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**IBM Z**  
**FAQ**  
**December 2020**

# **IBM Z Business Resilience Stress Test (zBuRST)**

Frequently Asked Questions

Worldwide

Short link to the zBuRST sales kit on  
<https://ibm.seismic.com/Link/Content/DCbHPaXu0APk6rpL5ctTZ3IQ>



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## What is zBuRST?

- IBM Z® Business Resiliency Stress Test (zBuRST) is a solution that enables you to use spare IBM Z physical resources/assets to load/stress test changes at production scale for the purpose of validating quality of any production change to ensure the resiliency of their critical business services running on Z.
- zBuRST can be used in DevTest to increase the available capacity of your Quality Assurance (QA) Testing to support load/stress testing activities at production scale.
- If used on the disaster recovery (DR) or standalone test machine, as an extension to DevTest, it exploits your DR assets (processors, storage, I/O, network, coupling, links, network, memory) to conduct load/stress testing of your Z hardware, software, application and process changes at production scale using a mirror-image copy of your production environment (Sysplex, LPARs, CFs, subsystems, and data).
- zBuRST Tokens can be purchased pre-paid to add temporary capacity up to 100% of production to target machines for the sole purpose of supporting load/stress testing for up to 15 days using non-production resources.
- zBuRST is a World-Wide Sales offering that is available on IBM z14® and newer systems.

## What is the purpose of zBuRST?

- Designed to increase change quality and ensure business resiliency by enabling the detection and resolution of abnormalities and defects outside the production environment that often lead to business outages, disruptions, or slowdowns.
- Provides the ability to perform load or stress test of z/OS® and subsystem updates, application, and process changes at scale before introducing them to the production environment to prevent unnecessary business outages/disruptions due to lack of insufficient, quality testing.
- If you have matching hardware in a standalone test or DR environment, zBuRST provides the ability to perform load or stress test of new IBM Z hardware features & upgraded functions.
- For clients, whose DR sites do not match the production environment, the goal is to enable zBuRST at scale for critical workloads.

## Why should you consider zBuRST?

- Does your business experience problems in production that are related to system size and scale?
- Can your business respond and scale reliably to Black Friday, Cyber Monday, Chinese New Year peak demands?
- Is your business currently testing with constrained resources that prohibit adequate testing, therefore improving workload resiliency?
- Is your business afraid to change or modify legacy applications for fear of disrupting production stability?
- Does it take your developers too long to adequately test changes and/or introduce new features, functions, or workloads to production?
- Do elongated production outages come at an excessive cost to your business?
- Is it too difficult to arrange adequate resources for large scale volume or integration tests?

## What value can zBuRST bring to my organization?

- Increased business resiliency, client satisfaction, and operational efficiency
- Faster delivery of new business features and functions at reduced risk
- Enables your staff to test changes, at scale, outside your production environment to identify problems or anomalies that only occur at scale
- Higher return on investment on your DR assets
- Increased testing capabilities at a lower cost

## zBuRST Prerequisites / Restrictions

- a) zBuRST is an extension of the IBM Z Application Development and Test Solution (DevTest Solution).
- b) zBuRST can be purchased for systems with a minimum of 10,000 installed MIPS, for up to 50% - 100% of production capacity. If you have an exception, please contact your zBuRST sales team for assistance.
  - a. All capacity must reside in the same country
- c) Pre-paid zBuRST Tokens can be purchased up to 100% of the additional capacity needed to support load/stress testing at production scale.
  - a. Tokens allow for up to 15 days of testing; tokens can be activated for any 15 calendar days and their use does not need to be over consecutive days.
  - b. zBuRST Tokens expire 5-years from the machine's LICC Withdrawal from Marketing date.
- d) The maximum amount of zBuRST capacity that can be purchased is limited to the active production capacity as follows:
  - a. For DevTest Solutions, zBuRST capacity can be purchased to increase the size of the DevTest environment up to the equivalent number of production MIPS/MSUs.
  - b. For exploitation on DR machines, zBuRST tokens can be purchased up to the equivalent number of MIPS/MSUs active on the production machines.
- e) zBuRST tokens can only be installed on hardware that is owned and used exclusively by your purchase of the tokens. zBuRST is not available to service providers / outsourcers.
- f) zBuRST tokens are pre-paid On/Off CoD LIC records.
- g) There can only be one On/Off CoD record active at a time.
  - a. Post-paid On/Off CoD LIC records and zBuRST tokens cannot be active at the same time on the same machine.
  - b. If your business uses the prepaid On/Off CoD LIC record to turn on the zBuRST capacity for testing, you cannot also turn on a post-paid On/Off CoD LIC record on the same system record on the same system.
  - c. When you see the LIC record on the HMC panel, it will show Prepaid On/Off CoD
- h) zBuRST Tokens **cannot** be used to support production workloads
  - a. To ensure production cannot use zBuRST capacity, Absolute MSU Capping must be enabled when zBuRST is activated to limit production to the MIPS/MSUs that were available prior to activation of zBuRST
  - b. Your system programmer will need to create a WLM Group Capacity and set it to the appropriate number of MSUs for production LPARs and enable ABSMSUCAPPING=YES in IEAOPTxx. When zBuRST is deactivated, change ABSMSUCAPPING=NO and delete the group

