

# IBM COBOL for Linux on x86 1.1 brings COBOL capabilities to the Linux on x86 environment

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## Overview

IBM<sup>(R)</sup> COBOL for Linux<sup>(R)</sup> on x86 1.1 brings IBM's COBOL compilation technologies and capabilities to the Linux on x86 environment.

COBOL for Linux on x86 1.1 includes the following features and capabilities:

- IBM COBOL optimizing compiler and runtime library for the Linux on x86 environment
- Interoperability with IBM TXSeries<sup>(R)</sup> for Multiplatforms
- Interoperability with IBM Db2<sup>(R)</sup> for Linux, UNIX<sup>(R)</sup>, and Windows<sup>TM</sup>
- Unicode support to enable COBOL applications to directly process Unicode data
- Native support for XML, which enables COBOL applications to parse incoming and generate outgoing XML messages
- Compatibility with IBM Enterprise COBOL for z/OS<sup>(R)</sup> and IBM COBOL for AIX<sup>(R)</sup>
- Source conversion utility (scu) to aid in migrating COBOL source code developed with non-IBM COBOL compilers

COBOL for Linux on x86 1.1 is the latest addition to the IBM COBOL compiler family, which includes Enterprise COBOL for z/OS and COBOL for AIX. COBOL for Linux on x86 is a productive and powerful development environment for building and modernizing COBOL applications. It includes an optimizing COBOL compiler and a COBOL runtime library. COBOL for Linux on x86 is based on the same advanced optimization technology as Enterprise COBOL for z/OS. It offers both performance and programming capabilities for developing business critical COBOL applications for Linux on x86 systems. COBOL for Linux on x86 is designed to support clients on their journey to the cloud. It enables clients to strategically deploy business-critical applications written in COBOL to a hybrid cloud environment or best-fit platforms, which includes IBM Z<sup>(R)</sup> (z/OS), IBM Power<sup>(R)</sup> Systems (AIX), and x86 (Linux) platforms.

COBOL for Linux on x86 supports the integrated CICS<sup>(R)</sup> translator to handle native COBOL and embedded CICS statements in a CICS COBOL application. It enables COBOL batch applications to access VSAM emulated files stored in Db2 and CICS TX SFS. COBOL for Linux on x86 in conjunction with IBM TXSeries for Multiplatforms are compatible with IBM Enterprise COBOL for z/OS and IBM CICS Transaction Server for z/OS. Minimal customization effort and delivery time are required for strategically deploying COBOL/CICS applications developed for z/OS to Linux on x86 and cloud environments. This solution also provides organizations with the flexibility to move workloads back to IBM Z should performance and throughput requirements increase, or to share business logic and data with CICS Transaction Server for z/OS.

In addition, COBOL for Linux on x86 is also shipped as part of IBM CICS TX on Cloud 11, enabling users to create, maintain, and deploy mission-critical line-of-business CICS COBOL applications on a cloud environment.

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## Key requirements

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An x86-64 server that supports one of the following operating systems:

- Red Hat<sup>(R)</sup> Enterprise Linux 7.8, or later
- Ubuntu Server 16.04 LTS, 18.04 LTS, or later

Memory requirements are as follows:

- Minimum of 250 MB for product packages

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## Planned availability date

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April 16, 2021

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## Description

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IBM COBOL for Linux on x86 1.1 is a productive and powerful development environment for building and modernizing COBOL applications. It includes an optimizing COBOL compiler and COBOL runtime library. COBOL for Linux on x86 1.1 is based on the same advanced optimization technology as Enterprise COBOL for z/OS. It offers performance and programming capabilities for clients to develop business-critical COBOL applications for Linux on x86 systems. COBOL for Linux on x86 is part of a larger family of compatible compilers across the IBM Z and IBM Power Systems platforms.

In addition, COBOL for Linux on x86 is also shipped as part of IBM CICS TX on Cloud 11, enabling users to create, maintain, and deploy mission-critical line-of-business CICS COBOL applications on a cloud environment.

