MICRO FOCUS

extend Interoperability Suite 10.2.1

Release Notes

2018-11-21

Contents

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.

> **Note:** This document contains links to external web sites. Micro Focus cannot be responsible for the contents of the website or for the contents of any site to which it might link. Web sites by their nature can change very rapidly and although every attempt is made to keep links up-to-date, Micro Focus cannot guarantee that external links will always work as expected.

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: *https://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 `runcbl -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.llc`. 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 Xcentrisity 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,AcuSQLRunti
me,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 AcuXDBCEnterpriseEdition 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	
VCRedist	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 vortex.jar 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,AcuSQLRunti
me,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 chose 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.
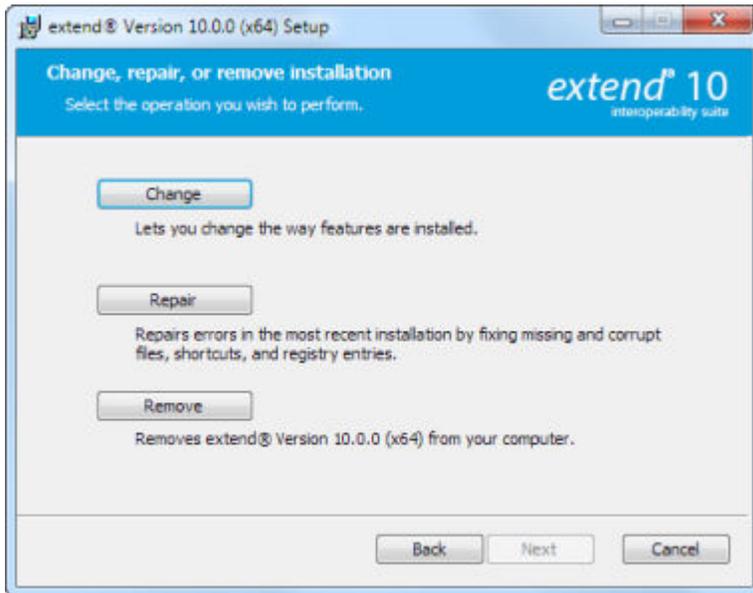
Launching extend Products on Windows 8 or Later

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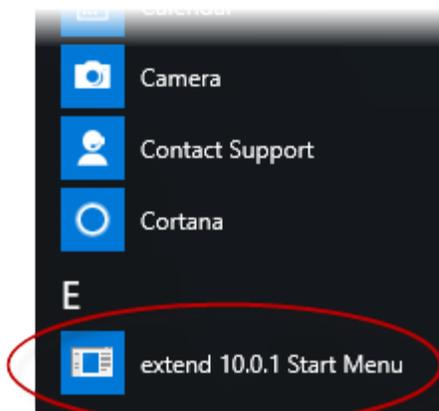
Launch this application to display a hierarchy that looks similar to the Windows program menus prior to Windows 8. Simply navigate the folders displayed in the left-hand pane to display shortcuts to the related programs in the right-hand pane. Select the required shortcut: at which point, the extend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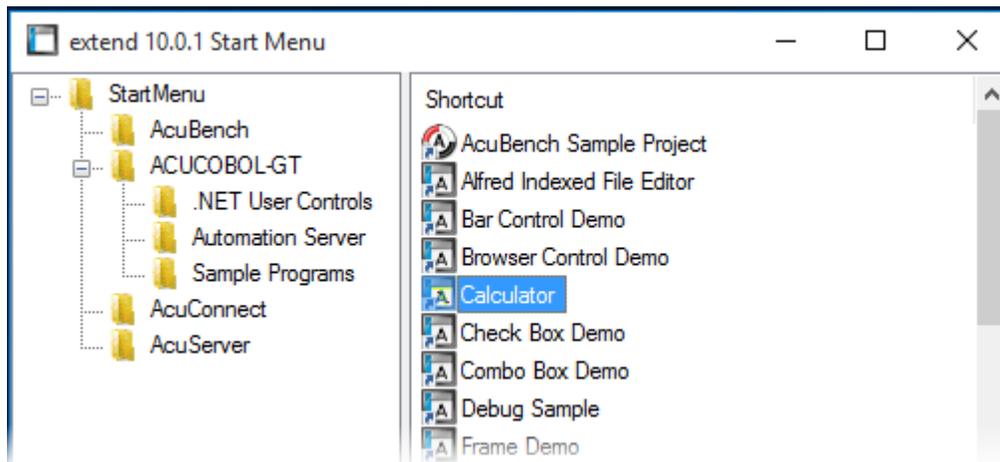
Compiling Your Programs

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:

```
ccbl32 –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:

```
ccbl32 -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 *<printername>*". 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 ("CBLCONFI"):

```
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 <printername>

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 \\printername
```

in the configuration file (CBLCONFI). *Printername* 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 \\printername" TO WS-PRINTER-NAME.
```

When the runtime opens a file assigned to "-Q *<printername>*", it sets the Windows print spooler to use this printer. The printer driver must be installed on the computer from which you print. If *printername* 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 (`CBLCONFI`):

```
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 theses 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 in 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
`-d installation-path`	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
	This option can be combined with the `-EULA` option, but if it is, it will specify the location of the extracted EULA, and not the location of the installed product.
`-EULA`	Extracts the EULA, in `.htm` format, to a location of your choosing. The product installation will not continue when using this option.
`-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.

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

```
./bin/activator
```

4. 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.

