



# **Studio Enterprise Edition 6.0 for UNIX ServicePack 2 WrapPack 2**

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A large, decorative graphic consisting of multiple overlapping, wavy blue lines that create a sense of motion and depth. The lines are in various shades of blue, from dark to light, and are set against a light blue gradient background.

**Release Notes**

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# Studio Enterprise Edition for UNIX 6.0 ServicePack 2 WrapPack 2 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 a number of links to external Web sites. Micro Focus cannot be responsible for the contents of the Web site or for the contents of any site to which it might link. Web sites by their nature can change very rapidly and although we try to keep our links up-to-date, we cannot guarantee that they will always work as expected.

# Installation

## Installing Studio Enterprise Edition for UNIX

### System Requirements

#### Operating Systems Supported

- x86-64 running Red Hat Enterprise Linux 5.3/5.8,6.2
- Intel Itanium running Red Hat Enterprise Linux 5.3/5.5 (64-bit only)
- x86-64 running SuSE Linux (SLES 10 SP2/11 SP2)
- IBM System z running Red Hat Enterprise Linux 5.3/5.5/6.2 (31/64-bit)
- IBM System z running SuSE Linux (SLES 10 SP2/11 SP2) (31/64-bit)
- HP Itanium running HP/UX 11.23/11.31 (32/64-bit)
- IBM System p running AIX 5.3 6.1 TL7 SP3 7.1

The PL/I features are supported on the following platforms only:

- x86-64 running Red Hat Enterprise Linux 5.3/5.8,6.2
- x86-64 running SuSE Linux (SLES 10 SP2/11 SP2)
- IBM System p running AIX 5.3 6.1 TL7 SP3 7.1
- Sun SPARC running Solaris 10, 11 (32/64-bit)

### Installing

1. Download this release from the Micro Focus SupportLine Web site.
2. On the target system, log in as root.
3. This release works concurrently with any previous versions of Studio Enterprise Edition for UNIX, so you do not need to uninstall these. You can either install this release in a new directory, or move the existing installation to a different folder and then install the latest release to the default location.

#### Install in a new directory

1. Create an installation location directory such as `/opt/microfocus/cobolsp2ws2` - this should be a different location than the one in which the previous version is installed.
2. Transfer the `.tar` file for the product you want to install (for example, by using ftp) to a target directory created above on the target machine.
3. Change to the target directory into which you transferred the `.tar` file.
4. Decompress and extract the contents of the tar file into that directory, for example:

```
tar xvf /tmpdir/<web_download_file>.tar
```
5. Run the installation script in that directory:

```
sh ./install
```
6. Follow the instructions displayed to complete the installation.

#### Install in the default location

You can move the existing installation to a different location and install the latest version in the default install location, `/opt/microfocus/cobol`. This ensures you do not need to change your environment.

To move the existing older installation to a different location, execute:

1. 

```
[ as root ] mv /opt/microfocus/cobol /opt/microfocus/cobolsp2ws1
```
2. Install the latest version in the default directory as described in the previous step.

## After Installing

### Setting the Environment

After you install Studio Enterprise Edition for UNIX, you need to set the following environment variables:

- COBDIR. Specifies the directory that contains Studio Enterprise Edition for UNIX
- PATH. Specifies the directories to be searched by all UNIX and Linux programs, including the run-time system, when finding executables to be run. To set it:  

```
PATH=$INSTDIR/bin:\$PATH
```
- LD\_LIBRARY\_PATH, LIBPATH or SHLIB\_PATH, depending on your system. Specifies the directory or directories for the UNIX or Linux system, cob and the run-time system to search for shared libraries and callable shared objects. To set these:

On Red Hat Linux and Solaris:

```
LD_LIBRARY_PATH=$INSTDIR/lib
```

On AIX:

```
LIBPATH=$INSTDIR/lib
```

On HP-UX:

```
SHLIBPATH=$INSTDIR/lib
```

- MFPLI\_PRODUCT\_DIR. Specifies the location of the Open PL/I installation. This location is determined by the system administrator and is `/opt/microfocus/cobol` by default. To set it:

```
MFPLI_PRODUCT_DIR=$INSTDIR
```

Depending on your environment, you may need to add these to your `.profile`, `.bashrc`, `.cshrc` or `.login` file in your home directory.

### Verifying the Installation

As a quick check that you have installed the system correctly, start Studio Enterprise Edition for UNIX and check that it displays its main menu. Enter the following at the operating system prompt:

```
sde
```

If the system is working, the main menu of Studio Enterprise Edition for UNIX appears.

Since you are simply checking that the system is installed, press **Escape** to return to the operating system prompt. Studio Enterprise Edition for UNIX asks you to confirm that you want to exit; reply **Y**.

If problems occur with your installation, this could be because:

- There are problems with the tar file on the CD. The tar file might be corrupt, or errors might be occurring during the extraction of files from the tar file.

**To Fix:** Make an exact note of any error messages, contact Micro Focus SupportLine and arrange to return the CD.

- You have installed a Development System in the same directory as Micro Focus Server.

**To Fix:** Ensure the Development System is in a different directory to Micro Focus Server. Re-install in a different directory if necessary.

- The License Management Facility is installed and you have no license.

**To Fix:** Read your *Development System Licensing Guide* and ensure any requisite licenses are installed.

### **Further Information**

For further information on how to configure and use Studio Enterprise Edition for UNIX, refer to the *Getting Started* section in your product documentation.

# Licensing Information



## Note:

- This release uses the license keys for the Studio Enterprise Edition for UNIX 2.0 release.
- If you are unsure about what your licensing policy is or what sort of license you require, consult your System Administrator or Micro Focus SupportLine to obtain a valid license.

**UNIX** The Micro Focus Licensing System is installed into the `/var/microfocuslicensing` directory. To license your software:

1. Run the Micro Focus Licensing Administration utility:

```
sh /var/microfocuslicensing/bin/cesadmintool.sh
```



## Note:

- You need permissions to write to the license file which normally means you need to log in as root.
  - Make sure Java is on the PATH before you run the utility. See *System Requirements* for more information.
2. Select an option as appropriate and press **Enter**:

### If you have access to the Internet:

Select **Online Authorization**. You will be prompted to enter the Authorization Code supplied with your delivery notice.

### If you do not have access to the Internet:

You need the license strings. In order to obtain them, you need your Authorization Code, your Machine Id and a machine with access to the Internet.

- a. Choose **Get Machine Id** and press **Enter**.
- b. Make a note of the information which is displayed.
- c. On the machine which is connected to the Internet, open <http://supportline.microfocus.com/activation/> in a browser.
- d. Follow the instructions to obtain the license strings and save them to a text file.
- e. Copy the text file to the first machine on which you are installing the product.
- f. At the command line, select **Manual License Installation** from the licensing options and enter the full name of the file containing the license strings.



# What's New

## Enterprise Server

Enterprise Server now supports standard ECI calls to Mainframe Subsystem regions. The External Call Interface (ECI) allows non-CICS programs running outside the server to invoke CICS programs within a region opening up access to legacy business logic.

ECI client programs can run on the same machine as the enterprise server and, in this configuration, can communicate across shared memory or through the "Web Services and J2EE" listener. Programs running on different physical hardware submit ECI requests through the listener.

## OpenESQL

This release includes the following enhancements:

### ODBC

Added support for a generic one-phase commit for ODBC XA switch module.

### SQL Compiler Directive Options

OpenESQL has been enhanced to support the following new SQL compiler directive options:

#### DATE

Controls the reformatting of date values in output parameters and in input parameter character host variables when DETECTDATE is also specified.

#### TIME

Controls the reformatting of date values in output parameters and in input parameter character host variables when DETECTDATE is also used.

