

Businesses are ready for a new approach to IT

Simplify deployment and reduce complexity using systems integrated with expertise



Contents

- 2 IT is moving to the strategic center of business
- 2 A business need for a new category of systems
- 3 Introducing a new category of systems: Expert integrated systems
- 6 Two types of expert integrated systems
- 7 Benefits of expert integrated systems
- 8 IBM PureSystems: A new family of expert integrated systems
- 8 Platform System
- 8 Infrastructure System
- 9 The value of IBM PureSystems compared to traditional computing
- 10 Entry points to IBM PureSystems
- 11 Why IBM?

IT is moving to the strategic center of business

The last 100 years have brought dramatic change for information technology. IT has moved from a specialized tool to become a pervasive influence on nearly every aspect of life. No longer do tabulating machines simply count with mechanical switches; the IT industry has moved from vacuum tubes to the first programmable computers and far beyond. Today, as the planet becomes smarter and as interactive data proliferates, IT has become a part of the very fabric of business—and of the way we live our lives.

The accelerated pace of change in today's world is rivaled by the pace of change at IBM. IBM expertise in delivering solutions—complex solutions throughout infrastructure, middleware and applications—has helped the planet become smarter. And as IT moves to the strategic center of business, leaders at organizations of all sizes turn to IBM to help them extract more real value from their data, business processes and other key investments.

As information technology moves to the strategic center of business, organizations can no longer ignore the inefficiencies in today's approach to computing:

- On average, more than 70 percent of IT budgets are spent on operations and maintenance.¹
- Two-thirds of companies go over schedule on their project deployments.²

And as Gary Barnett notes in the Bathwick Group report *The road to Smarter Computing*, "... our IT systems have become complex and difficult to manage. As a consequence, IT is increasingly finding itself in the position of being a barrier to innovation rather than an enabler of it."³

A business need for a new category of systems

The users of IT systems now consume and create their own functionality. This behavior requires significantly more elasticity on the part of your IT infrastructure and drives an enormous acceleration in the iteration of solutions that lie far beyond

traditional demand cycles. The inefficiencies of today's computing models are getting in the way of your business success.

The model must shift to Smarter Computing—a model in which IT infrastructure is more simple, efficient and flexible—in order to enable a Smarter Planet. Multiple approaches exist today as IT and business leaders shift to smarter computing. You might be tuning your own systems—using the flexibility of general-purpose systems to optimize the systems for your specific business environment. However, the time and effort to do this can be significant. You might be taking advantage also of the simplicity of appliances and the elasticity of cloud where those approaches make sense. The question is—how can organizations get the best of all these options in one system? Leveraging best practices and “building in” expertise is the key.

As leaders take on the risk of pioneering new approaches within their industries, they need to know their IT will deliver as promised. This typically requires expertise that goes beyond the experience that resides within their organizations.

Think about it: When tackling an issue like fraud, what bank leader wouldn't welcome the opportunity to build on the knowledge and insights of other organizations that battle to stop the losses caused by fraudulent claims? And wouldn't progressive public servants want to tap the knowledge of retailers, bankers, insurance companies—any organization that has learned how to use IT to establish a lasting bond with the people it serves?

There will always be a role for consultants who help organizations explore the leading edge and deliver new business value. But to accelerate IT's movement toward its role at the center of business, the IT industry has to go beyond delivering components—even integrated components—and start delivering expertise.

Introducing a new category of systems: Expert integrated systems

The time has come for a new way forward, one that combines the flexibility of general-purpose systems, the elasticity of cloud and the simplicity of an appliance tuned to the workload. Expert integrated systems are more than a static stack of pre-integrated components: a server here, some database software there, serving a fixed application at the top. Instead, these expert integrated systems are based on “patterns of expertise,” which can dramatically improve the responsiveness of the business.

Patterns of expertise automatically balance, manage and optimize the elements necessary—from the underlying hardware resources up through the middleware and software—to deliver and manage today's modern business processes, services, and applications. They do so by encapsulating, into a repeatable and deployable form, the best practices and expertise gained from decades of optimizing the deployment and management of datacenters, software infrastructures and applications around the world.

