## Other Prerequisites

Redbooks

**Customize the z/OS Conversion Services**

- Used to convert to and from Unicode for example

**COBOL**

- Migrate to IBM Enterprise COBOL V3.2 or above
  - Older COBOL compilers cannot be used with DB2 V8
    - No OS/VS COBOL or VS COBOL II
  - Can run older COBOL load modules under LE

**PL/I**

- Migrate to Enterprise PL/I for z/OS and OS/390 V3R2 (or above) or PL/I for MVS & VM V1R1
  - All versions of OS PL/I (including 2.3) and VisualAge PL/I no longer supported

**Obtain latest version of other products**

- IMS V7 or above
- CICS TS 1.3, 2.2 or 2.3

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## 12.1.2 Other prerequisites

In order to be able to run DB2 Version 8, a number of other prerequisites must also be in place, such as Unicode conversion services and programming languages have to be at a certain level as well to be able to work with the V8 precompiler.

### Unicode Conversion Services

You need to define and customize the z/OS Conversion Services as described in the *z/OS V1R3.0 Support for Unicode Using Conversion Services*, SA22-7649-01. DB2 uses this z/OS service to convert to and from Unicode.

The z/OS Conversion Services must be configured and active *before* you migrate DB2 to Version 8 compatibility mode. Even in compatibility mode, when no new function is enabled, DB2 needs to convert all the SQL to Unicode in order to process it. All SQL statements are parsed in Unicode. In fact, DB2 Version 8 will not start if there is no conversion available to and from the EBCDIC and ASCII CCSIDs defined in DSNHDECP and UTF-8 (1208).

We have suggested a sample definition for customizing the z/OS Conversion Services in Appendix B, "Unicode setup" on page 1039. Further information can be found in Appendix A of the *DB2 UDB for z/OS Version 8 Installation Guide,* SC18-7418 and the Information APARs II13048 and II13049.

## COBOL support

DB2 has a commitment to support currently supported releases of other IBM software. However, OS/VS COBOL and COBOL II are no longer supported by IBM, and therefore DB2 Version 8 is also removing support for these products. Only the following COBOL compilers are supported by the DB2 precompiler; however, older COBOL load libraries can still run with DB2 and LE:

- Enterprise COBOL for z/OS and OS/390 Version 3 (5655-G53).

When using the integrated SQL coprocessor, you should use:

- Enterprise COBOL for z/OS and OS/390 V3.2 or V3.3 (5655-G53) with APAR PQ83744

See also the following Techdocs, available at:

- http://www.ibm.com/support/docview.wss?rs=64&context=SSEPEK&q1=v8&uid=swg21164264&loc=en_US&cs=utf-8&lang=en

- http://www.ibm.com/support/docview.wss?rs=64&context=SSEPEK&q1=v8&uid=swg21166881&loc=en_US&cs=utf-8&lang=en

In case you are not on any of these releases, you need to migrate. The key resource is the *Enterprise COBOL for z/OS Compiler and runtime migration guide*, GC27-1409. It can be foung on the Web at:

http://www.ibm.com/software/awdtools/cobol/zos/library/

**Attention:** IBM COBOL for OS/390 Version 2 Release 2 (5648-A25) is out of service since December 2004.

Note also that Enterprise COBOL for z/OS and OS/390 V3.2 is going out of servive in October 2005.

## PL/I

To use PL/I with DB2 Version 8, you should use any of the following products:

- IBM Enterprise PL/I for z/OS and OS/390 V3.2 or above (5655-H31)
- IBM PL/I for MVS & VM V1.1 (5688-235)

Using the DB2 precompiler services requires the DB2 coprocessor provided with:

- IBM Enterprise PL/I for z/OS and OS/390 V3.2 and APAR PQ84513 or later releases.

See also the following Techdoc, available at:

- http://www.ibm.com/support/docview.wss?rs=64&context=SSEPEK&q1=v8&uid=swg21166873&loc=en_US&cs=utf-8&lang=en

**Attention:** Enterprise PL/I for z/OS and OS/390 V3.2 is going out of servive in October 2005.

## C/C++

When coding in C or C++, make sure to use any of the following products:

- C/C ++ (with or without Debug Tool), optional feature of z/OS
- SAA AD/Cycle C/370 Compiler V1.2 (5688-216)

**Attention:** Please note that these prerequisites have important implications for disaster recovery and sysplex cross-system restart scenarios. All systems that DB2 Version 8 runs on or may run on in an emergency or test scenario must meet these hardware and software prerequisites. So you really need to plan to have these important prerequisites in place in all the environments where you may need to start DB2 Version 8, before you install Version 8 in any environment.

In addition, some new functions in Version 8 have further prerequisites:

- The new DB2 System level backup and recovery solution requires DFSMS shipped with z/OS 1.5 plus data storage control units which support Flashcopy.
- The multi-level security functionality requires the z/OS 1.5 Secureway Server (RACF) or equivalent.
- When you are using z/OS 1.5 you have the possibility to increase the maximum number of open data sets (DSMAX) to 100 000. When running on z/OS 1.3 or 1.4, DB2 will enforce limit of 32 767 open data sets. For more information, see 2.28.3, "Up to 65 000 open data sets" on page 51.
- The data sharing enhancement where DB2 can batch page requests to the group buffer pool, require z/OS 1.4 and CF Level 12.
- The lock holder priority increase enhancement requires z/OS 1.4 WLM functionality.

Once again, please refer to the DB2 UDB for z/OS Version 8 Program Directory for an up-to-date list of these functional prerequisites.

Despite the work DB2 Version 8 has done in removing many restrictions which contribute to memory constraints and the new 64 bit architecture, not all of the restrictions have been removed, and some memory constraint problems may still occur for very large systems. DB2 V8 has gone a long way; however, there is still more work to be done.

DB2 Version 8 will require some more memory than Version 7, typically around 10%. This is largely because many memory structures have changed to support 64 bit addressing. Although Version 8 introduces many changes designed to provide memory relief, with many memory structures moving above the bar (for example; bufferpools, RID pool, sort pool, EDM pool, and compression dictionaries), you are not isolated from some memory constraints in very large systems as many thread related structures still remain below the bar. In addition, DB2 is not the only user of the real memory on the machine. It has to be shared by all other subsystems and applications on the LPAR.

We therefore suggest that after you migrate to Version 8, you continue to monitor the paging rates on your system. This will give an indication of your memory usage and show if it is over-committed.

DB2 UDB for z/OS V8 does not yet support the coprocessor or precompiler services with C or C++. Use of DB2 precompiler services with C requires, the DB2 coprocessor provided with z/OS V1.5 and the DB2 UDB for z/OS and OS/390 V7 libraries. For use of DB2 UDB for z/OS V8 function, use the precompiler as an alternative.

DB2 also supports programming languages such as Java, FORTRAN, Assembler, and REXX. To find out what products are required, refer to the IBM software announcement letter for DB2 Version 8, 204-029 for the US, or equivalent for other countries.

For additional information about supported coprocessor options, see also informational APAR II13782.

## IMS

The following versions of IMS (Information Management System) can work with DB2:

- IMS V9 (5655-J38)
- IMS V8 (5655-C56)
- IMS V7 (5655-B01)

## CICS

CICS (Customer Information Control System) is required to be at any of the following versions to support DB2 V8:

- CICS Transaction Server for z/OS V2.2 or V2.3 (5697-E93)
- CICS Transaction Server for OS/390 V1.3 (5655-147)

Although CICS TS V1.3 is supported, we strongly suggest that you plan to use the latest versions of these products, to help you to maximize the use of the new functions in DB2.