#### DATEDELIM

Specifies a single character as the delimiter between the year, month, and day components to override the default delimiter determined by the HCOSS DIALECT or DATE directive specification.

#### TIMDELIM

Specifies a single character as the delimiter between the hour, minute, and second components to override the default delimiter determined by the HCOSS DIALECT or TIME directive specification.

#### TSTAMPSEP

Specifies a single character as the separator between the date and time parts of timestamp and date/time data.

## Open PL/I

This release includes the following enhancements:

- Support for WCHAR data types and associated built-in function enhancements. See *Language Reference Manual* for more information.

- Support for Big-Endian CHAR VARYING on Intel chipsets
- Support for PLICTF, PLIFILL, PLIMOVE, PLIOVER, VALIDDATE built-in functions
- Support for the NOINIT and PARAMETER attributes of the DECLARE statement
- Support for XN (hex) binary fixed-point and numeric literal constants, as well as for punctuating constants
- New TINY and HUGE built-in functions
- Support for character picture data types. See *Language Reference Manual* for more information.
- A new PLITEST debugger attach facility
- Macro preprocessor enhancements that include:
  - Support for multiple closure
  - Support for 100-byte variable names
  - Support for %SELECT,%DO WHILE,SYSVERSION, ||=
  - Support for the `-incafter` directive which allows you to add an include file without having to modify the customer source.
- The DB2 LUW precompiler now allows you to specify an userid and a password
- Early Adopter support for 64-bit PL/I on Solaris

## WebSphere Support

Support has been added for IBM WebSphere 8 Application Server.

# Known Issues

Please refer to the *Known Errors and Restrictions* topic in the *Product Information* section of your product Help.

In addition, please note the following:

<b>Batch Scheduler Integration</b>	The documentation for the Micro Focus Batch Scheduler Integration (MFBSI) feature is erroneously included in the product Help for Studio Enterprise Edition for UNIX, Server Enterprise Edition, and Studio Enterprise Edition Test Server. MFBSI is not available in these software products.
<b>COBOL Compiler</b>	Defining a group typedef in one program scope and then using it in declarations in another program scope could lead to incorrect execution results when fields within that structure are accessed. For examples of this problem see the following KB article: <a href="#">Incorrect execution results when using typedef structures -- Studio Enterprise Edition</a> .
<b>Documentation</b>	<ul style="list-style-type: none"><li>In the Help, the topic <i>Finding Information</i> says "The Server Express CD-ROM contains the Adobe Acrobat Reader and an Adobe Acrobat file for each book". This is incorrect.</li></ul>
<b>Enterprise Server</b>	On AIX platforms only, Enterprise Server cannot start 64-bit Enterprise Server regions that access an Oracle or DB2 database using an XA resource manager. Until a resolution is available, contact Micro Focus SupportLine if this affects any of your applications.
<b>Filenames</b>	The COBOL product, including compiler and utilities will not handle filenames with double quotes in them.
<b>imtkmake and genclientwsdl in 64-bit</b>	Running the command <code>imtkmake -genclientwsdl</code> in 64-bit working mode results in an error "The COBOL client cannot be generated". To work around this issue, explicitly invoke the 32 bit version of <code>imtkmake</code> . For example: <pre>imtkmake32 -genclientwsdl ...</pre>
<b>imtkmake and genclient and genclientwsdl in 64-bit</b>	Running <code>imtkmake -genclient</code> or <code>imtkmake -genclientwsdl</code> 64-bit working mode results in a compilation error when compiling the COBOL client proxy ("number too large"). To work around this issue, explicitly invoke the 32-bit version of <code>imtkmake</code> when generating a client for your service interface or when generating a client from WSDL. For example: <pre>imtkmake32 -genclientwsdl ...</pre> <pre>imtkmake32 -genclient ...</pre>
<b>J2EE Connector</b>	No XA transaction support for WebSphere 6.1 using the EJB 3.0 Feature Pack is provided.
<b>Micro Focus Communications Server</b>	If MFCS is configured in a non-standard error-handling mode, there is a small possibility that a trap will occur when the region is stopped.

## Open PL/I Compiler

Named constants whose "value type" matches the named constant type, such as:

```
dcl x fixed bin (31) value ('7fff'Bx);
```

cannot be used where restricted expression evaluation is required, for example:

```
dcl myarr (x) fixed bin(31) static;
```

# Resolved Issues

The resolved issues that customers have reported are listed in this section. The numbers that follow each error are the Reported Problem Incident number followed by the Customer Incident Numbers (in parentheses). RPIs that have numbers only (and no text) are included to confirm that the RPIs have been fixed, since no further information is required.

Errors have been fixed in the following areas:

- *AgentServices API*
- *ASC Automatic Synchronize Compil*
- *CAS (COBOL App Server) General*
- *CAS Security*
- *CAS XA Switch modules*
- *CCI TCP/IP*
- *CICS Emulation*
- *Client/Server Binding*
- *Cobdebug*
- *Compiler*
- *Compiler Front-end*
- *Data Tools Converter*
- *Documentation*
- *Environment*
- *File Handling - External File Handler*
- *File Handling - Fileshare*
- *File Handling - Rebuild*
- *File Handling - Sort / JCL Sort*
- *IDE Debugging*
- *Interface Toolkit General*
- *Interface Toolkit Mapper*
- *LE370 Support*
- *Macro Preprocessor*
- *Mainframe Call Generator Client*
- *MF Communications Server*
- *MF Directory Server*
- *MF Server Administrator (GUI)*
- *MFA: GUI components*
- *MFIO*
- *MLDAP API Interface*
- *Monitoring and Management*
- *MTO - CICS BMS Screen painter*
- *MTO - CICS Emulation*
- *MTO - CICS ESMAC*
- *MTO - CICS Supplied Transactions*
- *MTO - CICS Utilities*
- *MTO - IMS DB*
- *MTO - IMS MFS*
- *MTO - IMS Other*

- *MTO - IMS TM*
- *MTO - IMS Utils*
- *MTO - JCL ESMAC*
- *MTO - JCL MVS*
- *MTO - JCL System Catalog*
- *MTO - JCL Utils*
- *MTO - JCL Utils - IDCAMS*
- *MTO - JCL VSE*
- *MVS REXX Emulation*
- *NCG*
- *Open PL/I CICS Preprocessor*
- *Open PL/I Compiler*
- *Open PL/I Debugger*
- *Open PL/I Macro Preprocessor*
- *Open PL/I RTS*
- *Open PL/I SQL Preprocessor*
- *RTS*
- *SQL: Cobsq1*
- *SQL: DB2 ECM*
- *SQL: HCO for SQL Server*
- *SQL: OpenESQL*
- *Web Service Client*
- *XDB INZUTILB Utility*
- *XDB JDBC Driver*
- *XDB Server*
- *XDB SQLWizard*
- *XDB: Problems not classed above*
- *XML syntax support runtime*

### **AgentServices API**

- For a program-based Service Interface, for any mapped COBOL data item that has an OCCURS with the new COUNT IN clause, at service run-time, upon entrance the number of occurrences of the corresponding element in the SOAP input will be placed in the data item specified in the COUNT IN clause, and upon exit the value of that data item will dictate the number of occurrences of the corresponding element to put in the SOAP output.

1081944 (2540368)

### **ASC Automatic Synchronize Compil**

- The destination folder returned from the ASC user exit program ASCBCOPY is now used for compiling in production in addition to the destination folder for the copy to production.

1085229 (2579380)

### **CAS (COBOL App Server) General**

- ES\_DFLT\_USR\_JES environment variable is now honored for cassub. Jobs submitted from the command line using cassub.exe without the '-u' option will now run as JESUSER and not mfuser.

1082264 (2550825)

- Various intermittent crashes in MFCS when TN3270, CICS Transaction Gateway, or IMS Connect conversations ended have been fixed.

