



Xcentrity[®] BIS AddPack for Visual COBOL 2.1 Update 1 for Windows

A decorative graphic consisting of several overlapping, wavy, blue lines that create a sense of motion and depth. The lines are in various shades of blue, from light to dark, and are arranged in a way that suggests a ribbon or a path that curves and loops.

Release Notes

Micro Focus
The Lawn
22-30 Old Bath Road
Newbury, Berkshire RG14 1QN
UK
<http://www.microfocus.com>

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Xcentrisity[®] BIS AddPack for Visual COBOL 2.1 Update 1 for Windows

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

Installation

Installing the Windows Product

System Requirements

Operating Systems Supported

This AddPack supports the following versions of Microsoft Windows:

- Windows XP with Service Pack 3 or later (32-bit edition only)
- Windows Server2003 SP1 (x86 and x64)
- Windows Server 2003 R2 SP1 (x86 and x64)
- Windows Vista (x86 and x64)
- Windows Server 2008 x64
- Windows Server 2008 R2 x64
- Windows 7 (x86 and x64)
- Windows 8 (x86 and x64)
- Windows 2012 Server (x64)

Additional System Prerequisites

- The Microsoft .NET Framework version 2.0 or later is required for configuration, but not operation.
- Internet Information Server (IIS) must be installed with the following options:

ISAPI Filters

ISAPI Extensions

IIS 6 Metabase and Configuration Compatibility

- The IIS Windows Authentication option is not required, but is recommended

This AddPack requires one of the following Micro Focus products:

Visual COBOL for Visual Studio 2010 (version 2.1 update 1)

Visual COBOL for Visual Studio 2012 (version 2.1 update 1)

Visual COBOL for Eclipse (version 2.1 update 1)

COBOL Server version 2.1 update 1

COBOL Server 2012 (version 2.1 update 1)

Earlier versions of Visual COBOL and COBOL Server are not supported and will not work.

Packaging

There are two editions of Xcentrisity BIS for Visual COBOL:

x86	This edition can be installed on x86 and x64 editions of Windows, but can only run 32-bit Visual COBOL programs.
x64	This edition can only be installed on x64 editions of Windows. It includes both the x64 and x86 installers and can run either 32-bit or 64-bit Visual COBOL programs.

Installation

To install Xcentrinity BIS for Visual COBOL on Windows:

1. Download this AddPack from the Product Updates pages on Micro Focus SupportLine and save the `BISInstall.exe` file to your computer.



Note: If you are targeting a 32-bit version of Windows, be sure to download the x86 installation package. If you are targeting a 64-bit version of Windows, it is preferable to install the x64 installation package, as it includes both the x64 and x86 versions.

2. Run the file and follow the wizard instructions to complete the installation.

Verifying the Installation

To verify that Xcentrinity BIS for Visual COBOL was correctly installed, run the `VERIFY` sample program.

Do one of the following:

- **Windows 7 and earlier:**

To launch the `VERIFY` program, choose **Start > Micro Focus Xcentrinity BIS for Visual COBOL > Verify XBIS Installation**.

64-bit installation include a menu item for both the x86 and x64 installations of BIS. Select the appropriate menu item.

- **Windows 8 and Windows 2012 server and later:**

Start a web browser and enter the one of the following URLs:

- For both x86 and x64 installations:

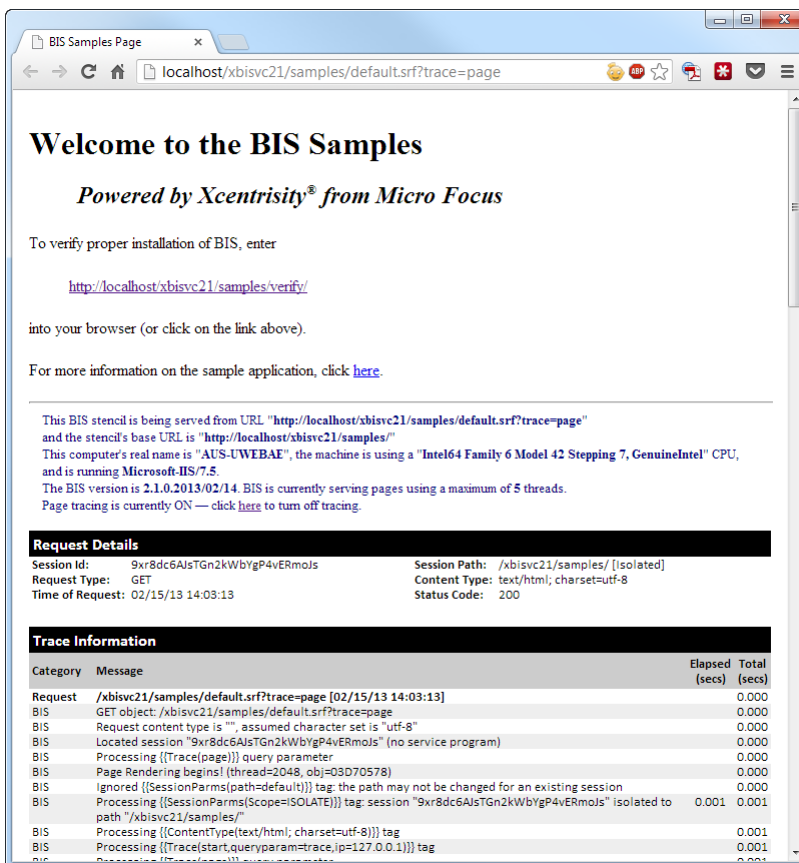
<http://localhost/xbisvc21/samples/default.srf?trace=page>

- For x64 installations only:

<http://localhost/xbisvc21.x64/samples/default.srf?trace=page>

The optional `?trace=page` suffix turns on visible tracing, helpful for diagnosing installation problems.

The request is sent to the BIS server, which returns the **Welcome to the BIS Samples** page.



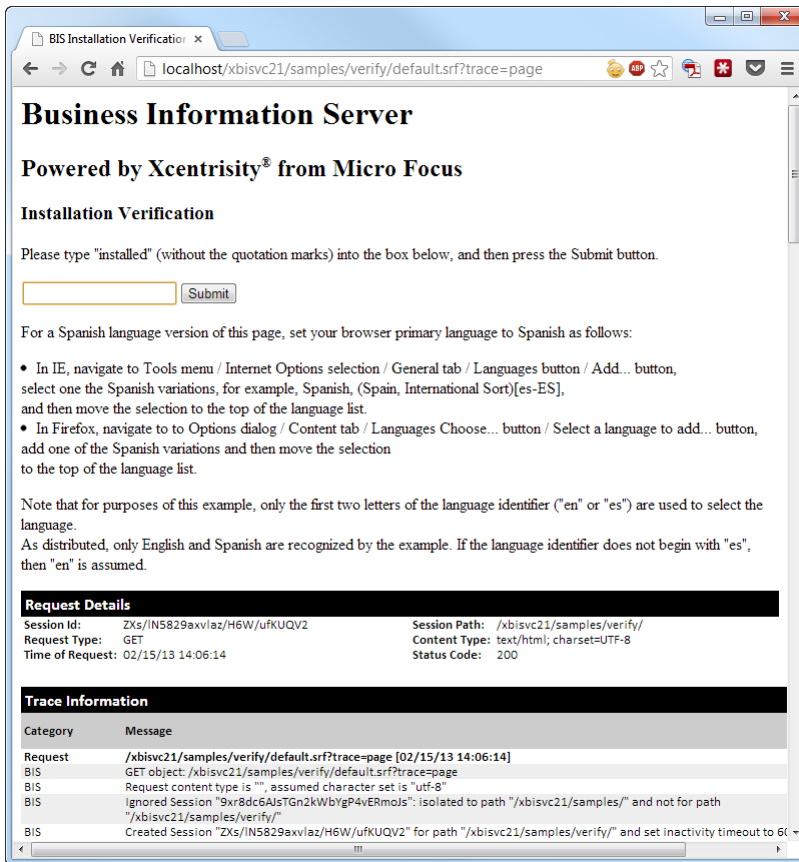
If the **Welcome to the BIS Samples** page does not appear, then one of the following conditions exist:

- Xcentrity BIS, or a component that BIS depends on is not installed correctly, or was not able to integrate with IIS.
- The IIS application was not created properly.

