# Escala M8-1000

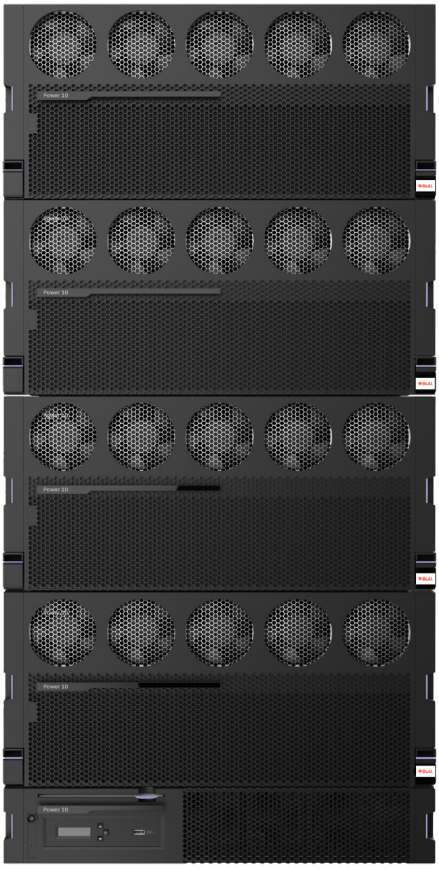
## Business continuity and scalability strengthened by security and sustainability

## Escala M8-1000, high-end Escala server powered by Power10

The Escala M8-1000, based on the Power10 processor, delivers exceptional performance, along with security and reliability, while providing seamless integration into existing infrastructures for a minimum of complexity and cost. Business continuity is assured thanks to Power and AIX's market-leading RAS features.

Clients looking for secure and efficient scaling of core operational applications, such as databases, and a cloud infrastructure for business-critical applications, will pull ahead of the competition by choosing this enterprise-grade server.

The Escala M8-1000 strengthens security by simplifying end-to-end encryption thanks to the hardware crypto-engines embedded in the Power10 processor. The Power10 processor's Matrix Math Accelerator architecture brings AI inferencing right where your data resides for faster insights. Sustainability is reinforced in this new server by providing 33% lower energy consumption for the same workload as the previous version.



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|---|---|---|
| Bull server name | • Escala M8-1000 | |
| System package per node | • 5U/node + 2U SCU, 19" rack | |
| System nodes | • 1 - 4 | |
| Configuration options | • One system node | • System maximum (four system nodes) |
| Power10 (SMT8) Microprocessors/ node Cores/socket | • 4 Power10 processors 10, 12 or 15-cores each | • 16 Power10 processors 10, 12 or 15-cores each |
| Cores | • 40, 48 or 60 | • 160, 192, or 240 |
| L2 cache / core | • 2 MB | |
| L3 cache / processor | • 8MB/core Up to 120MB per socket | |
| Power10 Processor Mode: GHz range/node Processor frequencies are dynamic by default: Performance Mode (Max or Dynamic) is set in Power Management | • 3.65 to 3.9 GHz (10) \| 40<br>• 3.60 to 4.15 GHz (12) \| 48<br>• 3.55 to 4.00 GHz (15) \| 60 | • 3.65 to 3.9 GHz (10) \| 160<br>• 3.60 to 4.15 GHz (12) \| 192<br>• 3.55 to 4.00 GHz (15) \| 240 |
| System memory (RAM) | • 64 DIMM slots<br>• Up to 16 TB DDR4 DDIMMs | • 256 DIMM slots<br>• Up to 64 TB DDR4 DDIMMs |
| Processor-to-memory band-width | • 409 GB/s per processor | |
| System memory: min / max / (min % active) 2933 MHz DDR4 | • 256 GB / 16 TB / (50%) | • 1 TB / 64 TB / (50%) |
| Integrated PCIe adapter slots | • 8 PCIe Gen5 | • 32 PCIe Gen5 |
| PCIe I/O Expansion Drawers | • Up to 4 (12 PCIe adapter slots each) | • Up to 16 (12 PCIe adapter slots each) |
| Internal storage | • 4 slots for NVMe U.2 | • 16 slots for NVMe U.2 |
| System Control Unit (2U) | • 1 | |
| Flexible Service Processors | • 2 | |
| HMC ports | • 2 | |
| rPerf<br>GHz (# of cores): perf | • 3.65 to 3.9 GHz (40): 1,367<br>• 3.60 to 4.15 GHz (48): 1,681<br>• 3.55 to 4.00 GHz (60): 2,000 | • (160): 5,467<br>• (192): 6,722<br>• (240): 7,998 |
| PowerVM Enterprise (Integrated) - Hypervisor | • LPAR, Dynamic LPAR; Virtual LAN (Memory to memory inter-partition communication<br>• 20 Micro-Partitions per processor; Multiple Shared Processor Pools; Virtual I/O Server; Shared Dedicated Capacity; Live Partition Mobility (LPM) and Active Memory Sharing (AMS); NovaLink (virtualisation management agent) | |
| Reliability, Availability, and Serviceability (RAS) features | First failure data capture (FFDC), Processor instruction retry, L2 and L3 Cache ECC protection with cache line-delete, Core Checkstops, Dynamic processor deallocation, Chipkill protection for x4 DDIMMs, with DRAM sparing, Processor fabric and memory buses retry with data lane sparing and ½ bandwidth mode, High speed internode cables, with passive components and advanced fault isolation diagnostic capabilities, Guided FSP & SMP cable installation, Concurrent repair of external SMP cable, Redundant phase and spare phase for voltage regulator modules (VRMs) supplying processors, Spare Power Man-agement Integrated Circuit (PMIC) for on DDIMM power regulation, Redundant system clocks with dynamic failover, Redundant, hot-swappable power supplies and cooling fans Concurrent add/repair of I/O drawers, Extended error handling on PCIe slots Hot-plug/blind-swap PCIe adapter slots, Concurrent repair of Op-Panel, Concurrent repair of Time of Day Battery, Selective dynamic firmware updates, Active Memory Mirroring for Hypervisor | |

## Bull and IBM: a perfect fit

For almost 30 years, Bull and IBM have built a unique relationship, based on an OEM partnership and a close, highly productive technological cooperation. This solid R&D collaboration has fundamentally strengthened the AIX® ecosystem, by regularly generating innovative functionality, in areas such as scalability, RAS, virtualisation and cloud enablement.

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