



# **Micro Focus Enterprise Test Server 2.1 Update 1**

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A large, flowing, blue ribbon graphic that curves and loops across the lower half of the page, adding a dynamic visual element.

**Release Notes**

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# Micro Focus Enterprise Test Server 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.

Enterprise Test Server is a test execution environment that allows you to test mainframe applications on a low cost Windows platform. Test Server can be used to relieve the mainframe test bottleneck by allowing you perform a substantial part of your application testing on Windows prior to moving the application back to the mainframe for final pre-production testing and deployment.

Enterprise Test Server supports IBM COBOL, High Level Assembler, CICS, IMS TM and DB, JCL, DB2, and z/OS file formats. It also supports common batch utilities such as SORT. This means that applications running under Enterprise Test Server behave just as they would on the mainframe, so you can perform a wide variety of pre-production testing activities on low-cost commodity hardware rather than on the mainframe.

To configure Enterprise Test Server your development administrator will work with the development teams to set up the Enterprise Test Server environment on your central Windows test server, as follows:

1. Enterprise Developer is used to recompile application source code for execution on Windows.
2. Test data sets or databases are made available either locally or on the mainframe through remote access.
3. Development and test teams are trained to ensure that they understand how to test applications within the Enterprise Test Server environment and to switch between the different test regions it supports.

Enterprise Test Server comes in two product variants:

- Enterprise Test Server which is the standard Test Server product and is a mainframe Test Execution environment.
- Enterprise Test Server Premium which provides two additional capabilities to extend the test execution platform:
  - Data Manager, which allows you to subset and mask mainframe data which is then available for testing under Enterprise Test Server.
  - Test Automator which is a test automation capability that allows you to create automated test suites that can be played back against Enterprise Test Server or against the host.

# Installation

## Installing on Windows

### System Requirements for Enterprise Test Server for Windows

#### Hardware Requirements

The disk space requirements are:

- 42MB for the Sentinel RMS license server.
- About 214MB for Enterprise Test Server.



**Note:** This includes the space needed to cache information locally so that you can modify the installation without the original source media.

#### Operating Systems Supported

The following platforms are supported:

- Windows 7 32/64-bit
- Windows 8 32/64-bit
- Windows Server 2008 SP2 32/64-bit
- Windows Server 2008 R2 32/64-bit
- Windows Server 2012 32/64 bit



**Note:**

- This product can be installed on earlier versions of Windows but it has not been tested on them.

#### Software Requirements



**Note:** If you use the Micro Focus Web Installer to install this product, it checks your system and installs the missing prerequisite software.

Before installing this product, you must have the following software installed on your computer:

- A version of the Microsoft .NET Framework that is targeted by your applications:
  - Microsoft .NET Framework 2 - if your applications use the ILCLR(2) Compiler Directive or if they target the .NET Framework versions 2, 3 or 3.5. You might need to download these installers depending on the .NET Framework you are targeting.  
To download the Microsoft .NET Framework 2 [click here](#).  
Microsoft .NET Framework 2 or later is also required for the Micro Focus License Manager.
  - Microsoft .NET Framework 4 is required if your applications use the ILCLR(4) Compiler Directive or if they target the .NET Framework 4.  
To download the Microsoft .NET Framework 4 [click here](#).

**Note:**

- If you do not target a specific version of the Microsoft .NET Framework, Micro Focus recommends that you install version 4.
  - .NET Framework 3 is provided with Windows Vista, Windows Server 2008.
  - .NET Framework 3.5 is provided with Windows 7, Windows Server 2008 R2
- Microsoft's Visual C++ 2010 Redistributable Package:
    - To download Microsoft's Visual C++ 2010 Redistributable Package (x86) [click here](#).
    - To download Microsoft's Visual C++ 2010 Redistributable Package (x64) [click here](#).



**Note:** If, when you install Enterprise Test Server, the machine does not have Microsoft Visual C++ 2010 Redistributable Runtime already installed, it will be installed as required by Enterprise Test Server. The installation of Microsoft Visual C++ 2008 Redistributable Runtime will add a number of .dll files, without digital signatures, into the `winsxs` directory.

