opentext™

extend Interoperability Suite 10.5.1

Release Notes

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2023-10-17

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extend Release Notes

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

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.

Attention: ECN-4789, provided in many 10.5.0 Hot Fixes (listed below), has been **removed** from 10.5.1. If you installed one of these Hot Fixes, and have programs that use the grid control and especially gird controls that use the grid registry-key property, the values within that registry key are incorrect.

extend Release	Hot Fixes
10.5.0	881938 894995 923229 898122 959314 953701 940610 940482 975780
10.5.0 Patch Update 1	987898 964083 975769 27701 27703 27786 27793 27824 27833 27903 28034 28126 28156

Explanation

One of the core behaviors of the Grid control and moving columns inside a grid is that the runtime tracks and manages the movement of the columns. For example:

1. Start with a grid that has column A (Col 1) and column B (Col 2).
2. Move column A to the right of B using `modify grid(1,2)`.

In this scenario, `modify grid(1,2)` modifies the cell directly below column A, which is the cell in position 2,2. Historically, this is the correct behavior, as the runtime is notified that the column has moved and then places the modify in the correct Col A column no matter where the column resides on the UI.

After updates provided for ECN-4789, the same scenario modifies the absolute cells, meaning that `modify grid(1,2)` cell-data always modifies cell (1,2) even though the column has moved. This affects the registry values.

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

All supported operating systems are both 32- and 64-bit unless otherwise noted.

		Micro Focus Product Release		
Operating System Base	**Processor**	**10.4.1**	**10.5.0**	**10.5.1**
AIX 6.x	PowerPC	☑	☑	
AIX 7.x	PowerPC[1]	☑	☑	☑
FreeBSD 9.x	x86-64[2]	☑		
HP/UX 11v3	Itanium-2[3]	☑	☑	☑
HP/UX 11v3	PA-RISC	☑		
Linux libc 2.5	x86-64	☑	☑	☑
Linux libc 2.5	PowerPC	☑	☑	
Solaris 10	SPARC[3]	☑	☑	
Solaris 11.3	SPARC	☑	☑	☑
Windows XP	x86-64[2]	☑		
Windows Server 2003	x86-64[2]	☑		
Windows 7	x86-64	☑	☑	☑

		Micro Focus Product Release		
Operating System Base	**Processor**	**10.4.1**	**10.5.0**	**10.5.1**
Windows 8.1	x86-64	☑	☑	☑
Windows 10	x86-64	☑	☑	☑
Windows 11	x86-64	☑	☑	☑
Windows Server 2008 R2 SP1	x86-64	☑	☑	☑
Windows Server 2012 R2	x86-64	☑	☑	☑
Windows Server 2016	x86-64	☑	☑	☑
Windows Server 2019	x86-64	☑	☑	☑
Windows Server 2022	x86-64		☑	☑

[1] For the AIX 7.1 platform, the minimum requirement is version 7.1 Technology Level 4 (7100-04)); for the AIX 7.2 platform, the minimum requirement is version 7.2 SP1.

[2] 32-bit only.

[3] Support for this platform ends after extend version10.5.1.

Supported Relational Database Management Systems (RDBMSs)

extend supports the base version and all incremental updates to that base version.

	Micro Focus extend Product Release				
RDBMS base	**9.x**	**10.0**	**10.3**	**10.4**	**10.5**
Oracle 11		☑	☑	☑	☑
Oracle 19			☑	☑	☑
Oracle 21c			☑	☑	☑
Microsoft SQL Server 2012	☑	☑	☑	☑	☑
Microsoft SQL Server 2016		☑	☑	☑	☑
Microsoft SQL Server 2019			☑	☑	☑
Microsoft SQL Server 2022					☑
IBM DB2 LUW 10		☑	☑	☑	☑
IBM DB2 LUW 10.5			☑	☑	☑

	Micro Focus extend Product Release				
RDBMS base	**9.x**	**10.0**	**10.3**	**10.4**	**10.5**
IBM DB2 LUW 11				☑	☑
Informix 12			☑	☑	☑
Informix 14				☑	☑

extend Web Help

extend Web Help is supported in most currently available browsers.