COBOL for Linux on x86 1.1 offers the following benefits:

- Delivers world-class optimization technology shared with Enterprise COBOL for z/OS. The common compiler back end from Enterprise COBOL for z/OS is integrated in COBOL for Linux on x86 to deliver many COBOL-specific optimizations designed to improve performance.
- Provides a performance-enhanced COBOL runtime library shared with IBM COBOL for AIX. The COBOL for Linux on x86 high-performance runtime is available for deployment of developed IBM COBOL applications to the x86 environment.
- Supports the COBOL 1985 standard features and select COBOL 2002 and 2014 standard features. COBOL for Linux on x86 supports all the required modules of the following:
  - ANSI INCITS 23-1985, Programming languages - COBOL
  - ISO 1989:1985, Programming languages - COBOL

And select features from:

- ANSI INCITS 1989-2002, Information technology, Programming languages - COBOL
- ISO 1989:2002, Information technology, Programming languages - COBOL
- ANSI INCITS 1989-2014, Information technology, Programming languages - COBOL

- ISO 1989:2014, Information technology, Programming languages - COBOL
- Compatibility with Enterprise COBOL for z/OS and COBOL for AIX. COBOL for Linux on x86 provides compiler options and COBOL language feature compatibilities offered in COBOL for AIX and Enterprise COBOL for z/OS to ease portability of COBOL applications between the various IBM COBOL compilers and platforms. COBOL for Linux also contains compiler options to control the endian representation of binary, floating point, and national data items.
- Includes a source conversion utility (scu) to aid in migrating COBOL applications to COBOL for Linux on x86. The scu is a standalone program that assists in the conversion of COBOL source programs from non-IBM or free-format source formats to a format that can be compiled by COBOL for Linux on x86.
- Provides Unicode support to develop COBOL programs that work with various national languages and directly process Unicode data. COBOL for Linux supports Unicode UTF-16 as national character data at run time. UTF-16 is a fixed-width Unicode encoding that provides a consistent and efficient way to encode plain text. National (UTF-16) data items, national literals, intrinsic functions, figurative constants, and national groups provide the support for developing COBOL programs that work with various national languages. Support for the Chinese character standard GB18030 also is provided.
- Supports development of COBOL programs to run in a CICS or Db2 environment. COBOL for Linux on x86 supports interoperability with IBM TXSeries for Multiplatforms and with Db2 for Linux, UNIX, and Windows. The Db2 file system supports sequential, indexed, and relative files. It provides enhanced interoperation with CICS, enabling batch COBOL programs to access CICS ESDS, KSDS, and RRDS files that are stored in Db2.
- Provides XML support to enable COBOL programs to parse incoming and to generate outgoing XML messages. XML makes it easier to write COBOL applications to handle document types, author and manage structured information, and transmit and share structured information across computing systems.
- Provides robust file system support to work with record-oriented files that have sequential, relative, indexed, or line-sequential organization. COBOL for Linux on x86 support includes Db2 relational database, CICS Structured File Server (SFS), Line Sequential (LSQ), Queued Sequential Access Method (QSAM), Record Sequential Delimited (RSD), Standard Language (STL), and Virtual Storage Access Method (VSAM) file systems.
- Simulates generation data groups (GDGs) to simplify the processing of multiple versions of related data. COBOL for Linux on x86 simulates generation data groups, a collection of chronologically related files, to provide better compatibility with Enterprise COBOL for z/OS.
- Supports interlanguage communication between COBOL and C/C++. The interlanguage communication support enables building COBOL applications from component routines written in C/C++.
- Offers an extended source format that lets source text vary in length up to 252 bytes per line. COBOL for Linux on x86 supports fixed source format and extended source format. Fixed source format consists of text that varies in length up to a 72 bytes per line. Extended source format consists of text that varies in length up to 252 bytes per line.

COBOL for Linux on x86 can help modernize, integrate, and manage existing applications, data, and skill sets to ease an organization's transformation into a more flexible business. To connect business components with suppliers, partners, employees, and clients, and to position organizations to quickly take advantage of opportunities and respond to challenges in real time, COBOL for Linux on x86 can help meet these challenges and enable use of existing COBOL code while upgrading applications with the newest technologies.

COBOL for Linux on x86 is required on all systems on which COBOL applications are developed and where the applications are deployed and executed. COBOL for Linux on x86 1.1 is licensed under the virtual processor core (VPC) pricing metric. VPC is a unit of measurement that is used to determine the licensing cost of IBM products. It is based on the number of virtual cores (vCPUs) that are available to the product. A vCPU is a virtual core that is assigned to a virtual machine or a physical processor

core if the server is not partitioned for virtual machines. COBOL applications that run on a different virtual machine or a different physical processor core than the one on which it was used for development, require COBOL for Linux on x86 1.1 to be installed and licenses purchased for the vCPUs available to the product on that machine.