- Microsoft's Web Platform Installer 2.0 if your application targets ASP.NET 4. This installs and sets up ASP.NET. To download the installer [click here](#).
- The Java Development Kit (JDK) is required for compiling Java. The JDK is downloadable from [www.oracle.com](http://www.oracle.com). After installing the JDK, you must put the `tools.jar` file for the JDK on your classpath, using a command similar to:

```
set classpath=jdk-install-directory\lib\tools.jar
```

- A Web browser, such as Microsoft Internet Explorer 6.0 or Netscape Navigator 6.1, is required for Enterprise Server Administration in Enterprise Test Server.

To use your Web browser offline, you need the dial-up networking feature of Windows installed. Otherwise you might have TCP/IP errors such as being unable find "localhost" or the numeric equivalent (127.0.0.1).

- To use Enterprise Server Administration, scripting or JavaScript support must be enabled in your browser. This is on by default in Internet Explorer in most Windows operating systems. Also, active content must be allowed and not blocked. To enable both these in Internet Explorer:
  1. Click **Tools > Internet Options**.
  2. On the **Security** tab, click **Custom Level**. In the **Scripting** section, under **Active Scripting**, click **Enable**.
  3. On the **Advanced** tab, scroll down the list to the **Security** section, and ensure the item **Allow active content to run in files on My Computer** is checked.
- Enterprise Server Help requires the Java Runtime Environment on some Windows systems to enable the Search facility to work.



**Important:** This release requires version 10000.2.990 or later of the Micro Focus licensing software. For local servers, you do not need to install it separately, as the setup file installs a new Enterprise Developer client and a new licensing server on the same machine.

If you have a network server, you must update the license server before installing the product as the client is not able to communicate with license servers of versions older than 10000.2.660. On Windows, you can check the version of your license server by clicking **Help > About** in the Micro Focus Licensing System Administration tool.

You can download the new version of the license server software from the Micro Focus SupportLine Web site: <http://supportline.microfocus.com/websync/SLM.aspx>.

## Installing Enterprise Test Server for Windows

### Installation Restrictions and Requirements

Before starting the installation, you should consider the following:

- Enterprise Developer and Enterprise Test Server cannot coexist on the same machine.
- If you are installing this as an upgrade, make sure that none of the product files are in use when you start the installation.
- You need to be logged in with a user-ID that has write access to the registry structure under HKEY\_LOCAL\_MACHINE, HKEY\_CLASSES\_ROOT, and HKEY\_CURRENT\_USER so the installation software can set the environment appropriately. You also need to be logged on with Administrator privileges.
- Before installing this product, make sure that any existing Micro Focus Directory Server (MFDS) or CCITCP2 Windows service from an existing product is stopped and uninstalled. Do this as follows:
  1. Stop the service, using either the Windows Service Management Console GUI or from a command line prompt by typing: `net stop mf_ccitcp2` Only one instance of the MFDS or CCITCP2 service can run on a Windows machine.
  2. Uninstall the MFDS or CCITCP2 service.
    - For MFDS, from a command line prompt enter: `mfd -u`
    - For CCITCP2: `ccitcp2 -u`

To run an earlier version of MFDS as a service after you have installed a later version:

1. Stop and uninstall the MFDS service, as described above.
2. Reinstall the earlier version, as follows:
  - a. Open an Enterprise Developer command prompt.
  - b. Install the service. Enter the following command: `mfd -i`
  - c. Start the service. Enter the following command: `net start mf_ccitcp2`



**Note:** The two versions use different paths for environment and registry values, so the list of configured Enterprise Servers might be different depending on which version has been started, since, by default, different MFDS data repositories are used.

MFDS 5.1 and later are able to import or use Enterprise Server configuration data generated by earlier versions of MFDS, but 5.0 or earlier versions of MFDS might not be able to read data generated by later versions.

