

# IBM Virtual Dev and Test for z/OS delivers the only environment that runs current, genuine IBM z/OS software and middleware on-premises on Linux on Z for z/OS application software development and early test activities

## Table of contents

<a href="#">1 Overview</a>	<a href="#">3 Publications</a>
<a href="#">1 Key requirements</a>	<a href="#">5 Technical information</a>
<a href="#">2 Planned availability date</a>	<a href="#">6 Ordering information</a>
<a href="#">2 Description</a>	<a href="#">7 Terms and conditions</a>
<a href="#">3 Program number</a>	<a href="#">9 Prices</a>

## Overview

IBM<sup>(R)</sup> Virtual Dev and Test for z/OS<sup>(R)</sup> is an IBM Z<sup>(R)</sup> development and test platform that runs on Linux<sup>(R)</sup> on Z environments. It enables IBM z/OS operating system, middleware, and other z/OS oriented software to run on Linux on Z environments. This helps ensure additional capacity and better performance for development and early test activities and can be used for:

- Developing and testing of new application functions and application maintenance
- Investigating and verifying new middleware levels (version-to-version upgrades)
- Prototyping new application architectures
- Demonstrating application functions
- Internal employee education

Virtual Dev and Test for z/OS 1.0.0 provides web for image management and provisioning, and RESTful API using the Virtual Dev and Test for z/OS enhanced provisioning framework. This enables organizations to build applications that use the latest instruction set platforms with z/OS V2.4 or later, with the necessary APARs and PTFs applied.

Virtual Dev and Test for z/OS can only be used for development, early testing, employee education, and demonstration of applications that run on z/OS. It cannot be used for code refactoring or re-engineering with the intention to re-platform existing z/OS based applications. It cannot be used for production workloads of any kind, such as, without limitation, production module builds, preproduction testing, stress testing, or performance testing. The load module or object code compiled on Virtual Dev and Test for z/OS cannot be promoted to production.

Virtual Dev and Test for z/OS is offered in a continuous delivery and support model that delivers both fixes and new functional enhancements as a set of modification-level updates. This enables clients to obtain quick and easy access to functional enhancements.

## Key requirements

For details, see the [Hardware requirements](#) and the [Software requirements](#) sections.

---

## Planned availability date

---

June 17, 2022

Availability within a country is subject to local legal requirements.

---

## Description

---

The Virtual Dev and Test for z/OS offering provides a development and test platform for developers, testers, and operations personnel who are responsible for applications that run on z/OS and z/OS middleware. Virtual Dev and Test for z/OS runs in on-premises Linux on Z environments, which helps to improve overall performance over current mainframe-emulated development and test solutions. Running an IBM Z development environment on Linux on Z helps provide a more portable, flexible, and potentially fit-for-purpose environment for development teams.

Virtual Dev and Test for z/OS can be used for:

- Development and test of new application function
- Maintenance changes
- Investigation and verification of new middleware levels (version-to-version upgrades)
- Prototyping new application architectures
- Demonstration of application function
- Internal employee education and training

Virtual Dev and Test for z/OS can be used with IBM or third-party Independent Software Vendor (ISV) tools to support development and test activities that include:

- Source code or binary editors
- Integrated development environments (IDE)
- Development-level source code compile and build systems
- Analysis and problem determination tools
- Data import, export, inspection, and alteration utilities
- Middleware or application setup and configuration tools

Virtual Dev and Test for z/OS is not licensed for use with production management tools or performance testing tools that include:

- Production-level source code management (SCM) repositories or libraries
- Production-level build-and-deploy systems
- Performance-tuning tools

Any usage of third-party ISV tools must be arranged through the ISV directly, not through IBM. Usage must comply with the license terms as provided by the ISV and IBM at all times. For clarification on licensing or use cases, contact your IBM representative.

Virtual Dev and Test for z/OS provides a more modern, agile development platform to help accelerate delivery of new workloads spanning multiple run times. It can be assigned to a single user or can support enterprise team environments on a server platform. These environments can be tailored to a single developer or a team's needs without impacting existing mainframe testing environments.