These conditions can occur if:

- IIS is not configured, or IIS components required by BIS are not installed. Examples are IIS 6 Metabase Compatibility, and ISAPI filter and extension support.
- ISAPI extensions are not enabled within IIS.
- System security settings are preventing BIS from invoking the programs that it needs to run.

If the **Welcome to the BIS Samples** page appears, click the URL link in the Error page that ends in "verify". The **BIS Installation Verification** page should appear.



If the **Installation Verification** page does not appear, the following message may appear in the browser window:

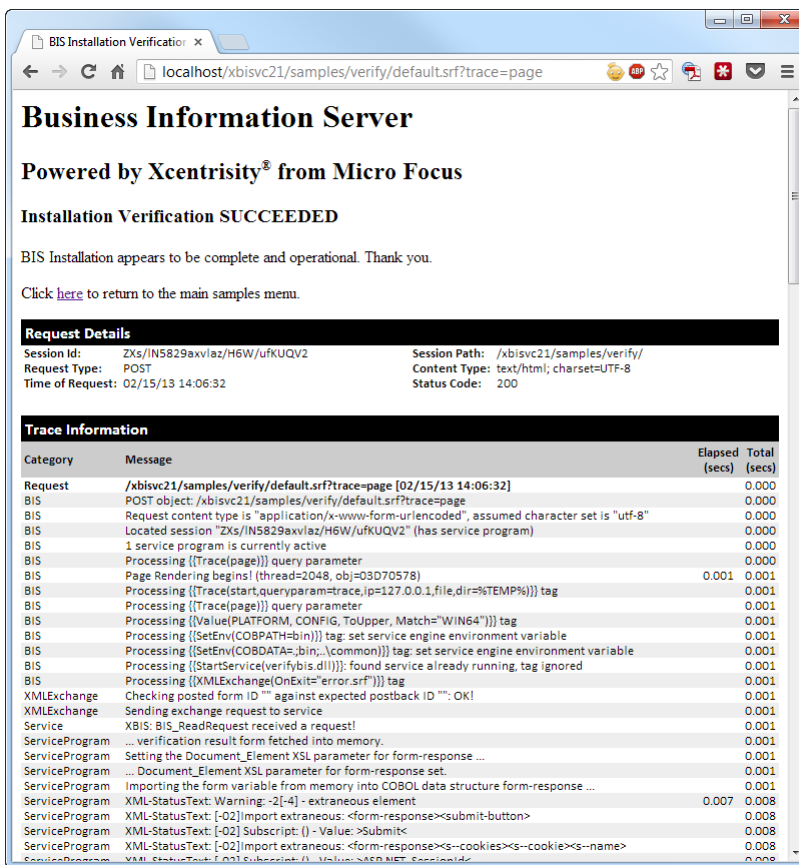
The BIS service engine ended the BIS session by terminating.

This indicates that the Visual COBOL service program cannot be started. This can occur if:

- Visual COBOL is not installed, or the installation is incomplete or damaged
- Visual COBOL is not properly licensed
- Windows permissions are not allowing BIS to load the COBOL runtime
- BIS is running as a user that does not have permission to run COBOL programs (see configuring the BIS "Run As" user below.
- You are launching a 64-bit COBOL program using the 32-bit version of BIS, or launching a 32-bit COBOL program using the 64-bit version of BIS.

To diagnose with the Visual COBOL service program not starting, examine the BIS trace output (if available), and be sure that Visual COBOL programs can be run outside the BIS environment.

If the **Installation Verification** page appears, type `Installed` in the text box and click **Submit**. The following page should appear to confirm correct operation:



Selecting an Identity for Running COBOL Programs

Once BIS is installed and the installation is verified, choose an identity that BIS uses to run COBOL programs.

The installation defaults to using the “Interactive User” as the security principal that will be used to run COBOL programs. This is appropriate for developers and workstations, but not for servers, as this identity is valid only while an administrator is logged into the server.

To choose a security principal:

1. Choose **Start > Programs > Micro Focus Xcentricity BIS for Visual COBOL > Select XBIS Identity**.



Note: 64-bit installations display a **Select XBIS (x86) Identity** and a **Select XBIS (64) Identity** menu item. Both of these identities must be configured separately, although the same identity may be used for both the 32-bit and the 64-bit programs.