It is possible to run MFDS from a command prompt ("mfd") rather than as a service, but by default the "mfcobol" port is used (86) and this can only be used by one process at a time

- To use Data Manager, you must obtain an Enterprise Test Server Premium license. Once you have procured a Premium license, Micro Focus provides an EDP that enables you to install the Data Manager for z/OS component, which is a separate installation from Enterprise Test Server. See *Installing Data Manager* for details.

## Downloading the Product

1. Use the download links in your Electronic Product Delivery email.

For more information follow the links for the installation instructions and the End User License Agreement.

## Installing



### Note:

During the installation process, the installer configures the product's Enterprise Server System Administrator Process User ID. The Process User ID will be the owner of all Enterprise Server processes except the one for the Micro Focus Directory Server (MFDS). The Directory Server process (Enterprise Server Administration) runs as root as this allows it to access the system files and ports.

All enterprise server processes you start from Enterprise Server Administration run under the Process User ID which can affect the file access and creation.

By default, the installer uses the login id of the user that runs the installer for the Process User ID. To change the user id after you complete the installation, execute `$COBDIR/bin/casperm.sh`.

To use the Web Installer:

1. Double-click the `enterprisetestserver21_update1_webinstaller.exe` file.
2. Click **Start** in the Web Installer dialog and follow the instructions to install the prerequisite software and the product.

Alternatively, you can use the setup file and install the product as follows:

1. Run the `enterprisetestserver21_update1.exe` file and follow the wizard instructions to complete the installation.



**Note:**

- If you are installing onto a machine that has an existing Micro Focus product that uses an older Sentinel RMS License Manager, you might be prompted to remove it and install the Micro Focus License Manager. By doing this you maintain the existing Sentinel RMS license files while adding the Micro Focus License Manager. If you are unsure about existing licenses on your computer or removing the Sentinel RMS License Manager, consult your System Administrator. If you want to proceed, remove Sentinel RMS License Manager by using Windows **Add or Remove Programs** and rerun the installation file.
- Trial licenses cannot be used with remote desktop services. If you want to use your product in this way, please contact Micro Focus SupportLine to obtain a relevant license.
- We recommend that you install any updates for the .NET Framework that are available at the [Microsoft Download](#) site.
- If you install JDK you might be prompted to install the latest update. The latest update is not required for use with Enterprise Developer but you can install it if you wish.

## Installing as an Upgrade

This release will update an existing installation of Enterprise Test Server 2.1.

Before installing, check *Installation Restrictions and Requirements*.

## Repairing

If any product files, registry settings or shortcuts are accidentally removed at any point, you can perform a repair on the installation to replace them.

To repair your installation on versions of Windows Vista or later:

1. From the **Control Panel**, click **Uninstall a program** under **Programs**.
2. Right-click your Micro Focus product and select **Repair**.

## Uninstalling

To uninstall the product, you cannot simply delete its files from your hard disk. To uninstall the product:

1. Log in with the same user-ID as you used when you installed the product.
2. Click **Uninstall a program** under **Programs** in **Control Panel**.
3. Click **View installed updates** in the left-hand pane.
4. Select the product and click **Remove** or **Uninstall** as appropriate.

When you uninstall, the only files deleted are those that the installation software installed. If the product directory has not been removed, delete any unwanted files and subdirectories within it using Windows Explorer.



**Important:** The installer creates separate installations for Micro Focus Enterprise Test Server and Micro Focus License Manager. Uninstalling only Enterprise Test Server does not automatically uninstall the Micro Focus License Manager or any of the prerequisite software.

To completely remove the product you must uninstall the Micro Focus License Manager as well.

You can optionally remove the prerequisite software. For instructions, check the documentation of the respective software vendor.

## Installing Mainframe Access Server

### Introduction

The installation process for Mainframe Access Server uses a single FTP operation to transfer all of the mainframe software into a partitioned data set that you pre-allocate. When this transfer is complete, the remaining installation activities are all done on the mainframe. You customize and submit the pre-built FRESTORE job to restore the product data sets from the uploaded files and then continue with customization steps to create an operational Mainframe Access Server.