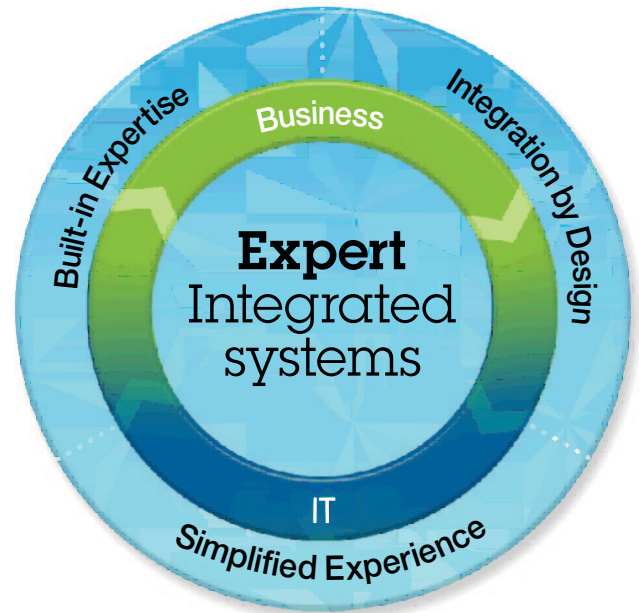
In order to deliver fully on this economic promise, systems with integrated expertise must possess the following core capabilities:

- **Built-in expertise.** When embedded expertise and best practices are captured and automated for you in various deployment forms, you can dramatically improve time-to-value.
- **Integration by design.** When you deeply tune hardware and software in a ready-to-go, workload optimized system, it becomes easier to “tune to the task.”
- **Simplified experience.** When every part of the IT lifecycle becomes easier with integrated management of your entire system, including a broad, open ecosystem of optimized solutions, business innovation can thrive. You can deliver a leap forward in the IT experience for your customers and colleagues.

Built-in expertise

Modern business systems make it possible for problems to be addressed in different ways, with different combinations of software, and different configurations of the software with the hardware. Making these combinations work well for your business takes time, skills and money.

Expert integrated systems offer built-in expertise for addressing this challenge. The collective knowledge of thousands of deployments, established best practices, innovative thinking, IT industry leadership and the distilled expertise of solution providers is captured into the system in a deployable form.



By using built-in expertise and best practices to automate and optimize difficult or time-consuming tasks such as deployment, configuration, provisioning and clustering, you can take action to achieve business value in the following ways:

- Automate delivery and deployment tasks for faster time-to-value
- Eliminate manual, repetitive tasks to reduce maintenance costs

- Reduce the dependence on high demand IT experts for simpler skills requirements
- Automatically configure your system to reduce the chance of human error

Integration by design

Traditionally, systems have been procured and managed as a mere collection of hardware and software components.

Businesses spend significant time and money integrating, tuning and managing these components to support their application workloads. IT organizations have begun to use appliances, cloud computing, and software as a service (SaaS) to help reduce these costs, but the loss of flexibility and control have limited the adoption of these approaches.

Expert integrated systems provide the advantages of these approaches while avoiding their limitations. These systems are integrated by design, leaving the factory tuned and optimized for supported workloads, but with the flexibility and control you need. Expert integrated systems do for IT what leading automotive companies do for drivers: designing, tuning and integrating a number of system components into a purpose-built vehicle. Some are tuned for luxury, some are tuned to carry a large family and pets, others are built for speed. The driver does not care which components are used or what the settings are; the driver simply wants to drive.

The same goes for IT. You do not want to care about system components—you want a system that is tuned to the task and ready to go.

Expert integrated systems are integrated by design to provide:

- Performance and efficiency through workload optimization.
- A single management view throughout the infrastructure and application domains.
- Dynamic response to changing business conditions through resource optimization.

Simplified experience

With traditional IT models, supporting the lifecycle of applications and infrastructure has become increasingly complex and costly. Expensive and often-overworked IT professionals must apply their expertise to procure, configure, deploy, integrate, tune and scale system components. The result: longer project timelines and higher operating costs.

Expert integrated systems provide a simplified experience to IT staff and to the lines of business that consume IT resources. Integrated from the factory, with built-in application and infrastructure expertise, these systems simplify every step in the systems lifecycle. No longer must you manage a collection of system components. With expert integrated systems you simply order, unpack, plug in and manage a single system with a single interface.