The **Select an Identity for the Xcentricity Business Information Server** dialog box appears.

2. In the dialog box, select one of the following options:

Run as the Interactive User

This is the default; COBOL programs will be run using the credentials of the user that is logged into the console.

Run as the Launching User (“IUSR” if anonymous)

This runs COBOL programs using the identity used by the web server; with recent versions of IIS, this is the application pool identity. This is a highly secure, but advanced option; the administrator must explicitly grant the application pool’s identity permission to access the resources needed by the COBOL program. Note that the IUSR identity normally does not have access to the network.

Run using a specified account (Logon ID or Domain\Logon ID)

This is the recommended option. Select it and enter the credentials of a specific security principal (i.e. user) that has permissions to run COBOL applications, and has access to both the local and network resources required by the application.

It is recommended that you create a special account with the proper privileges and set the password policy to never expire.



Note: If a specific identity is chosen, that identity is used to run all BIS programs. The only possible subdivision is x86 vs x64 programs. If specific identities are required for different programs, choose the Run as Launching User option and configure IIS to run each website as a specific user with the required permissions.

After Installing

Creating and Configuring Applications

IIS must be configured to run Xcentrity BIS applications using one of these methods.

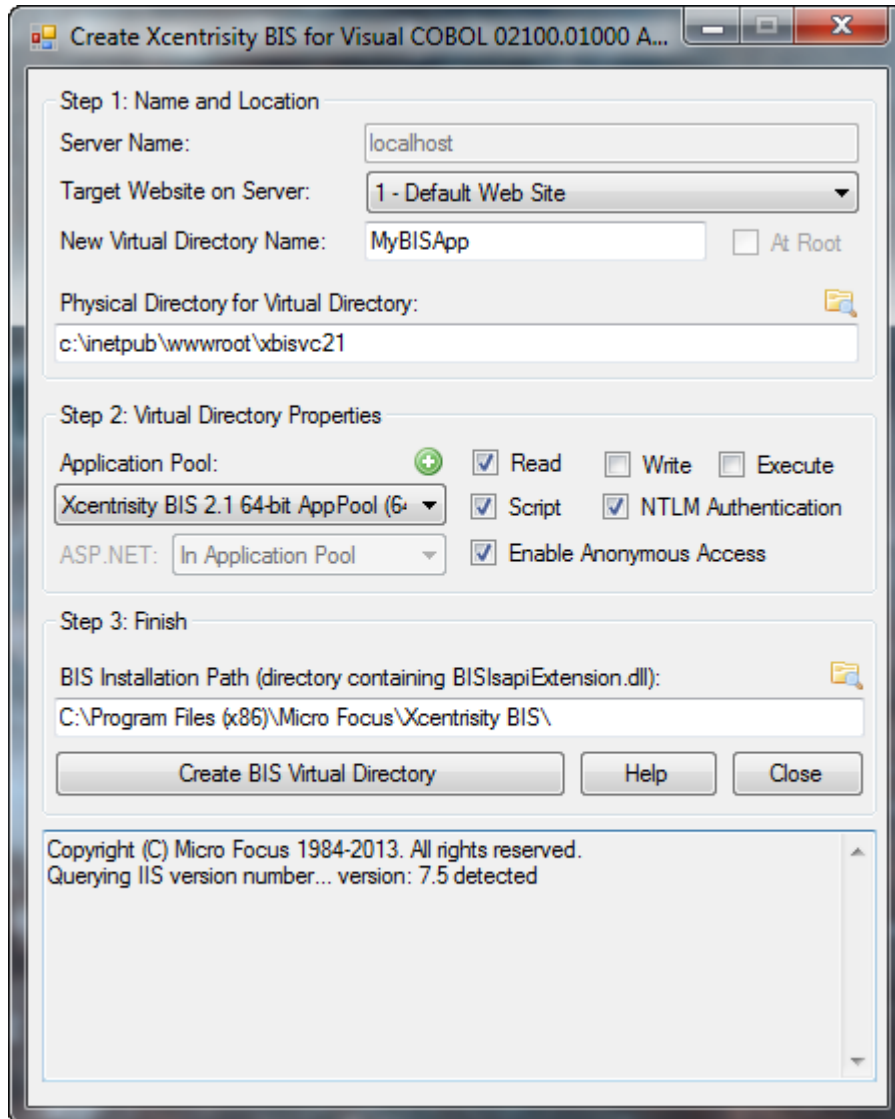
- Automatic configuration using the Xcentrity BIS BISMKDIR program.
- Manual Configuration using the Internet Information Server (IIS) Manager.