### Requirements

- IBM TCP/IP 4.0, or Interlink TCP/IP 3.1 or higher
- two APPLIDs, two TCP/IP ports
- APF security authorization support personnel availability
- Access to a network share with acceptable space for source and data, as well as the ability to access the IP address and ports used to access MFA
- The following installation-specific variable information:

Variable	Description
<i>drive</i>	
<i>userid</i>	TSO user-ID for FTP to your mainframe
<i>pswd</i>	TSO password for the FTP user-ID
<i>your.mainframe.name</i>	TCP/IP host name or IP address of your mainframe
<i>prodhq</i>	A NEW high level qualifier that will be assigned for all Host Connectivity data sets when the new Mainframe Access product is installed. These are NOT existing product data sets, but rather brand new files that you will be creating for this base version.



**Important:** The installation of a new version creates new product run-time data sets before the upgrade is applied. Any existing Host Connectivity 3.01 libraries remain intact, and can be used for fallback. If you prefer to retain your former production library names and re-use your existing *prodhq* then rename your old libraries beforehand.

Make a note of the maintenance level of your current Mainframe Access Server. Messages MFM0001I and MFM0014I on the syslog and XDBOUT sysout data set show the maintenance level at startup. You may need to know what level you are upgrading from when you complete post-installation customizations for this upgrade.

### Install Mainframe Access Server

In the instructions that follow, the information that you must provide is shown as one of the variable names from the table of information in the previous section. For example, if your high-level qualifier (*prodhq*) value is MY.MFA, then substitute MY.MFA for *prodhq*.

Follow these steps to load Mainframe Access Server:

1. Download the installation file from the link in your Electronic Product Delivery email and extract its contents to a directory on the PC.
2. On the mainframe, allocate a new partitioned data set named *prodhlq.UPLOAD* to receive the uploaded files. Use the following data set characteristics for this upload library:

```
DSORG=PO          <=== PDS (partitioned data set)
RECFM=FB          <=== record format fixed and blocked
LRECL=80          <=== 80 character record size
BLKSIZE=3120      <=== 3120 character block size
SPACE=(3120,(3500,500,50)) <=== allocate blocks (BLKS) size 3120
                                     3500 primary blocks
                                     500 secondary blocks
                                     50 directory blocks
```

3. On the PC, issue the following FTP commands. The actual text of the FTP prompts and responses that you see may differ slightly from those shown in this example.

**a. Start FTP:**

```
C:\>ftpyour.mainframe.name
Connected to your.mainframe.name.
220-FTPD1 IBM FTP CS/390 VxRy at YOUR.MAINFRAME.NAME, hh:mm:ss
220 Connection will close if idle for more than 5 minutes.
User (your.mainframe.name:(none)): userid
331 Send password please.
Password: pswd
230 userid is logged on. Working directory is "userid."
```

**b. Change the working directory on the mainframe to be the upload library that you allocated:**

```
ftp> cd 'prodhlq.UPLOAD'
250 The working directory "hlq.UPLOAD" is a partitioned data set.
```

**c. Set file transfer type to binary:**

```
ftp> binary
200 Representation type is Image
```

**d. Set FTP prompting off to transfer all files without interruption:**

```
ftp> prompt
Interactive mode Off.
```

**e. Transfer all files from the extracted \Upload directory to members in the *prodhlq.UPLOAD* library:**

```
ftp> mputdrive:\upload\f*
200 Port request OK.
125 Storing data set prodhlq.UPLOAD(Fxxxxxxx)
250 Transfer completed successfully.
ftp: xxxx bytes sent in x.xx seconds (xxx.xx Kbytes/sec)
.
.
.
```

**f. When mput has transferred all files the ftp> prompt appears. End the FTP connection:**

```
ftp> quit
221 Quit command received. Goodbye.
```

**g. On the mainframe, verify that all files transferred successfully and that for each Fxxxxxxx file in the \Upload directory there is a corresponding member in the *prodhlq.UPLOAD* data set. There should be 10 members, F1 through to F9 and FRESTORE.**

4. On the mainframe, edit member FRESTORE in the upload library, *prodhlq.UPLOAD*. Follow the instructions in that member to customize the JCL and then submit that job to restore the product libraries from the uploaded files and populate your new product runtime libraries.
5. Start Mainframe Access Server.