1081966 (2543488)

- Numerous problems with JCL HSF records have been resolved.  
1083121 (2557267)
- The maximum console log size functionality now works on Unix platforms.  
1083347 (2563247)

### **CAS Security**

- The MLDAP ESM Module, which provides LDAP-based security for Enterprise Server, now lets you configure the LDAP timeout. Set it in the [LDAP] configuration section using the name "timeout"; the value is the timeout in seconds. The timeout for connecting to the LDAP server can be set separately using the name "connect timeout". See mldapesm.html for more information.  
1082997 (2558350)
- When using Enterprise Server with External Security and the MLDAP ESM Module, a change-password request is now ignored if the new password matches the old one.  
584831 ( )
- With the MLDAP ESM security module, when the "mode=bind" option is enabled, a user who has an expired password or the must-change-password flag set can now sign on if a new password is supplied with the sign-on request and the password is changed successfully.  
1082750 (2556130)
- The MLDAP ESM Module can now be configured to support an additional wildcard character, "+", which matches any one character in the resource, user, or group name. To enable this wildcard, set "plus-wildcard=yes" in the [Operation] section of the Security Manager configuration area.  
1083460 (2565125)
- The Audit Facility events generated by Enterprise Server External Security for the Auth and XAuth operations now include a parameter describing the kind of access requested by the Auth or XAuth call.  
1081166 (2537472)
- When using the MLDAP ESM Module for Enterprise Server security, if a resource has an ACL with two applicable ACEs, where one is a Deny ACE for the exact name of a group (eg "deny:FOO group:read"), and the other is an Allow ACE for the exact name of a user (eg "allow:BAR:read"), the user is now allowed access.  
1084543 (2577924)

### **CAS XA Switch modules**

- The XA build script has been updated to resolve an issue using the 64-bit DB2 XA switch module on x86-64 platforms running Linux.  
1083129 (2560501)
- The JCL Job Stream no longer completes with a return code of 0 when XA Resource Manager reports an initialization error.  
1082602 (2524118)

### **CCI TCP/IP**

- CAS utilities such as cassub or casout, and COBOL Web Service clients, no longer timeout prematurely when used with an SSL-enabled connection.  
1082906 (2557202)

### **CICS Emulation**

- A region sometimes failed to start if a large number of libraries were specified. The size of the load module concatenation list has been increased to address this.

1084287 (2574862)

### **Client/Server Binding**

- Various issues with Client/Server Binding (when used with the CCI communications API) have been addressed. The client limit should now be enforced correctly, and problems with service registration and hung client processes have been eliminated or reduced.

1083869 (2565987)

### **Cobdebug**

- An invalid parameter no longer occurs when a progid longer than four characters is specified with the CICS type when using cobesdebug.

1081596 (2542994)

### **Compiler**

- A COMPUTE ROUNDED statement where the precision of intermediate results exceeds Enterprise COBOL's digit limit now produces mainframe compatible results (when the appropriate ARITHMETIC directive setting is specified).

1081927 (2546074)

- The IBMCOMP mainframe emulation directive no longer affects the behavior of PIC X(n) COMP-5 fields which are an MF extension.

1081865 (2546402)

- Hyphenated copybook names are now flagged under IBM mainframe dialects.

1082909 (2558385)

- Fields defined as PIC X(8) COMP-5 now behave correctly with the IBMCOMP directive.

590370 ( )

- When a user preprocessor which does not fully conform to the preprocessor stacking protocol is stacked with the CP preprocessor, copybooks which have standard extensions are still resolved as expected.

1084107 (2570694)

- Visual Studio no longer displays an error when opening the attached apman1.cbl.

1085708 (2590819)

### **Compiler Front-end**

- A problem with an END statement being matched to a PROC statement with multiple labels has been fixed.

1077132 (2488726)

### **Data Tools Converter**

- DFCONV no longer fails on AIX with RTS error 200 or RTS error 252 when processing a record layout file (STR) containing ODO data items.

1081674 (2544023)

- The DFCONV field has been increased from eight to nine digits in order to display a larger record count.

1085662 (2589387)



## Documentation

- When invoking MFSORT from the command line, the maximum length of the command is 1024 characters. Characters after this limit are ignored, and if this truncation causes an invalid/incomplete command, an error is produced.  
592933 ( )
- The documentation was not clear about the range of acceptable values of EX\_XA\_????\_NB\_RETRIES or the consequent system behaviours. This has been corrected.  
1085893 (2593300)
- The documentation has been updated to clarify the effect of escape characters on path names.  
1086013 (2594224)
- In addition to the LMFCOMM environment variable, you can use the ESLMFCOMM environment variable to set the location where the LMF-common pipe files are created.  
1082173 (2549723)
- When you create or edit a CICS SIT resource in ESMAC, the paths of recoverable and non-recoverable temporary storage queues are now specified in separate fields, Path (rc) and Path (nr).  
1084877 (2578440)

## Environment

- The files mfeslm.conf and mflm.conf created by eslminstall and lmfinstall have been updated to work correctly when Red Hat 6.1 machines are rebooted and use the upstart mechanism for starting process at boot time.  
1083159 (2561581)

## File Handling - External File Handler

- Invalid XML syntax in MF.MFFH.XML has been corrected.  
589406 ( )
- CTF tracing no longer defaults to showing CTF handles as errors. CTF tracing for handles now only appears for DEBUG and ERROR levels.  
1083551 (2566161)
- Reading IDXFORMAT"9" records non-transactionally over fileshare no longer causes any issues.  
1083646 (2566578)
- Setting STRIPSPACE to OFF now correctly honors the record length and allows trailing spaces for LSEQ files.  
573921 ( )
- Support has been added to allow trailing spaces in LSEQ files when used with the variable STRIPSPACE=OFF, when printing records via stdout or piping to a file.  
585740 ( )
- Sequential files on a 64-bit machine are now correctly padded to fill the LRECL.  
586461 ( )
- When opening a mainframe file for input, the file is now not optional as per the mainframe.  
1082362 (2506971)
- Cobfhrepro now works correctly when session id is specified.  
590271 ( )
- The rebuild help message file has been updated to correct a typo.  
592271 ( )

- If the DDname is missing from JCL, the value of COBDATA is not used to search for a file.  
1084935 (2559292)
- The maximum field length that MFSORT supports for PD summary fields is extended from 9 bytes to 18 bytes.  
1084961 (2581353)

### **File Handling - Fileshare**

- It is now possible to open the same indexed file 1024 times from a single fileshare client. Any further attempts will result in a COBRTS 9/015 - Too many indexed files open.  
1084385 (2576603)
- Closing a file using FSVIEW now correctly removes the file from fileshare's open file table.  
587706 ( )
- Using a READ statement after a CLOSE REEL through Fileshare could result in a 9/077 error.  
587474 ( )
- The FSVIEW option 'stats get' gives the statistics for current users, peak users, file opens and peak file opens. The corresponding FSVIEW API is FSV-C-get-stats.  
1083664 (2567737)
- FSVIEW will no longer process the last command in a command file twice.  
589764 ( )

### **File Handling - Rebuild**

- If the checkpoint LAST is set and no checkpoint exists, BATCH BACKOUT now backs out of the entire log.  
1081493 (2541220)

### **File Handling - Sort / JCL Sort**

- A sort using SORTTEMPSPACE no longer ever results in a COBRTS 252 error.  
1081943 (2546898)
- When writing to EBCDIC files, DATE constants will now correctly be converted into EBCDIC format.  
586917 ( )
- CENTWIN and Y2PAST are now supported as PARMs.  
1080717 (2531364)
- Sort now closes down correctly after an RTS 163 error, and is now able to carry on and process further jobs.  
1082133 (2544148)
- When combining OUTFIL and SORTOUT files where headers and trailers were used, SORTOUT sometimes contained mainframe printer control characters.  
1082048 (2548488)
- An RTS 252 error no longer occurs if RTS memory checking is enabled and outfil processing is used in a sort card.  
1081337 (2540109)
- Setting SORTSPACE to the same value as SORTTEMPSPACE no longer causes an RTS 252 to occur.  
1081277 (2539633)
- If a SUBSYS is specified and does not exist, SORT reverts to using EXTFLH and emits a warning message.