This approach appeals to leaders who seek to simplify deployment and reduce complexity. Expert integrated systems provide a simplified experience by:

- Making every part of the IT lifecycle easier
- Providing integrated management of the entire system
- Offering a broad, open ecosystem of optimized solutions

Expert integrated systems are the building blocks of capability—building blocks that represent the collective knowledge of thousands of deployments, established best practices, innovative thinking and IT industry leadership.

Two types of expert integrated systems

There are two types of expert integrated systems: platform systems and infrastructure systems. Both types of expert integrated systems free IT professionals' time and skills, so that your team can focus on innovation and growth. These integrated systems deliver expertise at different levels, and to different roles throughout your organization—from your business leader all the way to your data center manager.

The platform system inherits the capabilities of the infrastructure system. In other words, the expertise that is built into the infrastructure system can flow into the platform system, resulting in compounded benefits.

With intelligence and knowledge built directly into the systems, your team will not waste time devising, testing and tuning your custom-integrated solutions. Instead, your team can roll out new capabilities with new levels of confidence, efficiency and speed. You can experience an environment in which smarter systems alert you to business opportunities—and then help you plan, develop and execute your initiatives.

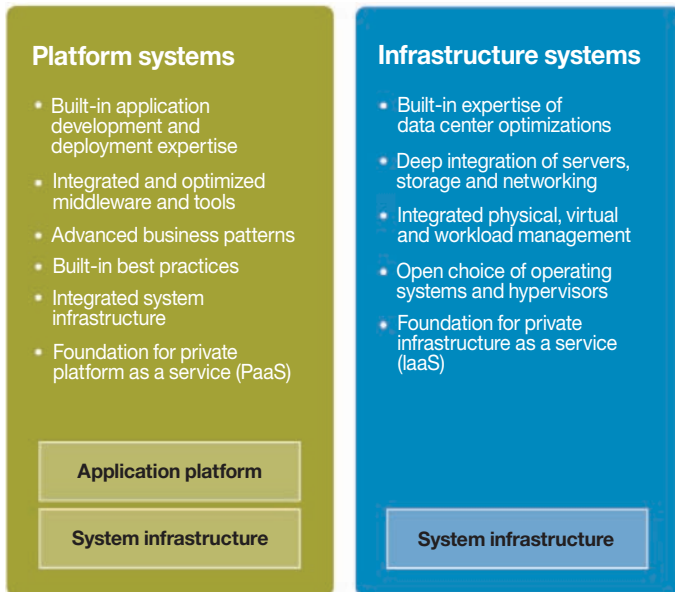
Make no mistake: to fully reap the benefits of integrated expertise, you must change the way you plan, change the way you buy and change the way you deploy IT. In an environment so rich with opportunity, your actions need to result in dramatic transformation.

Platform systems

Full application platform systems with integrated expertise are for IT leaders who want not only the simplicity of pre-integrated infrastructure and middleware with a single management console, but who also want control over the tuning of business processes and applications. These systems are specifically designed and tuned for specific tasks, such as transactional web and database applications. They are workload-aware, flexible platforms that are designed to be easy to deploy, customize, safeguard and manage in a traditional or private cloud environment—ultimately providing superior IT economics.

Infrastructure systems

Full infrastructure systems with integrated expertise are for IT leaders who want the simplicity of integrated servers, storage, networking, virtualization and management—but who also want control over tuning the middleware and run-time environment. The built-in expertise of a full infrastructure system enables organizations to use unified management to simply manage—and flexibly deploy—integrated patterns of virtual and hardware resources.



- **Accelerate industry capabilities** with solutions from a broad, open ecosystem
- **Elastically adapt** to handle workload spikes without overbuying

Efficiency

- **Deploy twice as many applications per square foot** of data center space (based on IBM findings)
- **Cut lifecycle maintenance time in half** with no downtime (based on IBM findings)
- **Save up to 50 percent of applicable IT costs** over traditional IT approaches (based on IBM findings)

Simplicity

- **Spend less time** procuring, supporting, testing and deploying assets
- **Avoid delays** due to limited IT skills or complex integration, because of factory integration and built-in expertise
- **Maintain systems more quickly and easily** with integrated system patches

Control

- **Reduce risk and cost** with automated provisioning, seamless scalability and superior security and resiliency
- **Optimize flexibility** with a choice of architectures and open standards
- **Intelligently manage** cloud environments

Benefits of expert integrated systems

Systems with integrated expertise can help organizations achieve greater *efficiency, agility, simplicity* and *control*.