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## Product positioning

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### COBOL across platforms

COBOL for Linux on x86 1.1 is part of a family of compatible compilers, application development tools, and maintenance tools. The IBM COBOL family consists of COBOL for Linux on x86, COBOL for AIX, Enterprise COBOL for z/OS, and ILE COBOL for System i.

### COBOL and CICS TX

In addition, COBOL for Linux on x86 is also shipped as part of IBM CICS TX on Cloud 11, enabling users to create, maintain, and deploy mission-critical line-of-business CICS COBOL applications on a cloud environment.

For information about CICS TX on Cloud 11.1, see Software Announcement [AP21-0038](#), dated April 6, 2021.

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## Reference information

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For information about IBM COBOL for Linux on x86, see the [COBOL for Linux on x86](#) website.

For information about IBM COBOL Compiler Family, see the [COBOL Compiler Family](#) website.

For information about IBM Enterprise COBOL for z/OS, see the [Enterprise COBOL for z/OS](#) website.

For information about IBM CICS Transaction Server for z/OS, see the [CICS Transaction Server for z/OS](#) website.

For information about IBM z/OS, see the [IBM z/OS](#) website.

For information about IBM Z, see the [IBM Z](#) website.

For information about IBM COBOL for AIX, see the [COBOL for AIX](#) website.

For information about IBM TXSeries for Multiplatforms, see the [TXSeries for Multiplatforms](#) website.

Visit the COBOL Community to get access to a rich community of business and technical expert blogs and forums, and join the community at [COBOL Community](#).

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## Program number

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Program number	VRM	Program name
5737-L11	1.1	IBM COBOL for Linux on x86

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## Offering Information

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Product information is available on the [IBM Offering Information](#) website.

More information is also available on the [Passport Advantage<sup>\(R\)</sup> and Passport Advantage Express](#) website.

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## Publications

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Documentation for IBM COBOL for Linux on x86 can be found in [IBM Documentation](#).

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## Technical information

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### **Specified operating environment**

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#### **Hardware requirements**

An x86-64 server that supports one of the following operating systems:

- Red Hat Enterprise Linux 7.8, or later
- Ubuntu Server 16.04 LTS, 18.04 LTS, or later

Memory requirements are as follows:

- Minimum 250 MB for product packages
- Minimum 2 GB of hard drive space for paging
- Minimum 512 MB for temporary files
- Minimum 2 GB RAM, with 4 GB more optimal

#### **Software requirements**

An x86-64 server that supports one of the following operating systems:

- Red Hat Enterprise Linux 7.8, or later
- Ubuntu Server 16.04 LTS, 18.04 LTS, or later

Required software for documentation:

- Graphical desktop environment that supports web browsers and PDF viewers
- HTML browser to access HTML documentation
- PDF viewer to view PDF files

#### **IBM Support**

[IBM Support](#) is your gateway to technical support tools and resources that are designed to help you save time and simplify support. IBM Support can help you find answers to questions, download fixes, troubleshoot, submit and track problem cases, and build skills. Learn and stay informed about the transformation of IBM Support, including new tools, new processes, and new capabilities, by going to the [IBM Support Insider](#).

### **Planning information**

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#### **Packaging**

This offering is delivered through the internet as an electronic download. There is no physical media.

This offering is available from [IBM COBOL for Linux on x86](#). On the COBOL for Linux on x86 website, you can discover, try, and buy software, hardware, and services from IBM and third-party providers.

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

### **Security, auditability, and control**

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IBM COBOL for Linux on x86 use the security and auditability features of the host hardware.

The client is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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### **Ordering information**

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For ordering information, consult your IBM representative or IBM Business Partner, or go to the [Passport Advantage](#) website.

This program is only available through Passport Advantage. It is not available as shrinkwrap.

These products may only be sold directly by IBM or by IBM Business Partners.

To locate IBM Business Partners in your geography, see the [Find a Business Partner](#) page.