- 1081570 (2542992)
  - PARM RC16 is ignored but the comment line reports a warning.
- 1081203 (2537395)
  - A SORT performed from REXX no longer causes a COBRYS 114 error.
- 1081942 (2546794)
  - SORT will now correctly compare INCLUDE/OMIT parameters when SUM FIELDS=NONE.
- 1083014 (2558088)
  - The informational "Operand 'VLSHRT' Ignored" message has been removed from the sort sysout.
- 1083225 (2562501)
  - When using MFSORT, smaller records are padded to the size of the minimum record length of a VB file and the record length is changed to the minimum of sortout.
- 1082943 (2554482)
  - SORT now works correctly when SYSIN is given as LSEQ PDS Member.
- 1082529 (2550678)
  - The TOTAL field length calculation now works correctly when TOTALs are zeros.
- 1082887 (2558079)
  - SORT worked incorrectly for multiple fields to be converted in INREC/OUTREC/OUTFIL OVERLAY syntax.
- 1084481 (2577157)
  - Using SYMNames sometimes caused SORT to use the wrong field position and lengths.
- 1083320 (2563738)
  - When using MFJTOOL with a VB input file, an appropriate error is thrown when the output file is not VB or has not worked successfully when the output file is VB. Previously, a COBRYS 139 error was thrown.
- 1084567 (2577626)
  - SORT now works correctly when there are concatenated VB files with different record lengths in SORTIN.
- 1084194 (2573990)
  - SORT now gracefully handles the error when there is an INCLUDE/OMIT condition with invalid HEX/ Binary digit.
- 1084231 (2574465)
  - SORT now ignores the operand 'WORK' along with its value.
- 1081023 (2533397)
  - The MFSORT help screen now shows that OPTION is supported.
- 590260 ( )
  - Trailers are now included in the SYSOUT outfil record count.
- 1084193 (2573272)
  - Records following HEADER2 and HEADER3 will now be the correct length.
- 590270 ( )
  - Header lengths are now calculated correctly, taking line feeds into account instead of giving a SORT099I error. Headers will now be printed for outfiles that do not have any records.
- 1083701 (2565909)
  - Sort now displays HEADER2 at the start and TRAILER2 at the end of each page.
- 1083702 (2566545)
  - Data format FI is now supported in the OUTREC edit fields section.
- 1083495 (2565051)

- Sort now works correctly when OPTION COPY is given before the SORT FIELDS in SYSIN.  
1083679 (2565053)
- SORT caused different sort processing for large sort cards. This has been fixed so SORT now returns an error message and exits the sort processing when the sort card has more than 1024 INCLUDE/OMIT conditions.  
1084065 (2571660)
- The ALLDUPS option of the ICETOOL emulation now correctly separates records with duplicates and without duplicates.  
1085463 (2582219)

### **IDE Debugging**

- When using either remote or dynamic debugging of an Enterprise Server running on Linux, changing the execution position now updates the position correctly.  
1082735 (2544511)
- When debugging a CICS transaction which uses the EXEC CICS LINK syntax to call a program, the value of data-items in the program now show the correct values if the transaction is running from an Enterprise Server configured as 64-bit.  
1081291 (2539827)
- When you debug an enterprise server running on Linux using remote debugging or Dynamic debugging, the values of PIC X() items are now correctly updated when you change them.  
1082696 (2544511)

### **Interface Toolkit General**

- In the Interface Mapper Toolkit, for Operations, the "User Exits" tab now exposes all 10 Request Handler User Exits.  
1082032 (2548426)
- When executing the imtkmake command using either a command-line "session type" parameter or by setting "session type" in a property file, a stateful J2SEBean was not being generated. This has been corrected.  
593480 ( )
- o The default Generate Trace Level and Run Trave Level values erroneously defaulted to Low. They now correctly default to NONE and LEVEL\_0 respectively.  
593269 ( )

### **Interface Toolkit Mapper**

- In the Service Interface editor, an item of a reusable field can now be of a type that itself refers to a reusable field.  
1082293 (2542739)

### **LE370 Support**

- When using LE services in an Enterprise Server IMS application, you no longer need to make several attempts to assign a heap memory segment. When the Enterprise Server region is shutdown, the memory is recovered correctly.  
1083119 (2560472)

### **Macro Preprocessor**

- You no longer receive errors when the Macro Preprocessor processes an %INCLUDE filename when it is preceded by a %DECLARE statement with the same name.

1084534 (2578366)

### **Mainframe Call Generator Client**

- RJSE job steps with more than 127 records will no longer cause rjseca.dll to trap and the step to abend 0C4.

1084126 (2572626)

### **MF Communications Server**

- Intermittent failures in the CICS Web Interface servers that send chunked responses have been fixed.

590777 ( )

- A problem with MFCS crashing intermittently while processing inbound CICS Web Interface requests has been fixed.

587809 ( )

- The IMS Connect (OTMA) feature of Enterprise Server no longer crashes, creates spurious log files, or displays other irregular behavior when conversations close while the server is under heavy load.

1082306 (2502575)

- For CICS Web Interface servers that use chunking and persistent conversations, and do not send trailers, the response is now properly terminated. This fixes some issues where clients hung when receiving the response from such a server.

1081884 (2545201)

### **MF Directory Server**

- If a user is logged into the Enterprise Server Administration HTML GUI and his account is deleted by an administrator, the next time he attempts an action it could terminate the GUI.

1081439 (2540178)

- If a file called custom\_greeting.htmf exists in the current HTML file directory, the Enterprise Server Administration HTML GUI loads it instead of the default greeting.htmf file. This allows customers to create their own logon "Welcome" HTML page that will not be overwritten if a product update is applied.

1079596 (2519379)

- On Solaris platforms, attempting to access the Historical Statistics Facility for an Enterprise Server instance from the Enterprise Server Administration console causes the MFDS process to terminate.

592029 ( )

- When you used Enterprise Server Administration to create a new security resource entity, the initial ACL string value was displayed as an incorrect value.

592375 ( )

- An incorrect value could have been saved for the "Maximum HSF file size" in the "Historical Statistics" properties of an enterprise server if you edited the setting from the Enterprise Server Administration HTML GUI.

593405 ( )

- On UNIX, the Enterprise Server Administration page no longer displays the "System Directory" field when you edit an enterprise server instance.

1078939 (2510252)

- If MFDS\_DNS\_RESOLVE=Y is set in the MFDS process, you could get sign on errors. These were caused by the HTML GUI "Log On" menu option URL using the IP address and not the fully qualified

hostname. These issues have now been fixed. As well as resolving the NAT address issues for remote clients, the HTML GUI "Log On" menu option also allows browser clients to connect to the GUI without receiving a certificate warning. This has been fixed in versions of the MFDS 1.14.27 and later.

1084209 (2573815)

- In Enterprise Server Administration, if a server listener has been defined to use SSL, the "Authorise" URL now uses a hostname instead of an IP address if the Communications Process Control Channel listener has been defined using a hostname address. This avoids potential issues where the IP address might be invalid on a remote client because of NAT configuration.

1083989 (2563805)

### **MF Server Administrator (GUI)**

- When adding a user to an external security manager, you can now include a password expiry time in the Advanced Configuration section of the Add New User wizard in Enterprise Server Administration. The field value is specified using generalized time format (YYYYMMDDHHMMSS.0Z), and can be used by the MLDAP ESM for calculating whether a user's password has expired and requires updating. This value may only be specified using this page when adding a user. You need to use an external directory services configuration tool to edit it.