Agility

- **Get up and running in hours**, cutting months off deployment time for new application projects

IBM PureSystems: A new family of expert integrated systems

IBM PureSystems arrive to you with built-in expertise to address complex business and operational tasks automatically. Expect integration by design to tune systems for optimal performance and efficiency, and expect simplified experience from design to purchase to maintenance. IBM PureSystems help deliver the promise of smarter computing.

IBM PureSystems are optimized for performance and virtualized for efficiency. They offer a no-compromise design with system-level upgradeability. IBM PureSystems are also designed for cloud computing with flexibility and simplicity.

The first members of the IBM PureSystems family are IBM PureFlex System and IBM PureApplication System.

Platform System

Consolidate workloads, simplify infrastructure and deliver services rapidly using built-in expertise. The IBM PureApplication System is a platform system designed and tuned specifically for transactional web and database applications. This workload-aware, flexible platform is designed to be easy to deploy, customize, safeguard and manage. Whether you operate in a traditional or private cloud environment, this IBM solution can provide you with superior IT economics.

With the PureApplication System, you can provision your own patterns of software, middleware and virtual system resources. You can provision these patterns within an innovative framework that is shaped by IT best practices and industry standards—standards that have been culled from many years of IBM experience with clients and from a deep understanding of smarter computing. These IT best practices and standards are infused throughout the system.

IBM clients have experienced application deployments up to 30 times faster with the IBM patterns of expertise that are leveraged by the IBM PureApplication System. Additionally, IBM clients have experienced a 55 percent reduction in operational costs and required management time. These clients experience a 98 percent reduction in unplanned outages with IBM virtualization capability. This capability is also built into the PureApplication System.

Infrastructure System

The IBM PureFlex System combines compute, storage, networking, virtualization and management into a single infrastructure system. This system is expert at sensing and anticipating resource needs to optimize your infrastructure.

The PureFlex System includes integrated patterns of expertise designed to optimize the deployment and maintenance of your workloads. Consolidation and management expertise from

thousands of successful data center optimizations drives automation to significantly reduce manual processes that consume too many staff hours. Optimization expertise also makes it possible for your infrastructure to flex to address unexpected demands without requiring expensive surplus capacity.

This system is designed to provide a simplified experience and reduce IT complexity without compromising the flexibility you need. By delivering both simplicity and flexibility in a system with integrated expertise, you can rapidly deploy IT services and keep them running at the performance levels your business demands—and at the same time, manage cost.

Because of relentless testing and experimentation, the expert infrastructure system from IBM can mitigate IT complexity without compromising the flexibility that IT teams need to tune systems to business tasks. By providing both flexibility and simplicity, the PureFlex System can provide extraordinary levels of IT control, efficiency and operating agility. You can expect to rapidly deploy IT services at a reduced cost. Moreover, this IBM system is built on decades of expertise, enabling deep integration and central management of the broad-ranging,

open-choice infrastructure system. This can dramatically reduce the skills and training that are required to manage and deploy the system.

The value of IBM PureSystems compared to traditional computing

Value delivered	From traditional Systems	To IBM PureSystems
Faster time to value	"Up and running" in months	Full infrastructure stack, operational in hours
Automated workload scalability	Overpurchased and overprovisioned	Built -in workload elasticity
Integrated services and software management	Requires multiple tools per component	Single point of management
Simplified acquisition and support	You receive "piecemeal" order and support of hardware and software	Full, preintegrated software and hardware
Integration into current environment	Customized, so that they can work with what you have	Easier integration using open-standards computing
Easy adaptation to address current needs	Hard-to-maintain, complex and "brittle" customer solutions	Well-managed flexibility and simpler extensibility

Entry points to IBM PureSystems

Take a clear path to the economic values of smarter computing. IBM PureSystems offer a number of key advantages compared to traditional computing, with multiple entry points.