Virtual Dev and Test for z/OS can provide a greater level of control for developers and testers to implement quick environment changes, such as defining new

transactions and resource definitions. These changes can be achieved without having to involve production operations staff to set up these configurations on the mainframe.

Developers can have easier access to recent versions of the IBM middleware, without having to wait for system upgrades on the mainframe. Developers can explore new compilers, IBM CICS<sup>(R)</sup>, IBM IMS, or IBM Db2<sup>(R)</sup> features, investigate new architectural models, and perform their first series of tests as well as component regression testing. Developers can build and test IBM Z applications anytime on their personal z/OS environments, without impacting the other development and test teams or production operations of an organization.

Virtual Dev and Test for z/OS offers a RESTful API for Linux provisioning using the Virtual Dev and Test for z/OS enhanced provisioning framework. For all the actions that users can do on the web interface, clients now can use the RESTful API to create their own scripts or embed them into their own DevOps pipeline or tools.

Virtual Dev and Test for z/OS offers the following purchasing option:

- IBM Virtual Dev and Test for z/OS Resource Value Unit (RVU) is intended for developers, testers, and enterprise teams and is licensed in terms of the highest number of activated virtualized CPs through the Resource Value Unit (RVU) license metric. This metric accommodates the dynamic nature of the software development lifecycle, enabling movement of users and activation of development and test environments as needed to support maintenance, development, and test activities. A web-based interface for z/OS images creation, orchestration, and provisioning is included in this option.

Virtual Dev and Test for z/OS is activated through software-based licensing to better meet the needs of enterprise users who might have data center requirements and plans for cloud deployment that are hindered by hardware-based licensing.

### **Accessibility by people with disabilities**

---

Accessibility Compliance Reports (previously known as a VPAT) containing details on accessibility compliance to standards, including the Worldwide Consortium Web Content Accessibility Guidelines, European Standard EN 301 349, and US Section 508, can be found on the [IBM Accessibility Conformance Reports](#) website.

---

### **Program number**

---

<b>Program number</b>	<b>VRM</b>	<b>Program name</b>
5900-AO8	1.0.0	IBM Virtual Dev and Test for z/OS

---

### **Offering Information**

---

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.

---

### **Publications**

---

None.

---

### **Services**

---

## **IBM Systems Lab Services**

Systems Lab Services offers infrastructure services to help build hybrid cloud and enterprise IT solutions. From servers to storage systems and software, Systems Lab Services can help deploy the building blocks of a next-generation IT infrastructure to empower a client's business. Systems Lab Services consultants can perform infrastructure services for clients online or onsite, offering deep technical expertise, valuable tools, and successful methodologies. Systems Lab Services is designed to help clients solve business challenges, gain new skills, and apply best practices.

Systems Lab Services offers a wide range of infrastructure services for IBM Power<sup>(R)</sup> servers, IBM Storage systems, IBM Z, and IBM LinuxONE. Systems Lab Services has a global presence and can deploy experienced consultants online or onsite around the world.

For assistance, contact Systems Lab Services at [ibmsls@us.ibm.com](mailto:ibmsls@us.ibm.com).

To learn more, see the [IBM Systems Lab Services](#) website.

## **IBM Consulting<sup>TM</sup>**

As transformation continues across every industry, businesses need a single partner to map their enterprise-wide business strategy and technology infrastructure. IBM Consulting is the business partner to help accelerate change across an organization. IBM specialists can help businesses succeed through finding collaborative ways of working that forge connections across people, technologies, and partner ecosystems. IBM Consulting brings together the business expertise and an ecosystem of technologies that help solve some of the biggest problems faced by organizations. With methods that get results faster, an integrated approach that is grounded in an open and flexible hybrid cloud architecture, and incorporating technology from IBM Research<sup>(R)</sup> and IBM Watson<sup>(R)</sup> AI, IBM Consulting enables businesses to lead change with confidence and deliver continuous improvement across a business and its bottom line.

For additional information, see the [IBM Consulting](#) website.

## **IBM Technology Support Services (TSS)**

Get preventive maintenance, onsite and remote support, and gain actionable insights into critical business applications and IT systems. Speed developer innovation with support for over 240 open-source packages. Leverage powerful IBM analytics and AI-enabled tools to enable client teams to manage IT problems before they become emergencies.