### After installation

Since the program libraries can change between versions, it is necessary to either create new procedures, or back up the old procedures, and at least modify the DSNQUAL=*prodhlq* within your MFA sample started

task procedures as provided by Micro Focus. The *prodhq.LOADLIB* and *prodhq.SASC.LINKLIB* must both be authorized.

Verify successful maintenance application by checking the Mainframe Access Server startup message:

```
MFM0001I: Mainframe Access V4.00 (BASE ) is active
```

The "(BASE)" indicates the product maintenance level. Also check for "V4.00" in the Mainframe Access Data Connect server startup message:

```
MFA303I MFA/DATACONNECT V4.00 - BASE COPYRIGHT (C) 1987-2012 MICRO FOCUS...
```

When you are satisfied with the new version installation you may delete the UPLOAD data set from your system.

### New parameters and members in the CNTL samples data set

The following updated members are found in the CNTL data set.

MFA	sample MFA started task
MFAS	*new* sample MFAS started task for Data Connect
MFAAS	sample MFAAS application server started task
MFAVTAM	sample MFA VTAM definitions
PARMS	sample PARMS for MFA started task
PARMSAS	sample PARMSAS for MFAAS started task
SERVERS	sample SERVERS configuration for MFA
UPQUICK	configuration notes

If you are migrating from Host Connectivity 3.01 WebSync 10 or earlier, you may want to retain your existing CNTL members from your current version as an installation test. You can simply copy the existing MFA started task JCL and change the STEPLIB to reference the new product libraries. You will however be required to modify the MFAS started task JCL since the module names for Data Connect have been changed to allow co-residence within the same authorized library as MFA.

Review the Change Log in each of the new members. Read the documentation for any new parameters in the Readme and in the updated Mainframe Access Administrator's Guide. Add these new parameters and other changes to your working copies. If necessary, customize the new parameters for your installation.

Once you are satisfied with the operation of Mainframe Access, you can consolidate the configuration settings into the new high-level qualified CNTL members.

# Licensing Information



## Note:

- This release uses the license keys for the Enterprise Developer 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.



## Note:

Be aware that the person who purchased this product has had to sign a license which states that you may use this product for testing only, and not for development work. If you are uncertain as to whether you will need to do development work, we recommend you speak to the person who purchased the product to see if you need a different license.

**Windows** Use the Authorization Code, supplied with your delivery notice, to license your product. To do this:

1. Click **Start > All Programs > Micro Focus License Manager > License Management System**.

The dialog box for the Micro Focus License System Administration Tool will be displayed.

2. Click the **Authorize** tab.
3. Enter your Authorization Code and click **Authorize**.
4. Close the Micro Focus License System Administration Tool.

If you wish to install the license silently, execute the following after the product has been installed:

```
start /wait <install-dir>\bin\cesadmintool -term activate  
AuthorizationCode
```

# What's New

The following sections outline the new features that have been added in this release of Enterprise Developer.

## New features in Enterprise Test Server 2.1 Update 1

### Enterprise Server

The following new features and enhancements are available:

<b>Clustering</b>	Enterprise Test Server Clustering allows the scaling-out of work units, so that an increased number of operating system images can share the workload, resulting in high-performance, multi-system data sharing across all platforms.
<b>Historical Statistics Facility</b>	The Historical Statistics Facility has been extended to include the generation of JCL file records, increasing the amount of information customers have available to assist them in monitoring and tuning their Enterprise Test Server installations.
<b>Recovery of in-doubt XA transactions</b>	Some events in XA environments can result in 'in-doubt' transactions, where all parts of a composite transaction are not committed through all participating resource managers. The recovery of such in-doubt transactions is now supported.
<b>SSL Support for the CICS Web Interface</b>	Enterprise Test Server now allows clients and servers to identify themselves through X.509 certificates and participate in SSL-enabled conversations.

