

Enterprise COBOL for z/OS  
6.1

*What's New*



**Note**

Before using this information and the product it supports, be sure to read the general information under [“Notices” on page 7](#).

**First edition (31 August 2021 update)**

This edition applies to Version 6 Release 1 of IBM® Enterprise COBOL for z/OS® (program number 5655-EC6) and to all subsequent releases and modifications until otherwise indicated in new editions. Make sure that you are using the correct edition for the level of the product.

You can view or download softcopy publications free of charge in the [Enterprise COBOL for z/OS library](#). Because Enterprise COBOL for z/OS supports the continuous delivery (CD) model and publications are updated to document the features delivered under the CD model, it is a good idea to check for updates once every two months.

It is our intention to update the product documentation for this release periodically, without updating the order number. If you need to uniquely refer to the version of your product documentation, refer to the order number with the date of update.

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## About this information

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This information provides an executive overview of new and improved features in Enterprise COBOL for z/OS 6.1 and Enterprise COBOL for z/OS 6.1 with PTFs installed.

Throughout this information, "COBOL" or "Enterprise COBOL" means "IBM Enterprise COBOL for z/OS".



## How to send your comments

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Your feedback is important in helping us to provide accurate, high-quality information. If you have comments about this information or any other Enterprise COBOL documentation, send your comments to: [compinfo@cn.ibm.com](mailto:compinfo@cn.ibm.com).

Be sure to include the name of the document, the publication number, the version of Enterprise COBOL, and, if applicable, the specific location (for example, the page number or section heading) of the text that you are commenting on.

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# Chapter 1. Video: What is new in Enterprise COBOL for z/OS 6.1

Watch the [video](#) to get a quick overview of the major new features and enhancements in Enterprise COBOL for z/OS 6.1.

To discover all the new features and enhancements, refer to the complete list in [Chapter 2, “What is new in Enterprise COBOL for z/OS 6.1 and COBOL 6.1 with PTFs installed,”](#) on page 3.

To watch more Enterprise COBOL for z/OS videos, visit the [COBOL video gallery](#).



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# Chapter 2. What is new in Enterprise COBOL for z/OS 6.1 and COBOL 6.1 with PTFs installed

This section lists new and improved features in Enterprise COBOL for z/OS 6.1 and Enterprise COBOL for z/OS 6.1 with PTFs installed.

Enterprise COBOL for z/OS supports the continuous delivery (CD) model so that you can receive new features and enhanced capabilities as soon as the code is ready without waiting for the next release. The below feature descriptions that begin with an APAR number are introduced in the PTFs that are shipped with Enterprise COBOL for z/OS 6.1. Install the latest PTFs using the FIXCAT feature of SMP/E to take advantage of these features. For more information on SMP/E FIXCATs, see [Determining service required](#). For more information on PTFs and APARs for Enterprise COBOL for z/OS, see the [COBOL for z/OS support page](#).

The enhancements that are described in this section also have an associated cross-reference to the COBOL publications for your convenience.

The changes mainly fall into the following categories:

- [“Support of 2002 COBOL standard” on page 3](#)
- [“JSON enhancements” on page 3](#)
- [“Other language element changes” on page 4](#)
- [“Compiler option changes” on page 4](#)
- [“Listing changes” on page 5](#)
- [“Runtime and performance-related enhancements” on page 5](#)
- [“COBOL/JNI interface enhancement” on page 5](#)

## Support of 2002 COBOL standard

- ALLOCATE statement and FREE statement
  - The new ALLOCATE statement obtains dynamic storage, while the new FREE statement releases dynamic storage previously obtained with an ALLOCATE statement. Both statements are part of the 2002 COBOL Standard. ([ALLOCATE statement](#) and [FREE statement](#))
  - PI92944: A new LOC (24 | 31) phrase is added to the ALLOCATE statement to control the location of dynamic storage that is acquired, which overrides the influence of the DATA compiler option. ([Storage and its addressability](#))
- Enhancements are made to the INITIALIZE statement as part of the 2002 COBOL Standard ([INITIALIZE statement](#)):
  - A new FILLER phrase is added so that FILLER data items can be initialized with the INITIALIZE statement.
  - A new VALUE phrase is added so that elementary data items can be initialized to the literal specified in the VALUE clause.