### **Passport Advantage**

New part numbers

IBM COBOL for Linux on x86 1.1 introduce the following part numbers:

<b>Part number description</b>	<b>Part number</b>
IBM COBOL for Linux on x86 Virtual Processor Core License + SW Subscription & Support 12 Months	D28XQLL
IBM COBOL for Linux on x86 Virtual Processor Core License SW Subscription & Support Renewal	E0R5KLL
IBM COBOL for Linux on x86 Virtual Processor Core License SW Subscription & Support Reinstatement 12 Months	D28XRLL
IBM COBOL for Linux on x86 Virtual Processor Core License Monthly License	D28XTLL

### **Charge metric**

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The charge metrics for these licensed products can be found in the following License Information document:

<b>Program identifier</b>	<b>License Information document title</b>	<b>License Information document number</b>
5737-L11	IBM COBOL for Linux on x86	<a href="#">L-MCHN-BRKKH3</a>

Select your language of choice and scroll down to the Charge Metrics section. Follow-on releases, if any, may have updated terms. See the [License Information documents](#) website for more information.

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The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

This product is only available through Passport Advantage.

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This software license includes Software Subscription and Support (also referred to as Software Maintenance).

### Software Maintenance

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Licenses under the IBM International Program License Agreement (IPLA) provide for support with ongoing access to releases and versions of the program. IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support can be extended by the purchase of a renewal option, if available. Two charges apply: a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as well as access to updates, releases, and versions of the program as long as support is in effect.

### License Information number

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The following License Information document applies to the offerings in this announcement:

Program identifier	License Information document title	License Information document number
5737-L11	IBM COBOL for Linux on x86	<a href="#">L-MCHN-BRKKH3</a>

Follow-on releases, if any, may have updated terms. See the [License Information documents](#) website for more information.

### Limited warranty applies

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Yes

### Limited warranty

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IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation

of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, see the [IBM Support Guide](#).

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

### **Program technical support**

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Technical support of a program product version or release will be available for a minimum of five years from the planned availability date, as long as your Software Subscription and Support (also referred to as Software Maintenance) is in effect.

This technical support allows you to obtain assistance (by telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to updates (modifications or fixes), releases, and versions of the program. You will be notified, through an announcement letter, of discontinuance of support with 12 months' notice.

If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

For additional information on the IBM Software Support Lifecycle Policy, see the [IBM Continuous Delivery Support Lifecycle Policy](#) website.

### **Money-back guarantee**

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If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

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### **Volume orders (IVO)**

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No

### **Passport Advantage applies**

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Yes, information is available on the [Passport Advantage and Passport Advantage Express](#) website.

### **Usage restrictions**

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Yes

For usage restrictions, see the License Information documents listed in this [Terms and conditions](#) section.

### **Software Subscription and Support applies**

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Yes. Software Subscription and Support, also referred to as Software Maintenance, is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and Technical Support are provided by the Software Subscription and Support offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software, and Technical Support provides voice and electronic access to IBM support organizations, worldwide.

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Unless specified otherwise in a written agreement with you, IBM does not provide support for third-party products that were not provided by IBM. Ensure that when contacting IBM for covered support, you follow problem determination and other instructions that IBM provides, including in the [IBM Support Guide](#).

For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, go to the [Passport Advantage and Passport Advantage Express](#) website.

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**Variable charges apply**

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No

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**Educational allowance available**

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Not applicable.

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**Statement of good security practices**

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IT system security involves protecting systems and information through intrusion prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a regulatory compliant, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

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**Prices**

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### Business Partner information

If you are an IBM Business Partner acquiring products from IBM, you may link to Passport Advantage Online for resellers where you can obtain Business Partner pricing information. An IBMid and password are required to access the [IBM Passport Advantage](#) or [IBM PartnerWorld<sup>\(R\)</sup>](#) website.

Program name/Description	Part number
IBM COBOL for Linux on x86 Virtual Processor Core License + SW Subscription & Support 12 Months	D28XQLL
IBM COBOL for Linux on x86 Virtual Processor Core License SW Subscription & Support Renewal	E0R5KLL
IBM COBOL for Linux on x86 Virtual Processor Core License SW Subscription & Support Reinstatement 12 Months	D28XRLL
IBM COBOL for Linux on x86 Virtual Processor Core License Monthly License	D28XTLL

### Passport Advantage

For Passport Advantage information and charges, contact your IBM representative or IBM Business Partner. Additional information is also available on the [Passport Advantage and Passport Advantage Express](#) website.

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## AP distribution

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Country/Region	Announced
ASEAN *	Yes
India/South Asia **	Yes
Australia	Yes
Hong Kong	Yes
Macao SAR of the PRC	Yes
Mongolia	Yes
New Zealand	Yes
People's Republic of China	Yes
South Korea	Yes
Taiwan	Yes

\* Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam

\*\* Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka

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