Entry point	Line-of-business appeal	IT appeal
Consolidate	Reduce operating costs. Reduce costs of capital investments, maintenance expenses, energy usage, real estate and administrator time.	<ul style="list-style-type: none"> • Move existing application workloads off of inefficient, underused infrastructures onto an efficient application environment that is designed to be easy to use and easy to manage. • Reduce system complexity to save time and money to achieve the results that your business needs.
Optimize	Focus resources on business-critical tasks that affect profit. Get more from your IT investment. Spend more on innovation and less on maintenance.	<ul style="list-style-type: none"> • Set service levels for key workloads and automatically address service levels and at the same time more easily update an entire application stack through a single point of management. • Better manage application and data workloads, including their development, monitoring and autonomic adjustments to marketplace demand.
Innovate	Be more competitive. Incorporate the latest expertise and thinking into IT services. Facilitate innovation and new ideas. Quickly deploy new services to address dynamic customer and marketplace demands.	<ul style="list-style-type: none"> • Quickly deploy new workloads using predefined patterns into a virtualized environment. Add additional capacity as required in a building-block fashion. • Rapidly respond to changing business demands.
Accelerate cloud	Be more competitive. Reduce IT costs and facilitate innovation and new ideas. Quickly deploy new services to address dynamic customer and marketplace demands.	<ul style="list-style-type: none"> • Integrate your current environment into a shared infrastructure. Create a shared pool of virtualized application resources. • Overcome costly, sprawling, inflexible and reactive IT costs for greater agility.

Why IBM?

For 100 years, IBM has been at or near the center of every major turning point in computer science. While IBM introduced the first computer designed specifically for businesses in 1953, the company has not remained in the forefront by clinging to the past. IBM leaders understand that lasting economic value is not created simply by deploying of a new piece of hardware or a new software program. They understand the importance of applying core principles of architecture approach throughout entire IT systems. Over the past decade IBM has reinvented its portfolio through industry-leading research and development investments and targeted acquisitions.

One of the strengths of the technology industry over the years has been its ability to accommodate a tremendous diversity of new ideas, innovations and expertise. The industry is driven by dreams of invention and entrepreneurship; of coming up with better ideas and better solutions for the world's problems. Those impulses spawned generations of technology advances—from the early mainframes and mini-computers to the PC, the Internet, and the new technologies that are enabling smarter computing today. IBM entrepreneurship, innovation and continually developing experience will drive many more advances in the decades to come.

Today, IBM designs and builds products for nearly every element of an organization's computing portfolio, including microprocessors, servers and storage devices, operating systems, software programming tools, middleware, business intelligence applications, and industry-specific software frameworks. More importantly, IBM can help any organization build on their existing capabilities to realize the benefits that IBM's leading clients have already achieved. IBM brings virtually unparalleled skills through our lab and services teams to engage directly with your team to create approaches to establish your unique roadmap for the future.

Benefits of IBM innovation and expertise are demonstrated every day in the company's own data centers with IBM services and strategic outsourcing clients. IBM's data center in North Carolina's Research Triangle Park illustrates the kind of improvements that are possible. The 60,000 square-foot facility has more than 40,000 sensors that monitor every piece of electrically-powered equipment to improve energy efficiency and the utilization of servers and storage, and networking devices. The deployment of more than 2,000 temperature, humidity and air flow sensors makes it possible to automatically adjust cooling systems and usage of IT equipment. This approach has reduced IBM clients' capital and operating costs by as much as 50 percent.

IBM also has been able to use its accumulated expertise to increase the percentage of its own IT budget to transform the business from 24 percent to 37 percent since 2003.

IBM Global financing makes it even simpler by turning up front costs into low monthly payments, reducing the total cost of ownership and reducing the risk of technology obsolescence.

IBM's value proposition is clear: For organizational leaders who seek to transform their IT economics through a more flexible and simpler approach to IT, IBM offers solutions with integrated expertise that address their unique strategy and needs.

For more information

To learn more about IBM PureSystems, please contact your IBM marketing representative or IBM Business Partner, or visit the following website: ibm.com/puresystems

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: ibm.com/financing



© Copyright IBM Corporation 2012

IBM Corporation
Software Group
Route 100
Somers, NY 10589 USA

Produced in the United States of America
April 2012

IBM, the IBM logo, and ibm.com, are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

Not all offerings are available in every country in which IBM operates.

It is the user's responsibility to evaluate and verify the operation of any other products or programs with IBM products and programs.

¹ IDC, Analyst Matt Eastwood, IDC Directions Presentation, 2011

² IBM Market Research, 2011

³ The Bathwick Group, The road to Smarter Computing, Gary Barnett, June 2011



Please Recycle