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
```

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

AcuToWeb:

gcc versions

AcuToWeb requires the following gcc versions or later on the following platforms:

Platform	Minimum requirement
Linux	GCC 4.8.0

Linux-based platforms

For Linux-based platforms, the following packages must be added:

Debian-based	libc6:i386 libstdc++6:i386 zlib1g:i386

RHEL/Centos-based	libstdc++.i686
	zlib.i686
	libgcc.i686
	glibc.i686
SUSE-based	libstdc++6-32bit
	libgcc_s1-32bit
	libz1-32bit

Supported browsers

The following browsers are supported for AcuToWeb 10.5.1:

Chrome version 104 or later
Edge version 104 or later
Firefox version 103 or later
Safari version 15 or later

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

Before Installing

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.
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- 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.

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All supported operating systems are both 32- and 64-bit unless otherwise noted.

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AIX 7.x	PowerPC[1]	☑	☑	☑
FreeBSD 9.x	x86-64[2]	☑		
HP/UX 11v3	Itanium-2[3]	☑	☑	☑
HP/UX 11v3	PA-RISC	☑		
Linux libc 2.5	x86-64	☑	☑	☑
Linux libc 2.5	PowerPC	☑	☑	
Solaris 10	SPARC[3]	☑	☑	

		Micro Focus Product Release		
Operating System Base	**Processor**	**10.4.1**	**10.5.0**	**10.5.1**
Solaris 11.3	SPARC	☑	☑	☑
Windows XP	x86-64[2]	☑		
Windows Server 2003	x86-64[2]	☑		
Windows 7	x86-64	☑	☑	☑
Windows 8.1	x86-64	☑	☑	☑
Windows 10	x86-64	☑	☑	☑
Windows 11	x86-64	☑	☑	☑
Windows Server 2008 R2 SP1	x86-64	☑	☑	☑
Windows Server 2012 R2	x86-64	☑	☑	☑
Windows Server 2016	x86-64	☑	☑	☑
Windows Server 2019	x86-64	☑	☑	☑
Windows Server 2022	x86-64		☑	☑

[1] For the AIX 7.1 platform, the minimum requirement is version 7.1 Technology Level 4 (7100-04)); for the AIX 7.2 platform, the minimum requirement is version 7.2 SP1.

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Supported Relational Database Management Systems (RDBMSs)

extend supports the base version and all incremental updates to that base version.

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Oracle 19			☑	☑	☑
Oracle 21c			☑	☑	☑
Microsoft SQL Server 2012	☑	☑	☑	☑	☑
Microsoft SQL Server 2016		☑	☑	☑	☑

	Micro Focus extend Product Release				
RDBMS base	**9.x**	**10.0**	**10.3**	**10.4**	**10.5**
Microsoft SQL Server 2019			☑	☑	☑
Microsoft SQL Server 2022					☑
IBM DB2 LUW 10		☑	☑	☑	☑
IBM DB2 LUW 10.5			☑	☑	☑
IBM DB2 LUW 11				☑	☑
Informix 12			☑	☑	☑
Informix 14				☑	☑

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Platform	Minimum requirement
Linux	GCC 4.8.0

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For Linux-based platforms, the following packages must be added:

Debian-based	libc6:i386
	libstdc++6:i386
	zlib1g:i386
RHEL/Centos-based	libstdc++.i686
	zlib.i686
	libgcc.i686
	glibc.i686
SUSE-based	libstdc++6-32bit
	libgcc_s1-32bit
	libz1-32bit

Supported browsers

The following browsers are supported for AcuToWeb 10.5.1:

Chrome version 104 or later
Edge version 104 or later
Firefox version 103 or later
Safari version 15 or later

AcuSQL:

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[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.

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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.

Downloading the Product

1. Log into the Software Licenses and Downloads (SLD) site at *https://sld.microfocus.com/mysoftware/download/downloadCenter*.
2. Select your account and click **Entitlements**.
3. Search for the product by using any of the available search parameters.
4. Click **Show all entitlements**.
5. Click **Get Software** in the Action column for the product you want to download or update.

   In the **File Type** column, you see entries for "Software" for any GA products, and "Patch" for any patch updates.
6. Click **Download** on the relevant row.

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 `wrun32.1lc`. 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.

Supported Windows Platforms

For a full list of the supported operating systems, see *extend System Requirements*.

Installation Steps - Windows

These are the steps to install this product:

1. From the directory where you downloaded the product, run the `.exe` file and follow the wizard instructions to install.

   Note: We suggest that you run the `.exe` as an administrator to ensure that you can configure components to start as Windows services where appropriate.
2. 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.
3. On the **Product Selection** page, select the required products, then click **Next**.

   Notes:

   - 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 might receive error messages indicating that no license file is available.)
   - To enable your Thin Client applications to use the WEB-BROWSER2 control type, check **ACUCOBOL-GT WEB-BROWSER2** to ensure installation of the WEB-BROWSER2 control files.
   - Select **Documentation** on this page to install and access the product user guides.
   - The 64-bit Windows installer provides an option to install the 32-bit or 64-bit AcuBench or both. If you select both, the AcuBench `.pjt` files are associated with the 32-bit AcuBench; otherwise the `.pjt` files are associated with the AcuBench you selected.
4. 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

Select	To
Start AcuToWeb[1]	Start AcuToWeb as a service

[1] Also starts AcuConnect automatically as it is required for AcuToWeb. Also, the 64-bit installer provides an option to start the 32-bit or 64-bit AcuToWeb service.

Notes:

- Starting AcuServer, AcuConnect, or AcuToWeb as a service only occurs if you have run the `.exe` installer with administrator privileges (see note above).
- If a previous version of any of these products 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 is to start - see *Notes on AcuConnect, AcuServer, and AcuToWeb Installation* for more details.

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

5. 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.

6. 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.

7. 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. Products search for license files in the following order:

1. The default directory, which is determined by the License Activator by examining the value of the ALLUSERSPROFILE system environment variable, and adding the version and platform information to that location. For example:

   ```
   C:\ProgramData\Micro Focus\extend\x.x.x\x64\wrun32.alc
   ```

   Where *x.x.x* is the product version number.
2. If the product cannot find the license file in the default location, it then looks in the directory containing the corresponding executable file; for example, the product searches for `wrun32.alc` in 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. This must be run from a command line prompt that has administrative privileges.

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.

Notes:

- 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. Arguments are also valid for containerization unless noted otherwise.

Argument name	Notes
Acu4GLDB2	
Acu4GLDB264	
Acu4GLMSSQL	
Acu4GLMSSQL64	
Acu4GLODBC	
Acu4GLODBC64	
Acu4GLOracle	
Acu4GLOracle64	
AcuBench	Not valid for containerization.
AcuConnect	
AcuConnect64	
AcuConnectDistributedProcessing	
AcuConnectThinClient	
AcuServer	
AcuServer64	
AcuSQLPrecompiler	
AcuSQLPrecompiler64	
AcuSQLRuntime	
AcuSQLRuntime64	
AcuToWeb	
AcuToWebDesktop	
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.

Argument name	Notes
AcuXDBCEnterpriseEdition64	
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	
Compiler64	
DevSys	• The ACUCOBOL-GT Development System, which includes the following: Compiler, Runtime, ThinClient, and WEB-BROWSER2. • Not valid for containerization.
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. • Not valid for containerization.
ExtendStartMenu64	Not valid for containerization.
LicenseActivator	Not valid for containerization.
LicenseActivator64	Not valid for containerization.
OnlineDocumentationCHM	Not valid for containerization.
Runtime	
Runtime64	
ThinClient	Not valid for containerization.
ThinClientAutoUpdate	• Full Thin Client with Web-Browser2 loader. • Not valid for containerization.
ThinClientAutoUpdate4	• Full Thin Client with Web-Browser2 loader. • Not valid for containerization.
ThinClientAutoUpdateCompact	• Thin Client without Web-Browser2 support. • Not valid for containerization.
ThinClientAutoUpdateCompact64	• Thin Client without Web-Browser2 support. • Not valid for containerization.

Argument name	Notes
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	
WebBrowser2	• Web-Browser2 control support files. • Not valid for containerization.
WebBrowser264	• Web-Browser2 control support files. • Not valid for containerization.

Examples

32-bit installation:

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

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

64-bit installation:

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

```
msiexec /i "extend(R) Version 10.2.0 x64.msi" INSTALLDIR=C:\AcuInstallDir
  INSTALLDIR64=C:\AcuInstallDir64
ADDLOCAL=Runtime,Runtime64,Acu4GLMSSQL,Acu4GLMSSQL64,AcuSQLRuntime,AcuSQLRunti
me64  /qn
```

Command-line Options for the `.exe` Extractor/`.msi` Installer

The `.exe` installer is a self extracting archive that contains an `.msi` installer.

Syntax