5. To start the acushare license manager service, enter the following:

```
acushare -start
```

6. 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
```

7. 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.*

8. 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.

9. 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 `aclnt.so` (or `aclnt.sl`) in case the LIBPATH (or LD_LIBRARY_PATH) variable is not set. libclnt.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 `aclnt.so` (or `aclnt.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.llc` and `/opt/acu/bin/runcbl.llc` 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.llc` and finally `/opt/acu/bin/runcbl.llc`.

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.llc` 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-4540 Thread-safe handling of RETURN-CODE and RETURN-UNSIGNED

RPI Number: 1109756

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

In a multi-threaded environment, previous behavior was such that the Return-Code or Return-Unsigned special registers could be updated by any subprogram, from any thread in the run unit. This behavior could make it difficult when debugging multithreaded programs.

As of this version, the Return-Code and Return-Unsigned values are stored locally to each COBOL thread. Within COBOL, these 'local' special registers behave exactly the same as they did previously; and for non-COBOL programs, you can still reference the external `return_code` as defined in `sub.h`, and it will be echoed by the thread-local value in a thread-safe fashion. (For COBOL threads, if you create operating threads outside of COBOL, you are still responsible for your own thread safety.)

Although this change should not affect the large majority of programs, there is one (uncommon) scenario that may need to be worked around; consider:

```
CALL THREAD "SUB1"
...
IF RETURN-CODE ...
```

With the new behavior, RETURN-CODE will not contain the return value for SUB1 (that will be contained within the SUB1 thread), and so you may experience unpredictable behavior with this type of construction. A work-around is to re-code as follows:

```
77 RCODE SIGNED-LONG.
CALL THREAD "SUB1" GIVING RCODE
IF RCODE …
```

This type of construction provides the same behavior as before, and is thread-safe. The local Return-Code for the SUB1 program is copied to RCODE, and can then be safely used in the calling program. The same principle also applies to the use of Return-Unsigned.

ECN-4560 Improved window resize detection when Aero Snap is used

RPI Number: 1113102, 1113177

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows, thin client

Known Versions Affected: All

DESCRIPTION:

Using the Aero Snap feature (available in recent versions of Windows) to resize the program window no longer causes unexpected results. A new detection algorithm for window resizing has been implemented to better track resizing events when this feature is used. Previously, resize events were not always generated, which led to some odd UI behavior.

ECN-4552 Image support updated for C$PDF

RPI Number: 634039

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

DESCRIPTION:

The following op-codes concerning the drawing of images in a PDF have been added:

- HPDF-DESTINATION-SETXYZ
- HPDF-IMAGE-ADDSMASK
- HPDF-IMAGE-GETBITSPERCOMPONENT
- HPDF-IMAGE-GETCOLORSPACE
- HPDF-IMAGE-GETHEIGHT
- HPDF-IMAGE-GETSIZE
- HPDF-IMAGE-GETSIZE2
- HPDF-IMAGE-GETWIDTH
- HPDF-IMAGE-LOADRAW1BITIMAGEFROMMEM
- HPDF-IMAGE-SETCOLORMASK
- HPDF-IMAGE-SETMASKIMAGE

Refer to *Supported PDF Printing Functions* in the product documentation for more information.

ECN-4577 New methods for --no-signal-handlers switch added to CVM.jar

Incidents: 3161410

RPI Number: 1114509

Product: ACUCOBOL-GT

Module: CVM.jar

Machines Affected: all

Known Versions Affected: all

DESCRIPTION:

Two new methods have been added to the Java CVM class (`CVM.jar`); they are:

- `boolean getNoSignalHandlers()`
- `void setNoSignalHandlers(boolean value)`

Use these methods to pass the `--no-signal-handlers` switch to the runtime during initialization. By default this option is not passed. When set, the `--no-signal-handlers` switch prevents the runtime's signal handlers from being enabled. (In some cases, the runtime's signal handlers may interfere with the expected Java signal handlers, causing unexpected behavior.)

AcuSQL Enhancements

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

ECN-SQL160 AcuSQL for SQL Server available on UNIX and Linux platforms

RPI Number: 635663

Product: AcuSQL

Module: asqlsrvr

Machines Affected: UNIX

Known Versions Affected: N/A

DESCRIPTION:

AcuSQL for SQL Server is now available on supported UNIX and Linux platforms when running a shared libraries build of extend Interoperability Suite.

The interface uses the unixODBC driver manager. Once you have configured an appropriate driver to connect to the SQL Server (as per the vendor's instructions), set the ACUSQL_RUNTIME_DLL configuration variable to `asqlsrvr`.

Unlike in previous releases, you are not required to relink to the runtime to use this interface.

ECN-SQL161 No longer necessary to relink AcuSQL

Product: AcuSQL

Module: acusql

Machines Affected: UNIX only

Known Versions Affected: All

DESCRIPTION:

In previous versions of AcuSQL on UNIX/Linux platforms, it was necessary to relink `acusql` with an ODBC compatible library in order to use an ODBC driver to validate certain aspects of your SQL code during compilation. That step is no longer necessary; AcuSQL now dynamically loads the appropriate ODBC software when it is required.

Note: Refer to the *Installation under UNIX* topic in the documentation for a list of supported ODBC driver managers that this is compatible with.

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-4530 Compiler return code incorrect when --netdll or --netexe fails

Incidents: 3141086

RPI Number: 1112748

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: Windows

Known Versions Affected: All with .NET support

DESCRIPTION:

When the compiler tries to invoke `ilasm.exe` or `al.exe` to finish building a .NET DLL or EXE, and one of those executables fails (or cannot be invoked), the compiler now returns the correct error code to the command prompt.

ECN-4531 C$PARSEXFD MAV with 64-bit runtime

Incidents: 3142741

RPI Number: 1112927

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: 64-bit various

Known Versions Affected: All

DESCRIPTION:

Calling C$PARSEXFD to retrieve information after parsing the XFD no longer causes a memory access violation in the 64-bit run time.

ECN-4533 Default list of UNIX libraries used in the Java COBOL runtime interface

Incidents: 3136755

RPI Number: 1112354

Product: ACUCOBOL-GT

Module: CVM.jar

Machines Affected: all UNIX

Known Versions Affected: all

DESCRIPTION:

On UNIX platforms, the list of default libraries used with the Java interface to the COBOL runtime has been updated.

The old values: `libacme, libacuterm, libvision, libclnt, libaxml, libruncbl`.

Have been replaced by: `acme, acuterm, vision, aclnt, axml, runcbl`.

When calling COBOL from a Java command line, use the `--libs` option to specify the correct library names. To specify their 64-bit equivalents, when using a 64-bit port, use: `acme64, acuterm64, vision64, aclnt64, axml64, runcbl64`.

ECN-4534 Using C$XML to add a child or sibling with an empty value fails

Incidents: 3131072

RPI Number: 1111986

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When creating an element using C$XML, you can include a value to which to set the element. If the value is all spaces or all low-values, prior versions would create the element with no value. Version 10.1.0 and later would fail to create the element. This is now working correctly.

ECN-4535 C$OPENSAVEBOX opens wrong folder when using BROWSE-FOLDER

Incidents: 3138263

RPI Number: 1112612

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When extend started using a different (standard) Microsoft dialog for C$OPENSAVEBOX when using the OPENSAVE-BROWSE-FOLDER flag, if the starting folder name did not include a trailing backslash (\), then the dialog box started in the folder above the one specified. To open the dialog box at the intended folder, you needed to include a trailing backslash. In this version, if a trailing backslash is not found, it is appended to the folder name automatically.

ECN-4536 Locating the runtime license when calling COBOL from Java

Incidents: 3136755

RPI Number: 1112891

Product: ACUCOBOL-GT

Module: CVM.jar

Machines Affected: all UNIX

Known Versions Affected: all

DESCRIPTION:

On UNIX platforms, when attempting to call COBOL from Java, using the Java COBOL runtime interface, the COBOL runtime was not invoked correctly. This was due to the incorrect setting of the value used to locate the runtime license file. A fallback value of `$ACUCOBOL/etc/license.acu` is used in such circumstances, but this is not ideal. Instead, you should use the `--acugt` setting, as detailed in the help topic `Calling COBOL from a Java Command Line`.

From a Java command line, set `--acugt` to the `lib` directory of the installation of ACUCOBOL-GT you want to use. This locates the runtime, and the interface will also locate the required license file by appending `/bin` to the base installation directory specified in `--acugt`.

For example, if you set: `--acugt /usr/acu/10-2-1/lib`, the license file located at `/usr/acu/10-2-1/bin/runcbl.acu` is used.

ECN-4537 Certain Unicode characters causing ACCEPT statement to terminate

Incidents: 3133181

RPI Number: 1112013

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

Unicode characters no longer cause an ACCEPT to terminate incorrectly. Previously, certain characters, due to their signed representation matching other internal codes for ACCEPT statement actions, caused the problem. For example, lower-case u umlaut (Unicode character 252), when translated from a byte to a signed short, became the internal value for EVENT, causing the ACCEPT to act as if an event occurred.

ECN-4538 COMPUTE ROUNDED produces incorrect result with binary math package

RPI Number: 617706

Product: ACUCOBOL-GT

Module: compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

