

The Elastic Mainframe

IBM Z Capacity on Demand (CoD) and Capacity Backup (CBU)

Workload challenges in a digital economy in today's environment, the very nature of I/T infrastructure is being challenged by sporadic and unforeseen workloads. What used to be predictable transaction and batch processing workloads are being impacted by unpredictable surges in workload caused by the proliferation of mobile devices, digital commerce, self-service applications, integrated supply chains and the overall digital transformation of the global economy.

In the last several months, this digital transformation has accelerated with more citizens working from home, using digital commerce to replace shopping trips, using online banking more aggressively and increasing the use of electronic payment systems. Systems are being stressed like never before.

Organizations need the agility to dynamically scaled to meet compute capacity demands in a non-disruptive, cost-effective and dependable manner that delivers confidence in the ability to respond to unprecedented change and demand.

Organizations also need the ability to quickly switch data centers to meet availability requirements when external and environmental forces disrupt existing locations and workforce availability.

What happens in the external environment is beyond our client's control. Yet organizations need to have the confidence that they can respond with agility and speed to address surges and contractions in business activity.

At IBM, we believe that this is the new paradigm and the IBM Z® has been designed to deliver elastic compute capacity seamlessly to address this need.

Elastic capacity for mission critical workloads
IBM Z elastic capacity in the form of Capacity on Demand (CoD) and Capacity Back-Up (CBU) deliver the confidence and predictability that your customers need in uncertain times.

Elastic resources are critical for business agility and resiliency and IBM Z enable:

- Adding system resources permanently or temporarily
- Unleashing the full processor power on existing resources

- Moving capacity to DR sites for testing and production
- Recovering faster from downtime

The ability to dynamically turn capacity on or off to handle workload surges or availability requirements with minimal or no disruption to their operations and business is a unique characteristic of the IBM Z and LinuxONE platforms.

Capacity on Demand (CoD)

IBM Z systems are designed for non-disruptive massive, scalable growth of processors, memory and I/O. Each IBM z14® and IBM z15™ system that is shipped is configured with spare, unassigned processor cores and memory that can be temporarily or permanently activated to meet surges in demand for compute capacity. This can happen in minutes to ensure the continuity of your operations and to meet service level requirements.

On/Off Capacity On Demand allows you to temporarily add additional capacity or specialty engines due to seasonal activities, period-end requirements, peaks in workload, or application testing. The spare capacity can be decommissioned, once the need is no longer there or it can be converted into permanent capacity.

On/Off Capacity on Demand is used for expected and planned business peaks and to dynamically respond to unforeseen and unplanned surges in business activity under the following parameters:

- ✓ Increase existing engine speeds, and / or activate additional engines
- ✓ Activated in daily increments
- ✓ All engine types, GPs, IFLs, zIIPs
- ✓ Activate up to 2x purchased capacity

IBM Capacity on Demand may be ordered through your IBM salesperson, Business Partner or on-line via IBM Resource Link®.

Permanent Capacity upgrades enables you to activate additional capacity on your existing Z installation without additional physical installation where un-assigned cores and memory are available. All processor types can be configured to specific client's needs in a permanent capacity upgrade. While quickly activated, permanent capacity upgrades are used when workload increases are anticipated to be sustained.

Capacity BackUp (CBU)

IBM Z Capacity BackUp (CBU) is designed to replace model capacity or specialty engines to a backup server in the event of an unforeseen loss of server capacity because of an emergency or unanticipated outage. It is used when critical business situations arise, and additional capacity is needed for business continuity under these conditions:

- ✓ 90 day activation of backup server capacity
- ✓ Yearly test included to perform needed DR testing and regulatory compliance
- ✓ No net increase in IBM Software or maintenance charges during backup server usage

This a replacement capacity for another Z system on a like for like basis, capacity wise. All engine types are supported. Records are ordered by number of "Features"

- ✓ Specialty engines: 1 Feature activates 1 additional engine
- ✓ CP Engines: 1 Feature activates 1 additional CP or increases the CP capacity level of 1 CP.
- ✓ Activation may be at any level from the current capacity to the maximum capacity defined by the record

In addition to one free 10 day test for each year purchased, additional tests may be ordered, in single increments, up to 15 total days. Capacity Back up records are purchased in 1-5 year increments. Records terminate on expiration. CBU may be used to back up multiple systems on a single system:

- ✓ Multiple CBU records, one for each system you are backing up. All may be active at the same time
- ✓ A single record that backs up multiple systems

IBM Capacity Backup may be ordered through your IBM salesperson, Business Partner or on-line via IBM Resource Link.

System Recovery Boost Capacity

IBM System Recovery Boost on the IBM z15 enables you to recover workloads for planned or unplanned outages substantially faster by unleashing additional capacity for a Pre- and Post-IPL performance boost.

There are three ways to boost capacity on your z15 to address system recovery needs:

- ✓ Processor Capacity Boost using zIIPs – Provides parallelism and a boost in processor capacity for processing any kind of work during the boost.

- ✓ Speed Boost – Sub-capacity machines gain a boost in processor speed by running the central processors at full-capacity speed during the Boost period.
- ✓ System Recovery Boost Upgrade subscription offering unlocks additional "dark cores" for even more capacity

Enterprise Capacity for the Digital Economy

Most enterprises have integrated, interconnected systems of which IBM Z is a critical component, but not the only component. In most client environments, the transaction processing, batch workload and many database queries are running on IBM Z. That is where the mission critical Systems of Record applications that run the business or processes are housed.

As mobile devices, the internet, digital commerce and social media has emerged, many clients elected to put their Systems of Engagement, analytics and other compute applications onto distributed systems or the public cloud which can't scale quickly enough to address surges in demand or peak usage. With interconnected systems, performance bottlenecks occur at the weakest link causing degradations in service to the end user.

Capacity and performance issues in Systems of Engagement and other distributed workload can be addressed by migrating this workload onto Linux on Z through Integrated Facility for Linux (IFL) processors to achieve noticeable performance improvements, higher availability and lower costs.

IBM zIPPs can be used to run containerized Linux workload and IBM z/OS® Connect to call data from Z applications using RESTful APIs to modernize both Z and distributed applications.

Leveraging IBM Z elastic capacity to efficiently manage unexpected surges in demand for computing resources in this digital economy prepares you for the challenges ahead.

Consult with your IBM representative or Business Partner to discuss how IBM Z elastic capacity can deliver confidence in these uncertain times.