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# Licensed Program Specifications

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## COBOL and CICS Command Level Conversion Aid for VSE Version 2 Release 1 Program Number 5686-A07

The COBOL and CICS Command Level Conversion Aid for VSE (CCCA/VSE) Licensed Program, 5686-A07, is a migration aid that helps you convert old COBOL 68 Standard and COBOL 74 Standard language in source programs and copy books to COBOL 85 Standard language.

COBOL 68 Standard language is that language supported by the following IBM COBOL compilers (with the specified compiler option):

- DOS/VS COBOL with LANGLVL(1)
- OS/VS COBOL with LANGLVL(1)

COBOL 74 Standard language is that language supported by the following IBM COBOL compilers (with the specified compiler option):

- DOS/VS COBOL with LANGLVL(2)
- OS/VS COBOL with LANGLVL(2)
- VS COBOL II Release 1
- VS COBOL II Release 2
- VS COBOL II Release 3 with CMPR2
- VS COBOL II Release 4 with CMPR2
- COBOL for VSE/ESA with CMPR2
- COBOL for MVS & VM with CMPR2
- COBOL for OS/390 & VM with CMPR2

COBOL 85 Standard language is that language supported by the following IBM COBOL compilers (with the specified compiler option):

- VS COBOL II Release 3 with NOCMPR2
- VS COBOL II Release 4 with NOCMPR2
- COBOL for VSE/ESA with NOCMPR2
- COBOL for MVS & VM with NOCMPR2
- COBOL for OS/390 & VM with NOCMPR2

As well as performing standard code conversion, CCCA/VSE can be customized with installation-specific Language Conversion Programs (LCPs) that can be used to:

- Convert, flag, or remove additional (possibly non-COBOL) language elements
- Change how CCCA/VSE converts particular language elements

When converting to a level of COBOL that supports IBM VisualAge COBOL Millennium Language Extensions, CCCA/VSE provides a facility for adding the DATE FORMAT clause to the data descriptions of specified data items.

CCCA/VSE eases migration to new COBOL technology by automating the conversion of most COBOL syntax differences. This can reduce both the amount of manual programming time required for the conversion, and the number of manual programming errors. CCCA/VSE also provides a historical record of the conversion in the form of conversion management reports.

### Compatibility with CCCA/VSE Release 1

With certain exceptions, CCCA/VSE Version 2 Release 1 is upwardly compatible with CCCA/VSE Release 1 (program number 5785-CCC). Most LCPs developed to work with CCCA/VSE Release 1 will continue to work with CCCA/VSE Version 2 Release 1. However, the following differences in source code tokenization might cause some CCCA/VSE Release 1 LCPs to behave differently when used with CCCA/VSE Version 2 Release 1:

- Comment lines are not tokenized
- Comment entries in optional IDENTIFICATION DIVISION paragraphs (such as AUTHOR, DATE-WRITTEN, and DATE-COMPILED) are tokenized by line rather than by word
- Certain compiler directives, such as EJECT and SKIP, are not tokenized

CCCA/VSE Version 2 Release 1 also provides the following enhancements to CCCA/VSE Release 1:

- Support for DBCS literals and DBCS user-defined words
- Support for hexadecimal nonnumeric literals
- Improved tokenization of COBOL words and literals continued over multiple lines
- Improved tokenization of numeric literals
- Improved determination of nonnumeric literal delimiters
- Improved batch job submission

## Restrictions

CCCA/VSE can be used to add the DATE FORMAT clause to the data descriptions of specified data items, regardless of the level of COBOL in the source code being converted. However, when converting source code written in COBOL 85 Standard language, CCCA/VSE does not support certain COBOL 85 Standard language elements and certain IBM extensions. These include:

- Nested programs
- Program names that do not conform to the COBOL 85 Standard
- Object-oriented class and method definitions

## Industry Standards

The term “COBOL 68 Standard” is used in this document to refer to the following standards:

- X3.23-1968, American National Standard for Programming Language COBOL
- ISO International Standard 1989-1972 COBOL

The term “COBOL 74 Standard” is used in this document to refer to the following standards:

- X3.23-1974, American National Standard for Programming Language COBOL
- ISO International Standard 1989-1978 COBOL

The term “COBOL 85 Standard” is used in this document to refer to the following standards:

- X3.23-1985, American National Standard for Information Systems - Programming Language - COBOL

- X3.23a-1989, American National Standard for Information Systems - Programming Language - Intrinsic Function Module for COBOL
- ISO 1989:1985, Programming languages - COBOL
- ISO 1989/Amendment 1, Programming languages - COBOL - Amendment 1: Intrinsic function module

## Specified Operating Environment

### Machine Requirements

CCCA/VSE runs on a hardware configuration supported by the licensed programs specified below.

### Programming Requirements

CCCA/VSE runs under the control of, or in conjunction with, the following IBM licensed programs and their subsequent releases unless otherwise announced by IBM.

**Required Licensed Programs:** The following licensed programs are required for CCCA/VSE:

- One of the following operating systems:
  - VSE/ESA Version 1 Release 4 (5750-ACD)
  - VSE/ESA Version 2 (5690-VSE)
- CICS/VSE Version 2 Release 3 (5686-026)
- Language Environment for VSE/ESA Version 1 Release 4 (5686-094)
- COBOL for VSE/ESA Version 1 Release 1 (5686-068)
- A SORT program capable of being used with the COBOL SORT verb

**Optional Licensed Programs:** When using CCCA/VSE to convert DOS/VS COBOL source code that uses BLL addressing, the following COBOL compiler is required:

- DOS/VS COBOL Version 1 Release 3 (5746-CB1)

When using CCCA/VSE to add the DATE FORMAT clause to the data descriptions of date fields, the following licensed programs are required to perform post-conversion compilations:

- COBOL for VSE/ESA Version 1 Release 1 (5686-068)

- VisualAge COBOL Millennium Language Extensions for VSE/ESA Version 1 Release 1 (5686-MLE)

### **Licensed Program Materials Availability**

Restricted materials—No. This licensed program is available without source licensed program materials. It is available in object code.

### **Supplemental Terms**

#### **Designated Machine Identification**

Designated Machine Identification Required—Yes.

#### **Testing Period**

- Basic License: Two months.
- DSLO License: Not applicable.

#### **Installation/Location License**

Not applicable. A separate license is required for each machine on which the licensed program will be used.

### **Usage Restriction**

Not applicable.

### **Type/Duration of Program Services**

- Central Service.
- Until discontinued by IBM with a minimum of six months written notice.

### **Warranty**

This program is warranted as specified in the IBM license.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

For Distributed Systems License Option (DSLO) Licenses, warranty service, if any, will be provided only through the Basic License location.

Following the discontinuance of all program services, this program will be provided “As Is” as specified in the IBM license.

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