In cases where the destination item can store more post-decimal digits than needed, a COMPUTE ROUNDED statement no longer produces incorrect code when using the binary math package (`--bin` option). Previously, the compiler could choose to hold an intermediate result in 32-bits when 64-bits might be needed.

Note: ROUNDED never has a practical benefit in this case, since there is nothing to round when the destination has more precision than the result being stored.

ECN-4539 Run time with no_stop in effect not shutting down properly

RPI Number: 632240

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all

Known Versions Affected: all

DESCRIPTION:

Run time systems that are started with the no_stop option now shut down properly if a COBOL program issued a STOP RUN command before the actual run time shuts down.

ECN-4541 Debugger script playback not working

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

Debugger script playback is now working as expected. Previously, certain ways of running debugger scripts (such as the `R script` command-line option) could produce mysterious errors instead of properly running the script.

ECN-4542 Memory access violations whilst processing ACCEPT statements within a Screen section

RPI Number: 1112881

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

The runtime no longer produces a memory access violation while processing a Screen Section ACCEPT statement. Previously, a memory access violation could occur while processing an ACCEPT under complex circumstances involving multiple threads and complex BEFORE PROCEDUREs. This could only occur if a BEFORE PROCEDURE caused a thread switch (by, for example, doing an embedded ACCEPT itself).

ECN-4543 Memory leak when using .NET assemblies

Incidents: 3136776

RPI Number: 1113179

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When using .NET controls, the memory allocated to load the assembly now frees correctly. Previously, it would not, causing a memory leak.

ECN-4544 vutil -info output buffering for variable length record files

Incidents: 3145780

RPI Number: 1113160

Product: ACUCOBOL-GT

Module: vutil

Machines Affected: Windows

Known Versions Affected: all

DESCRIPTION:

For files with variable length records, the output of `vutil -info` no longer appears out of place when output is redirected to a file.

ECN-4545 Sporadic errors with file operations on mapped drives

Incidents: 3147357

RPI Number: 1113289

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

In order to limit the number of sporadic errors when opening or deleting files on a network drive, a number of configuration variables have been introduced - in most cases, their defaults should be sufficient to limit the errors. The increase in errors seemed to have occurred since a Windows update (KB4056894 - Jan 2018), and seemed restricted to heavily-used mapped drive files.

The configuration variables are:

MAPPED-RETRY-DEL-COUNT

> Determines the number of times that the runtime will attempt to delete a file on a mapped drive before returning an error. The default is 5.

MAPPED-RETRY-OPEN-COUNT

> Determines the number of times that the runtime will attempt to open a file on a mapped drive before returning an error. The default is 5.

MAPPED-SLEEP-MILLSEC

> Determines the number of milliseconds that the runtime will sleep after a failed delete or open operation, if it needs to retry the attempt. The default is 50.

ECN-4546 Flow-of-control issue with multiple threads

RPI Number: 1113270

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

Under complex circumstances, it was possible for the runtime to transfer control to just after an event procedure's return point, which would cause the flow of control to 'fall through' following paragraphs unexpectedly. This has been corrected; however, if your programs rely on the previously incorrect behavior, you can use configuration variable **ECN-4546**, set to **off**, to revert to the previous behavior.

The precise conditions that caused the problem are unclear. The presenting program would trigger nested event procedures while destroying and creating and then sleeping threads from inside the nested events. This flaw has existed in all prior versions of the runtime, so if you have not experienced it, it is highly likely that your programs do not create the problem case.

ECN-4547 Side effects when DISPLAY INITIAL WINDOW fails

RPI Number: 1111958

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: 9.0+

DESCRIPTION:

If a DISPLAY WINDOW statement fails, there should be no odd side-effects on the last referenced control or window - for example, a Tab control changing color.

Note: The only programmatic way for DISPLAY WINDOW to fail is if you attempt to create an INITIAL window after one already exists.

ECN-4548 Sporadic incorrect print output

Incidents: 3128392

RPI Number: 1111748

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All Windows

Known Versions Affected: 10.1.0 through 10.2.0

DESCRIPTION:

When writing output to a printer, you no longer receive incorrect results in the printout. Previously, you may have received incorrect characters on the printout when a Windows event is triggered: for example, when clicking in a scroll box during printing.

ECN-4549 SORT memory error when sorting many variable length records

Incidents: 3152594

RPI Number: 1113762

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all

Known Versions Affected: 10.0.0+

DESCRIPTION:

A SORT operation of variable length records that requires more than one merge pass through the sorted regions now behaves as expected. Previously, it would incorrectly omit the size of the record length header on the record offsets of the records in the spool file. When the second pass started, it would read a record length header at an incorrect offset, which would most likely cause a crash.

ECN-4550 Float conversion fails

Product: ACUCOBOL-GT

Module: runcbl

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

Float conversion is now working as expected. Previously, when a negative number was used in a statement, and immediately after a floating point number is used in a calculation, the result of the calculation would be negative.

ECN-4551 BITMAP-SCALE not working in Screen Section

RPI Number: 1113818, 1112693

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows & thin client

Known Versions Affected: All (thin client), 10.2.0 (Windows)

DESCRIPTION:

The BITMAP property BITMAP-SCALE now functions correctly to create a scalable bitmap. Previously, for all prior versions of the thin client and version 10.2.0 (only) for the stand-alone Windows runtime, this did not function correctly. This fix replaces the fix implemented as part of ECN-4527, which attempted to fix this problem for the thin client but ended up being faulty.

ECN-4553 Unable to relink Windows runtime

Incidents: 3154059

RPI Number: 1113879

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.2.0

DESCRIPTION:

When attempting to relink the Windows runtime (as detailed in Linking on Windows Systems), you no longer receive an error concerning unresolved externals.

ECN-4554 Terminal I/O not working with unlimited user runtime license

Incidents: 3152455, 3153528

RPI Number: 1113837, 1113750

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all UNIX

Known Versions Affected: 10.2.0

DESCRIPTION:

Terminal input and output is now working as expected in the runtime when an unlimited user license is used.

ECN-4555 Incorrect behavior with grid sort indicator

Incidents: 3153384

RPI Number: 1113832

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When a grid column is sortable, clicking the column header to sort it now behaves as expected. Previously, when you clicked the column, the data in the column would move by the amount of space needed for the sort indicator, even though the sort indicator is only in the header column.

ECN-4556 Grid sort indicator not consistent with usage in other Windows applications

Incidents: 3127287

RPI Number: 1111412

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

The grid sort indicator arrow now points up when showing data in ascending order, and points down when showing data in descending order, which is in-keeping with most other Windows applications.

