



What Sellers Need to Know

IBM[®] Flex[™] and
IBM PureFlex[™]



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Flex System Differentiation

- Choice of virtualization: KVM, VMware, or Microsoft HyperV
- Choice of operating environment: Microsoft Windows, Red Hat and SUSE Linux, or AIX
- Choice of compute nodes: Combine x86 and IBM POWER
- Systems management with a single consolidated view of all physical and virtualized components
- Integrated storage available through a Storwize V7000 node providing storage virtualization and other key features
- Storage Node integrated into system backplane providing high-speed connection and low latency
- Pay-as-you-grow scalability for adding ports and bandwidth when needed
- Chassis designed for multiple generations of technology

Customer Motivations

Customers want to consolidate and reduce the number of platform vendors they support, at least according to a September 2012 IDC report, [“IBM PureSystems cut costs and increases agility by simplifying the IT Life Cycle.”](#) It also notes the following customer wants:

- 64% want to reduce maintenance and support costs.
- 61% want to make it easier to automate many routine configuration and change management tasks.
- 59% want to consolidate applications.
- 54% want to reduce the amount of staff training required.
- 46% want to consolidate and virtualize systems.
- 22% want to benefit from better enterprise-wide discounts.

“The converged infrastructure implementation that we did on PureFlex for our Oracle system was up and running in half the time that we expected. I have been very impressed with the support team and the early deployment has really made the LOB happy, which is a nice change!” Finance Company CTO

Quick-Hitting Selling Points

IBM Flex System

IBM Flex delivers two times the application density in the same floor space. IBM Flex System x 240 supports 2.7 times more peak utilization Virtual Machines (VMs) than previous generation BladeCenter blades, according to IBM testing documented in the IBM System x Virtualization Server Consolidation sizing methodology.

IBM Flex offers lower software costs. Software licensing costs can be lowered up to 70% because workloads require up to 70% fewer cores than previous generation x86 processor technology. Energy costs are also up to 40% lower on a Flex System Compute Node x240 compared with earlier generation Intel x86 processor technology.

IBM Flex requires 98% less time for an integrated, automated storage provisioning. This internal IBM Research and Development estimate compares VMControl’s ability to automatically provision storage to a VM. VMControl takes 90 seconds while one-storage admin and one-server admin need two hours to allocate the storage manually. Specific client environments and results may vary.

IBM Flex has a 66% faster set-up time. This metric is based on IBM internal Research and development estimates and measurements. The management server setup for IBM Flex System takes 131 minutes. Equivalent setup for BladeCenter takes 388 minutes. This is based on the “build to order” approach and, therefore, is very conservative. With the preconfigured options (Express, Standard, and Enterprise) for example, the savings would be far larger. The 66% saving claim is a conservative metric that compares Flex to previous generation blade servers. Specific client environments and results may vary.

IBM Flex reduces costs by over 50%. This metric compares a traditional network setup to HP by using built in convergence and Virtual Fabric technology. It is based on the IBM Flex System Fabric 10Gb Scalable Switch running FCoE protocol and is compared to HP Flex 10 and 8Gb SAN switches and adapters. IBM requires two EN4093 switch modules versus HP’s solution, which requires two Flex 10 switch modules plus two 8Gb SAN switch modules and 14 8Gb HBA. Prices were obtained publicly from hp.com and ibm.com in September 2012.

IBM Flex reduced risk. Customers can deploy for the future, and pay only for what they need today. Easy scalability reduces risk and improves Total Cost of Ownership (TCO) by almost 14% over competitive offerings. When compared to HP FlexFabric, customers deploying four ports will require four HP FlexFabric switch modules. IBM requires only two switch modules plus two upgrades. Prices were obtained publicly from hp.com and ibm.com in September 2012.

IBM PureFlex System

“The PureFlex Oracle deployment has been a very cost-effective platform for us, as well as one that has really helped achieve our Seibel [sic] deployment goals. We plan on additional PureFlex deployments in the next six months, since the price point is easier to justify from a business perspective.” Retail Company LOB Director

IBM PureFlex reduces energy costs by 40%. This metric is based on customer interviews and IBM development estimates of utilization and performance for PureFlex System when compared to older generations of existing systems. The customer’s existing installation consisted of prior generation Unix and x86 servers that contain a total of 2010 processor cores. To support the same application set, the PureFlex System scenario requires 448 cores (a 78% reduction). See the International Technology Group (ITG) paper on PureFlex System for more information. Specific client environments and results may vary.