```
"extend(R) Version x.x.x [x64|x86].exe" {parameter[...]}
```

Parameters

Each of the following parameters has specific syntax and usage as described in the *Parameter Details* section of this topic:

/?
/Q
/T:*full-path*
/C
/C:"msiexec *msi-arguments*"

Note: If you run the `.exe` installer with no optional parameters, the `.msi` installer is extracted to a temporary directory before running the installation.

Parameter Details

x.x.x	The extend release number. For example, `10.5.1`.
/?	Displays a dialog box that shows the valid command-line options and a short description of each. This parameter must be specified alone; it cannot be combined with any other parameters.
/Q	Use quiet mode, hiding all the prompts, if any, while the `.msi` installer is being extracted. You can specify /Q with /T:full-path, /C, or /C:"msiexec *msi-arguments*".
/T:*full-path*	Specifies a location for storing the extracted `.msi` installer. You can specify /T:*full-path* with /Q, /C, or /C:"msiexec msi-arguments". The directory specified by *full-path* must exist or you must have permissions to create it.
/C	Extract the `.msi` installer without running it. When specified without the /T:*full-path*, you are prompted for a storage location. You can specify /C with /Q or /T:*full-path*. If /C is not specified, the extracted files are removed when the command completes.
/C:"msiexec *msi-arguments*"	Runs the extracted `.msi` installer using the "msiexec *msi-arguments*". You can specify this parameter with /Q or /T:full-path. **Note:** You must escape embedded double quotes. See *Examples* below.

Examples

These examples use `extend(R) Version 10.5.1 x64.exe` to show different uses of the options..

View help options

```
"extend(R) Version 10.5.1 x64.exe" /?
```

Run the default `.msi` file

When you run the `.exe` installer without any options, for example:

```
"extend(R) Version 10.5.1 x64.exe"
```

the .msi installer is extracted to a temporary directory before running the installation.

Note: This example command is equivalent to the following:

```
"extend(R) Version 10.5.1 x64.exe"
   /C:"msiexec /i ""extend(R) Version 10.5.1 x64.msi"""
```

Quiet mode

```
"extend(R) Version 10.5.1 x64.exe" /Q
    /C:"msiexec /i ""extend(R) Version 10.5.1 x64.msi"""
```

Extract the `.msi` installer to a specified directory and run it

In this example, the `.msi` installer is extracted to `C:\StoreHere`, and run from there:

```
"extend(R) Version 10.5.1 x64.exe" /T:C:\StoreHere
/C:"msiexec /i ""extend(R) Version 10.5.1 x64.msi"""
```

Extract the `.msi` installer without running it

The following command prompts you for a storage location, and then extracts the `.msi` installer to that location without running the installation:

```
"extend(R) Version 10.5.1 x64.exe" /C
```

Silent install

The following command runs the installer silently:

```
"extend(R) Version 10.5.1 x64.exe"
   /C:"msiexec /i ""extend(R) Version 10.5.1 x64.msi""
```

```
INSTALLDIR=C:\MyDirectory32
INSTALLDIR64=C:\MyDirectory64
ADDLOCAL=Runtime,Runtime64,ExtendStartMenu64
WINDOWSVERSION=PostWindows7
/qn"
```

See *Silent Installation* for details about `misexec` arguments.

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.

Note: This release provides a new 64-bit Thin Client installer.

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.

The following 64-bit executables are now available with the 64-bit Windows installation:

```
activator.exe
acu4glfd.exe
acubench.exe
acuthin.exe
acuthinns.exe
boomerang.exe
ccbl32.exe
crun32.exe
Marshal.exe
RegAsm30Acu.exe
RegAsm40Acu.exe
run32.exe
xml2fd.exe
xmlwf.exe
```

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.

Installation Notes

Debugging files

The Windows distribution media now contains `.pdb` debugging files to assist customer support in solving runtime issues on a customer's machine - `.pdb` files enable runtime stack information to be generated.

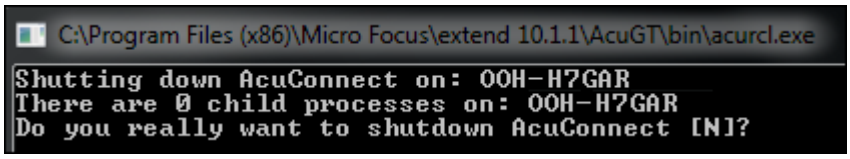
To setup this ability, copy the `.pdb` files from the 32-bit or 64-bit `Debug` directories on the distribution media to the 32-bit or 64-bit directory of the installation. 32-bit files on the media are located in `Debug\Win32\bin\*.pdb`, and 64-bit files on the media are located in `Debug\x64\bin\*.pdb`.

Once the `.pdb` files are copied, follow any instructions given to you by Customer Support.

AcuConnect, AcuServer, and AcuToWeb

During the installation process, if you are installing AcuConnect, AcuServer, or AcuToWeb, you can choose to automatically start those services as part of the installation process.

Those services can only be started if certain conditions are met. For example, the services will attempt to start on a default port (AcuConnect 5632, AcuServer 6523, AcuToWeb TCP_PORT 8008, AcuToWeb WEBSERVER_PORT 3000). If an existing installation is already using that port, that service must be stopped if the installation is to create and run the new service. If you do not stop the existing service, the installation can only create the new service; it cannot run it.



If there is no previous installation, a default `AcuAccess` configuration file is only created (in its default location of `%PROGRAMDATA%\Micro Focus\extend\10.5.1`) when the service starts.

Note: When a Windows configuration file is installed or created, the default destination directory is:

```
%PROGRAMDATA%\Micro Focus\extend\x.x.x
```

Where *x.x.x* is the installed version number of extend.

If you configure the installation to not start the service, no `AcuAccess` file will exist until you start the products from their respective control panels (or command line equivalents). If a previous installation exists, ACUCOBOL-GT uses the first `AcuAccess` file found in one of the searched directories.

Note: This file and directory are not removed when you uninstall a previous product.

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.

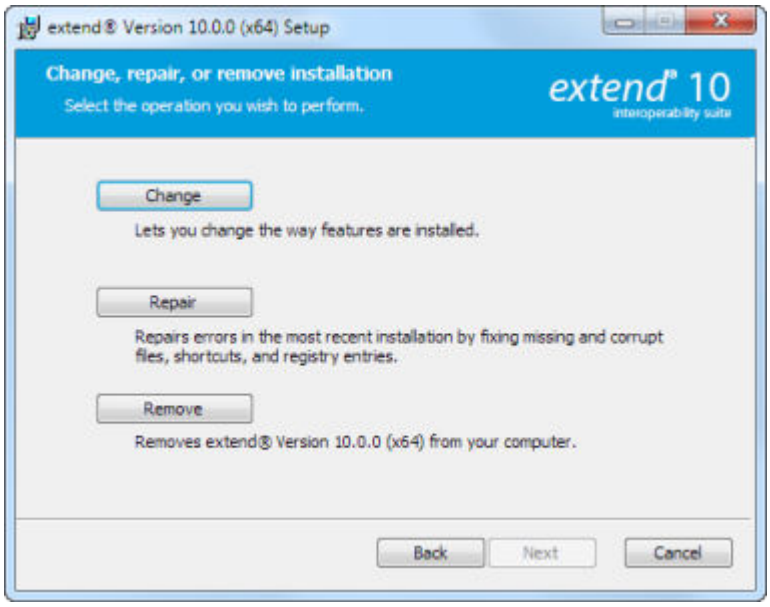
Uninstalling or Modifying Your Installation

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.

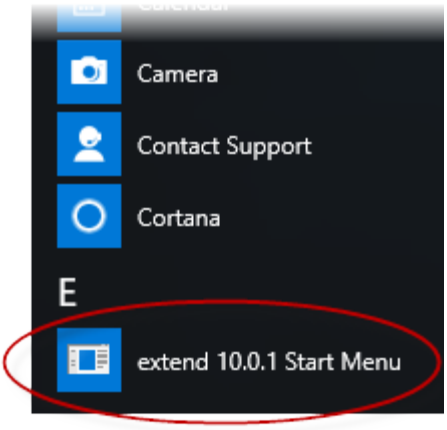
Remove Enables you to remove all products of your installation.



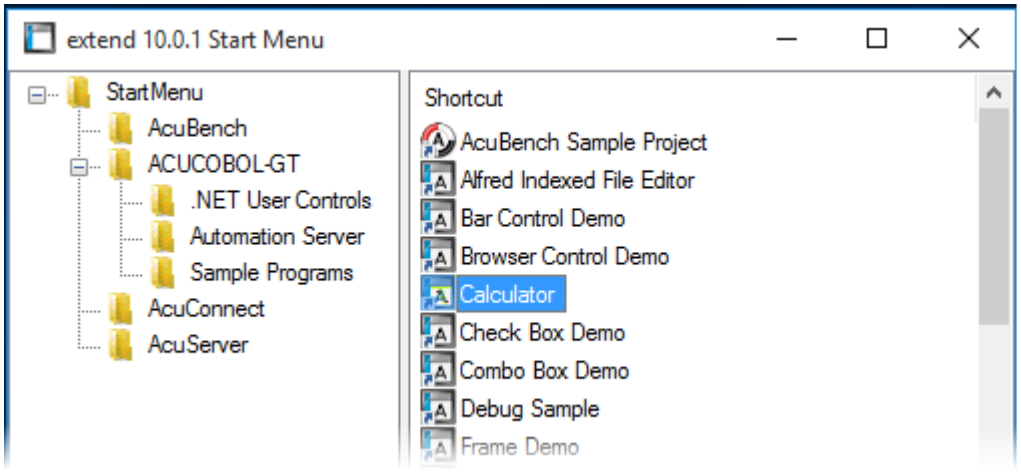
Launching extend Products on Windows 8 or Later

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
	When specified, no prompt is given for the directory name. 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.
`-IacceptEULA`	Accepts the EULA without prompting.
`-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.1lc` and `/opt/acu/bin/runcbl.1lc` 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.1lc` and finally `/opt/acu/bin/runcbl.1lc`.

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.1lc` 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 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. Samples 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.

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.

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 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". 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 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

In this release, we have dropped support for the Microsoft Internet Explorer browser. As a consequence, we no longer support the Web Runtime and the Web Thin Client. However, also in this release, we provide some new AcuToWeb Gateway features that provide similar functionality. For details, see *AcuToWeb Enhancements* in these *Release Notes*, and the *AcuToWeb Gateway* section of your *AcuToWeb User's Guide*.

The following items are new for this release:

Acu4GL Enhancements

This section includes the enhancements related to Acu4GL.

ECN-GL594 Better control of permissions granted on newly created tables

Product: Acu4GL

Module: MSSQL

Machines Affected: All

Versions Affected: All

DESCRIPTION:

When creating a table, the SQL Server interface also creates an index, and grants loose permissions to everyone via the A-MSSQL-GRANT-PERMISSIONS and A-MSSQL-GRANT-USERNAME configuration variables with their default values. If database permissions are not set to allow these loose permissions, the GRANT statement fails, causing OPEN OUTPUT to fail.

For details, see the following Configuration Variable topics in your *Acu4GL User's Guide*:

A-MSSQL-GRANT-PERMISSIONS
A-MSSQL-GRANT-USERNAME

ACUCOBOL-GT Enhancements

This section includes the enhancements related to ACUCOBOL-GT.

ECN-4795 Object compatibility update

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

The compiler has been updated to issue a warning when the `-Znn` option is used to generate object code for a run-time version of 8.0 or earlier.

ECN-4798 New configuration variable GRID_TRUNCATE_STRINGS_WITH_ELLIPSIS

Defect Number: 395123

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

A new configuration variable, GRID_TRUNCATE_STRINGS_WITH_ELLIPSIS, has been added to replace GRID_NO_TRUNCATION, which is now deprecated. When this variable is set to 1 (ON, TRUE, YES) grid cell text that extends beyond the column boundary is truncated and followed by ellipses (...) to indicate that there is more data. When set to 0 (OFF, FALSE, NO), grid cell text is cut off at the column boundary.

ECN-4821 Non-interactive install options for UNIX installer

Defect Number: 427063

Product: ACUCOBOL-GT

Module: wrapxio

Machines Affected: UNIX

Known Versions Affected: All

DESCRIPTION:

The `-IacceptEULA` option has been added to the UNIX installer to accept the EULA without prompting.

Also, no prompt is given for the installation path when the `-d` *`installation-path`* option is specified.

For details, see the *Installation Under UNIX* > *Installation Process* topic in your online Help.

ECN-4833 GRID_SORT_INDICATOR updated to enable invisible indicators

Defect Number: 441012

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

You can now set the GRID_SORT_INDICATOR configuration variable to a value of INVISIBLE to prevent a grid sort indicator from being visible regardless of how or if a grid is sorted on a column.

AcuSQL Enhancements

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

ECN-SQL170 Support for SQL type DATE

Defect Number: 307057

Product: AcuSQL

Module: MSSQL

Machines Affected: All

Versions Affected: 9.2.5 through 10.5.0

DESCRIPTION:

To prevent a `Numeric Value Out of Range` error from occurring when attempting to fetch data into a COBOL data-item of the same size as the SQL data, support for the DATE SQL type has been added.

Resolved Issues

The following are resolved issues for the extend products.

Acu4GL ECN List

This section includes the ECNs relating to Acu4GL:

ECN-GL595 REWRITE or DELETE could affect the wrong record

Defect Number: 401111

Product: Acu4GL

Module: MSSQL

Machines Affected: All

Known Versions Affected: 10.5.0

DESCRIPTION:

When doing a REWRITE or a DELETE on record that was constructed by the COBOL program (as opposed to having just READ the record), the wrong record could be affected. This has been corrected.

ECN-GL596 START fails when key has alpha field larger than 4 bytes

Defect Number: 417085

Product: Acu4GL

Module: MSSQL

Machines Affected: All

Known Versions Affected: 10.3.0 and later

DESCRIPTION:

A key defined using a PIC X(n) item with n > 4, a START using that key failed with an error 23, indicating that the record was not found. This has been fixed.

AcuBench ECN List

This section includes the ECNs relating to AcuBench:

ECN-WB895 AcuBench crashes when interacting with pasted data sets

Defect Number: 372008

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When using a data set in AcuBench, it was possible to copy an existing data set and paste it to make a nearly identical copy. Interacting with the pasted data set (e.g., modifying or deleting) caused AcuBench to crash. This has been fixed.

ECN-WB896 Spaces in XFD output directory causes compiler to be invoked incorrectly

Defect Number: 386026

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

If the XFD output directory contained spaces, the compile line looked correct, but was invoked incorrectly. This has been fixed.

ECN-WB897 XFD fields are too short

Defect Number: 385101

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

Various of the XFD names were limited to18 characters, but the compiler and runtime can accept up to 30 characters. The 18-character limitation on XFD names has been updated to 30 characters.

ECN-WB898 Generated XFD directive line is too long

Defect Number: 387081

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When a long WHEN condition was part of an XFD, and that condition named a table with a long name, AcuBench generated an XFD directive line that was longer than allowed, overflowing into the identification area (columns 73 and on). This has been fixed.

ECN-WB899 Adding multiple XFD WHEN clauses reverted changes

Defect Number: 392043

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When adding multiple XFD WHEN conditions to a file in the File Designer, an auto-save feature would revert changes periodically unless you manually saved your changes regularly. This has been fixed.

ECN-WB963 Changing images causes AcuBench crash

Defect Number: 401046

Product: AcuBench

Module: AcuBench.exe

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Changing images often sometimes caused AcuBench to crash. This has been fixed.

ECN-WB964 AcuBench crashes when linking copybooks

Defect Number: 406075

Product: AcuBench

Module: AcuBench.exe

Machines Affected: All

Versions Affected: 10.5.0

DESCRIPTION:

When linking a copybook for linkage, AcuBench sometimes crashed, wiping out the project file. This has been fixed.

ECN-WB965 AcuBench crashes when adding an entry field

Defect Number: 501002

Product: AcuBench

Module: AcuBench.exe

Machines Affected: All

Versions Affected: 10.5.0 and later

DESCRIPTION:

The following sequence sometimes caused AcuBench to crash:

1. Add an entry field
2. Undo that addition
3. Add an entry field

This has been corrected.

ACUCOBOL-GT ECN List

This section includes the ECNs relating to ACUCOBOL-GT:

ECN-4760 EVALUATE causes crash with reference modification

Defect Number: 183060

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

Using EVALUATE with a reference-modified data item larger than 32767 bytes caused the compiler to generate code that sometimes caused a run-time crash.

This problem has been corrected in this release; however, you must recompile any affected programs after reducing the size of the base item.

ECN-4782 Bitmap moves over Text when TITLE-POSITION Left is used in Bitmap Button

Defect Number: 218037

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.4.1 and later

DESCRIPTION:

A problem that caused the bitmap to move over the text during a button click when TITLE-POSITION left (1) was used has been corrected.

ECN-4783 C$PARAMSIZE causes a Memory Access Violation (MAV)

