Escala M8-900 and E5-900

Enterprise Computing at your service !

Escala POWER9™ mission-critical servers: M8-900 and E5-900

POWER9™ technology is uniquely designed for your mission critical business as it's ideally suited for hybrid and private clouds. M8-900 and E5-900 offer the performance, agility and world-leading reliability to implement even the most demanding and sensitive of cloud infrastructure for your mission-critical solutions. They easily integrate into your organization's private or hybrid cloud strategy to handle flexible consumption models and changing customer needs.

Escala M8-900 – Designed to support the most mission-critical applications

Escala M8-900 is the ideal foundation for a world-class private or hybrid cloud infrastructure, able to power the largescale, mission-critical applications you need to transform data into a competitive advantage. Each Escala M8-900 comes with enterprise-class security and efficient, built-in PowerVM™ virtualization.

Massive throughput, performance and scalability in a modular high-end system with up to 192 POWER9™ cores, up to 64TB memory, and the fastest POWER9™ processors in the Power Systems portfolio.

Escala M8-900 improves I/O throughput PCIe Gen4 (nearly 2x the bandwidth of PCIe Gen3), and it embeds analytics and algorithms on the chip to help Escala M8-900 run at an always optimized dynamic frequency.

Escala E5-900: unprecedented performance, agility and reliability

Escala E5-900 offers a unique blend of enterprise-class capabilities in a reliable, space-efficient 4-socket 4U form factor that delivers exceptional performance at an affordable price. With two to four POWER9™ processors in an eight, ten, eleven or twelve core configurations, up to 16 TB of DDR4 memory, built-in PowerVM™

virtualization and Capacity on Demand (CoD), no other 4-socket system in the industry delivers this combination of per-core performance, efficiency and business agility.

Cloud PowerVC Manager

provides a complete private cloud user experience for self-service and administration, offering flexibility to create innovative Power cloud solutions such as SAN-less and Flash-based. PowerVC is an Open standards-based integration point for leading multi cloud managers.

Security and reliability

The POWER9™ technology has built-in security that can help you to be ready for current and future security threats.

Escala's Enterprise Computing systems enable large-scale consolidation of older, under-utilized servers onto an ultra-efficient POWER9™ high-end system with unprecedented levels of utilization and resource sharing to concurrently support AIX and/or Linux applications.

POWER9™ is built with innovation that puts data to work, Escala provides the foundation for organizations to bring insight to the point of impact quickly.

Trusted partner for your **Digital Journey**

AtoS

Escala Enterprise Computing POWER9™ servers

Atos Server Name	Escala E5-900	Escala M8-900 – per system node (can have 4)
SW licensing	Medium	Medium
System package per node	4U, 19" rack	5U/node + 2U, 19" rack
System nodes	1	1 - 4
POWER9™ (SMT8) Microprocessors/node Cores/socket	2, 3 or 4 processors 12-core, 11-core, 10-core, or 8-core Max cores: 48, 44, 40 or 32	4 processors / system node 12-core, 11-core, 10-core, or 8-core Max cores: 192, 176, 160 or 128
L2 cache / core	512 K / core	512 K / core
L3 cache / processor	10MB/core	10MB/core
L4 cache	Up to 120MB shared L3 cache for max config 128 MB off-chip eDRAM L4	Up to 120MB shared L3 cache for max config 128 MB off-chip eDRAM L4
# of processor sockets/node	1 or2 sockets	4 sockets

POWER9™ Processor Mode: GHz range/node
   Processor frequencies are dynamic by default :
   Performance Mode (Max or Dynamic) is set in
   Power Management
	Maximum Performance Mode :
	12-core - 3.15Ghz (3.80 GHz "max")
	11-core - 3.2GHz (3.80 GHz "max")
	10-core - 3.40GHz (3.80 GHz "max")
	8-core - 3.60GHz (3.80 GHz "max")
		Dynamic Performance Mode :
		12-core - 3.55GHz (3.90 GHz "max")
		11-core - 3.58GHz (3.90 GHz "max")
		10-core - 3.70GHz (3.90 GHz "max")
		8-core - 3.90GHz (4.00 GHz "max")

Enterprise memory (RAM)	Up to 128 DDR4 Industry Standard DIMMs 128GB to 16TB (max)	per system node (can have 4): 32 DIMM slots Up to 16 TB buffered DDR4 CDIMMs
Processor-to-memory bandwidth	230 GB/s per processor	Sustained 230 GB/s per processor
Integrated PCIe adapter slots	Up to 10 hot-swap PCIe Gen4 slots; x16: 4 – 8 (2 per socket), x8: 2 1 PCIe Gen3 x8 slot (reserved for default Ethernet – 2 x 10 Gb LAN)	per system node (can have 4): 8 PCIe x 16 Gen4

Internal storage
System unit disk/SSD bays with standard or split backplane; and NVMe U.2 drives
	8 hot-swap SFF SAS bays + 4 NVMe bays
	  • SAS HDD/SSD SFF 2.5" 15mm
	  • Standard RAID 0,1,5,6,10 support and SAS Split disk capability
	  • 4x NVMe SSD thin SFF 2.5" 7mm slots
		per system node (can have 4):
		4 slots for non-volatile memory express (NVMe U.2)

PCIe I/O Expansion Drawers (12 PCIe Gen3 slots each)	Up to 4	per system node (can have 4): Up to 4
Flexible Service Processors	1	1
PowerVM Enterprise (Integrated) - Hypervisor	LPAR, Dynamic LPAR; Virtual LAN (Memory to memory inter-partition communication 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 (virtualization management agent)	
Reliability, Availability, and Serviceability (RAS) features	First Failure Data Capture; Processor instruction retry; L2 and L3 Cache ECC protection with cache line-delete Integrated Power/cooling monitor function in processor on chip controller Fabric bus retry with spare data lane; Extended Cache line delete; Core contained checkstops; Memory DIMM support with ECC checking supporting x4 Chipkill IBM memory buffer and Spare DRAM module capability with x4 DIMMs PCIe adapter hot-plug; Redundant voltage convertors/power supplies; Selective dynamic firmware updates; Active Memory Mirroring for Hypervisor (optional)	

Atos and IBM: a perfect fit

For more than 25 years, Atos 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, virtualization and cloud enablement.

Why Atos?

Atos is the Number 1 European provider (Number 3 worldwide) of managed infrastructure services. Atos is rated by analysts as the 'Leader in the Data Center outsourcing services' for the 3rd year in a row. We develop and deliver the most cost-effective and suitable solutions leveraging market-leading providers to manage, optimize and data centers and infrastructures. We have early insight on new technologies, enabling us to develop new and innovative technical solutions. Our strong global footprint, and industry heritage gives us the understanding and the flexibility to easily adapt to our clients' culture whatever industry they work in and wherever they are in the world.

To learn more on how you can benefit from Escala solutions, please visit atos **atos.net/escala**