

IBM Power System S812L and S822L

Linux servers optimized for scale out data and cloud environments



+7 (495) 925-5519
info@compuway.ru

Highlights

Optimized for Big Data & Analytics, the Power Systems Linux servers provide the ideal foundation for scale-out data and cloud environments in a compact 2U package

- Gain faster insights with the IBM® POWER8™ processor and smart acceleration enabled by Coherent Accelerator Processor Interface (CAPI) technologies
 - Choice of Linux distributions: Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES) or Ubuntu Server
 - Choice between industry recognized enterprise virtualization with PowerVM® or open virtualization with PowerKVM™
 - Reduce energy consumption utilizing advanced energy control
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Power Systems: Innovation to put data to work

New innovation brings faster insight to the point of impact for today's data hungry applications

Built with innovation that puts data to work, IBM Power Systems™ deliver the foundation for organizations to bring insight to the point of impact 2x faster. These first generation systems push the physical and virtual boundaries of data center technology with innovation designed to drive the faster, more efficient data-centric applications required in today's smarter enterprise.

With new innovations, Power Systems provide the ability to:

- Gain faster insights with the POWER8 processor and smart acceleration enabled by CAPI technologies such as accelerators for key workloads
- Achieve lower latency and smaller footprint with CAPI Flash
- Move data in and out of systems more quickly with twice the memory and I/O expansion
- Achieve greater speed and efficiency for database, transactional and other highly multi-threaded applications with transactional memory supported by 50 percent more cores and 2x the number of simultaneous threads per core



Better economics for scale out data and cloud infrastructures

Optimized for Big Data and Analytics, these scale-out 1 and 2 socket Power Systems provide the ideal foundation for scale out data and cloud environments providing the performance-for-price advantages and security to confidently move more data-centric applications to the cloud. With over twice the bandwidth from prior generation servers, these new systems allow open infrastructures to scale out intelligently, with less hardware, power and cooling requirements and better economics. And PowerKVM allows clients to standardize data centers onto a single open-source virtualization technology.

Delivering open innovation by revolutionizing the way IT is developed and delivered

With an architecture at the heart of the open server development community and the OpenPOWER Foundation, Power Systems' open technology platform presents a world of community created innovation, applications and technology components to deliver a broader set of applications and new technologies quickly. Leveraging open standards, Power Systems provides developers with tools tuned for a platform that boosts productivity and performance by removing constraints imposed by commodity architecture. With continuous innovation built into the platform, Power Systems will enable future integrated hardware solutions that dramatically accelerate compute and data-intensive tasks.



IBM Power System S812L and S822L

IBM Power Systems servers running Linux provide the ideal foundation for private and public cloud infrastructure. The Power S812L and S822L servers based on POWER8 processors deliver superior throughput over x86 based offerings for comparable workloads and provide superior economics for scale-out deployments. For customers looking to deploy advanced analytics, Power delivers superior response time for sorting and querying unstructured big data sets, and a superior number of business reports per hour for typical business analytics over competing solutions built on x86. Designed to empower the ecosystem of open source development, these systems support an expanded Linux OS ecosystem (RHEL, SLES and Ubuntu Server) and support open source virtualization technology with PowerKVM.

IBM Systems
Data Sheet

IBM Power System S812L and S822L at a glance

System configurations	Model 8247-21L and 8247-22L
Processor and Memory	
Microprocessors	S812L: One 10-core 3.42 GHz or 12-core 3.02 GHz POWER8 processor card S822L: Two 8-core 4.15 GHz, 10-core 3.42 GHz or 12-core 3.02 GHz POWER8 processor cards
Level 2 (L2) cache	512 KB L2 cache per core
Level 3 (L3) cache	8 MB L3 cache per core
Level 4 (L4) cache	16 MB per DIMM
Memory Min/Max	16 GB,32 GB and 64 GB 1600 MHz DDR3 module 16 GB/512 GB (S812L) 32 GB/1 TB (S822L)
Processor-to-memory bandwidth	192 GB/s per socket
System Unit Storage and I/O	
Hard Disk Drive (HDD)/Solid State Drive (SDD) bays in system unit	Standard: 12 small form factor (SFF) or 8 SFF Plus optional 6 1.8-inch SSD bays [§]
Media bays	One slimline DVD
Integrated SAS controller	Standard RAID 0,5,6,10. Optional: 7200 MB [†] cache & Easy Tier function
Adapter slots	Included one x8 PCIe slots must contain a 4-port 1 Gb Ethernet LAN available for client use S812L: Six PCIe Gen3 slots with concurrent maintenance: Two x16 plus four PCIe Gen3 x 8 S822L: Nine PCIe Gen3 slots with concurrent maintenance: Four x16 plus five PCIe Gen3 x 8 Two CAPI adapters per processor module
I/O Bandwidth	96 GB/s per socket
Expansion features (Optional)	
Max PCIe Gen3 I/O drawer	S812L: 1 ; S822L: 1
Power	
Power supply	S812L: 100 V to 240 V; S822L: 200 V to 240 V
RAS	
RAS features	Live partition mobility Machine check error handling Alternate Processor Recovery [‡] Concurrent firmware update [‡] Hot-swappable disk bays Hot-plug concurrent maintenance PCIe slots [‡] Hot-plug and redundant power supplies and cooling fans Dynamic Processor deallocation [‡]
Operating System	
Operating systems*	Linux on POWER
Physical Characteristics	
System dimensions	427.5 W x 86.5 H x 747.5 D mm (2U in. 19-inch rack)
Warranty	3 year limited warranty, on site for selected components; CRU (customer replaceable unit) for all other units (varies by country), Next Business Day 9x5 (excluding holidays), warranty service upgrades and maintenance are available.

For more information

To learn more about the IBM Power Systems, please contact your IBM marketing representative or IBM Business Partner, or visit the following website:
ibm.com/systems/power/hardware/s812l-s822l/index.html

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Route 100
Somers, NY 10589

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

* See facts and features document for detailed OS level support.

† 1.8 GB write cache with compression up to 7.2 GB effective

‡ Not supported when running PowerKVM

§ SSD is not available for S812L



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