## JSON enhancements

- JSON GENERATE statement:
  - The new JSON GENERATE statement converts data to JSON format. ([Producing JSON output](#))

- PI71621: The JSON GENERATE statement is redesigned and improved.
- PH23265: A new "NAME IS OMITTED" phrase is added to the JSON GENERATE statement to allow generation of an anonymous JSON object, whose top-level parent name is not generated.

**Note:** COBOL Runtime LE PTF UI66560(V2R2)/UI66555(V2R3)/UI66557(V2R4) must also be applied on all systems where programs that make use of this new feature are linked or run.

(JSON GENERATE statement)

## Other language element changes

- The new VSAMOPENFS option affects the user file status reported from successful OPEN statements on VSAM files. (OPEN statement notes)
- PI77981: The new INLINE directive allows the compiler to decide whether to inline procedures referenced by PERFORM statements in the source program. (INLINE)
- PI96231: As the new compiler option COPYLOC is introduced, the COPY statement is updated. (COPY statement and Copy member search order)
- PH20081: The UUID4 intrinsic function is introduced. (UUID4)

**Note:** COBOL Runtime LE PTF UI66560(V2R2)/UI66555(V2R3)/UI66557(V2R4) must also be applied on all systems where programs that make use of this new feature are linked or run.

## Compiler option changes

- The following compiler options are new:
  - SUPPRESS: Use the NOSUPPRESS option to ignore the SUPPRESS phrase of all COPY statements in a program so that copybook information can appear in the listing. (SUPPRESS)
  - VSAMOPENFS: The VSAMOPENFS option affects the user file status reported from successful VSAM OPEN statements that require verified file integrity check. (VSAMOPENFS)
  - ZONECHECK: Use the ZONECHECK option to have the compiler generate IF NUMERIC class tests for zoned decimal data items that are used as sending data items. (ZONECHECK)
  - NUMCHECK:
    - PI71625: NUMCHECK: The NUMCHECK compiler option tells the compiler whether to generate extra code to validate data items when they are used as sending data items.
    - PI98996: NUMCHECK(PAC): For packed decimal (COMP-3) data items that have an even number of digits, the unused bits are checked for zeros.
    - PH01251: NUMCHECK(ZON): New suboptions ALPHNUM | NOALPHNUM are added to the NUMCHECK(ZON) option to control whether the compiler will generate code for an implicit numeric class test for zoned decimal data items that are being compared with an alphanumeric data item, alphanumeric literal or alphanumeric figurative constant.
    - PH13943: NUMCHECK(BIN): NUMCHECK(BIN) will check for binary data items (COMP, COMP-4, and USAGE BINARY) even when TRUNC(BIN) is in effect.

(NUMCHECK)

– INTICHECK:

- PI68226: INITCHECK: Use the INITCHECK option to have the compiler check for uninitialized data items and issue warning messages when they are used without being initialized.
- PH24414: INITCHECK: New suboptions LAX | STRICT are added to the INITCHECK option to control whether the compiler will issue warning messages for data items unless they are initialized on at least one, or on all, logical paths to a statement.