### HCO for DB2 LUW

- Support for 64-bit DB2 ECM
- Support for 64-bit compile and runtime
- Support for DB2 10.1
- New DB2 SQL compiler directive option, BGP, to enable background parsing.

# 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>CICS</b>              | An EXEC CICS DELAY statement may, sometimes, produce a difference of one second.  |
| <b>COBOL Watchpoints</b> | The debugger ignores a COBOL watchpoint that is hit if there is no statement following the statement that modifies the data on which that watchpoint is set.  |
| <b>ICETOOL Emulation</b> | ICETOOL emulation for managed code is not available in this release.  |
| <b>Enterprise Server</b> | <ul style="list-style-type: none"><li>• On versions of Windows Vista and later, Enterprise Server listens only on the IPv4 loopback address (127.0.0.1). As a result, an attempt to connect to localhost with a TN3270 emulator such as RUMBA may fail. To work around this issue, in your emulator's configuration use 127.0.0.1 in preference to localhost or your host machine's name.</li><li>• The <b>Refresh</b> button at the bottom of the ESMAC pages does not work.</li></ul> |

# Resolved Issues

The resolved issues that customers have reported are listed in this section. The numbers that follow each issue 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.

- [.NET Compiler](#)
- [.NET ESQL Support](#)
- [.NET RTS](#)
- [CAS \(COBOL App Server\) General](#)
- [CAS XA Switch modules](#)
- [Compiler](#)
- [Data Tools Converter](#)
- [Data Tools Vrecgen \(Character\)](#)
- [Documentation](#)
- [File Handling - Sort / JCL Sort](#)
- [JVM - Debugger](#)
- [MF Communications Server](#)
- [MF Directory Server](#)
- [MTO - CICS Emulation](#)
- [MTO - CICS ESMAC](#)
- [MTO - IMS TM](#)
- [MTO - JCL MVS](#)
- [MTO - JCL TSO](#)
- [MTO - JCL Utils](#)
- [MTO - JCL Utils - IDCAMS](#)
- [MVS REXX Emulation](#)
- [NCG](#)
- [SQL: Cobsql](#)
- [SQL: OpenESQL](#)
- [XML syntax support runtime](#)

## **.NET Compiler**

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- A COMPUTE statement where the target field had fewer significant digits than some of the operands of the arithmetic expression no longer results in invalid arithmetic.  
1087987 (2614566)

## **.NET ESQL Support**

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- SQLWARN4 flag was not being set when more than one row was returned for a singleton SELECT statement. The OpenESQL run-time now correctly sets SQLWARN flags when a singleton SELECT statement returns multiple rows. - 1085945  
1085945 (2593798)
- The OpenESQL pre-compiler sometimes flagged object host variables as invalid when multiple programs were compiled into a single .exe or a .dll file.

1086906 (2603712)

## **.NET RTS**

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- A performance issue with raising an expression to a fractional power has been fixed.

1086614 (2594740)

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

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- HSF includes the following enhancements:
  - A new record type (JCLF) for JCL files.
  - A Job class has been added to the JCL JOBSTART records.
  - A condition code has been added to the JCL STEP records.
  - Statistics for up to 5 Transient Data Queues per CICS record has been added (same as for existing TSQ stats). The HSF files will now be created with the following header:

```
#HSFVer=02 Type,PID,Task,Date,Time,Tran/Job,User/DDName/CC,LU/Step,Prog/DSName,Latent/  
ReadCount,Resp/WriteCount,API/RewriteCount,SQL/  
DeleteCount,IMS,DSType,DSAccessType,File1,Count1,Time1,File2,Count2,Time2,File3,Count3,Time3,  
File4,Count4,Time4,File5,Count5,Time5,TS1,Count1,Time1,TS2,Count2,Time2,TS3,Count3,Time3,TS4  
,Count4,Time4,TS5,Count5,Time5,TD1,Count1,Time1,TD2,Count2,Time2,TD3,Count3,Time3,TD4,Cou  
nt4,Time4,TD5,Count5,Time5
```

