

IBM Z and Cloud Modernization Stack 2022.2.1 delivers an evolving flexible solution for IBM zSystems modernization in a Red Hat OpenShift powered platform, with revised naming for IBM Wazi Developer for Red Hat CodeReady Workspaces

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At a glance

IBM Z^(R) and Cloud Modernization Stack 2022.2.1 delivers a comprehensive IBM^(R) z/OS^(R) solution for modernization that offers:

- Stable performance
- Flexibility
- Scalability
- Reliability

The Wazi components are renamed.

IBM Wazi Developer for Red Hat^(R) CodeReady Workspaces (IBM Wazi Developer) is renamed IBM Wazi.

IBM Wazi Code subcomponents are renamed to:

- Wazi for Eclipse
- Wazi for VS Code
- Wazi for Dev Spaces

The IBM Wazi Sandbox and IBM Wazi Analyze names remain unchanged.

Overview

IBM Z and Cloud Modernization Stack 2022.2.1 delivers a foundational modernization solution that helps enable organizations to extend their IBM zSystems, applications, and data to hybrid cloud environments through the Red Hat OpenShift^(R) Container Platform. This solution converges IBM zSystems with cloud native, container-based platforms and associated orchestration and management solutions to support the full lifecycle of IBM z/OS application modernization.

IBM Z and Cloud Modernization Stack delivers a single, flexible platform with the tools and capabilities needed to modernize z/OS environments and applications. It can help organizations modernize at a lower cost, with less risk, and a faster time to

market than migrating applications to public cloud alone, and organizations only pay for the tools and capabilities used.

Key requirements

For details, see the [Software requirements](#) section.

Planned availability date

June 14, 2022

Availability within a country is subject to local legal requirements.

Description

Included in IBM Z and Cloud Modernization Stack are the following foundational IBM zSystems software products that deliver application modernization and z/OS integration capabilities as entitled and included features under the single product deliverable:

- IBM Wazi, previously called IBM Wazi Developer, offers a cloud native experience to create and update your z/OS applications.

IBM Z and Cloud Modernization Stack 2022.2.1 includes the following capabilities:

z/OS Connect Designer and z/OS Connect Server container images

These components deliver rich new capabilities in support of current API standards and a new containerized deployment option to empower agile development teams to build APIs as part of their DevOps pipelines.

z/OS Cloud Broker

z/OS Cloud Broker installs as an add-on to the Red Hat OpenShift Container Platform and provides direct interaction with z/OS computing resources or existing platform tools. By using z/OS Cloud Broker, cloud administrators and system programmers can expose z/OS resources in the Red Hat OpenShift Container Platform catalog for consumption by users across an organization's IT enterprise.

IBM Wazi (Wazi Code, Wazi Sandbox, and Wazi Analyze)

IBM Wazi delivers a cloud native development experience for developing and updating z/OS applications with speed and flexibility. With IBM Wazi, application developers can set up their virtual z/OS environment in a click on an OpenShift powered hybrid multicloud platform, and use the industry standard integrated development environment (IDE) of their choice.

IBM Wazi includes the following components:

Wazi Code: Developers want to work with common tools, making it easier to integrate teams and work together to build solutions. Wazi Code offers that cloud-native experience familiar to many developers today across organizations. Whether working locally or remotely, Wazi Code lets you choose your favorite IDE, now referred to as Wazi for Dev Spaces, Wazi for VS Code, or Wazi for Eclipse, to edit, build, and debug applications with rich z/OS language support, interactive access to z/OS systems, and integration with modern source code management systems, such as GitHub and GitLab.

Wazi for Dev Spaces, formerly Wazi Developer for Workspaces, now supports both OpenShift on x86 and OpenShift on Linux^(R) on zSystems architectures. It provides an in-browser IDE built on the Red Hat CodeReady Workspaces project,

enabling you to code, build, test, and run applications that run in production from any machine. This release includes a certified industry-standard container with enhanced support for air gap installation to work offline in OpenShift on x86 and OpenShift on Linux on zSystems architectures.

Wazi for VS Code , formerly Wazi Developer for VS Code, runs on the desktop. It provides a set of Microsoft™ VS Code extensions to deliver a simple and familiar edit, build, and debug experience.

Wazi for Eclipse , formerly Wazi Developer for Eclipse, runs on the desktop. This Eclipse-based IDE offers development teams a familiar edit, build, and debug experience that works with the on-premises Eclipse framework.

