

FAQ 1-3GODR4 Banner 8 Pro*C ICU (International Components for Unicode) Installation and Configuration for Linux

This note provides steps for installing ICU (International Components for Unicode).
ICU is required for Banner 8 Pro*C programs on Linux Red Hat 3 and 4.

For For Red Hat Linux 5 see:

FAQ 1-5EOZZS

In the example commands in this note, ICU is installed on a Linux server
as the Unix id root in the directory

`/usr/local/include`

The `/usr/local/include` will become your `ICU_HOME` and be referenced in the Banner
`Makefile_tm` file.

If in lieu of root you choose to use sudo (see man pages on sudo),
be aware that environment variables set in the user's session
may not be carried over into the sudo session. So if for example the
`LD_LIBRARY_PATH` is set in the
user's session, the sudo session may not have `LD_LIBRARY_PATH` set unless root's
default profile
already has `LD_LIBRARY_PATH` set.

The directory `/usr/local/include` is recommended for the ICU installation directory
since by default ICU will also create two additional directories
under `/usr/local/include` called `layout` and `unicode`.

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Verify gmake is at a minimum of 3.77.
GNU make can be downloaded from
<http://ftp.gnu.org/gnu/make/>

On Red Hat Linux the gmake command is symbolically linked to make
so either command can be used.

Example:

`gmake --version`

GNU Make version 3.79.1, by Richard Stallman and Roland McGrath.

Built for i386-redhat-linux-gnu

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For Red Hat Linux, verify the gcc compiler and g++ compiler are at a minimum version
of

3.2.3 for Red Hat 3.0 and a minimum of 3.4.4 for Red Hat 4.0.

Example:

```
gcc --version
gcc (GCC) 3.2.3 20030502 (Red Hat Linux 3.2.3-53)
Copyright (C) 2002 Free Software Foundation, Inc.
g++ --version
g++ (GCC) 3.2.3 20030502 (Red Hat Linux 3.2.3-53)
Copyright (C) 2002 Free Software Foundation, Inc.
```

To install g++ on Red Hat Linux, this command may be executed as root
up2date -i gcc-c++

```
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```

For Red Hat Linux, verify the rpm im-sdk-20030118 is installed

Example this command,

```
# rpm -q -a |grep -i im-sdk
```

should return:

```
im-sdk-20030118-6
```

Note that for a Red Hat 4.0 installation, rpm im-sdk is not available.

For Red Hat 4.0, these rpm's are required.

Here are the libraries for Red Hat 4.0 32-bit and 64-bit.

```
rpm -q -a |grep -i iiimf
iiimf-libs-12.1-13.EL.6
iiimf-gtk-12.1-13.EL.6
iiimf-libs-12.1-13.EL.6
iiimf-csconv-12.1-13.EL.6 (this rpm installs the libicu-toolutil.so library).
```

To install iiimf-csconv on Red Hat Linux, this command may be executed as root
up2date -i iiimf-csconv

```
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```

Create a directory to install icu if it doesn't already exist

Example:

```
mkdir /usr/local/include
```

For Red Hat Linux and other Unix platforms, download the file icu4c-3_6-src.tgz from
<http://icu-project.org/download/3.6.html>

Ftp the file to /usr/local/include

Unzip the file from the /usr/local/include directory.

The following command will unzip the files to a subdirectory
called icu under the parent directory (/usr/local/include).

Example:

```
gunzip -d < icu4c-3_6-src.tgz |tar xvf -
```

```
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```

Replace the ICU msgfmt header file with the Banner 8 version.

The ICU msgfmt.h file resides in

```
/usr/local/include/icu/source/i18n/unicode/msgfmt.h
```

Save the original file.

```
mv /usr/local/include/icu/source/i18n/unicode/msgfmt.h  
/usr/local/include/icu/source/i18n/unicode/msgfmt_orig.h
```

The Banner 8 version of msgfmt.h was not shipped with the Banner 8 upgrade but is available for download from our "Documentation and Software downloads" link. The Banner 8 version of has msgfmt.h this line added

```
//TMCI8N Patch. Make protected instead of private, so we can extend the class
```

It can be located under Software Downloads for

General\ICU Header\International Components for Unicode Header Files

Here is the command to copy the file:

```
cp msgfmt.h /usr/local/include/icu/source/i18n/unicode
```

```
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```

Verify the /usr/local/lib is included in the LD_LIBRARY_PATH environment variable. Depending on how your environment is set up, the directory can be added to LD_LIBRARY_PATH by editing the banenv file or oraenv file.

