

Why IBM i on POWER

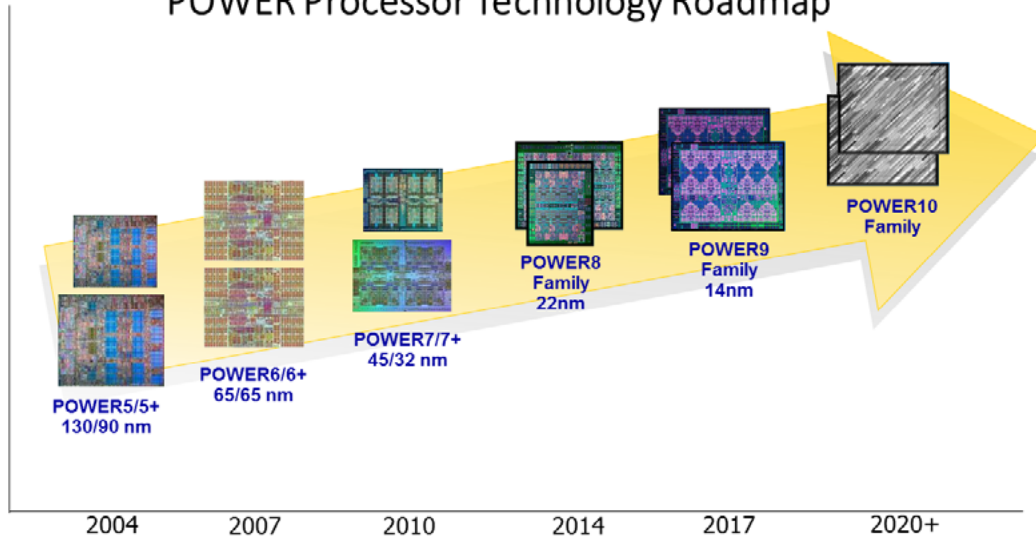
An overview of acquisition and ownership costs of IBM Power systems vs x86 servers



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Recent and Future POWER Processor Technology Roadmap



Power Systems TCA and TCO

Migrating from one computing platform to another can and should cause pause. It is important to be prudent when deciding whether to migrate, and to which system. Total cost of acquisition (TCA) often becomes a tipping point, but the ongoing total cost of ownership (TCO) should factor into this equation. This is especially true when both the TCA and TCO of IBM Power systems servers are considered. Low-end scale out Power servers are competitively priced and offer a lower TCA against x86 servers running Linux. When integrated database, security, work management, support for multiple operating systems and high-availability resources are factored in the TCO for larger systems, it's clear that Power systems servers offer the better value.



The Past, Present and Future

Some organizations consider Power systems servers outdated, as the platform was first introduced in 1979 as the System/38. However, more than 150,000 companies that have embraced this technology consider this to be a benefit rather than a detriment, with the platform representing decades of on-going enhancements. This leads up to current POWER8 processor technology and, as part of an ongoing development roadmap, with POWER9 servers scheduled to be announced in 2017.

Power systems servers PowerVM hosts different operating systems in virtual partitions within one single system: IBM i, AIX and Linux. This allows users to run critical applications on one platform instead of dedicated one-offs, helping lower the costs associated with populating, managing and powering x86 server farms.

IBM has kept up with—and in some cases surpassed—modern computing expectations by being a key member of the OpenPOWER Foundation. Member companies can customize POWER CPU processors and system platforms for workload acceleration through graphics processing units (GPU), field-programmable gate arrays (FPGAs), advanced I/O, and much more.



In keeping with that, IBM Power system is also dedicated to supporting open-source software such as HTTP Server for i (which is powered by Apache) and Zend Server PHP, both of which are shipped with IBM i.

So-called legacy applications, some of which have been running on Power systems for over 20 years, are still currently supporting crucial business operations, allowing users to leverage their purchasing and programming investments. And now those applications are being redeployed to the cloud to take advantage of mobile computing and advanced analytics.

Skills and Management Tools

Just as IBM has dispelled the notion that Power systems servers represent a has-been technology, IBM and its partners are addressing the view that IBM i skills are waning, especially as experienced administrators and programmers begin to retire. But there's no need for alarm.

Sourcing managed services offerings providers like Innovative Information Solutions, for example, can help pick up the slack, either by remotely administering Powers systems servers or internally hosting and managing them. In both cases, Power

systems users can rely on third-party IBM i professionals to tackle the technical nuts and bolts for them. This allows them to focus on their businesses rather than IT.

IBM has an Academic Initiative, which is targeted at two- and four-year colleges to help prepare students for IT careers on Power systems, and the IBM Global Skills Initiative, which is dedicated to helping current IT personnel hone their existing skills and learn new technologies.

One of the keys to making the management of Power systems easy is the fact that the DB2 database is fully integrated and does not require a Database Administrator (DBA). Native backup commands come standard and greatly simplify backups and recoveries and does not require a fulltime backup administrator.

Similarly, the IBM Hardware Management Console (HMC) eases the administrative overhead associated with virtualized computing environments. IBM i, AIX and Linux can all be administered from a single interface, allowing users to easily manage the configuration and operations of diverse operating-system partitions, in addition to monitoring the system for potential hardware issues. This lessens administrative overhead and costs when compared to similarly configured multi-OS x86 environments.

Because IBM i systems are tightly integrated by design, they require much less manual intervention. This includes tightly coupled storage, database, security, and work management resources that don't require third-party tool intervention or complex connects between them. IBM i is essentially unhackable, thanks in part to advanced security capabilities that are embedded in every system object.

Migration, Performance and Cost Benefits

IBM has ensured that Power systems upgrades are largely hassle free. Legacy applications can be migrated to newer boxes with little or no code changes or recompiles. This allows companies to retain their time-tested applications without additional costs, while benefitting from the increased speeds and capabilities of newer processor technology.

Moving from Power systems servers to x86 servers, however, is much more complex. It requires new hardware and software purchases (the latter of which can alter business workflows and require steep learning curves), different skill sets, larger and more costly data centers, increased administrative overhead, and lengthy migration times, which may delay go-live expectations.

When benchmarking price/performance, some vendors of x86 compare 4-socket 60 core x86 servers to the Power S824 2 socket 24 core class

systems to claim better performance. POWER8 S824 systems are scale-out solutions and should be compared to 2-socket x86 E5-26xx-class servers, with the focus on per-core performance. POWER8 cores have 2 times the performance of x86 cores across a wide range of public benchmarks and can support more workloads. This translates to running more workloads on fewer cores, resulting in lower per-core software-licensing fees.

Additionally, IBM PowerVM are designed to maximize utilization of Power systems resources to over 90%, compared to the peak 30% utilization on x86. Power systems are better in price performance with comparable workloads and are ideal for consolidating workloads from x86 server farms. When comparing Power systems servers and x86 server environments, IBM Power solutions offer the best TCO.

Innovative Information Solutions Can Help.

We can provide additional insight on computing cost/benefit and will consult with you on optimizing your environment in the areas of IT Infrastructure, Application Performance, Business Continuity and Security. We offer a free assessment to understand your current landscape and identify potential IT improvements. Working alongside with your IT organization, Innovative empowers your company with greater agility to optimize your IT resources and maximize IT investments.

To receive a free Power Systems Performance Assessment, visit <https://goo.gl/Ikhsi7>