



IBM Wazi as a Service

Cloud native development and testing for z/OS on IBM Cloud



Accelerate cloud native development and testing of z/OS® applications with z/OS Virtual Server in IBM Cloud® Virtual Private Cloud (VPC). It's your own protected space in the IBM Cloud with the security of a private cloud and the agility of a public cloud.

Business Challenges

Organizations are under more pressure than ever to drive faster innovation and deliver new digital experiences to their customers, partners, and employees.

27% – of IT and DevOps teams' time is spent on manual CI/CD tasks, which reduces time spent on innovation¹

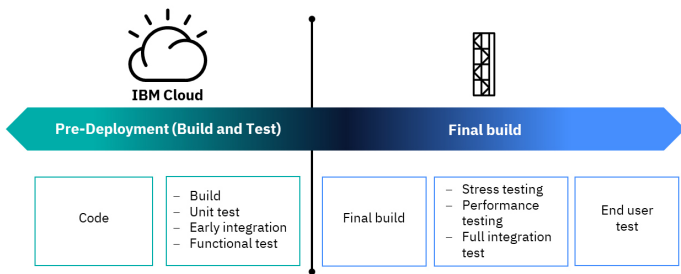
33% – of developers see a lack of skills or resource allocation inhibiting their productivity²

36% – of developers view a lack of collaboration between development and IT operations as inhibiting their productivity²

3rd – year in a row, a majority of Gitlab survey takers resoundingly pointed to testing as the area most likely to cause delays³

Get on-demand access to z/OS in minutes

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With Wazi as a Service (aaS), deliver cloud-native development and test for z/OS on IBM Cloud

- Deploy and start a z/OS system in less than 5 Mins*.⁴
- 8-15x* the performance compared to x86 (IBM Z Development and Test).⁵
- Encrypt with keys stored in Key Protect or HPCS during VPC VSI creation.

Highlights

Personal z/OS Dev and Test system in your Virtual Private Cloud (VPC)

- On-Demand z/OS Dev and Test system.
- Stock image with pre-installed and customized software.
- Near IBM zSystems Performance.
- Infrastructure as a Service with flexible consumption model.

Wazi Image Builder

- Create Custom images from your on-premises LPAR.
- Automation to deploy in IBM Cloud.

Strategic Roadmap

- Cloud native developer experience with Wazi Code, analyze, pipeline and testing capabilities.

*Based on IBM internal performance assessments.

Accelerate DevOps practices with flexible, consumption- based pricing

Key features

Isolated and on-demand z/OS Dev and Test system

- On-demand z/OS Dev and Test System in IBM Cloud VPC
- Launch a z/OS Virtual server in just minutes
- Choose between a stock Image or Bring your own Image

IBM Cloud Virtual Private Cloud (VPC)

A virtual network on top of the cloud software-defined data center infrastructure. Easy to use API for managing resources across availability zones (also managed through Console and CLI). Industry standard models for Network Security Groups and Access Control Lists to provide network security.

Highlights

- Rapid on-demand access to z/OS system.
- No Specialized z/OS skills required.
- Automation with Ansible or Terraform.

IBM Cloud Virtual Private Cloud (VPC) features

Network

- VPN-as-a-Service: Secure connection via an encrypted tunnel between customer and VPC or VPC to VPC. Adheres to common protocol and encryption standards.
- Direct Link via Classic Access: Private connectivity for maximum speed, security and resiliency. Variety of connectivity options and port speeds from 50Mbps to 10 Gbps.
- Transit Gateway
 - VPC to Classic
 - VPC to VPC

Compute

- Virtual Server Instances: Profiles of pre-defined vCPU/ RAM Configurations. Basic monitoring and logging.
- Stock OS options – s390X
 - z/OS Dev and Test – Stock Image.
 - Custom Image – BYO-Image.

Block Storage

Boot volumes are required to boot VSI's within a VPC.

- Customers who need additional storage beyond a boot disk for VSI can attach additional storage to support their workloads.

Wazi Image Builder

Create custom images from your on-premises LPAR using Wazi Image Builder. Web UI with role-based access control and REST APIs.

