



IBM z Processor Capacity Reference

IBM z Processor Capacity Reference (IBM zPCR) is a PC-based Windows or macOS productivity tool, designed to provide capacity planning insight for **IBM Z** and **LinuxONE** processors running various z/OS, z/VM, z/VSE, KVM, Linux, SSC, and CFCC workload environments on partitioned hardware. Capacity results are based on IBM's most recently published **LSPR** data for z/OS.

Capacity is presented relative to a user-selected Reference-CPU, which may be assigned any capacity scaling-factor and metric. Function in **IBM zPCR** includes:

1. **LSPR Processor Capacity Ratio Tables:** Displays processor capacity ratios for 5 workload environments ranging from high I/O rates to CPU intense activity. Processor families and workloads displayed are user controlled. Capacity tables provided are:
 - **Multi-image (IBM Z and LinuxONE):** Each processor assumes a partition configuration considered typical for the size and N-way of the model. Capacity for General Purpose models or IFL models may be displayed. The multi-image table assumes that every partition is running the same workload. The **LinuxONE** table is limited to IFL models.
 - **Single-image (IBM Z):** Each processor assumes a single partition with all CPs assigned, up to a reasonable maximum of 30. Capacity for General Purpose models or IFL models may be displayed.
2. **LPAR Configuration Capacity Planning:** For the LPAR host specified, any legitimate partition configuration can be defined. The LPAR host processor can be configured with General Purpose CPs, zAAPs, zIIPs, IFLs, and ICFs were valid. Partitions are then defined, specifying type (General Purpose, IFL, or ICF), SCP/workload, and LP configuration (dedicated or shared with number of logical CPs), and weight/capping assignments. zAAP and zIIP logical CPs can be associated with a z/OS partition; IFL logical CPs can be associated with a General Purpose z/VM partition. Capacity projections are generated for each partition as well as the LPAR host as a whole. Partition configurations can be created directly from z/OS RMF data, EDF data (derived from SMF or Monitor data), or from previously saved IBM zPCR studies. Absolute capping is supported for zEC12, zBC12, and later processors. SMT (Simultaneous Multi-Threading) capacity benefit for zIIPs and IFLs is supported for z13 and later processors.

Multiple LPAR configurations can be defined, allowing direct comparison of LPAR host or individual partition capacity results to previous configurations.

IBM zPCR results are presented in tables and graphs that can be captured for notes, presentations, or handouts. A complete study can be saved for future reference. A User's Guide, integrated online help, and other useful documentation are included.

IBM Employees can obtain **IBM zPCR** and other IBM CPS Tools via the IBM Intranet at:

<https://w3.ibm.com/w3publisher/wsc-ibm-z/capacity-and-performance/capacity-sizing>

IBM Business Partners can obtain **IBM zPCR** and other IBM CPS Tools via:

Contact cpstools@us.ibm.com

IBM Clients can obtain **IBM zPCR** via the Internet at:

<https://www.ibm.com/support/pages/node/6354029>

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