IBM PureFlex reduces management costs by provides up to a 50% by integrating resource pools across compute, storage, and networking. This metric is from a third-party interview of a group of companies conducted “before” and “after” adopting the PureFlex System. The six companies had a peak predicted administrator efficiency improvement of 57% and an average of 42%. See the [“Value Proposition for IBM Next Generation Platform System.”](#) an International Technology Group white paper, for additional information.

IBM PureFlex provides better scale and density. PureFlex System provides better-scaled performance than blades due to higher total memory capacity of Flex System x240 Compute Node. This memory capacity also allows 2x the application density in the same floor space.

How PureSystems Reduces Project Risk

Selling Point

IBM PureFlex and Flex System reduce project risk by providing project administrators the ability to quickly deploy complete systems. In addition, the Flex system manager provides a simple yet powerful tool to manage all system resources.

Supporting Points

“Our Oracle [E-Business] Suite deployment on PureFlex is very new, but we are already seeing savings in our staff time. I am also seeing fewer mistakes, which I believe comes from the tools that the PureFlex System provides. I have to say that I am pretty impressed so far.” Manufacturing IT Director

- 45% of IT projects with an initial price of over \$15M run over budget.
 - 7% take more time while delivering 56% less value than predicted.
 - 17% of large projects go more than 200% over budget.
- Some projects threaten the very existence of the companies that launched them. These high-impact events – “black swans” in popular parlance – occur more often than would be expected under a normal distribution.

McKinsey & Company’s report, “[Delivering large-scale IT projects on time, on budget and on value](#),” analyzed more than 5,400 IT projects. It claims there are four broad dimensions that maximize the chances IT projects will deliver expected value and be on time and within budget. Customers can

- Focus on managing strategy and stakeholders instead of exclusively concentrating on budget and schedule
- Master technology and project content by securing critical internal and external talent
- Build effective teams by aligning their incentives with the overall goals of projects
- Excel at core project-management practices, such as short deliver cycles and rigorous quality checks.

According to survey responses, not mastering the first two dimensions typically causes about half of all cost overruns, while poor performance on the second two dimensions accounts for an additional 40 percent of overspending.

IBM Business Partners provide the expertise to address dimension #2. IBM Flex system allows a short delivery cycle to address dimension #4.

How PureSystems Provides Outstanding Virtualization Performance

Selling Point

IBM PureFlex and Flex Systems allow for greater VM density without degrading system performance and can deliver economic advantage. By increasing the consolidation ratio per system, business owners can reduce capital expenditures and operational costs in their data centers.

Supporting Points

- Virtual machines host more than half of business server workloads, according the March 2010 IDC study “The value of Memory-Dense Servers: IBMs System x MAX5 for its eX5 Server Family.”
- World-class organizations are typically consolidating at a ratio of 18 to 1, and the average consolidation is around 6 virtual machines per physical server, according to the August 2010 Aberdeen Group report “Best-in-Class Practices for Virtualizing Microsoft applications.”
- An April 2012 white paper by Edison Group, [“Virtualization Performance on the IBM PureFlex System,”](#) makes the following points:
 - IBM PowerVM on the POWER7 integrated technology elements (ITEs) can deliver 78% more throughput at 80 virtual machines than vSphere 5 on and Intel Xeon E5-2690 (Sandy Bridge) based ITE.
 - Both AIX and Linux operating environments deliver near equivalent performance in leveraging this PowerVM capacity.
 - On either Intel-based or POWER7 based platforms, the tight integration of the IBM Storwize V7000 delivers up to 10 times the number of VMS per SSD than is possible using HDDs.

“We recently switched from a preconfigured infrastructure to a PureFlex system for our Oracle Suite deployment. We were very unhappy with the previous system, although the benefits of the turnkey platform are very attractive to us, so we decided to try IBM’s version of the preconfigured setup. Even though the IBM people told us that we did not need as large of a system as we had before, we implemented the PureFlex platform in the same size (memory, processors, etc.), because we have been very concerned about performance and worried about reliability. Those worries were not justified with the PureFlex installation. We are using less than half of the resources that we needed before and our SLAs are being met 99.999% of the time. This is in contrast with the previous platform that did not even make the 75% SLA achievement. This is like a total different picture for us and one that is much easier to manage and run.” Retail IT Operations Manager

Why PureSystems is Best for Oracle Product Deployments

Selling Points

The criteria for choosing the optimal platform for Oracle product deployment must include technical and business factors, with the business factors providing the overriding perspective. IBM Flex System excels in the areas of customer satisfaction, security, total cost of ownership, IT stability, risk and reliability, and agility (time-to-market).