Configuration with the IIS Manager is strongly dependent on the version of IIS being used — this is beyond the scope of this release note, although the installation-time configuration of the XBISVC21 virtual directory can be used as a template or guide.

Using BISMKDIR

1. Choose **Start > Micro Focus Xcentrity BIS for Visual COBOL > Create XBIS Web Directory**

The **Create Xcentrity BIS for Visual COBOL Web Directory** dialog box appears.



2. Make sure `localhost` is in the server name field. BISMKDIR does not support remote configuration.
3. Select `1 - Default Web Site` in the **Target Website on Server** list box.
4. Type the name of the virtual directory in the **New Virtual Directory Name** field.

This is the name that follows the host name in the URL. For example, in the URL `http://microfocus.com/MyBISApp/samples/default.srf`, `MyBISApp` is the name of the virtual directory. It may be changed after creation in the IIS Management tool.

5. Type the appropriate physical directory in the **Physical Directory for Virtual Directory** field.

This is the directory that contains the files that are served when a request is received for the virtual directory. This directory is often located below `C:\inetpub\wwwroot`, although this is not required. It can also be a network UNC name.



Note: The identity that IIS uses to service web requests must be able to read this directory. BISMKDIR attempts to ensure this is possible.

6. Select the application pool that is to host COBOL programs in the **Application Pool** list.

The BIS installer creates default 32-bit and 64-bit application pools for BIS applications with these names:

Xcentrisity BIS 2.1 32-bit AppPool
Xcentrisity BIS 2.1 64-bit AppPool

Select an application pool that matches the COBOL application that will be run. Click the (+) icon to create a new pool.



Note: Prior to IIS 7, IIS did not fully support application pools. Please see the *BIS User's Guide* for information on these systems.

The **BIS Installation Path** field normally does not need to be modified; change this path only if BISMKDIR is unable to locate the BIS installation, or if more than one version of Xcentrisity BIS is installed.

7. Click **Create BIS Virtual Directory**. Messages like these will appear in the bottom pane of the program:

```
Querying IIS version number... version: 7.5 detected
  Creating "MyBISApp-BIS-Application" as a pooled (2) application in
application pool "Xcentrisity BIS 2.1 64-bit AppPool" - Success!
IIS 7.5 detected: registering BIS web service "xbisvc0210001000 02100.01000"
  Removing existing "BISIsapiExtension.dll" IIS ISAPI Extension file...
succeeded!
  Adding "BISIsapiExtension.dll" as an IIS ISAPI Extension file...
succeeded!
  Enabling the "xbisvc0210001000 02100.01000" web service extension...
succeeded!
  Enabling the "BISIsapiExtension.dll" extension file... succeeded!
  Committing IIS configuration changes... succeeded!
The anonymous logon ID will be "IUSR".
The BIS ISAPI engine is
  "C:\Program Files (x86)\Micro Focus\Xcentrisity BIS
\bin64\BISIsapiExtension.dll".
Virtual directory "MyBISApp" successfully created!
Granted permission to "C:\Program Files (x86)\Micro Focus\Xcentrisity BIS
\bin64"
  for these identities: "IIS AppPool\Xcentrisity BIS 2.1 64-bit
AppPool", "IIS_IUSRS", "IUSR".
Granted permission to "c:\inetpub\wwwroot\xbisvc21" for these identities:
  "IIS AppPool\Xcentrisity BIS 2.1 64-bit AppPool", "IIS_IUSRS", "IUSR".

Configuration complete.
```

BISMKDIR attempts to grant permission for the application pool identities and the anonymous internet accounts to access both the BIS programs and the specified directory.



Tip: On Windows 8 and Windows 2012 server, BISMKDIR reports IIS 8 as IIS 7.5. Both versions of IIS are configured in the same way.

