



# IBM zEnterprise EC12



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IBM zEnterprise EC12 (2827) at a glance

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

Model	Books	PUs	Memory	MIPS
H20	1	1 to 20	32 to 704 GB	21,380
H43	2	1 to 43	32 to 1392 GB	39,920
H66	3	1 to 66	32 to 2272 GB	56,628
H89	4	1 to 89	32 to 3040 GB	71,517
HA1	4	1 to 101	32 to 3040 GB	78,426

Coupling Links

ISC-3	48
IC	32
12x Infiniband	32 Ports
1x Infiniband	64 Ports
Maximum Links	96

Channels

Up to 320 FICON Express8S  
Up to 176 FICON Express8 | FICON Express4  
Up to 96 OSA-Express5S 10GbE LR/SR | OSA-Express5S 1000BASE-T  
Up to 48 OSA-Express5S GbE LX/SX  
Up to 96 OSA-Express4S GbE LX/SX | OSA-Express4S 1000BASE-T  
Up to 48 OSA-Express4S 10 GbE LR/SR  
Up to 96 OSA-Express3 GbE LX/SX | OSA-Express3 1000BASE-T  
Up to 48 OSA-Express3 10 GbE LR/SR  
Flash Express 8 ( 4 pairs – 8 PCIe adapters); offered in pairs

Software

z/OS:	z/OS V1.12,V1.13 and V2.1 or higher and z/OS V1.10 , V1.11 Lifecycle Extension
z/VM:	z/VM V5.4 , V6.1 , V6.2 with PTFs and subsequent releases. z/VM V6.1 , V6.2 and subsequent releases for zBX support
z/VSE:	z/VSE V5.1 with PTFs and subsequent releases
z/TPF:	z/TPF 1.1
Linux on system Z	Red Hat Enterprise Linux (RHEL) 5 and subsequent releases SUSE Linux Enterprise Server (SLES) 11 SP2 and SLES 10 SP4

Feature Cards

- FICON Express8S SX and 10 KM LX
- FICON Express8 SX and 10 KM LX
- FICON Express4 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
- OSA-Express3 10GbE LR/SR , GbE LX/SX , and 1000BASE-T
- Flash Express
- 10GbE RoCE Express
- Crypto Express4S , Crypto Express3
- zEDC Express

- The zEC12 is built using the IBM modular multi-book design that supports one to four books per central processor complex (CPC). Each book contains a multiple chip module (MCM), which hosts the processor units, storage control chips, and connectors for I/O.
- Depending on the model, the zEC12 can support from a minimum of 32 GB to a maximum of 3040 GB of usable memory, with up to 768 GB per book. In addition, a fixed amount of 32 GB is reserved for the hardware system area (HSA) and is not part of customer-purchased memory.
- The zEC12 support up to Two I/O Drawer and one I/O Cage InfiniBand infrastructure Base. InfiniBand supports I/O bus infrastructure data rates up to 6 GBps.
- Also zEC12 supports up to 5 PCIe I/O Drawer that use Peripheral Component Interconnect Express (PCIe)-based infrastructure. The PCIe I/O bus infrastructure data rate increases up to 8 GBps.
- There are up to 48 high-performance fanout connections for data communications between the books and the I/O infrastructure. The multiple channel subsystem (CSS) architecture allows up to four CSSs, each with 256 channels.
- IBM Processor Resource/Systems Manager™ (PR/SM™) manages and virtualizes all the installed and enabled system resources (Processor and Memory) as a single large SMP system. It enables the configuration and operation of up to 60 Logical Partitions, which have processors, memory, and I/O resources that are assigned from the installed books and features.
- Flash Express implements storage-class memory (SCM) in a PCIe card form factor. Each Flash Express card implements an internal NAND Flash solid-state drive (SSD), and has a capacity of 1.4 TB of usable storage. Cards are installed in pairs, which provide mirrored data to ensure a high level of availability and redundancy. A maximum of four pairs of cards can be installed on a zEC12, for a maximum capacity of 5.6 TB of storage.



- Machine Type 2827
- Advanced Technology 5.5 GHz processor chip for performance boost for all workloads
- Up to 25% faster uniprocessor performance as compared to z196
- Up to 50% system capacity performance improved over z196 80-way
- 101 Core to Configure (versus 80 on z196)
- Support IFL, zIIP, zAAP, ICFs and optional SAPs
- Over 78,000 MIPS for large scale consolidation
- Up to 3 TB RAIM Memory
- Up to 60 logical partitions
- Support Flash Express
- Crypto Express4S with FIPS 140-2 Level 4 certification and PKCS #11 Support for digital signatures
- Flash Express to handle paging workload spikes and improve availability
- 32 GB Fixed HSA
- Radiator-based air cooled system design
- Continuation of optional water cooling and DC power