1083203 (2562118)

### **MFA: GUI components**

- Clicking a Help button in the Compare and Synchronize Monitor had no effect.
- When using the Automatic Synchronize and Compile utility (ASC) with the Compare and Synchronize Monitor, specifying the AUTOLOGON option did not cause the ASC password exit to be used.

588082 ( )

584227 ( )

### **MFIO**

- Random OC4 abends will not occur in RJSE steps if the log file is not available for some reason.

1084336 (2575065)

- Logons to MFA sometimes failed because the userid or password contained zeros.

1082548 (2552652)

- The MFA server now accepts fixed length ASCII records without CRLF formatting.

1081969 (2544483)

### **MLDAP API Interface**

- CAS APIs such as casout could leak memory in the client (MFCC) layer. This could pose a problem for long-running processes that invoke those APIs, such as some third-party schedulers used with the Micro Focus JES subsystem. These leaks have been corrected, and MFCC memory use is stable (does not continue to grow) across multiple requests.

1083998 (2559738)

### **Monitoring and Management**

- The HSF page in ESMAC no longer shows an incorrect graph in Firefox when latency is 0.

1082792 (2551627)

### **MTO - CICS BMS Screen painter**

- You no longer receive an error message when compiling COBOL language BMS files if a PICOUT string in them contains the character "0" (zero).  
1085804 (2591902)

### **MTO - CICS Emulation**

- If an alternate file is created and the base name for the referencing file is wrong, the user can now correct the resource definition base name and apply the changes without having to restart the region.  
1084651 (2578312)
- A value of -1 in the parameter to the CURSOR option of a CICS SEND MAP command is now interpreted correctly as meaning "use symbolic cursor positioning".  
1082249 (2545382)
- The Global User Exit XEIIIN can now signal that execution of the requested API should be bypassed by returning UERCBYP in the return-code.  
1082573 (2553355)
- An initial CICS transaction, as specified in the SIT, no longer causes screen corruption if it uses DBCS characters.  
1083074 (2560428)
- The value passed in the ITEM field for a CICS READQ TS command is now correctly converted, and no longer causes an ITEMERR condition.  
1082920 (2558374)

### **MTO - CICS ESMAC**

- If external security is configured (MLDAP) and the default ESMAC user is not allowed to login, the region does not startup.  
1082337 (2550800)

### **MTO - CICS Supplied Transactions**

- When installing an updated CICS FCT entry with a change of physical file name, the old file name is no longer used.  
1082653 (2553650)

### **MTO - CICS Utilities**

- When importing sign-on table (SNT) records via the batch utility CASRDTUP, the password field is no longer checked for valid characters: any valid character may be used to match your password policy.  
1083592 (2565838)
- The size of the variable used to parse the commands you enter at the command line has been increased to more than 255 characters.  
1084087 (2572053)

### **MTO - IMS DB**

- The IMS database utility (IMSDBU) pointer update function now works as expected on UNIX platforms when a virtual logical child segment is defined with multiple sequence fields.  
1084521 (2578220)
- When using an IMS BMP under DFSRRC00, the XA connections are now all enabled for the application to use.

1085566 (2585896)

- On 64-bit platforms, the PCB call from a CICS application that is compiled using the AMODE directive now correctly receives 4-byte linear address model pointers.

1084819 (2580421)

- When a data capture exit routine is specified in a DBD but not found, the application program which updated the database will ABEND with a U3314 and the database update will be rolled back. When data capture exit routines are defined in the DBD source but not needed at run time, the DBDGEN directive NODCX will cause the EXIT= specification in the DBD source to be ignored.

1084675 (2579600)

- PSBs which contain both LIST=NO PCBs and PCBs that do not specify a PCBNAME no longer result in a PCB misalignment.

1082973 (2558838)

- The root segment in the logical parent database is no longer updated instead of the logical parent segment, in cases where the virtual insert rule is specified for a logical parent segment that is defined at a level below the root and an application inserts a concatenated segment containing IO areas for both logical child and logical parent.

1083054 (2559893)

- An IMS database with a virtual paired bidirectional logical relationship that specifies the physical replace rule on the real logical child now correctly returns an 'RX' status code when attempting to replace the logical child segment using the virtual logical child. Previously the physical replace rule behaved as if virtual was specified.

1083306 (2562778)

- In an IMS MPP, DLI calls that are issued before the GU to the IOPCB now give the correct results.

1083541 (2563797)

- For the batch backout job, if the user specifies the input parameter of CHKPT, a valid checkpoint id or the keyword 'ALL' or 'LAST' must follow, or the job will not run.

1082185 (2549982)

- A new directive (NOPAIR) has been added to the IMS DB Utility (IMSDBU) Pointer Update (PTRU) function. While resolving logical children (LC) segments, the NOPAIR directive will suppress the operation that searches for the paired LC segment. This can be used to optimize efficiency when loading IMS DBs with bidirectional paired logical relationships when the logical children segments are NON-KEYED. This directive should only be used when paired LC segments are loaded on only one side of the relationship.

1082663 (2555682)

- The AIB resource address field AIBRSA1 is no longer incorrectly returned in AMODE format to a NOAMODE application.

1082150 (2548504)

- A basic CHKP call from an IMS transaction now works correctly.

1082072 (2545005)

- AIBTDLI INQY FIND calls now work correctly when BTS tracing is enabled.

1081992 (2548059)

## **MTO - IMS MFS**

- Segment/field exits must be written in COBOL. Micro Focus supplies a sample segment exit routine, called DFSME127, and a sample field exit routine, called DFSME000. All user-written exits must follow the naming convention DFSME<sup>nnn</sup>, where <sup>nnn</sup> is 000 through 127. Both of the sample exits are well documented. Refer to IBM IMS documentation for a description of the linkage parameters. For the segment exit DFSME127, there is an extra field at the end of linkage control block called DFSME-R1-RETURN. This field contains a user-defined error message number when the segment exit issues a



return-code of 12 (which causes the message to be canceled). To be invoked, the segment and field exits must be compiled and the compiled code must reside at a location pointed to by the ES\_IMS\_EXITPATH environment variable. If the exits are not found here, they will be searched for at the location pointed to by the COBPATH environment variable. All exits, DFSME000 through DFSME127, if they are to be invoked, must exist at the proper location before the server is started. As the server is started, the names of the exits found are written to the server console log. Use of any segment or field exit is optional. In other words, if an MFS source references an exit and it does not exist, the behavior is as if there were no exit coded in the MFS. If, for some reason, the exit returns an exception condition, a message will be written to the server console log. It is up to the author of the segment exit to ensure that the segment is not modified in a way that causes the segment to be invalid. Doing so may cause a run-time problem with the server. Currently, there are a few restrictions on using segment and field exits: 1) The sample segment and field exits are supported only for MFS source which uses the option 1 and 2 format. 2) The return code of 16 from the segment exit is not supported. This means that a segment exit returning a value of 16 cannot expect the message to be returned to the input device. 3) An exit should not invoke IMS callable services, including storage services and control block services.

1081373 (2540589)

- When running EBCDIC applications under Micro Focus server, if there are input fill characters coded as hex values in the MFS source, and those values SHOULD NOT be converted to EBCDIC at run time, you need to regenerate the MFS and use the HEXFILL directive. Those hex values will then remain the same at run time and will not be converted to EBCDIC.

1082331 (2550799)

- In dfhcwini.cpy, the default MOD screen sizes in ws-ttype-table have been modified so that they now reflect the default size of 80x24. This change means that casmfs.cbl needs to be modified because it uses the default MOD screen sizes rather than the Alternate MOD screen sizes.