TSS offers extensive IT maintenance and support services that cover more than one niche of a client's environment. TSS covers products from IBM and OEMs, including servers, storage, network, appliances, and software, to help clients ensure high availability across their data center and hybrid cloud environment.

For details on available services, see the [Technology support for hybrid cloud environments](#) website.

## **IBM Expert Labs**

Expert Labs can help clients accelerate their projects and optimize value by leveraging their deep technical skills and knowledge. With more than 20 years of industry experience, these specialists know how to overcome the biggest challenges to deliver business results that can have an immediate impact.

Expert Labs' deep alignment with IBM product development allows for a strategic advantage as they are often the first in line to get access to new products, features, and early visibility into roadmaps. This connection with the development enables them to deliver First of a Kind implementations to address unique needs or expand a client's business with a flexible approach that works best for their organization.

For additional information, see the [IBM Expert Labs](#) website.

## IBM Security<sup>(R)</sup> Expert Labs

With extensive consultative expertise on IBM Security software solutions, Security Expert Labs helps clients and partners modernize the security of their applications, data, and workforce. With an extensive portfolio of consulting and learning services, Expert Labs provides project-based and premier support service subscriptions.

These services can help clients deploy and integrate IBM Security software, extend their team resources, and help guide and accelerate successful hybrid cloud solutions, including critical strategies such as zero trust. Remote and on-premises software deployment assistance is available for IBM Cloud Pak<sup>(R)</sup> for Security, IBM Security QRadar<sup>(R)</sup>/QRoC, IBM Security SOAR/Resilient<sup>(R)</sup>, IBM i2<sup>(R)</sup>, IBM Security Verify, IBM Security Guardium<sup>(R)</sup>, and IBM Security MaaS360<sup>(R)</sup>.

For more information, contact Security Expert Labs at [sel@us.ibm.com](mailto:sel@us.ibm.com).

For additional information, see the [IBM Security Expert Labs](#) website.

---

## Technical information

---

### Specified operating environment

---

#### Hardware requirements

Hardware	Components	Requirement
Disk Space	Virtual Dev and Test for z/OS instance(s)	Sufficient space to hold numerous and potentially large files of a z/OS image
	Virtual Dev and Test for z/OS web and Software-based license server	14 GB of disk space
	Image storage server	Sufficient space to hold numerous and potentially large files for extracted IBM Z volumes
Memory	Virtual Dev and Test for z/OS instance(s)	2 GB to 4 GB of RAM required per virtual Central Processor (CP) for each z/OS instance; 1 GB per processor core allocated to Linux
	Virtual Dev and Test for z/OS web and Software-based license server	4 GB of RAM
	Image storage server	2 GB of RAM
Processor	Virtual Dev and Test for z/OS instance(s)	1 Linux core is required for each virtual Central Processor (CP) for each z/OS instance; 1 Linux core allocated to Linux OS

#### Software requirements

##### Operating systems

- Ubuntu Server 22.04 LTS for IBM Z and LinuxONE; IBM z/Architecture<sup>(R)</sup>
- Ubuntu 16.04 LTS, 18.04 LTS, and 20.04 LTS; x86-64 hardware
- Red Hat<sup>(R)</sup> Enterprise Linux (RHEL) Server 7 and 8; x86-64 hardware

##### Web Browsers

- Mozilla Firefox
- Google Chrome (latest releases and fix packs)

### **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](#).

### **Additional IBM support**

#### **IBM Client Engineering for Systems**

Client Engineering for Systems is a framework for accelerating digital transformation. It helps you generate innovative ideas and equips you with the practices, technologies, and expertise to turn those ideas into business value in weeks. When you work with Client Engineering for Systems, you bring pain points into focus. You empower your team to take manageable risks, adopt leading technologies, speed up solution development, and measure the value of everything you do. Client Engineering for Systems has experts and services to address a broad array of use cases, including capabilities for business transformation, hybrid cloud, analytics and AI, infrastructure systems, security, and more. Contact Client Engineering for Systems at [sysgarage@ibm.com](mailto:sysgarage@ibm.com).