Web UI or REST APIs allows you to perform tasks including but not limited to:

- Extract artifacts, to begin with as volumes from existing IBM zSystems platforms to create components.
- Build an image from components.

Deploy the Image to IBM's Cloud Object Storage and automate deployment with Ansible and/or Terraform.

Added flexibility with the option of using your existing IBM Z Development and Test image for deployment to IBM Cloud.

Highlights

- Create a z/OS Virtual server with the custom Image of your application and related components in just minutes.

Common CI/CD Pipeline for Hybrid Application development

Use your choice of DevOps solutions to integrate with your common CI/CD pipeline.

- IBM zSystems And Cloud Modernization stack running on-premises or on Cloud in an OpenShift environment.
- IBM Wazi aaS with cloud-native capabilities available as a service in IBM public cloud.

Highlights

- Flexibility to build a Custom and Hybrid CI/CD pipeline running on-premises and/or on Cloud.
- Automated deployment back to real IBM zSystems LPAR.

Use Cases

Early Development and Test

Leverage IBM Cloud with on-demand access to z/OS system and ability to deploy customer image created from your own LPAR. Get started with development and testing in minutes without any dependency on Operations.

Infrastructure Testing

Overcome the issues of broken processes, insufficient security, etc. preventing you from being able to test your software upgrades at speed. Expedite testing with z/OS VSI and Wazi Image Builder.

Education

Lower the barrier to entry for your z/OS programmers with easy access to z/OS system.

Innovation

With Wazi aaS, z/OS dev and test environments, make innovation business as usual.

Benefits

Speed to Market

Accelerate development and testing with on-demand access to z/OS system.

- Eliminate wait times involved in exclusive access to environments.
- Improved developer productivity resulting in accelerated release cycle.

Improved Software Quality

- Shift left and start testing as early as your code phase with access to isolated development environment.
- Create your development environment with automated deployment of custom application.
- Hybrid application development with standard CI/CD pipeline.

Flexible pricing

Infrastructure as a Service enabling access to z/OS system and pay for what you use.

- Pay for what you use on hourly basis.
- Additional discount based on period and usage.

Innovate with Freedom

Innovate at scale with Wazi z/OS Dev and Test system with pre-installed software.

- Deploy a stock image with preinstalled software's onto z/OS Virtual server.
- Innovate at scale and deploy with confidence.

How IBM can help?

Contact your IBM representative to participate in the Closed experimental of Wazi as a Service and realize the benefits of:

- Speed to Market
- Improved Software Quality
- Innovate with Freedom
- Flexible pricing

Learn more

- Solution Web page: [Link](#)
- State of direction: [Link](#)
- Blog - [Link](#)
- Video – Usage with DevOps tools - [Link](#)
- Quick technical demos - [Link](#)
- Explore IBM Z and Cloud Modernization Center - [Link](#)
- Join the IBM Cloud Native Developer Community - [Link](#)

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1. [Dynatrace survey](#)
2. IDC Scaling DevOps in the Future Enterprise
3. [GitLab 2021 Global Survey results](#)
4. Disclaimer: Measurements were done across two different IBM Cloud production sites using an experimental version of z/OS 2.4 stock image and a mz2o-2x16 VSI profile. Measurements were performed with Ansible automation based on the examples available here. Results may vary.
5. Disclaimer: Performance results based on IBM internal tests running application compiles on an experimental IBM Cloud z/OS V2R4 Virtual Server Instance (VSI) with profile mz2o-2x16 versus on IBM ZD&T EE V13.3 running in an IBM Cloud x86 VSI with profile mx2-2x16. IBM ZD&T was running on Ubuntu 20.4 on a x86 Production VSI with a Cascade Lake Intel Xeon Platinum CPU @ 2.4GHz. Both z/OS VSI and ZD&T were configured with 2 vCPUs, 16GB memory, and 1 TB Block storage with 10 IOPS/GB. The following applications were compiled: a Java application that processes SMF records, a C application that processes IBM Z hardware diagnostic data, a COBOL application that creates and updates records on a file, and a FORTRAN statistical application. Results may vary.