Defect Number: 301072

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 9.0.0 and later

DESCRIPTION:

A problem that caused a MAV when calling C$PARAMSIZE in a sub-program of a main program that was originallY called with command-line arguments, even when the command-line arguments were not being used, has been fixed.

ECN-4784 Unable to use remote syntax with compiler -Fo option

Defect Number: 312051

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: 8.0.0 and later

DESCRIPTION:

When using remote syntax with the compiler `-Fo` option to specify the directory in which to write XFD files, an XFD file would be created, but would be empty when the compilation was complete. This has been fixed.

ECN-4785 Wrong value used to format `%t` variable in an error file

Defect Number: 369013

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When using `%t` to format the name of an error file, the filename used a value expressed in hundredths of a second rather than thousandths of a second, which is correct. This has been fixed.

ECN-4787 Repeatedly calling Java using C$JAVA causes an error

Defect Number: 306036

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

An `accept limit reached` error sometimes occurred when a threaded COBOL program called certain Java programs using C$JAVA 10 times. In some cases, this caused focus to shift away from the COBOL Windows to another window, for example, an invoked Java method window. This has been fixed.

ECN-4788 MSG-BITMAP-CLICKED incorrectly extends to the whole cell

Defect Number: 386004

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.1

DESCRIPTION:

A problem that triggered an MSG-BITMAP-CLICKED event when the user clicked on any cell containing a bitmap has been fixed. This event is now properly triggered only when the bitmap itself is clicked.

ECN-4790 Centered text in grids is truncated on both sides

Defect Number: 372073

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Grid cells containing center-aligned text wider than the width of the column was being truncated on both ends instead of just at the right end as it was in 10.4.1. This has been corrected, and center-aligned text wider than the column it occupies now dynamically changes to be left-aligned and truncated on the right end as in 10.4.1.

ECN-4791 Extra space is added after repositioning grid cursor

Defect Number: 372075

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Scrolling could be extended past the edge of a grid that had no variable row heights by programmatically setting the grid's vertical scroll position. This resulted in extra white space being visible beyond the grid edge. This has been corrected.

ECN-4792 Calling WIN$VERSION overwrites bytes after including `winvers.def`

Defect Number: 303033

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.1.0 and later

DESCRIPTION:

Calling WIN$VERSION caused five bytes-worth of variables after `winvers.def` was included to be overwritten. This has been fixed.

ECN-4793 Windows Silent install inconsistency and service creation issues

Defect Number: 385068

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

When Silent Install to install AcuToWeb and AcuConnect on Windows, the AcuToWeb service was already started in error. In addition, the AcuToWeb control panel did not show the AcuToWeb service as running even though the task manager showed that it was. This has been corrected.

ECN-4795 C$DARG not available in VAX compatibility mode

Defect Number: 377065

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

The compiler has been updated to supply the additional information about the return parameter required for C$DARG to work in VAX compatibility mode.

ECN-4802 Some JPG files could not be included as resources

Defect Number: 400095

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When using COPY RESOURCE in a COBOL program, the compiler tests the file type based on the contents of the file - not just the file extension. This content is sometimes called a magic number. The magic number used for JPG files was incorrect for some JPG files, causing them to be included in the COBOL object as data rather than as a JPEG image. This prevented the image from being properly loaded when the name was passed to W$BITMAP to load the image. This has been corrected.

ECN-4803 Bitmaps with transparency not drawn on buttons

Defect Number: 402047

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

A problem that prevented certain bitmaps with transparency from being drawn on a button has been fixed.

ECN-4804 INQUIRE ... SYSTEM HANDLE failure

Defect Number: 403018

Product: ACUCOBOL-GT

Module: Thin Client, Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

A bitness problem that caused a SYSTEM HANDLE failure has been corrected.

ECN-4805 Grid text alignment problems past row 25

Defect Number: 401133

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

A problem that caused text to be misaligned or missing past column 25 in a large grid has been fixed.

ECN-4806 Threads cause runtime crash

Defect Number: 403185

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

When using threads, the runtime occasionally crashed. This has been fixed.

ECN-4807 Sort indicator not erased when scrolling

Defect Number: 401107

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.4.0 and later

DESCRIPTION:

When sorting a grid by column by clicking on a column header and then scrolling the grid so that the sort column goes off screen, the sort indicator sometimes remained on the screen. This has been corrected.

ECN-4808 Runtime crash when reading grid settings from the registry

Defect Number: 405049

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Attempting to restore user changes from the registry for a grid that had more than 100 rows and that used the registry-key property to store the user changes sometimes overwrote an internal buffer, causing a runtime crash. This has been corrected.

ECN-4809 Violations caused by physical to logical column translating in grids

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Errors that occurred when physical-to-logical column translation was being performed with a physical column number greater than the number of columns actually in the grid sometimes cause memory violations due to integer underflows. This has now been corrected. An error message is displayed and the runtime exits with code 255.

ECN-4810 DISPLAY ... ERASE LINE memory error on wide terminals

Defect Number: 406090

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: UNIX

Known Versions Affected: All

DESCRIPTION:

DISPLAY ... ERASE LINE in terminals wider than 200 characters caused a memory error. The memory error has been corrected and the maximum width of a terminal has been increased to 655 characters to match the documented limit.

ECN-4811 Grid with excess rows per record crashes runtime

Defect Number: 399051

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Grids did not use the record number to access the cell text format array for a record, but used the screen row number instead. This applied incorrect formatting to cells in multi-row record grids, which caused a memory access violation when the number of records was less than the number of rows. This has now been corrected.

ECN-4813 New AcuToWeb files removed when uninstalling

Defect Number: 409092

Product: ACUCOBOL-GT

Module: AcuToWeb

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

A flaw with the uninstall process for the 10.5.0 release caused the entire AcuToWeb folder to be removed, thus removing custom user-created files needed after reinstalling. The flaw has been fixed in this release. The uninstall process leaves the folder and custom files intact, removing only the files installed originally.

ECN-4814 Loading large grid info from registry causes runtime crash

Defect Number: 410083

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Attempting to use the registry and REGISTRY-KEY property to restore a grid with more than 256 rows sometimes caused the runtime to crash with a memory access violation (MAV). This has been fixed.

ECN-4815 Thin client fails to open registry

Defect Number: 411127

Product: ACUCOBOL-GT

Module: acuthin.exe

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

When using Thin Client and attempting to open a registry key using a starting key that matches a predefined value, for example HKEY-LOCAL-MACHINE, this sometimes failed with a status of 6, meaning that the handle is invalid. This has been corrected.

ECN-4816 Invoking a .NET method with more than 20 parameters sometimes causes the runtime to crash

Defect Number: 415057

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

When invoking a .NET or ActiveX method with more than 20 parameters, the runtime sometimes crashed. This has been fixed.

ECN-4817 Paged grid fails to populate when resized while debugger is running

Defect Number: 407134

Product: ACUCOBOL-GT

Module: runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Resizing paged grids with resizeable layout managers while the debugger was active or the window was a popup subwindow only populated as many rows as were allowed by the size of the original grid after being resized. This has now been corrected.

ECN-4818 Dashes in NetDefGen prevent creation of event module

Defect Number: 410066

Product: ACUCOBOL-GT

Module: NetDefGen

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

When generating event DLLs, and NetDefGen included one or more dashes, for example:

```
assembly extern assembly-name {}
```

The DLL failed to compile with `ilasm.exe`, preventing the event module from being created. This has now been corrected.

ECN-4819 C$REGEXP unable to find second or subsequent matches

Defect Number: 42106

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

C$REGEXP using opcode MATCH was unable to find second or subsequent matches. This has been corrected.

ECN-4820 Long version string causes memory errors

Defect Number: 394056

Product: ACUCOBOL-GT

Module: multiple

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

A long version string sometimes caused memory errors due to improper string handling code in many products. This has been corrected.

ECN-4822 RETURN-CODE for Thin Client failure is incorrect

Defect Number: 424020

Product: ACUCOBOL-GT

Module: multiple

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When failing to open a client directory in Thin Client mode, the failure RETURN-CODE was incorrectly set to a value other than 0 (zero), which sometimes caused a failure in subsequent calls to read the directory. This has been fixed.

ECN-4823 Window border appearance changes when viewing with Remote Desktop

Defect Number: 409011

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.5.0

DESCRIPTION:

When using Remote Desktop and viewing a program with a colored checkbox that uses the FLAT style, or when the WIN32_NATIVECTLS configuration variable was enabled, the window border sometimes displayed using the Windows 2000 theme. This has been corrected.

ECN-4824 Wrong error code when a graphics file is missing

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

When W$BITMAP was called to load a graphics file such as a `.bmp` or `.jpg` file, and the file was missing, the return code was `-4` (format unsupported) but should have been `-1` (file error). This has been corrected.

ECN-4825 CALL ... RETURNING passes an incorrect number of parameters

Defect Number: 456007

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

When using the `-Z`*nnn* compiler compatibility switch where *nnn* was `103` or less, the compiler generated incorrect code for the parameters passed in a CALL statement if that statement included RETURNING or GIVING. This has been fixed; however, you must recompile your code.

ECN-4826 SAVE_AS property on a WebBrowser2 control fails

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

The SAVE_AS property set on a WebBrowser2 control did not save the file. This has been fixed.

ECN-4827 XML PARSE fails to return data

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: All

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

When XML PARSE attempted to parse XML text larger than 512 bytes, it failed to return any data in XML-TEXT. This has been corrected.

ECN-4828 POINTER data items passed to subprograms

Defect Number: 53006

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

Passing parameters to a subprogram using the `-Za` option causes the compiler to generate code used to ensure that the size of the data passed is as large or larger than the linkage section item receiving the data. In this scenario, native C data types (unsigned-long, pointer, etc.) sometimes failed the size test even though both USING and LINKAGE data types were the same type because the compiler always generates the size test using the maximum data size. The runtime has been updated to retrieve the actual size of the data when the subprogram is called.

ECN-4829 Memory access violation on C $GETNETEVENTDATA when using AcuThin

Defect Number: 474034

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

Calling C$GETNETEVENTDATA sometimes caused a MAV when using AcuThin. This has been corrected.

ECN-4830 Silent install on Windows does not register AcuXDBC ODBC driver

Defect Number: 393171

Product: ACUCOBOL-GT

Module: Installer

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

A silent install of AcuXDBC on Windows using the `.msi` installer did not register the AcuXDBC ODBC driver. As a result, the driver did not appear in the ODBC Data Source Administrator. This has been corrected.

The following is an example of the silent installation command:

```
msiexec /i "extend(R) Version 10.5.0 x64.msi"
ADDLOCAL=AcuXDBC,AcuXDBC64
WINDOWSVERSION=PostWindows7 /qb
```

ECN-4831 Memory access violation when compiling using COPY/REPLACING

Defect Number: 481001

Product: ACUCOBOL-GT

Module: Compiler

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When using the COPY REPLACING statement on a COBOL copybook that contained an error such as an incomplete or incorrectly coded COBOL statement, a MAV sometimes occurred when compiling. For example:

```
Memory access violation
test_ccbl_01, line 34: *** Internal error #45 ***
```

RESOLUTION:

Identify and correct the code that is causing the error. To help you identify the code causing the error, compile with the `-Lpo` listing option, which reports lines of code that are not processed. See *Listing Options* in your ACUCOBOL-GT documentation for details.

ECN-4832 Thin client crashes when .NET constructor requires one or more arguments

Defect Number: 476011

Product: ACUCOBOL-GT

Module: Thin Client

Machines Affected: Windows

Known Versions Affected: 10.4.1 and later

DESCRIPTION:

.NET controls with a constructor that required one or more arguments sometimes causes the thin client to crash with a memory access violation. This has been fixed.

ECN-4836 `.atc` file sometimes causes Thin Client auto-update to fail

Defect Number: 487040

Product: ACUCOBOL-GT

Module: Thin Client

Machines Affected: Windows

Known Versions Affected: All

DESCRIPTION:

To correct a problem that sometimes caused the Thin Client auto-update to fail, auto-update has been updated to remove any existing atc_auto_file registry entries to ensure that the registry key specified in the `.atc` file is used.

ECN-4837 .NET event procedures not returning to Format 2 Accept

Defect Number: 478017

Product: ACUCOBOL-GT

Module: AcuThin

Machines Affected: Windows

Known Versions Affected: 10.4.1 and later

DESCRIPTION:

After setting `event-action` to `event-action-fail-terminate` in a .NET control's event procedure, and then exiting the event procedure, format 2 accepts were not consumed when the program was running through the Thin Client. This was different from the run-time behavior.

This release includes the new ECN-4837 configuration variable, which you can use to work around the problem. For details, see the *ECN-4837* configuration variable topic in your ACUCOBOL-GT documentation

ECN-4839 Entered text does not flow to second line of grid-wrap-enabled cell

Defect Number: 394118

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

User edits in cells with a row height greater than or equal to 2, and with the wrap-text property enabled, did not wrap properly. Edits were restricted to the width of the a single line only. This is now resolved, with user edits able to wrap multiple lines with the wrap-text property enabled

ECN-4840 Printed data is incomplete

Defect Number: 447015

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

Raw data sent directly to certain physical printers caused printed data to be incomplete. This has been corrected.

Note: We recommend that you use the Windows spooler to print data rather than sending raw data directly to the hardware.

ECN-4841 Incorrect property value used when resolving conflict between grid wrap-text and valignment

Defect Number: 393147

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0

DESCRIPTION:

ACUCOBOL was resolving any conflict between the `wrap-text` and `valignment` properties using the property that was assigned last, which was the reverse of the correct behavior. This has been corrected such that the property set first is now used.

ECN-4842 Unable to tab into or out of BROWSER2 control

Defect Number: 498064

Product: ACUCOBOL-GT

Module: Runtime

Machines Affected: Windows

Known Versions Affected: 10.5.0 and later

DESCRIPTION:

When using a BROWSER2 control, it was not possible to use the TAB or BACK-TAB keys to tab into or out of the control. This has been fixed.

ECN-4843 Registry clutter causes old services to appear in ATW Control Panel

Defect Number: 487006

Product: ACUCOBOL-GT

Module: AcuToWeb

Machines Affected: Windows

Known Versions Affected: 10.5.0 and earlier

DESCRIPTION:

When uninstalling AcuToWeb versions 10.5.0 and earlier, the installer deleted existing AcuToWeb services for that version, but left the registry keys associated with those services intact. For example:

```
HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Micro Focus\AcuToWeb
     AcuToWeb
     AcuToWeb 8009
```

As a result, when installing a new version of AcuToWeb, the names of services still represented in the registry appeared in the AcuToWeb Control Panel even though these services did not exist in the Task Manager Services. This has been corrected.

ECN-4845 Windows `.exe` installer command line options are not properly documented

Defect Number: 489008

Product: ACUCOBOL-GT

Module: ACUCOBOL-GT

Machines Affected: Windows

Known Versions Affected: 10.5.0 and earlier

DESCRIPTION:

Running the ACUCOBOL-GT Windows `.exe` installer from the command line with the `/?` option displayed some command-line options you can use, but the displayed text did not adequately explain how to specify

the options, nor did it explain what they do. This has now been documented properly. For details about using the `.exe` installer, see *Command-line Options for the .exe Extractor/.msi Installer* in your product Help.

AcuConnect ECN List

This section includes the ECNs relating to AcuConnect:

ECN-AC103 Cancel button unresponsive on a RECEIVE statement with NO WAIT

Defect Number: 10008

Product: AcuConnect

Module: Thin Client

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

A problem using a RECEIVE statement specified with BEFORE TIME 0 or NO WAIT caused the **Cancel** button to become unresponsive during file I/O operations on the Thin Client. This has been fixed; however, to take advantage of this fix, you must set the FILE_IO_PROCESSES_MESSAGES runtime configuration variable to 1 (true) to ensure that key presses are available during file I/O operations.

Notes:

- Interactions between the Thin Client and the Runtime still incur a delay, meaning it can take two to three seconds for the button press to take effect when many file I/O requests are being processed.
- Using the FILE_IO_PROCESSES_MESSAGES variable could cause a slight degradation in the performance of the program at certain times.

AcuSQL ECN List

This section includes the ECNs relating to AcuSQL:

ECN-SQL173 MSSQL VARCHAR data fetch returns blank

Defect Number: 364188

Product: AcuSQL

Module: MSSQL

Machines Affected: All

Versions Affected: 10.4.0. 10.4.1, and 10.5.0

DESCRIPTION:

An SQL SELECT operation sometimes caused blank data to be erroneously written to COBOL SQL VARCHAR data items. This has been corrected.

ECN-SQL175 SQL FETCH fails when bound parameter is UNICODE

Defect Number: 509038

Product: AcuSQL

Module: Runtime

Machines Affected: All

Versions Affected: 10.4.1 and 10.5.0

DESCRIPTION:

SQL FETCH sometimes failed on a SELECT, returning error code SQL100 when a parameter corresponding to a N(VAR)CHAR column was bound to a ASCII COBOL item. This has been corrected.

AcuToWeb Fixes

Product: AcuToWeb

Module: AcuToWeb

Machines Affected: All

DESCRIPTION:

The following issues have been fixed in this release. The numbers that follow each issue are the Support Case Number followed by the Defect number (in parentheses).

- A problem that prevented ComboBox controls from justifying text to the right as in AcuThin has been fixed.

  02404832 (656067)
- A problem that caused a mouse event to execute in a grid cell even when the grid was disabled and on another screen has been fixed.

  02404888 (656088)
- Pressing **Shift+Tab** on a second screen sometimes put both screens side by side instead of tabbing backwards in the current screen. This has been fixed.

  02426849 (675002)
- Adding a bitmap to a default button disabled the button as a default setting. This has been corrected.

  02429232 (675030)
- A problem that caused AcuToWeb to erase one row on certain grids has been fixed.

  02433927 (676039)
- Combo-box labels with text containing an ampersand (&) were rendered incorrectly. These now display correctly.

  02453059 (697020)
- New versions of Safari on MacOS were incorrectly identified as mobile. This has been fixed.

  02452980 (697022)
- Text in grid columns sometimes showed as truncated. This has been fixed.

  02416219 (668011)
- Applying web.resize configuration options sometimes caused the mouse location to be inaccurate. This has been corrected.

02420789 (671010 718022)

- When the following code was included on a French machine:

```
DISPLAY MESSAGE BOX "OK"
                    TYPE IS MB-OK
```

The button text appeared as **OUI**, which was incorrect. The button text now shows correctly as **OK** on French machines.

02429045 (674033)

- When the grid display property for a column was set to 0 (zero), an extra space sometimes appeared at the column location. This has been corrected.

02498613 (712028)

- Performance was slightly degraded between patch releases for AcuToWeb 10.4.1. This has been corrected in the current version.

02514981 (718004)

- Leading spaces were lost on an INQUIRE CELL-DATA after executing MODIFY grid CELL-DATA. This has been fixed.

02517326 (720001)

- When running AcuToWeb on Firefox with display settings greater than 100%, some screen items were misplaced. This has been fixed.

02415643 (673001)

- Data added to the MLEF was sometimes concatenated improperly after saving. This has been fixed.

02516036 (719003)

- The Windows Explorer sometimes opened erroneously in the background. This no longer occurs.

02528353 (722015)

- A problem that prevented grid data from being copied to the clipboard correctly has been fixed.

00033182 (675040)

- A problem with the vertical scroll bar on a grid sometimes caused data to disappear. This has been fixed.

02620316 (829002)

- W$MOUSE was inaccurate when web.resize was applied and scaled up. This has been fixed.

02586677 (765010)

- A problem that caused windows to be incorrectly sized when the browser size was larger than the web.resize value has been fixed.

02519950 (720030)

- A problem that prevented windows from correctly maximizing has been resolved.

02527802 (722009)

- A problem that occurred when sorting a grid using SORT-TYPE 9 has been fixed.

02536525 (722065)

- A problem that caused displayed screens to be cut off and also shifted the position of label names in subsequent screens has been fixed.

02553706 (739011)

AcuXDBC ECN List

This section includes the ECNs relating to AcuXDBC:

ECN-XD139 Dropping a table impacts a VIEW

Defect Number: 387070

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When deleting a table, the VIEW or index was also dropped. Adding the table back in caused a duplicate file error. These issues have been fixed.

ECN-XD140 Using INVALID_NUMERIC_DATA error led to a memory access violation (MAV)

Defect Number: 440019

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: All

Known Versions Affected: All

DESCRIPTION:

When using INVALID_NUMERIC_DATA error set to a value other than 0 (zero), AcuXDBC 32-bit sometimes threw a MAV. This has been fixed, and the following has been added to the debug_logfile:

```
Invalid numeric: Error|Truncate|Zero
```

For example:

```
Null_numeric_write: Spaces
Invalid numeric: Error
Transactions: true
```

ECN-XD141 Local and remote data reads erroneously require AcuXDBC Server

Defect Number: 448073

Product: AcuXDBC

Module: AcuXDBC

Machines Affected: All

Known Versions Affected: 10.5.0

DESCRIPTION:

Simple reads of data (local or remote), when using AcuXDBC Server for transactions and threading, sometimes caused Excel to return a message such as `We cannot return the data producing this query because of its complexity`.

RESOLUTION:

When default transactions are ON in the AcuXDBC configuration file (`acuxdbc.cfg`), client programs such as Excel use multiple connection threads. If you intend to just import data using a client program, set transactions OFF in the AcuXDBC configuration file.

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- 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.
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