IBM Power System S812L
and S822L

Linux servers optimized for scale out data and cloud environments

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

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
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 Power System S812L and S822L at a glance

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<th>System configurations</th>
<th>Model 8247-21L and 8247-22L</th>
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#### 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 bays² |
| Media bays                                                      | One slimline DVD |
| Integrated SAS controller                                      | Standard RAID 0, 5, 6, 10, Optional: 7200 MB³ 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 Recovery²  
|              | Concurrent firmware update³  
|              | Hot-swappable disk bays  
|              | Hot-plug concurrent maintenance PCIe slots²  
|              | Hot-plug and redundant power supplies and cooling fans  
|              | Dynamic Processor deallocation³ |

#### 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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