AIX 5L™ on IBM @server® i5

Frequently Asked Questions

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1. What is an IBM eServer i5 server?

The IBM eServer i5 server, the newest member of the iSeries™ family, is based on from one to sixty-four IBM POWER5™ processors supporting advanced dynamic partitioning, virtualization, and management innovations. These IBM Virtualization Engine™ system technologies enable IBM eServer i5 servers to run multiple operating systems and application environments simultaneously—including IBM i5/OS™ (the next generation of IBM Operating System/400®), Linux® , IBM AIX 5L Microsoft® Windows Server 2003® (via Integrated xSeries Servers and Integrated xSeries Adapters), Java, WebSphere® and Lotus® Domino® software. It's true enterprise-level functionality in a business computer applicable for small, medium, and large businesses. See http://www.ibm.com/servers/eserver/iseries.

2. What is AIX 5L?

AIX 5L for POWER is IBM's industrial-strength UNIX® operating system. AIX 5L is open and standards-based and is designed to conform with The Open Group's Single UNIX Specification Version 3. It provides fully integrated support for 32- and 64-bit applications running concurrently, in their full range of scalability. AIX 5L supports the IBM eServer p5, IBM eServer pSeries®, IBM eServer i5 and IBM RS/6000® server product lines, as well as IntelliStation® POWER and RS/6000 workstations. See http://www.ibm.com/servers/aix.

3. Does AIX 5L run on eServer i5 servers?

Yes, eServer i5 servers have the capability to run AIX 5L in logical partitions. A single partition acts as a separate i5/OS, Linux, or AIX 5L server. AIX 5L became available for eServer i5 servers on August 31, 2004.
http://www.ibm.com/iseries/aix

4. Why would I run AIX 5L on my eServer i5 server?

IBM eServer i5 servers can help simplify IT infrastructures by allowing companies to deploy new applications and consolidate operations on a single, highly flexible, resilient server. With the eServer i5 server you can share processor and memory resources, move resources to where they are needed, exploit the i5/OS storage subsystem, and leverage i5/OS skills and best practices.

5. Which versions of AIX 5L are supported on eServer i5 servers?

AIX 5L V 5.2 and AIX 5L V5.3 are available and supported for eServer i5 servers. IBM provides Software Maintenance offerings for AIX 5L on eServer i5 servers.

6. Is HACMP supported on eServer i5 servers?

Yes, IBM High Availability Cluster Multiprocessing for AIX 5L™ V5.2 (HACMP™ V5.2) is supported for AIX 5L on eServer i5. HACMP supports micro-partitioning and direct storage. Virtual storage is supported via the Virtual I/O Server.

7. Can I order AIX 5L with an eServer i5 server?

Yes, AIX 5L can be ordered with eServer i5 servers and upgrades. The ordering support is included in the eServer i5 configurator.

8. Is the price for AIX 5L on eServer i5 the same as on eServer p5 servers?

Yes, the AIX 5L license and support charges are the same on eServer i5 and eServer p5 servers. AIX 5L is licensed by active processor running AIX 5L. SWMA (support) is required for each AIX 5L license. SWMA is priced by active processor as well.

9. If I need AIX 5L to run on 2.5 processors, how many licenses are required?

To support 2.5 processors for AIX 5L, you need 3 AIX 5L licenses.

10. Do I need a HMC to create an AIX 5L partition?

Yes, an HMC is required when you are implementing logical partitions, or enabling Capacity Upgrade on Demand offerings on your eServer i5. HMC is also required for activating a partition that is powered off and any dynamic LPAR (DLPAR) actions. HMC essentially replaces the primary partition on the iSeries servers. The HMC works with eServer i5 servers, not iSeries servers.

11. What are uncapped partitions?

Uncapped processor partitioning is a new feature, enabled through the POWER Hypervisor and part of the shared processor pool. Uncapped mode indicates that the partition can automatically utilize any unused processing capacity available either in the shared processor pool, or from the system pool where partitions with dedicated CPU are not online. Uncapped partitions are only available on POWER5 servers.

12. Can I limit the amount of processing resources uncapped partitions use?

With eServer i5 partitions, there is a parameter called Virtual Processors that can be set to limit the amount of processing units that an uncapped partition will use. For example on a 4 way server, if you create an AIX 5L partition with 2 virtual processors then the maximum the uncapped partition will use is 2 processors. This Virtual Processor parameter basically provides an upper limit on the processors used and a limit on the number of processor based software licenses that are required.

13. Can AIX 5L licenses be transferred between pSeries and eServer i5 servers?

Yes, AIX 5L licenses can be transferred between servers.