Example:

```
export LD_LIBRARY_PATH=/usr/local/lib:$LD_LIBRARY_PATH  
echo $LD_LIBRARY_PATH  
/usr/local/lib:/opt/FJSVcbl/lib:/u01/oracle/10/lib
```

For Red Hat Linux, the icuconv and csconv directories are also needed,

Linux 32-bit

```
export  
LD_LIBRARY_PATH=/usr/local/lib:/usr/lib/im/icuconv:/usr/lib/im/csconv:$LD_LIBRARY_PATH
```

Linux 64-bit

```
export  
LD_LIBRARY_PATH=/usr/local/lib:/usr/lib64/im/icuconv:/usr/lib64/im/csconv:$LD_LIBRARY_PATH
```

```
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```

Change directory to /usr/local/include/icu/source
cd /usr/local/include/icu/source

The following command will display the different operating systems supported.
./runConfigureICU --help

The following command will display the different options available for installing.
./configure --help

When runConfigureICU is executed, a config.log will be automatically created in the /usr/local/include/icu/source directory.

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To configure ICU execute the following commands:

Red Hat 32-bit
./runConfigureICU Linux --disable-64bit-libs

Red Hat 64-bit
./runConfigureICU Linux --enable-64bit-libs

Check the config.log for errors.
Typically, if the last line has this information, the runConfigureICU was successful.
configure: exit 0

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Make the ICU binaries.
The first gmake cleans up any previous objects (in case this is a second attempt at an ICU install).
The second gmake creates libraries.
The third gmake may take 5 or 10 minutes to complete.
gmake clean
gmake >& make.log
gmake install >& install.log

Check the install.log for errors.

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Edit the global /etc/profile and set the locale.
If this environment will also be used for non-UTF8 databases

then edit the local .profile for the users accessing the UTF8 environments.
The banenv or cbanenv files can also be used to set the environment.

FAQ 1-3YSCJ8 Banner 8 utf8 multibyte character configuration steps for INB SSB SQLPlus.

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Add the /usr/local/lib and \$EXE_HOME to the LD_LIBRARY_PATH environment variable.

Depending on how your environment is set up, the directory can be added to LD_LIBRARY_PATH by editing the banenv file or oraenv file.

Example:

```
export LD_LIBRARY_PATH=/usr/local/lib:$EXE_HOME:$LD_LIBRARY_PATH
echo $LD_LIBRARY_PATH
/usr/local/lib:/u01/ban8/general/exe:/opt/FJSCVcbl/lib:/u01/oracle/10/lib
```

For Red Hat Linux, the icuconv and csconv directories are also needed,
Linux 32-bit

export

```
LD_LIBRARY_PATH=/usr/local/lib:/usr/lib/im/icuconv:/usr/lib/im/csconv:$EXE_HOME:$LD_LIBRARY_PATH
```

Linux 64-bit

export

```
LD_LIBRARY_PATH=/usr/local/lib:/usr/lib64/im/icuconv:/usr/lib64/im/csconv:$EXE_HOME:$LD_LIBRARY_PATH
```

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Banner 8 Makefile_tm and sctproc.mk files are attached to
FAQ CMS-1361 Banner Example Makefiles

For Red Hat Linux 64-bit apply these two patches which fix compile and runtime errors.
Apply the patches in this order:

1-40WK37

1-4EEY5P

The patches have not been officially posted as of the writing of this FAQ, however early releases of the patches are attached to the Defects.

There are no patches required for Red Hat Linux 32-bit.

Execute the gencmplc.shl script to compile General Pro*C programs.

Follow with the other product shl scripts to compile the other Product Pro*C programs (eg stucmplc.shl).

Use the cleanup_compile shell script attached to FAQ CMS-2162 for removing intermediate c files to avoid c 'undefined symbol' compile errors.

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References:

- Banner Pre-Installation Guide - Release 8.0 - April 2008
- Banner General Upgrade Guide - Release 8.0 - April 2008
- <http://source.icu-project.org/repos/icu/icu/tags/release-3-6/readme.html#HowToBuildUNIX>
- <http://icu-project.org/download/3.6.html>
- <http://ftp.gnu.org/gnu/make/>