now correctly triggered when a select is made. Previously, you would have to make a subsequent selection before the required event was triggered. Also, if configured to, items are now sorted correctly.

## **ECN-AW087 Closing a browser tab running AcuToWeb**

RPI: 1111424

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

To ensure that you do not inadvertently close other AcuToWeb applications running on other tabs when you close your browser, you can configure your AcuToWeb application to display a message if you close the browser whilst other tabs are open. To display the message, run your application with a runtime configuration files that specifies `QUIT_MODE -2`.

## **ECN-AW088 AcuToWeb Desktop process remains running**

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

AcuToWeb Desktop processes are now correctly closed when the browser is closed.

## **ECN-AW089 Entry field border colors**

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

The border color of an entry field is now displayed correctly in AcuToWeb.

## **ECN-AW090 Printer selection not working**

RPI: 1111764, 1111921, 1112887

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

Printer selection and print font size is now working as expected when running through AcuToWeb. Previously, selecting a (non-default) printer would always select the default printer, and programmatic changes to the font size would have no effect. You can also now print multiple copies of a document.

## **ECN-AW091 C\$LIST-DIRECTORY and CHDIR failing to return correct results**

RPI: 1111925, 1112667

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

Using C\$LIST-DIRECTORY through AcuToWeb now returns the correct listings; previously, only partial results were shown. Also, CHDIR now correctly detects whether a directory exists or not.

## **ECN-AW092 The WBITMAP-CAPTURE-IMAGE operation not working**

RPI: 1112310, 631869

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

**DESCRIPTION:**

The WBITMAP-CAPTURE-IMAGE operation of the W\$BITMAP library routine now returns a valid handle.

## **ECN-AW093 WINPRINT-CURR-ORIENTATION reset to ZERO**

RPI: 1112159

Product: AcuToWeb  
Module: AcuToWeb  
Machines Affected: all

**DESCRIPTION:**

When using the Windows printing syntax `CALL "WIN$PRINTER" using WINPRINT-SET-PRINTER-EX, WINPRINT-SELECTION`, the value of `WINPRINT-CURR-ORIENTATION` is no longer reset to 0 after it has been set to a positive value.

## **ECN-AW094 Unable to create .NET instances**

RPI: 1112409

Product: AcuToWeb  
Module: AcuToWeb  
Machines Affected: all

**DESCRIPTION:**

When operating in a Windows-only environment, you can now use the `CREATE` statement to create a .NET assembly when running through AcuToWeb; previously, this would hang.

## **ECN-AW095 Window sizing issues**

RPI: 1112532, 1112533, 1112534, 1112536

Product: AcuToWeb  
Module: AcuToWeb  
Machines Affected: all

**DESCRIPTION:**

The following sizing and resizing issues have been rectified:

- Using `RESIZE-FREELY` set to 1, the screen would not display correctly.
- The `ACTION-MAXIMIZE` and `ACTION-RESTORE` values of the `ACTION` property were not working.
- Using the `AUTO-RESIZE` property, the window did not contain scroll bars.
- Clicking the `MAXIMIZE` Window button had no effect.

## **ECN-AW096 Incorrect screen and control colors**

RPI: 1112453

Product: AcuToWeb  
Module: AcuToWeb  
Machines Affected: all

**DESCRIPTION:**

Color select is now displaying as expected. Previously, for example, it would display the dark version of a color, even when specifying the bright version.

## **ECN-AW097 Absolute path of public root directory not working in gateway.conf**

RPI: 1112677

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

### **DESCRIPTION:**

The gateway.conf file now supports both a relative and absolute path entry for the Public Root Directory setting.

## **AcuXDBC ECN List**

This section includes the ECNs relating to AcuXDBC:

### **ECN-XD112 Unable to specify WHERE clause with default date format**

RPI: 1110662

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: all

### **DESCRIPTION:**

In a WHERE clause, a date in the format of '25-JUN-17' is now being accepted.

## **AcuXML ECN List**

This section includes the ECNs relating to AcuXML:

### **ECN-XML030 Embedded LOW-VALUE byte in values returned by READ**

Incidents: 3136204

RPI Number: 1112304

Product: AcuXML

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

**DESCRIPTION:**

When performing a READ using AcuXML, alphanumeric data is no longer returned with an embedded LOW-VALUE byte before the trailing spaces.

# Updates and SupportLine

Our Web site gives up-to-date details of contact numbers and addresses.

## Further Information and Product Support

Additional technical information or advice is available from several sources.

The product support pages contain a considerable amount of additional information, such as:

- The *Product Updates* section of the Micro Focus SupportLine Web site, where you can download fixes and documentation updates.
- The *Examples and Utilities* section of the Micro Focus SupportLine Web site, including demos and additional product documentation.
- The *Support Resources* section of the Micro Focus SupportLine Web site, that includes troubleshooting guides and information about how to raise an incident.

To connect, enter <http://www.microfocus.com> in your browser to go to the Micro Focus home page, then click **Support & Services > Support Resources > All Support Resources**. In the **Browse by Product** field, click the product you require support for. Click **Log into SupportLine**.



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- The name and version number of all products that you think might be causing an issue.
- Your computer make and model.
- System information such as operating system name and version, processors, and memory details.
- Any detailed description of the issue, including steps to reproduce the issue.
- Exact wording of any error messages involved.
- Your serial number or works order (WO) number.

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