On Tuesday, August 19, 2003, the IBM OS/VS COBOL Compiler and Run-Time Library will be removed from the NERDC z/OS system. We encourage all users of this compiler to begin converting your programs to use the IBM Enterprise COBOL for z/OS and OS/390 compiler now.

Why remove this product?

Vendor support for IBM OS/VS COBOL was withdrawn in 1994. We first announced this on June 25, 1993 in the NERDC News item, N0077 IBM OS/VS COBOL Support Withdrawn June 30, 1994 [http://docweb.cns.ufl.edu/news/n0077/n0077.html] and again in later COBOL-related NERDC News items. We asked users of this compiler to begin converting their programs to a more current COBOL compiler.

At that time, many very large OS/VS COBOL applications existed that were considered critical to UF's ongoing operations. It was not possible to predict how long it would take to convert or rewrite so many important programs. Now that all of the CICS applications and the major batch applications have been converted by their authors, the University of Florida can no longer justify the cost of licensing this unsupported COBOL compiler.

IBM Enterprise COBOL for z/OS and OS/390 is the newest and the only supported COBOL compiler offered by IBM. It will compile programs written for the COBOL 85 Standard, and on Tuesday, August 19, 2003, it will be the only COBOL compiler available at our installation.

Conversion Information

You should not need to recompile your OS/VS COBOL programs before the scheduled removal date unless your programs cannot execute without the OS/VS COBOL run-time library. Most OS/VS COBOL programs should continue to execute successfully, even after the OS/VS COBOL libraries are removed from the system. However, you should begin removing JCL references to the SYS1.VSCLLIB run-time library.
Once the OS/VS COBOL libraries are removed, any COBOL applications that require source code changes will need to be recompiled using the Enterprise COBOL compiler. The Enterprise COBOL compiler only supports COBOL 85 Standard code.

Run-time Library Conversion

Please begin updating your JCL to remove any references to the SYS1.VSCLLIB run-time library. When the SYS1.VSCLLIB library is removed from the JOBLIB or STEPLIB concatenation, existing load modules that were compiled with the OS/VS COBOL compiler will execute using the system Language Environment (LE) run-time libraries.

Most OS/VS COBOL programs should continue to execute as before, however, this is not a certainty. Successful execution of your OS/VS COBOL programs may depend on the RES/NORES options used and whether VS COBOL II routines are included.

Also note that future operating system upgrades may cause these programs to stop functioning. We strongly encourage you to plan to convert any remaining OS/VS COBOL programs you may have to the COBOL 85 standard.

When OS/VS COBOL is removed on August 19, the individual COBOL support modules will be removed from the SYS1.VSCLLIB run-time library; then on October 14, 2003, the SYS1.VSCLLIB dataset will be deleted.

Compiler JCL Conversion

Converting JCL from the OS/VS COBOL PROCs will require changes to execute the IBM IGYW* PROCs in place of the COBVS* PROCs. Note that a number of the keywords and library specifications must be changed, and also, //COB.SYSIN must be changed to //COBOL.SYSIN on the COBOL source input DD statement.

OS/VS COBOL compile and link example:

```
Figure 1.

EXEC COBVSCL, OPTIONS='SIZE=768K,MIGR',
   LIBRARY=your.loadlib, PROGRAM= cobolpgm,
   SUBLIB=your.objlib
//COB.SYSLIB DD DSN=your.cobsrc, DISP=SHR
//COB.SYSIN DD *
   your COBOL program
/*
```

Enterprise COBOL compile and link example:

```
Figure 2.

EXEC IGYWCL,
   PGMLIB=your.loadlib, GOPGM=cobolpgm,
   PARM.COBOL=('LIB,MAP,DYNAM')
```
Applications groups that execute their own COBOL compile procedures will need to make a number of changes to these PROCs. The most significant change is the COBOL compiler program which will change from PGM=IKFCBL00 to PGM=IGYCRCTL and the STEPLIB compiler library which will change from SYS1.VSCOLIB to SYS1.SIGYCOMP. The IGYW* PROCs in 'NERDC.PROCLIB', which are customized versions of the IBM procedures, can be used as models for the required changes.