590439 ( )

#### **MTO - IMS Other**

- A User 0476 ABEND (invalid PCB address) no longer uses an incorrect error message and reports a system software error.

586690 ( )

- The address of the application parameter (APARM) is now correctly returned to an INQY ENVIRON call from an IMS data capture exit routine.

1084673 (2579598)

- When SSTM is enabled for IMS, an application parameter (APARM) can be specified in the JCL for an IMS MPR and is available to the AIBTDLI INQY ENVIRON call from IMS applications and data capture exit routines. The value of the APARM is taken from the JCL when the first message is processed in the MPR which might not be immediately when the MPR is started. All MPRs share the same JCL file.

1084674 (2579599)

#### **MTO - IMS TM**

- A problem with the MFS LTNAME field not matching the I/O PCB LTERM field has been resolved.

1083958 (2569956)

- A problem with running transactions not being properly terminated and rolled back when an IMS MPR process goes down, has been resolved. Also, the ESMAC SEPs page now includes a "Kill" button for active MPRs.

1084862 (2579672)

- The IMS transaction processing limit time setting is now supported.

1077380 (2487424)

- The IO-PCB now contains the correct MOD name upon a transaction-switch.

1084892 (2579872)

- OTMA transactions no longer timeout in error.  
1081620 (2502575)
- The /DEQUEUE TRAN command is now available to remove messages from the message queue.  
1080760 (2490631)
- The non-discardable messages exit routine (DFSNDMX0) is now supported.  
1082587 (2549339)

#### **MTO - IMS Utils**

- PSBGEN error message PSBUT870E is no longer issued in error when a logical DBD references multiple physical databases that all use the same segment names.  
1082088 (2538116)
- Some failures from IMS batch backout restore were undetected by the utility control program MFDBUJCL, which resulted in confusing messages in the job SYSOUT. This has now been fixed.  
1081494 (2541221)
- The IMS DB editor no longer fails with a run-time system error 173 on the "mFHTRSrtr" file.  
593399 ( )

#### **MTO - JCL ESMAC**

- The JES Alias page now checks the OPERCMDS class to ensure that the user has "Update" or greater authority against the entity JESALIAS. If the user has only "Read" authority, the "Delete" and "Update" buttons are disabled.  
1081333 (2524732)
- With Enterprise Server external security using the MLDAP ESM Module, when checking access to a dataset with a name like "A.B", a rule named "A.B" will have priority over a rule named "A.B.\*\*". This lets administrators give users higher permissions over more-qualified dataset resources, so for example they can give users the ability to add and delete "A.B.C", while only being able to read "A.B".  
1082083 (2536980)

#### **MTO - JCL MVS**

- When MFCODESET was set to a codeset where characters do not match the Latin 1 set, an error, 'JCLCM0218S System error "MFJXE00--L"', in MFLEINIT was reported in the JES log. The step would then terminate with COND CODE RTS0173. This has been fixed and the LE initialization under different codesets no longer results in this error.  
1082286 (2551104)
- When a keyword value is a JCL keyword, it is now correctly interpreted.  
1081501 (2542158)
- The system now allows deletion of a PDS member (not dataset) with update authority.  
1084539 (2576851)
- The limit on the number of conditions in a JCL IF test has been increased from 15 to 30.  
1081161 (2538377)
- The JCL STEPLIB processing has been changed to ensure that a STEPLIB is always cleared at step end so it is never active for a subsequent step.  
1083422 (2534013)

### **MTO - JCL System Catalog**

- A problem following an authorization error on a pc file name that caused JCL TO HANG has been fixed.  
1085702 (2590105)

### **MTO - JCL Utils**

- The use of parameters on the FD card of IEBDG has been extended to be more compatible with mainframe usage.  
1085138 (2582515)
- Previously, SVC99 in the catalog did not set the expiration. It now supports retention period TU (Text Unit).  
1084364 (2576036)
- When you delete a dynamic PDS, this does not automatically delete the underlying PC files. To delete the underlying PC files, set the MF\_DEL\_DYNPDS environment variable to Y. The default behavior is unchanged.  
1083656 (2567645)
- In IEBCGENER, if the SYSUT1 dataset is a DUMMY dataset it will now be processed as an empty dataset.  
1083514 (2565707)

### **MTO - JCL Utils - IDCAMS**

- If an unbalanced quote is detected in an IDCAMS literal, an error message will be issued, detailing the command and indicating the problem, and the command will be bypassed.  
1081736 (2544840)
- Symbolic parameters in JCL Procedures are now correctly expanded.  
1080809 (2532904)
- If a GDG Base is returned as part of the LISTCAT command, then the generations will also be displayed. If a VSAM Cluster is returned then the elements of the cluster, such as DATA, INDEX and AIX, will also be displayed.  
1079743 (2521461)

### **MTO - JCL VSE**

- There is no longer a problem identifying comments if they immediately follow the terminator ( /\* ) for an instream data file.  
1084081 (2567761)

### **MVS REXX Emulation**

- CALLED EXECs now correctly inherit the trace setting of the CALLING EXEC only following the invocation of the TS command.  
1081539 (2542202)
- The DATE() function now formats the year correctly when converting between a Julian and a standard date format.  
1083437 (2564240)

### **NCG**

- A bug generating statements of the form: call function upper-case(var-a) has been fixed.  
1084500 (2577968)

## Open PL/I CICS Preprocessor

- A problem with mfplx erroneously passing the compiler options -opt and -noopt to mfexecpp has been fixed.  
1085080 (2582970)
- The PL/I built-in functions LOW and HIGH are now handled correctly when used in a CICS command.  
589782 ( )
- A concatenated expression within a CICS parameter no longer fails with the message: The argument of ADDR must be a reference to a variable.  
1081680 (2544319)

## Open PL/I Compiler

- BIT(n) items passed as parameters are now handled correctly.  
1083780 (2568931)
- A problem when using a named constant with a VALUE using the DIM built-in has been fixed.  
1083576 (2566024)
- A problem passing fixed bin(15) results from built-in functions to subroutines with ANY parameters when using the -bigendian compile switch has been fixed.  
1083470 (2561007)
- If -setstack was specified on a PL/I CICS project, it was not passed by mfplx correctly. It is now correctly passed to only the mfpli step.  
1083661 (2549386)
- A problem when declaring an automatic char varying item with a length specified using the SIZE or STG built-in function has been fixed. For example: dcl x char(4); dcl str char var (stg(x));  
1083710 (2568134)
- A problem passing a char(\*) parameter to an external subroutine declared with options(nodescriptor) has been fixed.  
1081856 (2546480)
- A problem with the compiler not recognizing the UNAL keyword in the DEFAULT RANGE(\*) UNAL statement has been fixed.  
589371 ( )
- An optimizer change has been made such that the Warning message "MFPLI002481 : A possible conditional optimization was missed" should only be seen very infrequently.  
1083082 (2553574)
- The Open PL/I compiler crashed with a "page not in cache" error.  
589891 ( )
- You no longer receive erroneous diagnostic messages or Compiler errors when compiling PL/I programs that miss or include a mismatched END; statement.  
1085247 (2585031)
- When you declared a file as RECORD OUTPUT and opened it with the TITLE option pointing to a RECFM=VB file after opening it with the TITLE option and pointing a RECFM=FB file, an "UNDEFINED FILE" condition was incorrectly raised.  
1085117 (2583549)
- Using the Open PL/I Compiler -debug option no longer causes the compile to fail with "Internal consistency" error.  
1085315 (2586006)