1082755 (2552658)

- Logging has been added for the resource managers to facilitate recovery from failures that leave the resource managers such as DB2 and MQ with in-doubt transactions. You only need to log if the resource manager switch modules are configured to respond to xa\_recover() calls. Logging may affect the performance so you can disable it as follows - edit the server from the Enterprise Server Administration, click the General tab and type the following in the Configuration Information text box:  
[ES-Environment] ES\_XA\_LOG\_SUPPRESS=Y

1085539 (2582570)

## **CAS XA Switch modules**

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- The SQL Server XA switch module was updated to resolve some issues with verifying the success or a failure of ODBC API calls which could lead to failures during the commit or rollback operations.

1087383 (2608663)

- The ODBC one-phase commit switch module has been updated so that when you use it within an online environment (such as CICS or Web Services), and then you perform a COMMIT, any cursors that are not defined as WITH HOLD are closed. When you use the module within JES-enabled transactions that use IKJEFT01, all cursors are closed as before.

1087536 (2610091)

## **Compiler**

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- Specify an environment variable with the USE and DIRECTIVES Compiler directives (e.g. USE"\$myDirs") to locate a directives file.

1086063 (2592063)

## Data Tools Converter

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- The dfconv replacement input and output filenames are no longer truncated to the filename lengths used within the profile file.  
1086569 (2599741)
- DFCONV, the data file convert command line utility, is now available in Enterprise Server.  
1087051 (2605033)

## Data Tools Vrecgen (Character)

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- The source files for the VRECGEN and VRECGEN2 utilities are now stored in the .\src folder in the product installation.  
1087209 (2603963)

## Documentation

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- The SSRANGE Compiler directive is provided for emulation of the IBM mainframe compiler of the same name; because of this, its scope is limited to the syntax permissible in a mainframe dialect.  
1087083 (2605408)
- To ensure no loss of functionality when accessing Vision and RM/COBOL data files, you should use the appropriate IDXFORMAT Compiler directive setting or file handling option, and not use the CALLFH(ACUFH) Compiler directive. See 'Configuring Access to Vision Files' and 'Configuring Access to RM/COBOL Data Files' for more information.  
593437 ( )
- The documentation has been updated so that the help page more accurately reflects the ESMAC screen.  
1087753 (2611733)
- All COBOL CICS programs that call user exits need to be compiled with the NOAMODE directive.  
593780 ( )
- The documentation now clarifies the EZACICM.MOD location.  
1086693 (2599949)
- The product documentation now includes information about the ES\_JESYSMSG\_OUTPUT environment variable.  
1087004 (2604533)
- The JCL documentation has been updated to include the error messages JCLAM0187I and JCLAM0188I.  
1087072 (2605203)
- The documentation has been updated to provide more information about the MFJAMS LISTCAT command.  
594069 ( )
- The casrdtex documentation has been updated to include several more supported parameters.  
594324 ( )

## File Handling - Sort / JCL Sort

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- A SORT RETURN statement now returns a 9/230 error for the return past EOF.  
1087358 (2606867)
- SORT now terminates with return code 16 and throws a 9/013 error when the catalogued input file is not physically present.  
1087529 (2607690)
- SORT now terminates with return code 16 and displays error message "SORT103E Invalid operator .JOINKEYS." when the JCL contains the JOINKEYS parameter.  
1087311 (2607369)

## **JVM - Debugger**

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- The JVM COBOL Debugger could only locate copybooks that were located in the same directory as the COBOL program.  
1086348 (2597430)

## **MF Communications Server**

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- Micro Focus Communications Server no longer fails intermittently with a signal or an exception if a CICS Web Interface listener fails to start because of a port conflict.  
594293 ( )

