

VSI COBOL V3.5-2 for OpenVMS x86-64 Systems

Release Notes

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Operating System: VSI OpenVMS x86-64 Version 9.2-2 or higher

Software Version: VSI COBOL V3.5-2 for OpenVMS x86-64

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VMS Software

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1. Introduction

VSI COBOL V3.5-2 for OpenVMS x86-64 Systems provides a COBOL compiler for systems running OpenVMS x86-64 version 9.2-2 or higher.

Note

VSI strongly recommends using OpenVMS x86-64 V9.2-3 + Update 3 or higher, as it includes run-time library fixes, system condition handling improvements, and debugger enhancements.

This document provides general information about VSI COBOL and describes corrections, known issues, and documentation resources relevant to this release.

The image identification for the COBOL compiler is "COBOL V3.5-2".

The **COBOL/VERSION** string is:

```
VSI COBOL V3.5-2 (GEM 50nnn) on OpenVMS x86-64 Systems
```

1.1. Getting Help and Reporting Problems

Please report problems or provide feedback through the VSI Support Portal or VSI Official Forum.

2. Release Notes

VSI COBOL V3.5-2 for OpenVMS x86-64 Systems is based on VSI COBOL for OpenVMS IA-64 and is intended to provide a high degree of source compatibility. Some platform-specific features available on OpenVMS Alpha or OpenVMS IA-64 systems may not be supported on OpenVMS x86-64.

2.1. /CONVERT=LEADING_BLANKS Compatibility Behavior

The HELP text for previous COBOL compilers on OpenVMS IA-64 and OpenVMS x86-64 states that the **/CONVERT=LEADING_BLANKS** qualifier is disabled by default. While this is true for OpenVMS Alpha, OpenVMS IA-64 enables this behavior by default in the run-time library, and it cannot be disabled through the **/CONVERT** qualifier.

On OpenVMS x86-64 systems, VSI COBOL V3.4 and earlier did not perform this automatic conversion, matching the behavior of OpenVMS Alpha. To assist customers porting from OpenVMS IA-64, VSI COBOL V3.5 and later enable **/CONVERT=LEADING_BLANKS** behavior by default, with no option to disable it.

2.2. Corrections in VSI COBOL V3.5-2

VSI COBOL V3.5-2 includes the following corrections and improvements:

- Improved debug information generation for the main entry point to prevent duplicate symbols from being presented to the OpenVMS Debugger.
- When **/LIST=MACHINE_CODE** is specified, the compiler now calls **ANALYZE/OBJECT/DISASSEMBLE** automatically.

- Improved compilation performance for programs containing data structures with a large number of possible re-initialization values. For example:

```
01  X_REF_ARRAY.
    05 FETCH_ARRAY.
       15 FETCH_LINE                    PIC X(40) VALUE "ZZZZZZZZZZZZ"

    05 SEARCH_X_REF_TABLE REDEFINES FETCH_ARRAY OCCURS 500000 TIMES
               ASCENDING KEY IS XR_GROUP, XR_PR_VALUE, XR_SEC_VALUE
               INDEXED BY DIR-INDX.
       15 XR_GROUP                      PIC X(8).
       15 XR_PR_VALUE                   PIC X(16).
       15 XR_SEC_VALUE                  PIC X(16).
```

- Improved debug information generation for COBOL **REDEFINES** data items.

2.3. Corrections in Previous Releases

The following corrections were introduced in earlier VSI COBOL releases:

- Corrected debug information that could cause the debugger to stop on an incorrect source line when using "GO to reach start of program."
- [NS7964] Corrected an issue that could cause a COBOL application using the **USE AFTER STANDARD ERROR PROCEDURE** clause to terminate with an ACCVIO. This correction requires both the compiler update and the RTL updates provided with OpenVMS x86-64 V9.2-3.
- [NS8056] Corrected a stack memory leak that could cause certain COBOL applications to terminate with an ACCVIO.
- Corrected an issue in which debug information was not generated correctly for programs containing multiple entry points.
- Corrected an issue in which incorrect debug information could be generated for decimal field sizes.
- Corrected an issue in which the compiler did not produce correct checking code for invalid decimal values even when **/CHECK=DECIMAL** was used.

2.4. Known Issues

The following known issues apply to VSI COBOL V3.5-2:

- While debugger support has been improved with VSI COBOL V3.5-2 when used with OpenVMS x86-64 V9.2-3 + Update 3 or higher, some limitations remain. Additional improvements are planned for a future release.
- The compiler now generates DWARF information for packed-decimal variables, but full debugger support will be implemented in the future. The following is an example of current output for COBOL's PIC 99 with value 12:

```
DBG> SHOW SYMBOL/TYPE VAR_DECIMAL
data TEST_DEBUG\TEST_DEBUG\VAR-DECIMAL
    atomic type, undefined type, size: 2 bytes
DBG>
DBG> EXAMINE VAR_DECIMAL
```

```
TEST_DEBUG\TEST_DEBUG\VAR-DECIMAL:      12849
DBG>
```

3. VSI COBOL Documentation

The VSI COBOL documentation set can be found online at https://docs.vmssoftware.com/.

At the time of publication, the VSI COBOL documentation has not yet been updated to include information specific to OpenVMS x86-64 support.