(INITCHECK)

- PI77981: **INLINE**: The **INLINE** compiler option controls whether the inlining of procedures (paragraphs or sections) referenced by **PERFORM** statements in the source program is allowed. ([INLINE](#))
- PI78089: **PARMCHECK**: The **PARMCHECK** option tells the compiler to generate an extra data item following the last item in **WORKING-STORAGE**. ([PARMCHECK](#))
- PI96231: **COPYLOC**: Use the **COPYLOC** compiler option to add either a PDSE (or PDS) dataset or z/OS® UNIX directory as an additional location to be searched for copy members during the library phase. ([COPYLOC](#))
- The following compiler options are modified:
  - **LANGUAGE**: To specify the language of compiler messages, you can use the **LANGUAGE** compiler option and also set the Language Environment® runtime option **NATLANG** at compile time. ([LANGUAGE](#))
  - **SSRANGE**:
    - New suboptions **ZLEN** and **NOZLEN** are added to the **SSRANGE** compiler option to control how the compiler checks reference modification lengths.
    - PI74933: **SSRANGE**: New suboptions **MSG** and **ABD** are added to the **SSRANGE** compiler option to control how the compiler checks reference modification lengths. ([SSRANGE](#))
  - PI68023 and PI81838: **NOSTGOPT**: The default behaviour of the **NOSTGOPT** compiler option has been changed. ([STGOPT](#))
  - Runtime APAR PH20569(V2R2/V2R3/V2R4): The included **DWARF** diagnostic information when **TEST** (**NOSEPARATE**) is in effect can be extracted from the **LLA/VLF** managed programs. ([TEST](#))
- The following compiler option is removed:
  - PI71625: **ZONECHECK** is deprecated but is tolerated for compatibility, and it is replaced by **NUMCHECK** (**ZON**). ([ZONECHECK](#))

## Listing changes

- Changes are made to the **STATIC MAP** section of the compilation listing. ([Example: Static map](#))
- The **LVLINFO** installation option is removed. The build level information is always included in the listing header.

## Runtime and performance-related enhancements

- The **WORKING-STORAGE** section will be acquired from **HEAP** storage, and is managed more efficiently by initializing it when the corresponding **COBOL** program is being called. The **STORAGE** runtime option will affect the **WORKING-STORAGE** section. In previous versions, the **WORKING-STORAGE** section was initialized when the program object is being loaded, regardless of whether the **COBOL** program will actually be called later. Also, sometimes **WORKING-STORAGE** was not acquired from **HEAP**, and in those cases the **STORAGE** option did not affect **WORKING-STORAGE**.
- Reduced storage requirements and performance tuning is implemented in **Table SORT**. Performance improvements are implemented in **INSPECT**, **UNSTRING**, and **SEARCH ALL**.

## COBOL/JNI interface enhancement

Runtime APAR PH37101(V2R3/V2R4): An enhancement is made to assist **COBOL** programs running in **AMODE 31** to interact with **Java™** programs in **AMODE 64**. ([COBOL programs in AMODE 31 interacting with Java programs in AMODE 64](#))

**Note:** IBM SDK, Java Technology Edition V8.0.6.35 (JVM) is needed for this enhancement.



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# Enterprise COBOL for z/OS publications

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## COBOL for z/OS publications

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- *What's new*
- *Customization Guide*, SC27-8712
- *Language Reference*, SC27-8713
- *Programming Guide*, SC27-8714
- *Migration Guide*, GC27-8715
- *Program Directory*, GI13-4526
- *Licensed Program Specifications*, GI13-4532

## Softcopy publications

The following collection kits contain Enterprise COBOL and other product publications. You can find them at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

- *z/OS Software Products Collection*
- *z/OS and Software Products DVD Collection*

## Support

*Enterprise COBOL Version 6 Release 1 Performance Tuning Guide*, [www.ibm.com/support/docview.wss?uid=swg27047580](http://www.ibm.com/support/docview.wss?uid=swg27047580)

If you have a problem using Enterprise COBOL for z/OS, see the following site that provides up-to-date support information: [https://www.ibm.com/support/home/product/B984385H82239E03/Enterprise\\_COBOL\\_for\\_z/OS](https://www.ibm.com/support/home/product/B984385H82239E03/Enterprise_COBOL_for_z/OS).



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