## **MF Directory Server**

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- Previously, if you used the -x command line option when exporting an Enterprise Server configuration definition from MFDS in XML format, the MFDS process would terminate.  
1087968 (2609146)

## **MTO - CICS Emulation**

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- Printer documents initiated by the CICS SPOOL commands are now sent directly to the printer and are no longer delayed.  
1087941 (2613944)
- The documentation now clarifies the usage of DDnames in the SSTM context.  
1085948 (2593338)
- 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)

## **MTO - CICS ESMAC**

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- The default queue in ESMAC > JES > Spool is now the OUTPUT queue.  
588935 ( )

## **MTO - IMS TM**

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- An EXEC DLI TERM call could result in a storage violation 114 error in COBOLDLI.  
594167 ( )
- You now receive warning and error messages in the console log when the IMS Message Queue approaches an out-of-space condition, and when its free space is exhausted.  
1086438 (2594357)
- IMS Connect EBCDIC message data is now supported.  
1088027 (2614756)

## **MTO - JCL MVS**

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- The informational messages JCLAM0187 and JCLAM0188 are no longer issued inappropriately.  
1087086 (2605203)

## **MTO - JCL TSO**

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- The documentation has been updated to clarify the IDCAMS commands available within TSO batch jobs.  
1084163 (2573281)

## **MTO - JCL Utils**

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- Under increased load conditions, using multiple initiators, a 9/068 error on casspool was sometimes reported and a job was not run. Improved status checking has been incorporated to remove this problem.  
1086528 (2587849)
- Input files are no longer optional so you can receive errors if you catalog a file without creating the physical file. To help avoid failures of JES job steps because of a missing input file, you can use one or both of the following environment variables: 1) MFALLOC\_PCFILE=Y - results in the creation of a catalog file if DSORG=PS is set in the DCB parameters. 2) MFJ\_INPUTDS\_ERROR=N - results in IEBDG, IEBCOMPR utilities to treat missing input files as though they were present but empty files.  
594968 ( )

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

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- The IDCAMS REPRO of records into an RRDS file that already contained data was generating a file write error. This has been corrected. If the RRDS file contains records and REPLACE has been specified in the REPRO command then the records will be overwritten. If REPLACE has not been specified then a DUPLICATE RECORD (JCLAM0236E) error will be generated.  
1086780 (2601984)

## **MVS REXX Emulation**

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- Execs residing in temporary datasets allocated to SYSEXEC or SYSPROC no longer sometimes fail to load.  
1086478 (2579785)
- The bpxwunix() function is now supported by the REXX engine.  
1085190 (2584045)

## **NCG**

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- Display statements of the type "display a(1:i\*c) at 0101" could cause the generator to fail when in debug mode.  
1088048 (2607368)

## **SQL: COBSQL**

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- The COBSQL preprocessor could not process options longer than 65 characters.  
1085597 (2589416)

## **SQL: OpenESQL**

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- The OpenESQL preprocessor sometimes generated incorrect query lengths for EXEC SQL PREPARE INTO FROM statements, resulting in the SQL queries being truncated.  
1087324 (2607761)
- The ODBC pre-compiler now allows you to define host variables after the DECLARE CURSOR SQL statement if they are not defined in the PROCEDURE DIVISION.  
1086501 (2599123)
- When using the SQL Server Native Client ODBC driver, the OpenESQL Run-Time System now correctly processes SQL Server data defined as VARCHAR(MAX).  
1086665 (2601192)

## **XML syntax support runtime**

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- The XML preprocessor now generates correct output for the COUNT IN clause.  
1086285 (2596137)

# 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.

On Windows, if you are reporting a protection violation you might be asked to provide a dump ( `.dmp` ) file. To produce a dump file you use the **Unexpected Error** dialog box that is displayed when a protection violation occurs. Unless requested by Micro Focus SupportLine, leave the dump setting as `Normal` (recommended), click **Dump**, then specify a location and name for the dump file. Once the dump file has been written you can email it to Micro Focus SupportLine.

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.

## 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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