- i) Copy Services Manager or GDPS can be used to manage the copy environment and create the PIT consistent copies for testing.
  - FlashCopy® is used to create a point-in-time (PIT) consistent copy of the production data on tertiary disks that will be used to support destructive load/stress testing activities.
  - High I/O rates during load/stress testing activities may impact the performance of the DR replication environment causing Recovery Point Objective (RPO) times to increase. If your business cannot tolerate an increase to their RPO time, consider purchasing a second disk subsystem and using asynchronous global copy to replicate data to it from the global mirror secondary copy.

***Refer to z/OS MVS Planning: Workload Management for more information on how to setup Absolute MSU Capping***

- j) When zBuRST is used on DR machines and disk replication is in place between sites:
  - a. In order to activate zBuRST tokens there must be at least 1 active engine on the DR machine(s) for each engine type (GCP, zIIP, IFL, ICF) being activated.
  - b. Tertiary disk or a second disk subsystem is required to provide a production copy of the data to support load/stress testing activities.
- k) SCRT reporting must be in place
  - a. In the event of a disaster, zBuRST must be deactivated and any active LPARs terminated. This can occur automatically with GDPS Metro Mirror, or manually/scripted.
  - b. While zBuRST can be run on a DR machine, it is not for DR testing, or to be used for DR.
- l) zBuRST cannot be combined with DR Cloud
- m) Requires an Application Development and Test Container (DevTest). If your business needs additional capacity on the machine for their production-level testing, you will need to deactivate the prepaid On/Off CoD record, and then activate the post-paid On/Off CoD record. You cannot use the prepaid On/Off CoD record that provides the zBuRST capacity in their production LPAR.
- n) zBuRST is available on z14 and newer systems.
- o) GDPS® is not required, but can be used to automate all aspects of activating and deactivating your zBuRST environment
  - a. GDPS can bring on / remove the zBuRST capacity via CAPACITY ACTIVATE / UNDO statement in a script / workflow and that the GDPS Global – GM x-disk support, GDPS Metro Global – 3-site x-disk support, and the GDPS Metro Global – GM 4-site Test Copy Manager can be used to create a consistent copy of data for stress testing.

## Pricing / Cost

- a) zBuRST Tokens are discounted at 80% off the cost of On/Off CoD capacity
- b) Special Terms and Conditions are available for zBuRST that include hardware maintenance
- c) IBM Software / Hardware
  - zBuRST is based on the DevTest offering.
  - Contact IBM Sales for information on hardware capacity and software pricing.
- d) **Regarding ISV products:** zBuRST is largely transparent to middleware and software applications in general. So, very little in the way of explicit ISV support is needed or expected. There is no reason that IBM is aware of that would make this offering one that is not supported by ISVs.
- e) **Supports all IBM z/OS operating environments.** Capacity planning must be considered for mixed workload machines (e.g. machines that also run production workloads).

## How do I setup zBuRST?

1. Log onto IBM Resource Link®, using pre-agreed offering numbers, orders prepaid On/Off CoD records
2. Activate prepaid On/Off CoD record.
3. Activation / Deactivation: zBuRST tokens are activated and deactivated using On/Off CoD and the corresponding LIC record
4. zBuRST is independent of a DR environment if zBuRST and DR are configured on the same machine.
  - a. In the event of a disaster, zBuRST On/Off CoD LIC record must be deactivated in order to activate CBU
  - b. You must then determine what to do with the previously active LPAR
  - c. If running GDPS, it may require a script modification to handle zBuRST.

## Acronym Table

- zBuRST: IBM Z Business Resilience Stress Test
- CBU: Capacity Backup
- CF: Coupling Facility
- CIU: Customer Initiated Upgrade
- CMLC: Country Multiplex License Charges
- DevTest: Application Development and Test Container
- DR: Disaster Recovery
- GCP: General CP
- GDPS: IBM GDPS
- HW: Hardware
- I/O: Input / Output
- ICF: Integrated Coupling Facility
- IFL: Integrated Facility for Linux®
- IPLA: International Product License Agreement
- Linux on Z: Linux on Z Mainframe
- LPAR: Logical Partition
- LUL: Limited Use License
- LIC: License Internal Code
- MLC: Monthly License Charge
- MSU: Millions of Service Units (per hour)
- MIPS: Millions of Instructions per Second
- On/Off CoD: On/Off Capacity on Demand
- QA: Quality Assurance
- SCRT: Sub-Capacity Reporting Tool
- SW: Software
- TCO: Total cost of ownership
- TFP: Tailored Fit Pricing
- TPF: Transaction Processing Facility
- VSE: Virtual Storage Extended
- WLM: Workload Management
- zIIP: System Z Integrated Information Processor
- zOPC: z On-Premise Capacity
- z/OS: IBM Z Operating Systems
- z/VM®: IBM Z Virtual Machine





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