### **Planning information**

---

#### **Packaging**

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

---

## **Ordering information**

---

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

These programs are available only through Passport Advantage.

#### **Passport Advantage**

<b>Part number description</b>	<b>Part number</b>
IBM Virtual Dev and Test for z/OS Resource Value Unit License + SW Subscription & Support 12 Months	D09HKZX
IBM Virtual Dev and Test for z/OS Resource Value Unit Annual SW Subscription & Support Renewal	E09HIZX
IBM Virtual Dev and Test for z/OS Resource Value Unit SW Subscription & Support Reinstate 12 Months	D09HLZX
IBM Virtual Dev and Test for z/OS Resource Value Unit Monthly License	D0BCMZX

#### **Passport Advantage trade-up**

<b>Part number description</b>	<b>Part number</b>
IBM Virtual Dev and Test for zOS Resource Value Unit License + SW Subscription & Support Trade Up from Competitor Product License + SW Subscription & Support	D09HFZX
IBM Virtual Dev and Test for zOS Resource Value Unit License + SW Subscription & Support Trade Up from Development and Test Environment Enterprise Edition	D09HGZX

Part number description	Part number
Resource Value Unit License + SW Subscription & Support	

Consult your IBM representative if you have any questions.

### Charge metric

Charge metric information can be found in the corresponding License Information document.

Program number	License Information document title	License Information document number
5900-AO8	IBM Virtual Dev and Test for z/OS	<a href="#">L-BCOE-CDNTNW</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.

## Terms and conditions

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 available only through Passport Advantage.

### License Information number

Program number	License Information document title	License Information document number
5900-AO8	IBM Virtual Dev and Test for z/OS	<a href="#">L-BCOE-CDNTNW</a>

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

### Limited warranty applies

No

### Money-back guarantee

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.

For clarification, note that (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the program and (2) for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

### Volume orders (IVO)

No

## **Passport Advantage applies**

---

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

## **Software Subscription and Support applies**

---

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.

IBM includes one year of Software Subscription and Support with each program license acquired. The initial period of Software Subscription and Support can be extended by the purchase of a renewal option, if available.

While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance by telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your users.) IBM provides Severity 1 assistance 24 hours a day, 7 days a week. For additional details, see the [IBM Support Guide](#). Software Subscription and Support does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under the applicable agreements.

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.

## **Variable charges apply**

---

No

## **Educational allowance available**

---

Not applicable.

---

## **Statement of good security practices**

---

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.



**Important:** IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

---

## Prices

---

For all local charges, contact your local IBM representative or IBM Business Partner.

### **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.

### **Passport Advantage**

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

### **IBM Global Financing**

---

IBM Global Financing offers competitive financing to credit-qualified clients to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both IBM and other manufacturers or vendors. Offerings (for all client segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or go to the [IBM Global Financing](#) website for more information.

IBM Global Financing offerings are provided through IBM Credit LLC in the United States, and other IBM subsidiaries and divisions worldwide to qualified commercial and government clients. Rates are based on a client's credit rating, financing terms, offering type, equipment type, and options, and may vary by country. Other restrictions may apply. Rates and offerings are subject to change, extension, or withdrawal without notice.

### **Trademarks**

IBM Consulting is a trademark of IBM Corporation in the United States, other countries, or both.

IBM, z/OS, IBM Z, Passport Advantage, CICS, Db2, Power, IBM Research, IBM Watson, IBM Security, IBM Cloud Pak, QRadar, Resilient, i2, Guardium, MaaS360, z/Architecture and PartnerWorld are registered trademarks of IBM Corporation in the United States, other countries, or both.

The registered trademark Linux® is used pursuant to a sublicense from the Linux Foundation, the exclusive licensee of Linus Torvalds, owner of the mark on a world-wide basis.

Red Hat is a registered trademark of Red Hat Inc. in the U.S. and other countries. Other company, product, and service names may be trademarks or service marks of others.

### **Terms of use**

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at

[Terms of use](#)

For the most current information regarding IBM products, consult your IBM representative or reseller, or go to the IBM worldwide contacts page

[IBM Japan](#)