- The VALUE clause in named constants has been enhanced to support the POINTVALUE built-in.  
592721 ( )
- The Open PL/I Compiler now diagnoses CLOSE FILE(\*) as not yet supported.  
592693 ( )
- The Open PL/I Compiler now supports the NOINIT attribute.  
592724 ( )
- The Open PL/I Compiler now supports the PARAMETER attribute.  
592725 ( )
- The Open PL/I compiler now supports hexadecimal (XN) fixed binary constants.  
592718 ( )
- Punctuating arithmetic, bit, and hexadecimal constants is now supported.  
592719 ( )
- The TINY and HUGE Open PL/I built-ins are now supported.  
1085870 (2592830)
- When the Regional Language setting for the decimal point was a comma (for example 3,141592), a possible floating point conversion error from ASCII to float binary occurred.  
1085970 (2593986)
- The string concatenation of the HIGH/LOW built-ins with a repeat factor returned incorrect results.  
1086379 (2597746)
- Using INITIAL clauses that contain concatenation of string constants were generating compiler errors.  
1086434 (2598242)
- An incorrect padding of trailing blanks occurred for a string returned by the expression HEX(SUBSTR(...)).  
1085658 (2590174)
- A problem with an unresolved external reference when linking with an external condition has been fixed.  
1079634 (2520275)
- Previously, when a Compiler error message contained a variable name or variable description that consisted of 79 bytes or more of contiguous data without a space, a protection violation occurred when trying to compile.  
1084456 (2577444)
- A compatibility issue requiring an ENTRY keyword on an entry declaration having an empty parameter list and a RETURNS attribute, and/or the use of parenthesis () at the call-point, has been fixed.  
591219 ( )
- A problem with specifying REORDER on an ON ERROR block has been fixed.  
1084879 (2581350)
- A problem when PIC variables of the same size are used as DO loop control variables has been fixed.  
1078110 (2500306)
- Structure expressions are supported with the UPPERCASE, LOWERCASE, and REVERSE built-ins. Restrictions: only "flat" structures are allowed. Arrays, arrays of structures, and structure member arrays are not yet supported.  
1084538 (2578374)
- A compound IF statement involving PIC and Fixed Binary Big-Endian fields not being evaluated correctly under certain circumstances has been resolved.  
1084155 (2572873)
- Performing fixed bin big-endian array assignments failed when conversion was required.

1084139 (2571825)

### Open PL/I Debugger

- Variables declared with DEFINED POS(x) were not displaying correctly in Codewatch. This issue has been fixed but, to avoid this problem when debugging with Codewatch, you need recompile any source code that includes such variables with -deb.

1084063 (2571824)

- When using the \_ARGC/\_ARGV mechanism to retrieve command line parameters, the number of parameters and position are now consistent, whether invoked by cwcmd, cwgui or as an executable.

1084219 (2574105)

- If a C#/C++ combo .EXE compiled with "Debug" using CodeWatch attempted to drive an Open PL/I DLL, then the debugger attachment would fail. Having existing Program database files available from a prior compile would cause this issue.

1086177 (2587020)

- A problem evaluating CONTROLLED variables in the Open PL/I Debugger has been fixed.

1085303 (2578290)

### Open PL/I Macro Preprocessor

- If hex FF is found within a literal constant which spans multiple lines, the macro preprocessor no longer erroneously reports that EOF had been reached before it should have been.

589505 ( )

- The macro preprocessor now supports %DO ... WHILE expressions.

1082119 (2549068)

- When preprocessing source which contains /\*/ as part of a comment "start", the preprocessor no longer incorrectly determines that the comment is concluded with the trailing '/.

590202 ( )

- When you used the PL/I Macro Language PARMSET() built-in, it would sometimes incorrectly report PARMSET() as true for an argument that had not been passed in. The problem was most prevalent when a combination of KEYWORD invocation and positional parameter invocations were intermixed multiple levels deep.

592695 ( )

- The Open PL/I Macro Preprocessor had a limit for the length of macro variable names of 32. This has been expanded to match the compiler's limit of 100.

1085365 (2586632)

- An unterminated quote caused the Open PL/I Macro Preprocessor to loop.

1085759 (2591348)

- When running the macro preprocessor as part of an Open PL/I Compile, if there are missing %INCLUDE files, we now flag them as SEVERE errors which are visible in the Visual Studio Output Tab even with the minimal level of MSBuild information enabled. We terminate after the macro phase, allowing the customer to correct the situation before continuing.

1084419 (2577072)

- The Open PL/I Macro Preprocessor now handles multiple closes of macros.

1084417 (2577063)

- If a PL/I Macro is written so that KEYWORD parameters (as opposed to positional parameters) are used, and a macro is driven that uses a KEYWORD parameter which is not supplied, the result is no longer truncated at the location of the missing KEYWORD parameter.

1084556 (2578580)

- Previously, an attempt to compile PL/I source which contained macro language and the macro language contained an assignment statement where one of the literal constants was larger than 4096 bytes could result in a protection violation in mfpp.exe. This has been enhanced so that you can now use literal constants up to 16392 bytes. If you exceed this limitation, an appropriate message is displayed.

1084405 (2576694)

### Open PL/I RTS

- If more than 65,535 Open/Close cycles occurred in a long running standalone (.exe) PL/I application, then an RTS 13 error occurred.

1085752 (2591161)

- For all I/O, where there was absolute minimal information supplied about a file, Open PL/I RTS assumed the following for non-direct, keyed, or VSAM files. o LSEQ o RECSIZE(258) o fixed length The RECSIZE(258) in conjunction with the fixed length caused the erroneous "ON RECORD()" to be triggered. Open PL/I RTS has been enhanced so the ENV() attribute of V or F creates Micro Focus variable or fixed length files. Absence of V or F causes LSEQ format output, which is the same as the current default.

1085491 (2588122)

- When using PLISRTB, PLISRTC and PLISRTD, an erroneous search for a supporting executable was occurring for each IO operation.

1086317 (2592201)

- If using an automatic variable as the record buffer for a CONSECUTIVE file, a stack corruption no longer occurs upon the explicit close of the file.

591576 ( )

- If an alternate index from an Open PL/I program is defined to allow duplicate keys, a read where two consecutive records have the same key of reference is now handled correctly.

588713 ( )

- Previously, when attempting RECORD IO against a file which also had an ENVIRONMENT option of CTLASA specified, the first byte displayed was random uninitialized data and the first byte of user data was lost. This no longer happens.

1082308 (2551165)

- The new PLIDUMP functionality on Server Enterprise Edition 6.0 now correctly contains the "called from" information in the PLIDUMP.

1081893 (2545936)

- Previously the "special" behavior related to a "SKIP" on the first line of the first page was causing the output in the provided example to incorrectly NOP the SKIP statement embedded in the format portion of the PUT EDIT statement. This no longer happens.

1082320 (2551392)

### Open PL/I SQL Preprocessor

- In Enterprise Developer 2.1, and Studio Enterprise Edition releases from SP2 WS2 onwards, EXEC PP should be used.

1082329 (2545557)

### RTS

- When upgrading mainframe-based PL/I code to Enterprise Server, if the application utilized the CEE3ABD API then it failed to link with an unresolved external.