ECN-4557 Parsing an XML file appends low-value bytes

Incidents: 3154755

RPI Number: 1113947

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When obtaining a value from an XML file (either element name of value, attribute name, or value), and the receiving field is only one byte longer than the text retrieved, then an extra low-value byte is no longer appended to the end of the receiving field.

ECN-4558 Reading empty TCP/IP socket using C $SOCKET causes runtime to hang

Incidents: 3152329

RPI Number: 1113754

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.2.0

DESCRIPTION:

When running a program containing C$SOCKET, the runtime no longer hangs.

ECN-4559 C$JAVA CJAVA-CALL second Object parameter not handled properly

Incidents: 3154280

RPI Number: 1113907

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all

Known Versions Affected: 8.0.0 onwards

DESCRIPTION:

Using CJAVA-CALL on a Java method with more than one Object parameter no longer results in the parameters after the first being treated as if they were the first. Each parameter is now handled properly.

ECN-4561 Runtime parameters not passed when calling COBOL from the Java command line

Incidents: 3143120

RPI Number: 1112973

Product: ACUCOBOL-GT

Module: CVM.jar

Machines Affected: all

Known Versions Affected: all

DESCRIPTION:

When calling COBOL from Java on the command line, parameters after the COBOL program name are now correctly passed to the program. However, in order for this to be successful, the CVM invokes the indicated COBOL program as a sub program, rather than a main program. This means that to use the passed parameters, the COBOL program must use the USING phrase with linkage items (not the CHAINING phrase) to access the passed parameters.

ECN-4563 Remote compilation fails to copy object file

Incidents: 3154412

RPI Number: 1113917

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

DESCRIPTION:

When using `acurfap` syntax to specify a remote object file, the compiler no longer fails to copy the file to the remote machine.

ECN-4564 Memory leak when using C$DELETE

Incidents: 3157361

RPI Number: 1114170

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All Windows

Known Versions Affected: 10.1.0 and above

DESCRIPTION:

A memory leak when using C$DELETE has been fixed. Previously, the memory leak would only become evident after a large number (hundreds of thousands) of files were opened.

ECN-4566 wrunnet truncates strings at low-value bytes

Incidents: 3160836

RPI Number: 1114491

Product: ACUCOBOL-GT

Module: wrunnet.dll

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

DESCRIPTION:

When calling a COBOL program from a .NET assembly, and passing a String parameter, `wrunnet` no longer truncates the returned string at the first low-value byte.

ECN-4568 64-bit wrunnet.dll not installed

Incidents: 3160836

RPI Number: 1114492

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: 64-bit Windows

Known Versions Affected: All

DESCRIPTION:

The 64-bit version of `wrunnet.dll`, which is used for extend's .NET interface assembly, is now installed with the 64-bit runtime on Windows.

Previously, the 64-bit installer was including a 32-bit version of `wrunnet.dll` instead, and if you tried to run a .NET assembly in the 64-bit environment, you might receive the following error: `System.BadImageFormatException: An attempt was made to load a program with an incorrect format.`

ECN-4569 Thin client fails to start

Incidents: 3148414, 3121640

RPI Number: 1113460, 1110947

Product: ACUCOBOL-GT

Module: Thin Client

Machines Affected: Windows only

Known Versions Affected: 10.1.1 and later

DESCRIPTION:

The thin client connections to a remote server are now more reliable. Previously, a number of failed connections were occurring, particularly immediately after a server reboot.

ECN-4570 Output string length on Windows

Incidents: 3159473

RPI Number: 1114395

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

The positioning of controls/text when using relative positioning with OEM data is now as expected.

ECN-4571 Incorrect window size when resizing

Incidents: 3137534

RPI Number: 1113724

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows

Known Versions Affected: 10.1.1 and later

DESCRIPTION:

Resizing a resizable window now behaves as expected. Previously, the window was ending up slightly larger than expected.

ECN-4572 Accessing a .NET field results in bounds check error

Incidents: 3164250

RPI Number: 1114740

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When accessing a field to retrieve its value, you no longer receive an exception. Previously, the `CLRControlModule` would access an array beyond its bounds, resulting in an exception unrelated to the COBOL program.

ECN-4573 WINPRINT-GET-SETTINGS returning double-byte characters

Incidents: 3110479

RPI Number: 1109967

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

The information returned in the buffer when you call WINPRINT-GET-SETTINGS is now translated correctly. Previously, the buffer contained double-byte characters within the Driver, Device, Output, and Form Name fields, and were not being translated into the current COBOL character set when the information was returned.

> **Note:** These fields are derived from the (Microsoft) DEVNAMES and DEVMODE structures, with the latter structure also containing space for vendor-specific information. This information is not translated automatically, as ACUCOBOL-GT cannot ascertain what this area will contain. If you need to process this information, you need to perform the character translation yourself.

ECN-4574 Dialog box to manually select a printer not displayed

Incidents: 3123136

RPI Number: 1111219

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When attempting to print to a printer that does not exist, a dialog box is now displayed to enable you to select a valid printer. Previously, no dialog box would display.

ECN-4575 WINPRINT-GET-CURRENT-INFO-EX fails to return info for default printer

Incidents: 3132563

RPI Number: 1111968

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When using the operation code WINPRINT-GET-CURRENT-INFO-EX to retrieve information about the default printer, all of the printer values are now returned correctly.

ECN-4576 ACCEPT BEFORE TIME syntax very slow through thin client

Incidents: 3166109

RPI Number: 1114966

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

A performance issue has been resolved when a COBOL program executes the `ACCEPT var BEFORE TIME 0` syntax when running through thin client. However, should you find that the syntax now behaves differently, you can switch off the resolution by setting the configuration variable `ECN-4576 OFF`.

ECN-4578 Browser control returns blank title under thin-client and AcuToWeb

RPI Number: 1114758

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When using AcuToWeb or the thin client, inquiring the TITLE of a Web Browser control now returns the correct value.

ECN-4579 Signal handler problems when Java calling ACUCOBOL-GT

Incidents: 3161410

RPI Number: 1114509

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: all UNIX

Known Versions Affected: all

DESCRIPTION:

The ACUCOBOL-GT and Java runtimes both use signals for their own purposes. When calling ACUCOBOL-GT from Java, the ACUCOBOL-GT signal handlers were being installed without restoring the Java signal handlers when returning to Java. This can now been corrected with the use of the A_PRESERVE_SIGNAL_HANDLERS configuration variable.

The default setting for this variable (NONE) will not correct the problem above, but if you set A_PRESERVE_SIGNAL_HANDLERS to ALL the ACUCOBOL-GT runtime, when called from Java, will save all the Java signal handlers before installing its own signal handlers, and the Java signal handlers will be restored before returning to Java.

ECN-4580 Memory leak when printing

Product: ACUCOBOL-GT

Module: Runtime

New Version: 10.2.1

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

A memory leak has been fixed, where the runtime was allocating memory when generating a list of printers but then not freeing it, has been fixed.

