



# IBM z13



### IBM z13 (2964) at a glance

Processor Unit (PU) types : CP/IFL/ICF/SAP/zIIP/IFP

Model	Books	PU's	Memory	MIPS
N30	1	1 to 30	64 to 2464 GB	32,671
N63	2	1 to 63	64 to 5024 GB	59,947
N96	3	1 to 96	64 to 7584 GB	83,453
NC9	4	1 to 129	64 to 10144 GB	104,395
NE1	4	1 to 141	64 to 10144 GB	111,556

### Feature Cards

- FICON Express16S SX and 10 KM LX
- FICON Express8S SX and 10 KM LX
- FICON Express 8 SX and 10 KM LX
- OSA-Express5S 10GbE LR/SR , GbE LX/SX , and 1000BASE-T
- OSA-Express4S 10GbE LR/SR , GbE LX/SX , and 1000BASE-T
- Flash Express
- Crypto Express5S
- 10GbE RoCE Express
- zEDC Express

### Coupling Links

ICA	32 or 40 Depend on Driver Level
12x Infiniband	32 Ports
1x Infiniband	64 Ports
Maximum Links	96 or 104

### Channels

Up to 320 FICON Express16s | FICON Express8s  
Up to 64 FICON Express8  
Up to 96 OSA-Express5S GbE LX/SX | OSA-Express5S 1000BASE-T  
Up to 48 OSA-Express5S 10GbE LR/SR  
Up to 96 OSA-Express4S GbE LX/SX | OSA-Express4S 1000BASE-T  
Up to 48 OSA-Express4S 10GbE LR/SR  
Flash Express 8 ( 4 pairs – 8 PCIe adapters); offered in pairs

### Software

z/OS:	z/OS V2.1, V2.2, V2.3, V2.4 and V2.5, z/OS Version 1.13 is the earliest in-service release that supports z13 servers. Although service support for z/OS Version 1.12 ended
z/VM:	z/VM V6.4 and z/VM V6.2,V6.3 with PTFs.
z/VSE:	z/VSE V6.1,V5.2 and V5.1 with PTFs.
z/TPF:	z/TPF V1.1
Linux on system Z	Red Hat Enterprise Linux (RHEL) 5 ,6 and 7 SUSE Linux Enterprise Server (SLES) 11 and 12 Ubuntu: 16.04 LTS KVM for IBM z Systems 1.1.1

- The z13 CPC has been redesigned to package processors in drawers. A z13 CPC drawer contains eight single chip modules (SCMs), memory, symmetric multiprocessor (SMP) connectivity, and connectors to support PCIe I/O drawers (through PCIe fanout hubs), I/O drawers through InfiniBand features, and coupling links to other CPCs. The z13 server can have up to four CPC drawers installed (the minimum is one drawer)
- On the Z13 Each CPC drawer can contain up to 3,200 GB of physical memory, for a total of 12.5TB of installed (physical) memory per system. Part of the physical installed memory is used to implement the RAIM design. This configuration results in up to 2.5TB of available memory per CPC drawer and up to 10 TB per system.
- The Z13 supports up to 5 PCIe Drawer that use Peripheral Component Interconnect Express Generation 3 (PCIe Gen3) I/O infrastructure. It supports 16 GBps I/O bus interconnection for CPC drawer connectivity to the PCIe I/O drawers
- For a four CPC drawer system, up to 40 PCIe and 16 InfiniBand fanouts can be configured for data communications between the CPC drawers and the I/O infrastructure, and for coupling.The multiple channel subsystem (CSS) architecture allows up to six CSSs, each with 256 channels.
- IBM Processor Resource/Systems Manager™ (PR/SM™) enables z13 servers to be initialized for a logically partitioned operation, supporting up to 85 LPARs. Each LPAR can run its own operating system image in any image mode,independently from the other LPARs.
- Flash Express provides 1.4 TB of storage per feature pair. Up to four pairs can be installed, for a total of 5.6 TB.



- Machine Type 2964
- Advanced Technology 5.0 GHz processor chip for performance boost for all workloads
- Up to 40% more total system capacity compared to the zEC12
- 141 Core to Configure
- Support CP, IFL, zIIP, ICFs and SAPs
- Over 111,556 MIPS for large scale consolidation
- Up to 10 TB RAIM Memory
- Up to 85 logical partitions
- Support Flash Express
- Cryptographic performance improvements with new Crypto Express5S
- 96 GB Fixed HSA
- Support Radiator-based air cool
- Optional water cooling, providing the ability to cool system with user-chilled water
- Two new 1U rack-mounted Support Elements
- New rack-mounted Hardware Management Console (HMC)