14. Does the Enterprise Edition offer components for AIX 5L?

Yes, the i5/OS V5.3 Enterprise Edition on the 550 and 570 includes

- An additional processor activation that can be used to run AIX 5L.
- An Education Voucher that can be used to attend the Implementing AIX 5L on IBM eServer i5 (AS57/AS570), AIX 5L Jump Start for UNIX Professionals(Q1811), or AIX 5L Basics class (Q1313).
- A Services Voucher that can be used for the Getting Started with AIX 5L on eServer i5 service. This services voucher also contains an AIX 5L license for one processor and one year of support (SWMA). (also available on the 520).

15. What are the major new features in AIX 5L Version 5.3?

- Exploitation of POWER5 systems including simultaneous multi-threading
- Designed to support for 64-way SMP configurations (up to 128-way with simultaneous multi-threading enabled)
- Support for virtualization features including: Micro-Partitioning, Virtual Storage, and Virtual Ethernet
- Advanced Accounting, NFSv4, POSIX Realtime API
- Performance and Development tool additions and improvements
- Network Installation Manager (NIM) enhancements

16. Is AIX 5L V5.3 binary compatible with AIX 5L V5.2 and V5.1?

Yes, AIX 5L V5.3 is binary compatible with AIX 5L V5.1 and AIX 5L V5.2. For additional details see: http://www-1.ibm.com/servers/aix/os/compatibility/index.html

17. What are the differences between AIX 5L V5.2 and V5.3 on eServer i5?

Both AIX 5L releases run in logical partitions on eServer i5 and support the dynamic movement of processor, memory, and I/O resources. AIX 5L V5.2 partitions use whole processors (e.g., 1, 2, 4) and require direct I/O resources. AIX 5L V5.3 partitions support micro-partitioning (e.g., up to 10 partitions per processor), uncapped partitions, and virtual storage, Ethernet, and DVD/CD resources.

18. Are IBM SWG products that support AIX 5L on eServer i5 servers?

Yes, SWG products supported on AIX 5L on eServer p5 servers are supported on eServer i5 servers. This is possible because AIX 5L is binary identical on these systems, and the hardware is manufactured with the same POWER5 processors and server technology.

19. What are AIX 5L I/O options on eServer i5 servers?

eServer i5 servers deliver an advanced storage architecture that provides more flexibility than conventional UNIX, Windows and Linux server implementations. Typical server farm implementations have dedicated disk drives attached to every server and a network administrator must manage each server's capacity separately. With the IBM eServer i5 server, all disks can be managed as a single pool of RAID-5 or mirrored, protected storage —helping to simplify data administration and improve productivity by boosting storage utilization rates. One pool of disk drives can be managed by i5/OS and space can be allocated to each of the multiple operating environments.

In addition to virtual storage, DVD/CD, and Ethernet, I/O adapters can be placed in AIX 5L partitions. For example, storage, LAN, tape, and DVD resources can be configured for the AIX 5L partition. These direct I/O devices are owned and managed by AIX 5L.

20. Does AIX 5L support Virtual Ethernet on the eServer i5 server?

Yes, AIX 5L 5.3, Linux, and i5/OS logical partitions and Integrated xSeries Solutions can leverage Virtual Ethernet technology on the iSeries i5 server. Over 4,000 individual virtual networks can be defined to provide fast (up to 1Gbit/second), very secure connections among these multiple operating environments, for effective application-to-application communications.

21. Is the Advanced POWER Virtualization feature available on the eServer i5?

Yes, the Advanced POWER Virtualization on eServer i5 includes the Virtual I/O Server and the Partition Load Manager (PLM). PLM is a policy-based automated resource management tool for AIX 5L partitions. This feature is not required to enable micro-partitioning or virtual I/O via i5/OS on the eServer i5. These capabilities are built in to every eServer i5 server.

22. Is the Virtual I/O Server available on eServer i5 servers?

Yes, the Virtual I/O Server is a special-purpose partition ("hosting partition") that exists solely to provide virtual I/O resource sharing to partitions with in the eServer i5 systems. The Virtual I/O Server partition owns the real resources (storage and LAN) that are shared with the partitions. The Virtual I/O Server is included in the Advanced POWER Virtualization feature and can provide I/O to AIX 5L 5.3 and Linux partitions.

23. Does the Virtual I/O Server support i5/OS partitions?

No, each i5/OS partition requires direct I/O resources. i5/OS partitions can leverage the Virtual Ethernet facilities on an eServer i5 servers.

24. Are the I/O adapters on eServer p5 and eServer i5 servers the same?

Yes, most of the I/O adapters are the same between the two servers. The eServer i5 offers additional I/O adapters that AIX 5L does not support. For a list of supported adapters see www.ibm.com/iseries/aix, or consult the LPAR Validation Tool, available at http://www-1.ibm.com/servers/eserver/iseries/lpar/systemdesign.htm.