ECN-4581 Parsing XML files returns incorrect results when values start with spaces

Incidents: 3165877

RPI Number: 1115088

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When reading an XML file (using C$XML or AcuXML), bad data is no longer returned when values contain leading spaces.

ECN-4582 Unknown XML encoding causes XML data to be written incorrectly

Incidents: 3161067

RPI Number: 1114473

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When you attempt to write out XML data in an XML encoding that ACUCOBOL-GT does not understand, ACUCOBOL-GT attempts to handle that data as a single-byte character set, which should stop garbage being written to the XML file.

ECN-4583 XML translation of data using encoding of ISO-8859-1

Incidents: 3159232

RPI Number: 1114387

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: UNIX

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

You can now correctly read an XML file using an ISO-8859-1 encoding without having to ensure that the COBOL-CHARACTER-SET variable is set to ISO-8859-1 first.

ECN-4584 Timeout value not honored in C$SOCKET

Incidents: 3152329

RPI Number: 1114018

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: Unknown

DESCRIPTION:

The `timeout` parameter of C$SOCKET READ now works as expected.

ECN-4585 Potential behavior change when using the Tree View control in Character Mode programs

Incidents: 3153292

RPI Number: 1113883

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: all

Known Versions Affected: all since 7.0

DESCRIPTION:

A previous change (ECN-2921) changed the behavior of the tree view control in character mode programs, to behave more like the Windows Tree-View control with respect to messages; this change became effective starting with objects compiled in extend version 7.0. The change had a side effect of a MSG-TV-SELCHANGE message being sent during the first MODIFY of the control as it was being fully initialized. This message was not sent to the Windows control, which is a behavior difference that could cause unexpected behavior in programs with certain message handlers for this message type.

A change in this release (ECN-4585) prevents this message from being sent, in order to match the Windows behavior. If your programs rely on the previous behavior, then set configuration variable ECN_4585 to OFF to revert to behavior described above.

ECN-4586 Registration failure of the ACUCOBOL-GT COM Server

Incidents: 3172353

RPI Number: 1115440

Product: ACUCOBOL-GT

Module: acugt.exe

Machines Affected: Windows only

DESCRIPTION:

When using an IDE that allows the use of COM objects (such as Visual Studio), you can now successfully register the ACUCOBOL-GT Type Library (`acugt.exe`) in order to provide an interface between the ACUCOBOL-GT runtime and programs running outside the runtime. Previously, the COM interface would fail with an error similar to (depending on the IDE) `Fail to load the 'ACUCOBOL-GT Type Library' - no typelib found.`

Acu4GL ECN List

This section includes the ECNs relating to Acu4GL:

ECN-GL564 Catalog and schema truncation problems

Product: Acu4GL

Module: ODBC

Machines Affected: All

Known Versions Affected: 10.2.0

DESCRIPTION:

When an ODBC data source uses a catalog or schema, the values are no longer incorrectly truncated.

ECN-GL565 Incorrect NCHAR and NVARCHAR data on UNIX client

Incidents: 3155954

RPI Number: 1114079

Product: Acu4GL

Module: MSSQL

Machines Affected: UNIX

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When using a UNIX client, data is now written and or read from an NCHAR or NVARCHAR column correctly.

ECN-GL566 NULL values are not correctly returned

Incidents: 3166143

RPI Number: 1114903

Product: Acu4GL

Module: MSSQL

Machines Affected: All

Known Versions Affected: 10.2.0 and later

DESCRIPTION:

When a column has a value of NULL, the interface now correctly updates the data in the record location. Previously, it did not, resulting in stale data in the COBOL record.

ECN-GL567 XFD WHEN condition not being interpreted correctly

RPI Number: 633611

Product: Acu4GL

Module: All

Machines Affected: All

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

A WHEN condition added to an XFD directive is now interpreted correctly at run time when its value is surrounded by quotation marks.

AcuBench ECN List

This section includes the ECNs relating to AcuBench:

ECN-WB677 AcuBench crash when clicking the Tools menu

Incidents: 3151984

RPI Number: 1113718

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.2.0

DESCRIPTION:

AcuBench no longer crashes when you click the **Tools** menu when there are no 64-bit products installed.

ECN-WB678 AcuBench command line interface crashing

Incidents: 3114078

RPI Number: 1110209

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

DESCRIPTION:

When using the AcuBench command-line interface (`/build projectname`), AcuBench no longer crashes on exit. Additionally, AcuBench no longer hangs if a built object is not in the list of object files for the project. (The new objects are not added to the project file.)

Also, the compiler no longer crashes when building some COBOL programs if the COPYPATH is too large (> 2048 bytes).

ECN-WB679 Print Preview window opens behind the browser window

Incidents: 3156557

RPI Number: 1114110, 1114111

Product: AcuBench

Module: AcuBenchPrint.dll

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

The AcuBench Print Preview window now displays in front of the web browser when using AcuToWeb.

ECN-WB680 Keyboard shortcuts not working

Incidents: 3114021, 3151054, 2872925

RPI Number: 1106371, 1113640, 1110213

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

DESCRIPTION:

The following issues with keyboard shortcuts in AcuBench have been resolved:

- Unable to change the shortcuts for Comment Block or Uncomment Block in the Main category.
- Pasting code when using bookmarks provided spurious results.
- When the cursor was beyond the end of the line (in virtual space), pressing the keystroke for Word Left or Word Right had no effect.
- Column selections using the keyboard did not work. These are normally assigned to SHIFT-ALT-<arrow, page keys>. These can now be assigned from **Tools** > **Options** > **Environment** > **Keyboard**.
- Changing documents (CTRL-TAB) did not work.
- Cutting text (CTRL-X) would leave the cursor on the current line number, rather than the original line.
- Open Copy File (from the event editor) did not work.
- Commenting or uncommenting large blocks of text would take a long time, displaying each change as it happened.

ECN-WB681 Bitmap and font destroy paragraphs missing

Incidents: 3155445

RPI Number: 1114014

Product: AcuBench

Module: AcuBench.bin

Machines Affected: Windows

Known Versions Affected: 10.1.1 and later

DESCRIPTION:

A change in the way that the font and bitmap destroy paragraphs are generated has been introduced; this is to correct behavior introduced by ECN-WB940, which was causing some users problems.

ECN-WB682 Comment block fails when file contains TAB characters

Incidents: 3151640

RPI Number: 1113957

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

DESCRIPTION

When a file contains TAB characters before the indicator column (normally column 6 in ANSI mode), then the command to comment a block of text no longer fails. Previously, it would and insert asterisk characters in the wrong place.

ECN-WB683 Issues with the Modify Code option

Incidents: 3116060

RPI Number: 1110401

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

DESCRIPTION:

The following behaviors have been fixed when the Modify Code feature is in effect:

- When pasting lines of text, the modify code would only be inserted on the last line of text.
- When typing, every keystroke updated the ID area with the modify code, which could sometimes cause the modify code to become corrupt.

ECN-WB684 OEM/ANSI translation causes file to display incorrectly

Incidents: 3164224

RPI Number: 1114730

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.0.0 and later

DESCRIPTION:

When the **Translate to Ansi/OEM** option is selected (**Tools** > **Options** > **Environment** > **General**), saving a file no longer causes future edits to that file to be incorrect.