**Documentation and Conversion Issues**

**Enterprise COBOL documentation**

The IBM Enterprise COBOL documentation, which includes the manuals in PDF and Bookmanager formats, is located at:

**Figure 3.**

IBM Enterprise COBOL for z/OS and OS/390 Library

Converting from the OS/VS COBOL compiler to the Enterprise COBOL compiler will require converting the source code from COBOL 74 Standard to the current COBOL 85 Standard. Documentation on this conversion can be found in the manual,

**Figure 4.**

Enterprise COBOL for z/OS and OS/390 Compiler and Run-Time Migration Guide

which is one of the manuals in the Enterprise COBOL Library. Suggested reading from this manual includes selections from Chapters 6, 10, 11, and Appendix C. Further notes appear below.

**Reading Notes from the manual Enterprise COBOL for z/OS and OS/390 Compiler and Run-Time Migration Guide**

Chapter 6, "Moving from the OS/VS COBOL run-time," includes sections such as "Determining which programs require link-editing", "Determining which programs require upgrading", "Comparing run-time options and specification methods", and additional sections covering file access, dump services, SORT/MERGE, "SYSOUT output changes", and "Communicating with other languages."
Chapter 10, "Upgrading OS/VS COBOL source programs," includes sections named "Comparing OS/VS COBOL to Enterprise COBOL", "Language elements that are no longer implemented", "Language elements that are not supported", "Undocumented OS/VS COBOL extensions that are not supported", and "Language elements that changed from OS/VS COBOL."

Note that these Chapter 10 sections reference changes to the function of a significant number of COBOL language elements. They include the removal of ISAM file support, syntax changes, and language restrictions. These changes are too numerous to list, so referencing this chapter of the Migration Guide is highly recommended.

In addition, Chapter 10 includes a section on "Language elements that require other products for support." This section documents that the COBOL Report Writer function is not included in the Enterprise COBOL compiler because Report Writer support is not specified in the current COBOL 85 Standard.

COBOL programs that use the Report Writer function may be indicated by the presence of the following language elements:

**Figure 5.**

GENERATE statement
- INITIATE statement
- LINE-COUNTER special register
- Nonnumeric literal IS mnemonic-name
- PAGE-COUNTER special register
- PRINT-SWITCH special register
- REPORT clause of FD entry
- REPORT SECTION
- TERMINATE statement
- USE BEFORE REPORTING declarative

For more information on converting OS/VS COBOL programs that use the COBOL Report Writer feature, including the optional use of the COBOL Report Writer PreCompiler, see NERDC News item N0383 [http://docweb.cns.ufl.edu/news/n0383/n0383.html].

Chapter 11, "Compiling converted OS/VS COBOL programs," includes sections on "Key compiler options for converted programs" and "Unsupported OS/VS COBOL compiler options."

Appendix C, "Conversion tools for source programs," includes a section documenting the "MIGR Compiler Option". While the OS/VS COBOL compiler is still available, the 'MIGR' compiler option can be added to the compile parameters, as in the OS/VS COBOL compile and link JCL example above, to generate informational messages about language elements that will need to be converted. For example:

**Figure 6.**

# IKF1225I-I *** MIGR-OTHR *** REMARKS IS NOT SUPPORTED ...
General Recommendations

1. As soon as possible, begin updating JCL to remove references to SYS1.VSCLLIB, which is the OS/VS COBOL run-time library.

2. Perform an analysis of your COBOL programs that are still being compiled with the OS/VS COBOL compiler and anticipate which programs may need future application source code changes.

3. To prepare for the removal of the OS/VS COBOL compiler, try test compiles of COBOL source code identified in recommendation #2 by using the OS/VS COBOL compiler with the 'MIGR' option or the Enterprise COBOL compiler.

4. If a program uses COBOL Report Writer functions, make sure that the program can be rewritten or temporarily compiled with the COBOL Report Writer PreCompiler.

5. Begin making the source code changes that will be required to update your code to the COBOL 85 Standard.

Most COBOL load modules created with the OS/VS COBOL compiler should not need to be recompiled and relinked unless they cannot execute without the SYS1.VSCLLIB run-time library. However, we strongly encourage you to plan on upgrading all of your COBOL load modules to the COBOL 85 standard so that you can avoid the possibility of a program failure at a critical time due to future compiler incompatibilities. Please let us know if you have questions or concerns about the Enterprise COBOL compiler and/or your migration from OS/VS COBOL. We can be reached at the NERDC Support Desk at 352/392-2061, e-mail consult@lists.ufl.edu. News articles, NERDC documents, and related information can be accessed on-line through DOCWEB, NERDC's WWW-based documentation system, at http://docweb.cns.ufl.edu.

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