1084537 (2578370)

- IF NUMERIC validation of COMP-3 slack nibbles (when there is an even number of digits in the picture clause) is now done in a way that is compatible with that on the mainframe.  
1083801 (2569340)
- An error in UNSTRING, where a zero length field is moved to a numeric display item, has been fixed.  
1085663 (2589149)
- When using a mainframe dialect, any invalid character in the decimal point position is now ignored when de-editing a numeric-edited item.  
1081507 (2542326)
- When running a transaction under Enterprise Server, the %f template string in the core\_filename tunable now works correctly.  
1079249 (2504692)
- Any shared objects loaded during an Enterprise Server transaction are unloaded when the transaction finishes. Shared objects linked with a non-COBOL shared library are now correctly unloaded too.  
1081549 (2539607)
- Use of PC\_PRINTER\_DRAW\_RECTANGLE, PC\_PRINTER\_GET\_BMP\_INFO, PC\_PRINTER\_LINE\_FROM\_TO, PC\_PRINTER\_SET\_BACKGROUND\_MIX\_MODE, PC\_PRINTER\_SET\_PEN or PC\_PRINTER\_SET\_POSITION no longer give an unresolved symbol error when linking as a 32-bit application.  
1072571 (2418196)
- Compacting memory with CBL\_MEM\_VALIDATE when using .gnt code could potentially result in an RTS 252 error of type "1/4". This has now been resolved.  
1082487 (2553152)
- Using PC\_PRINTER\_INFO with a printer that is loaded with non-standard paper size no longer causes a run-time system error 114.  
1082289 (2550724)
- The call MVS\_REGISTER\_DDNAME is an MFE-only call used by the IDE. FileHandler no longer calls this routine.  
1083028 (2559292)
- The RUN program now accepts command line arguments of up to 1023 characters long.  
1083215 (2561567)

### **SQL: Cobsql**

- The Cobsql preprocessor has been updated to improve robustness of error handling when working with Oracle Pro\*COBOL on UNIX.  
1082474 (2552830)
- The Cobsql preprocessor was updated to no longer misinterpret WORKING-STORAGE items whose definitions were spread across multiple source lines.  
1080078 (2507684)
- The Cobsql preprocessor has been updated to correctly process variables defined as USAGE COMP after an EXEC SQL INCLUDE SQLCA when the CP preprocessor directive NOSQL is specified.  
1084463 (2577593)
- The Cobsql preprocessor has been updated to correctly process Pro\*COBOL-generated data items when the first WORKING-STORAGE variable in user code contains a VALUE clause with the literal value on a separate source line.  
1084753 (2579264)



## **SQL: DB2 ECM**

- The HCO DCLGEN tool no longer incorrectly generates copybooks from multiple tables if the schema names are similar.  
1084435 (2577256)
- The Host Compatibility Option was updated to honor database connection criteria specified on the command line.  
1081585 (2537570)
- The DB2 pre-compiler now picks up the copybook path properly when running in background syntax checking mode.  
1083064 (2560273)
- The DB2 pre-compiler now generates GOBACK instead of STOP RUN at the end of program source, so that poorly coded programs do not fail when running under IMS or other transaction monitors.  
1083235 (2559616)
- The DB2 ECM has been updated to resolve run-time errors returned when compiling against mainframe databases in 64-bit mode.  
1082441 (2549058)
- All HCO tools including DCLGEN have been modified to support table names up to the maximum that DB2 LUW V9.7 supports (128 characters).  
1081767 (2545044)

## **SQL: HCO for SQL Server**

- The HCO for SQL Server BIND tool results are no longer limited to the OpenESQL Maximum Row Count setting.  
1085321 (2586047)

## **SQL: OpenESQL**

- OpenESQL has been updated to support 64-bit operation for INSERT and FETCH statements.  
1079765 (2499575)
- The OpenESQL run-time has been updated to resolve issues with multiple service invocations under Enterprise Server.  
1082709 (2556475)

## **Web Service Client**

- A user exit is now available to set custom HTTP headers in a SOAP response message.  
1084118 (2570467)

## **XDB INZUTILB Utility**

- Incorrect error messages are no longer referenced by XHPU.  
1084489 (2577109)
- Run-time system error 114 ("Attempt to access item beyond bounds of memory") occurred in the XHPU emulation of INZUTILB if SYSPRINT was missing.  
1085016 (2582502)
- XHPU incorrectly marked an unload file as a blocked variable when it only included data from a single table.  
1085655 (2588729)

- Message INZC003E has been added to an XDB message file.  
1083308 (2563505)
- XHPU now returns the proper return code for the job step.  
1083307 (2563503)

#### **XDB JDBC Driver**

- The server-side JDBC support has been enhanced to use indexed-message retrieval.  
1085674 (2589905)

#### **XDB Server**

- A mutex deadly embrace no longer results in a server hang.  
1085199 (2583889)
- An index was sometimes selected for an entire query when all the fields were not in the index.  
1083970 (2561777)
- A problem has been fixed where Optimizer had internal flags on in error, causing no records to be selected on a count(\*).  
1083933 (2570185)
- Views containing a subquery did not have the dependency metadata updated with the tables contained in the subquery.  
1084290 (2575223)
- Adding a primary key to a table reset the clustering indicator of the index metadata.  
1083589 (2566249)
- Views created with quoted field names no longer raise "column not found" errors.  
1082639 (2552754)
- XA exception handling has been added to XDB utilities which open their own XA connections.  
1083419 (2563973)
- View materialization no longer happens during precompile validation of a query containing unions of views.  
1083671 (2557923)
- VIEW processing no longer leads to memory overrun.  
1083858 (2569409)
- Queries against views containing a GROUP BY clause no longer cause a thread access violation during symbol lookup.  
1083707 (2565781)
- An incorrect primary key index was created for a table that was in an implicitly-created tablespace.  
1081145 (2538331)

#### **XDB SQLWizard**

- The SQL statements that used to exist in DBCREATE.DAT have been integrated into the SQL Wizard.  
1082576 (2553276)

#### **XDB: Problems not classed above**

- INZUTILB no longer causes RTS 114 error searching for an incorrect message.  
1082443 (2552991)

- INZUTILB unloading to multiple DDs no longer leaves an unload file open.  
1082489 (2553203)
- DSNUTILB/INZUTILB have been modified to successfully enable XA connectivity to a named subsystem.  
1082423 (2552039)

**XML syntax support runtime**

- The RTS 114 error caused by the exception at the beginning of an XML document is now fixed.  
1083010 (2558865)

# Updates and SupportLine

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

## Further Information and Product Support

Additional technical information or advice is available from several sources.

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

- The WebSync service, where you can download fixes and documentation updates.
- The Knowledge Base, a large collection of product tips and workarounds.
- Examples and Utilities, including demos and additional product documentation.

To connect, enter <http://www.microfocus.com> in your browser to go to the Micro Focus home page.



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

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

## Information We Need

However you contact us, please try to include the information below, if you have it. The more information you can give, the better Micro Focus SupportLine can help you. But if you don't know all the answers, or you think some are irrelevant to your problem, please give whatever information you have.

- The name and version number of all products that you think might be causing a problem.
- Your computer make and model.
- Your operating system version number and details of any networking software you are using.
- The amount of memory in your computer.
- The relevant page reference or section in the documentation.
- Your serial number. To find out these numbers, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus.

Alternatively, you might be asked to provide a log file created by the Consolidated Tracing Facility (CTF) - a tracing infrastructure that enables you to quickly and easily produce diagnostic information detailing the operation of a number of Micro Focus software components.

On UNIX, you can use the Micro Focus UNIX Support Scan Utility, `mfsupport`, to create a log file that contains the details about your environment, product, and settings. The `mfsupport` script is stored in `$(COBDIR)/bin`.

To run `mfsupport`:

1. Start a UNIX shell.
2. Set `COBDIR` to the product with issues.
3. Execute `mfsupport` from a directory where you have write permissions.

This creates a log file, `mfpoll.txt`, in that directory.

4. When the script finishes, send the `mfpoll.txt` file to your Micro Focus SupportLine representative.

**Note:**

If COBDIR is set to a location which does not contain `etc/cobver` or COBDIR is not set, `mfsupport` gives you the option to search your machine for possible product locations. Note that the search can take some time if you have a large amount of disc storage and files.

## Creating Debug Files

If you encounter an error when compiling a program that requires you to contact Micro Focus technical support, your support representative might request that you provide additional debug files (as well as source and data files) to help us determine the cause of the problem. If so, they will advise you how to create them.

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