To test the resulting installation, make sure that the physical directory contains your files (including a default `.srf`); then browse to the location `http://localhost/MyBISAPP/default.srf` replacing parts of the URL as appropriate.

COBOL Program Tracing

You can also use the Visual COBOL Consolidated Tracing Facility (CTF) to diagnose problems. Set the `MFTRACE_CONFIG` and `MFTRACE_LOGS` environment variables either globally, or in the stencil file (`.srf` file) that starts the service. For example:

```
{{ SetEnv(MFTRACE_CONFIG, options) }}  
{{ SetEnv(MFTRACE_LOGS, directory) }}
```

Be sure that the `MFTRACE_LOGS` environment variable points at a directory which is writable by the identity that was selected to run COBOL programs.

Xcentricity BIS Tutorial

The best way to learn about Xcentricity BIS is to follow the BIS Tutorial. A PDF file that documents the BIS Tutorial is installed in the Xcentricity BIS Help directory under Program Files (x86), and is accessible from a shortcut created in the Start Menu.

Breaking Changes

This version of Xcentricity BIS for Visual COBOL introduces some changes that may break existing code.

COBOL-callable Functions

For compatibility with UNIX versions of Xcentricity BIS for Micro Focus Visual COBOL, all COBOL-callable functions for BIS have new names.

In the *Xcentricity BIS User's Guide*, the names of these functions all begin with the characters B\$. These have all been changed to B_. Thus, the new names of the COBOL-callable functions are `B_ReadRequest`, `B_WriteResponse`, `B_SetInactivityTimeout`, `B_SetServiceTimeout`, `B_SetResponseStatus`, and `B_Trace`.

The order and types of the function parameters have not changed.

Environment Variable Expansion

On Windows only, the BIS request handler now expands environment variables in selected tags other than the `{{SetEnv}}` tag:

The `DIR` option in the `TRACE` tag

The `ServiceOpts` tag

The `ServiceArgs` tag

The `ServiceLibs` tag

For example:

```
{{ Trace(ON, DIR=%TEMP%) }}
```

Non-Breaking Changes

The following changes are not in the *Xcentricity BIS for Visual COBOL User's Guide*, and should not affect previous programs.

PLATFORM Variable

To fully support 64-bit versions of IIS, the `{{Value}}` tag has a new CONFIG variable called *PLATFORM*. It resolves to the same bit width as the running request handler and evaluates to either WIN32 or WIN64. This value can be tested and used as a condition. For example:

```
{{ If Value(PLATFORM, CONFIG, ToUpper, Match="WIN64") }}
{{ SetEnv(COBPATH=bin64) }}{{//}}
{{ SetEnv(COBDATA=.;bin64;..\common) }}{{//}}
{{ else }}
{{ SetEnv(COBPATH=bin) }}{{//}}
{{ SetEnv(COBDATA=.;bin;..\common) }}{{//}}
{{ endif }}
```

Be sure to end lines with `{{//}}` if an XML payload is being returned.

LOCALHOST Variable

To improve support for IPv6, the `{{Value}}` tag has a CONFIG variable called *ISLOCALHOST*. This value examines the source of the request; if the request originates from the machine that is running BIS, it resolves to Y. For example:

```
{{ If Value(ISLOCALHOST, CONFIG, ToUpper, Match="Y") }}
{{ Trace(ON) }}
{{ endif }}
```

If interoperability with UNIX

If interoperability with UNIX is required, use this expression,

```
{{ If Value(REMOTE_HOST, SERVER, MATCH="^((127\.0\.0\.[0-9]*)|(::1))$" ) }}
{{ Trace(ON) }}
{{ endif }}
```

Be sure to end lines with `{{//}}` if an XML payload is being returned.

Uninstalling

To remove Xcentrinity BIS from a server, open the control panel and use either **Add/Remove Programs** or **Programs and Features**. Select Micro Focus Xcentrinity BIS for Visual COBOL from the list and click **Uninstall**.

The BIS uninstaller attempts to remove the sample physical directory and virtual directory, along with the application pools that were created during the installation. No user-created files or pools are removed and the physical directories are not removed if any files were created or modified after the BIS installation.