This release includes:

- Support for z/OS V2.5 and macOS
- Language updates supporting IBM z16™
- Enhanced RSE API capabilities such as custom attributes when running UNIX^(R) file queries, job queries, options for filtering and sorting attributes for job queries and display active queries, store personal JSON data to store and retrieve as needed, and query PDS members with custom attributes
- COBOL Source Code Formatter
- Clarifications for UI references to COBOL 5.1

IBM Z Open Editor, Zowe™ Explorer, and Zowe CLI

- Full Zowe 2.0 and 1.x backwards compatibility support.
- Added client updates for new language updates:
 - ZAPP schema refinements for conditional compilation and multifolder support
 - Other LSP client updates and new settings
- It is now possible to connect with IBM by giving feedback in Wazi for VS Code to help improve the user experience.

Wazi Analyze: A rapid analysis tool for developers to discover relationships between the components of their z/OS applications and to understand the impact of potential changes. It provides a graphical visualization of COBOL, PL/I, Java™, and Assembler application artifact dependencies in a web user interface.

This release includes an enhanced impact analysis capability to enable developers to scan and analyze C programs, in addition to COBOL, PL/I, Java, and Assembler.

Wazi Sandbox: This tool provides a highly flexible and modern development environment to develop and test z/OS application components in a fully virtualized, containerized, self-service, personal sandbox environment running on Red Hat OpenShift that runs on x86 hardware.

This release includes:

- Certified industry-standard container with enhanced support for air gap installation to work offline, along with support for IBM Cloud^(R) and security updates
- The latest customized software that includes support for IBM Db2^(R) 12, ZD&T 13.0, IBM IMS 15.1, IBM Z Monitoring Suite 1.2.0, IBM Tivoli^(R) Workload Scheduler 9.5.0, Zowe 1.10.0, IBM CICS^(R) 5.6 through ADCD z/OS V2R5 December Edition of 2021 for quickly implementing a z/OS system focusing on application development

Open Enterprise Languages on z/OS

- IBM Open Enterprise SDK for Go is an industry-standard Go compiler that brings a powerful framework for building fast and scalable applications.

- IBM 64-bit SDK for z/OS Java Technology Edition provides a Java Standard Edition development kit, enabling developers to utilize the plethora of Java APIs, libraries, and frameworks.
- IBM Open Enterprise SDK for Node.js provides a standalone JavaScript runtime and server-side solution that enables developers to build Node.js applications and modules for z/OS.
- IBM Open Enterprise SDK for Python enables application developers to use one of the fastest growing programming languages natively on the IBM z/OS platform.
- IBM C/C++ for Open Enterprise Languages on z/OS is an industry-standard C/C++ compiler for use by :
 - IBM Open Enterprise SDK for Go
 - IBM Open Enterprise SDK for Node.js
 - IBM Open Enterprise SDK for Python
 - IBM 64-bit SDK for z/OS, Java Technology Edition
 - IBM Semeru Runtime Certified Edition for z/OS
 - IBM Z Open Automation Utilities

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.

Reference information

For more information about IBM Z and Cloud Modernization Stack 2022.2.1, see Software Announcement [LP22-0071](#), dated January 18, 2022.

Program number

Program number	VRM	Program name
5900-A8N	2022.2.1	IBM Z and Cloud Modernization Stack

Offering Information

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

More information is also available on the [Passport Advantage^{\(R\)}](#) 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

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Systems Lab Services offers a wide range of infrastructure services for IBM Power^(R) servers, IBM Storage systems, IBM zSystems, 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.

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

IBM ConsultingTM

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^(R) and IBM Watson^(R) 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.

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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.

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

IBM Security^(R) Expert Labs

With extensive consultative expertise on IBM Security software solutions, Security Expert Labs helps clients and partners modernize the security of their applications,

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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^(R) for Security, IBM Security QRadar^(R)/QRoC, IBM Security SOAR/Resilient^(R), IBM i2^(R), IBM Security Verify, IBM Security Guardium^(R), and IBM Security MaaS360^(R).

For more information, contact Security Expert Labs at sel@us.ibm.com.

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

Technical information

Specified operating environment

Software requirements

For details, see the [Software Product Compatibility Reports](#) website.

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.

Planning information

Packaging

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

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Passport Advantage

There is no new ordering information in this release. For available part numbers, see Software Announcement [LP22-0071](#), dated January 18, 2022.

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-A8N	IBM Z and Cloud Modernization Stack	L-NADN-CDXPBY

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License Information number

Program number	License Information document title	License Information document number
5900-A8N	IBM Z and Cloud Modernization Stack	L-NADN-CDXPBY

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Yes

Limited warranty

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For additional information about the IBM Software Support Lifecycle Policies, see the [Standard and enhanced IBM software support lifecycle policies](#) website.

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Volume orders (IVO)

No

Passport Advantage applies

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

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IBM Technology Support Services - Support Line for IBM zSystems

No

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

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Regional availability

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