25. Are IBM TotalStorage products supported on AIX 5L on eServer i5 servers?

Yes, TotalStorage DS4000, DS6000, and DS8000 products that are supported on AIX 5L on eSever p5 servers are also supported on eServer i5 servers. These storage products are attached via Fibre Channel Adapters. Currently the following adapters are supported: #0646 and #0625.

26. Can non-IBM storage products be attached to AIX 5L on eServer i5?

Yes, similar to eServer p5, PMRs (Problem Management Records) will be addressed on AIX 5L for selected configurations which include specific models of EMC disk subsystems, HDS disk subsystems, and STK tape drives, attached via Fibre Channel. The current list of models includes:

- EMC: All 3000, 5000, and 8000 Symmetrix Series, and all DMX models;
  - CLARiiON 4700-2, CX400, CX500, CX600, and CX700 models
- HDS: 9910, 9960, 9970V, and 9980V
- STK: 9840, T9840B, T9940A, T9940B, and SN6000

See http://www-306.ibm.com/common/ssi/OIX.wss?DocURL=http://d03xhttpcl001g.boulder.ibm.com/common/ssi/rep_ca/0/897/ENUS204-090/index.html&InfoType=AN&InfoSubType=CA&InfoDesc=Announcement+Letters&panelurl=&paneltext=

27. Is performance of AIX 5L on eServer i5 and eServer p5 servers the same?

Yes, AIX 5L performance on eServer i5 servers is equivalent to eServer p5 servers with the same configuration.

28. eServer p5 servers are available with 1.9 GHz CPUs, are eServer i5 servers?

No, both eServer i5 and eServer p5 servers use 1.5 and 1.65 GHz processors. The eServer p5 also has a 1.9 GHz option for high-end performance requirements. When the POWER5 servers were first delivered in May, the 1.65 GHz was the fastest processor option available. As the eServer i5 570 has been expanded up to a 16-way server, the 1.65 GHz processor was used throughout the line to simplify product upgrades. The eServer i5 595 currently uses 1.65 GHz processors.

29. What is rPerf?

rPerf (Relative Performance) is an estimate of commercial processing performance. It is derived from an IBM analytical model which uses characteristics from IBM internal workloads, TPC and SPEC benchmarks. The rPerf model is not intended to represent any specific public benchmark results and should not be reasonably used in that way. The model simulates some of the system operations such as CPU, cache and memory available. However, the model does not simulate disk or network I/O operations.

30. Are rPerf performance numbers published for the eServer i5 servers?

rPerf (Relative Performance) values are published for eServer p5 520, 550, 570, and 595 However, this feature is not required to enable micro-partitioning or virtual I/O on the eServer i5. These capabilities are built in to every eServer i5 server. servers in the IBM pSeries and IBM RS/6000 Performance Report. These rPerf values are equivalent to the eServer i5 servers with the same configuration.
http://www-1.ibm.com/servers/eserver/pseries/hardware/system_perf.html

31. Is Interactive CPW required to run AIX 5L on eServer i5 servers?

No, AIX 5L does not require Interactive or 5250 CPW to run on eServer i5 servers.

32. What AIX 5L applications run on eServer i5 servers?

Since eServer i5 and eServer p5 are built with the same POWER5 processors and server technology, AIX 5L applications that run on eServer p5 can run on eServer i5 unchanged. While most of the I/O options are the same between the i5 & p5, support is dependent upon specific I/O availability. You should verify that adapters running in AIX partitions on eServer i5 servers are utilizing I/O Adapters supported by AIX 5L.
http://www.ibm.com/iseries/aix

33. Can IBM help migrate UNIX applications on HP or SUN to AIX 5L?

Yes, the IBM Migration Factory and porting centers are available to help solution providers and customers migrate applications to AIX 5L. Some of these services are available for a fee. The Migration Factory can be reached at 1-866-Migr8te or migr8te@us.ibm.com.

34. Can I run Oracle database and applications on the eServer i5?

Yes, Oracle database and application products are certified for AIX 5L on eServer i5 and p5 servers. For more information see http://otn.oracle.com/support/metalink/

35. When will Oracle support AIX 5L 5.2 or 5.3 on an eServer i5 partition?

Oracle has certified AIX 5L 5.2 and AIX 5L 5.3 for the Oracle database and many other products.

36. What version of Oracle database is supported on eServer i5?

Oracle Database 8i, 9i and 10g are currently certified for AIX 5L 5.2 and AIX 5L 5.3.

37. Where can I find more info on AIX 5L on eServer i5?

www.ibm.com/iseries/aix

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