ECN-WB685 ActiveX component issues

Incidents: 3165212

RPI Number: 1114814

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.2.0 and later

DESCRIPTION:

Thefollowing issues relating to the ActiveX Component Toolbox have been resolved:

- The ActiveX icon for the control was not used.
- The ActiveX controls were not saved between invocations of AcuBench.

ECN-WB686 Blank first page when previewing reports more than once

Incidents: 3167199

RPI Number: 1114980

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

When generating a report with page headers, a blank page is no longer included in the print preview when the preview is generated multiple times.

ECN-WB687 Data Columns issue when DECIMAL POINT IS COMMA in effect

RPI Number: 635839

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When DECIMAL POINT IS COMMA is in effect, all PICTURE strings are now correctly sized. Previously, some were not, which was causing problems particularly for DATA-COLUMNS values.

AcuServer ECN List

This section includes the ECNs relating to AcuServer:

ECN-AC101 Spurious -d added to service command line

Incidents: 3152419

RPI Number: 633986

Product: AcuConnect

Module: AcuRCL

Machines Affected: Windows

Known Versions Affected: 10.2.0

DESCRIPTION:

When creating a new service, an extra `-d` (which is actually an invalid option) no longer appears in the command line. Previously, this would happen due to uninitialized internal memory, and would not always occur.

ECN-AS165 C$COPY fails

Incidents: 3161429

RPI Number: 1114611

Product: AcuServer

Module: acuserve

Machines Affected: All

Known Versions Affected: 10.x.x

DESCRIPTION:

C$COPY no longer fails when copying a file that is on a server to another name on the same server. Previously, it reported a status of 1 and the file was not copied.

AcuSQL ECN List

This section includes the ECNs relating to AcuSQL:

ECN-SQL157 Configuration variables not read from the environment

Incidents: 3130038

RPI Number: 630827

Product: AcuSQL

Module: aswlsrvr.dll, esqllib.dll

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

All configuration variables set in the environment are now correctly picked up. Previously, some configuration variables we not correctly read. These included all of the configuration variables for `esqllib.dll`, and the read-only variables for `asqlsrvr.dll` (e.g. ASQL-ODBC-DRIVER-NAME).

ECN-SQL158 AcuSQL fails on 64-bit machines

RPI Number: 1113282

Product: AcuSQL

Module: AcuSQL runtime

Machines Affected: All 64-bit UNIX

Known Versions Affected: All

DESCRIPTION:

The runtime now correctly treats the length type SQLLEN as a 64-bit type, on 64-bit UNIX machines. Previously, the runtime treated this as a 32-bit type, which causes problems for some drivers.

ECN-SQL159 Samples fail on UNIX machines that use shared libraries

Incidents: 3147286

RPI Number: 1113298

Product: AcuSQL

Module: dynodbc

Machines Affected: UNIX Shared library

Known Versions Affected: 10.2.0

DESCRIPTION:

Version 10.2.0 removed the requirement of relinking the runtime when using AcuSQL - the runtime library is now built as a shared object which can be dynamically loaded by the runtime. However, there was a small error in the implementation when calling an ODBC function in this environment, which caused many samples (and possibly user programs) to fail. This has now been rectified.

AcuToWeb ECN List

This section includes the ECNs relating to AcuToWeb:

ECN-AW098 Numeric entry field behavior incorrect in Firefox

RPI: 1112949

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

An entry field with the numeric property now correctly handles the Delete and Backspace keys properly.

ECN-AW099 Flat property not displaying correctly

RPI: 631822

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

On non-Windows systems, the Flat style now displays correctly on Push buttons and other button controls.

ECN-AW100 The Date graphical control not displaying correctly in Chrome

RPI: 632100, 632103

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When using the Date graphical control in Chrome, the following issues have been fixed:

* The size of the field is not long enough for the text date.
* The control continues to be displayed after the application has been closed.

ECN-AW101 Generating SSL-compliant connections

Incidents: 3148109

RPI Number: 1113377

Product: AcuToWeb

Module: srvmgmt.dll

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When SSL is enabled and configured correctly, the **URL gen...** button on the AcuToWeb gateway generates an https (and not an http) URL.

ECN-AW102 Configuring an SSL connection

Incidents: 3148109

RPI Number: 1113376

Product: AcuToWeb

Module: srvmgmt.dll

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

You are now able to use the AcuToWeb Control Panel to correctly configure a connection that uses SSL. Previously, the incorrect variable name was used when declaring the SSL Certificate filename.

ECN-AW103 Log file improvements

RPI: 633479

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The log now shows a message of `Connection Finished!` when you close your application correctly, without errors. The log also shows `Connection Lost!` when you close the application prematurely (for example, by closing the browser or by moving to a new tab in the browser).

ECN-AW104 Content included in gateway log trace level 0

RPI: 633464

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When the log level is set to 0 (zero), image information is (correctly) no longer recorded in the log file.

ECN-AW105 Grid display issues

RPIs: 1113477 1113534,1113940,1114442,1114440,1114402, 1114676, 1115131, 1114801, 1114921, 1115119, 1115266, 1115238, 1115256

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The following issues have been rectified when using the Grid control through AcuToWeb:

• The Last row in a grid displayed blue.

- Hidden columns were still visible in the grid.
- Inconsistencies in the grid display when viewed in the runtime or AcuToWeb using Chrome, Firefox, or Edge.
- Searching a grid displays differently (to the same search through the normal runtime).
- Grid cells are not the same size as they were in the previous version.
- The screen could hang when populating the top of the grid.
- In some circumstances, lower rows or right-most columns of the grid were not displaying.
- The horizontal scroll bar displaying unnecessarily at times, and at other times, not displaying when necessary.
- The value of the DRAG_COLOR property is being used to fill cells.
- The first record not displaying in the grid.

ECN-AW106 Bitmap loading performance

RPI: 1113601

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: AIX-only

Known Versions Affected: 10.2.0

DESCRIPTION:

Bitmaps now take no longer to load than they did in earlier versions of AcuToWeb. This performance is controlled by a variable in AcuToWeb (ATW_000001), which is on by default on AIX platforms (but off on all other platforms).

ECN-AW107 'Number required' error in numeric field

RPI Number: 1112949

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When using Firefox, pressing Backspace in a numeric field no longer displays a 'Number required' error.

ECN-AW108 AcuBench Print Preview window not displaying correctly

RPI: 1114110 1114111

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The AcuBench Print Preview window now displays as expected. Previously, it would display too small and behind the browser window.

ECN-AW109 Duplicate data caused by NTF-CHANGED control event

RPI: 1114132

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

A NTF-CHANGED control event no longer sends duplicate data to the screen when running through AcuToWeb.

ECN-AW110 Issues with DATE-ENTRY controls

RPI Numbers: 1114158, 1112640

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The following issues have been resolved when using the DATE-ENTRY control through AcuToWeb:

- The first day of the week is incorrect when running through AcuToWeb: it shows as Sunday with AcuToWeb, but Monday when using the normal runtime or acuthin.
- Using the DISPLAY-FORMAT control to change the format of the date causes the box to change size.