Supporting Points

“The PureFlex Oracle deployment has performed flawlessly since deployment, despite it being the first time that we have used this platform. As a result, we have two more projects under consideration for movement to PureFlex in the next few months.” Retail Company CIO

- Two thirds of companies go over schedule on their project and solution deployments, according to the November 2011 IBM market intelligence time-to-value study national analysis.
 - 29% of late deployment of IT projects are due to installation and configuration delays, and 34% are due to deployment, based upon a study commissioned by IBM and conducted by Forrester Consulting.
 - Notable findings from a 2013 study from Solitaire Interglobal, [“Supercharge Oracle Products with PureFlex Systems,”](#) which studied over 11,300 customer sites broken into small, medium, large, and very large Oracle software deployments on a converged infrastructure as part of their production environment. This study compared the IBM PureFlex System deployments to the average of other converged infrastructure platforms. It found the following:

Executive customer satisfaction was significantly higher across all size deployments. The larger and the more comprehensive the Oracle product deployment, the higher the satisfaction for the IBM PureFlex platform deployments.

- Average monthly customer complaints were also significantly lower across deployment sizes with the IBM PureFlex averaging less than 5 per month compared to the converged architecture average of over 25 per month.
- PureFlex had significantly better operational satisfaction from IT departments and line-of-business groups including factors such as speed of deployment, smooth operation with little downtime and complaints, and adherence to planned budget levels. PureFlex satisfaction led in every size installation with the gap widening for the larger and more complex installations.
- IBM PureFlex for Oracle deployments showed lower overall expenses. The costs associated with the PureFlex platforms were as little as 23% of competitive offerings.
- PureFlex used up to 32% less staff time to administer compared to the competition. This savings was attributed to efficient unified workflow and a substantially different mechanism to handle the allocation of virtualized resources.
- The risk exposure of IBM PureFlex for Oracle deployments was shown to be up to 34% less than competitive deployments.
- IBM PureFlex for Oracle deployment time was shown to be 44.41% faster when compared against the average of the competition.

IBM Flex System Compared to Cisco's UCS

Here are a couple of points for sellers from the November 2012 Clabby Analytics report, "[How Cisco's UCS Compares to IBM Flex System](#)," which was funded by IBM. This report analyzes the CISCO UCS offering and also touches on the VMware/Cisco/EMC alliance and VCE's Vblock systems (where Cisco blades are the compute engine). The report includes the following observations:

- IBM Flex system design is a complete solution. The tight system design of the Flex System yields dramatic improvements in performances and greater control of all elements of the system through advanced system management.
- System makers are now focusing on driving efficiency by building tightly coupled systems designs because advances in processor speed are expected to slow or top-out over the next several years. Full system vendors have a strong design advantage because they own deep engineering expertise across the entire systems environment.

Flex System Design Advantages

- It is a modular system design with compute, storage, and networking connected using an integrated midplane. More efficient internal communication can reduce latency by up to 50% because of a high-speed internal active layer-2 switch architecture. This integration allows the Flex System manager to be a single point of management control and provide richer, broader, and deeper systems management and utilities.
- The rack and chassis design incorporates the high switching speeds necessary to allow it to host multiple generations of future technology.
- It offers the ability to use up to eight close-proximity solid-state disk drives per compute node. This places more data close to the processor for faster access.
- It can run different processors (x86 and POWER nodes) in the same chassis for workload optimization.
- It provides rich, deep storage integration and management with the ability to integrate a IBM V7000 storage node and/or attach to external storage.
- The Flex system can provide higher VM performance and Vmotion VM mobility by allowing greater than 500% more I/O bandwidth (880 Gb uplink speed compared to Cisco's 160 Gb).

UCS Comparative Shortcomings

It consists of a bundled system environment. Vblock consists of Cisco switches and blades, EMC storage, and VMware software for virtualization. This rack configuration package is

- **Managed by software from all three VCE partners: Cisco, EMC and VMware.** This orientation encourages separate management of silos with blade tuning, storage management, and network management handed with different software.
- **Has a limited system midplane.** This requires the EMC storage located internal to the rack to be accessed by a Cisco switch—just like external storage.

Internal layer-2 switches (east/west flow) are not available as part of the UCS design. Cisco only offers a layer-3 approach (north/south flow), which can cause of latency delay/penalty of up to 50% over the layer-2 approach.

Arrow PureSystems Microsite

Solution Providers have access to a microsite developed by Arrow devoted entirely to IBM PureSystems – one place where you can easily find PureSystems sales tools, marketing collateral and educational information, as well as links to videos, whitepapers and more. The [Arrow PureSystems microsite](#) is also automatically updated with content such as PureSystems mentions in trade news and an up-to-date calendar of PureSystems events.

Access the Arrow PureSystems site at <http://ecsblogs.arrow.com/puresystems/>