ECN-AW111 The UPPER style not working for ENTRY-FIELD controls on Android

RPI: 1114120

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The UPPER style now works correctly on an ENTRY-FIELD control run through AcuToWeb on an Android device.

ECN-AW112 Trailing spaces contain incorrect Hexadecimal value

RPI: 1114177

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

Trailing spaces now contain the correct Hexadecimal value when running through AcuToWeb.

ECN-AW114 Check boxes displayed differently to previous versions

RPI: 1114431

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

Check box text is now displaying correctly; in version 10.2.0, some truncation was evident.

ECN-AW115 Controls not displaying under Norwegian language setting

RPI: 1114424

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When the browser language is set to Norwegian, controls are now displayed as expected.

ECN-AW116 Difference in control sizes between Edge and Chrome

RPI: 1114460

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION

When using the Edge browser, controls are no longer displayed narrower than they are when displayed using the Chrome browser.

ECN-AW117 3-D style not displaying for combo-boxes

RPI: 1114481

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

Combo-boxes now display the 3-D style correctly.

ECN-AW118 AcuToWeb Desktop not closing on browser refresh

RPI: 1114312

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When refreshing the browser, the currently-open AcuToWeb desktop now auto-closes. Previously, when refreshing the browser, multiple copies were still visible, even though they were no longer connected to a session.

ECN-AW119 Cannot resize a screen to make it larger

RPI: 634988

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When using a resizable screen, you can now increase the size of the screen.

ECN-AW120 Radio button not in focus

RPI: 1114562

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

A RADIO-BUTTON control set as 'active' is now in focus when the screen is initially loaded.

ECN-AW121 Screens not centered after using the browser Zoom function

RPI: 1114564

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

After the browser's Zoom feature has been used, subsequent screens are now correctly centered.

ECN-AW122 Navigational and display problems for multi-line entry-field controls

RPI: 1114609

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

Multi-line entry-field controls now display the same number of lines as when run through the normal runtime or thin client. Also, arrow keys can now be used to correctly navigate inside the control.

ECN-AW123 Screen truncation problems

RPI: 1114622, 1115132, 1115252

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When a screen is maximized and it is larger than the browser window, scroll bars are now added to allow you to scroll to view the entire screen. Also, right-justified numerics are no longer truncated.

ECN-AW124 URL handling problems using the WEB-BROWSER control

RPI: 1114620 1115013

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The following issues have been rectified when using the WEB-BROWSER control through AcuToWeb:

- The control was requiring that each URL began with `http://`.
- Setting the control's value to `mailto:test@email.com` causes a new tab to be opened in Chrome.

ECN-AW125 Browse for Printer dialog box not in focus

RPI: 1114832, 1115421

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When using the **Browse for Printer** or **Folder** dialog boxes, the dialog box no longer opens in the background, or requires that you click the **AcuToWebDesktop** icon in the taskbar to bring it to the foreground.

ECN-AW126 Appearance of certain controls inconsistent compared to thin client

RPI: 1114759, 1114760, 1114761

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

In IE and Chrome, the frame, push-button (with a bitmap), and tab controls are now displaying as they do when displayed using Thin Client.

ECN-AW128 Cannot select an item in tree view by using the numeric keys

RPI: 1115250

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

When running through AcuToWeb, using the number keys on your keyboard to select a particular option in a tree now works as expected.

ECN-AW129 Keyboard handling problems

RPI: 1115254, 1115286, 1115362

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The following issues have been resolved:

* The Left and Right cursor keys are acting as Up and Down cursor keys.
* Ctrl + C and Ctrl + V are not working for copying and pasting.
* The PageUp and PageDown keys are not working.

ECN-AW130 Entry-Field control positioning is not consistent

RPI: 1115255, 1115353, 1115625

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The following issues with entry-field controls have been resolved:

- When running the same program for a second time, the entry-field controls are not displayed in the correct position.
- The STRING and UNSTRING statements causes data loss or duplication.
- Character mode screens crash when interacting with a protected field.

ECN-AW131 Screen and control text colors incorrect

RPI: 1115548

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The graphical screens, controls within those screens, and the text within those controls, are now colored correctly.

ECN-AW132 The INQUIRE LIST-1, ITEM-1 statement returns a blank record

RPI: 1115574

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: all

DESCRIPTION:

The `INQUIRE LIST-1, ITEM-VALUE` statement no longer returns a blank record when running through AcuToWeb.

AcuXDBC ECN List

This section includes the ECNs relating to AcuXDBC:

ECN-XD115 Memory access errors

RPI: 1113480

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: all

DESCRIPTION:

A memory access violation no longer occurs when connecting to Vision data using an ODBC driver, and it attempts to process data (specifically, trailing spaces) generated by an entry-field AUTOFILL property.

ECN-XD116 Handling of quotation marks in xdbcutil

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: all

DESCRIPTION:

The `xdbcutil` utility now checks for enclosing quotation marks (") and removes them before storing condition data in GENESIS_CONDITIONS.

ECN-XD117 AUTOFILL data handling

RPI: 1114036

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: all

DESCRIPTION:

When generating a vision file from the AUTOFILL property of an Entry-Field and using Excel and AcuXDBC, extra data is no longer shown. AcuXDBC now looks for both blank and nulls when determining the actual length of the fetched data.

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 *https://www.microfocus.com* in your browser to go to the Micro Focus home page, then click **Support & Services** > **Support** > **Support Resources** > **All Support Resources by Product**. In the **Browse by Product** field, click the product you require, and then click **Log into SupportLine**.

Note: Some information may be available only to customers who have maintenance agreements.

If you obtained this product directly from Micro Focus, contact us as described on the Micro Focus Web site, *www.microfocus.com*. If you obtained the product from another source, such as an authorized distributor, contact them for help first. If they are unable to help, contact us.

Also, visit:

- The Micro Focus Community Web site, where you can browse the Knowledge Base, read articles and blogs, find demonstration programs and examples, and discuss this product with other users and Micro Focus specialists.
- The Micro Focus YouTube channel for videos related to your product.

Information Needed by Micro Focus SupportLine

When contacting Micro Focus SupportLine, please include the following information if possible. The more information you can give, the better Micro Focus SupportLine can help you.

- 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.

To find out these numbers, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus, or on the box in which the product was supplied, and on the red card supplied in the DVD case .

Copyright and Disclaimer