



IBM's Strategy for Dynamic Infrastructure

Delivering superior business and IT services with agility and speed

With technology so pervasive, the world is getting smaller – and smarter – by the minute. Every day, the world is becoming more instrumented, interconnected and intelligent, creating new opportunities at both a societal and organizational level. By harnessing our increasingly digitized world, we can help solve intractable social problems, bring organizations closer to customers, and vastly shrink decision windows that help executives achieve competitive advantage.

Audits show that most business and IT infrastructure is underutilized, and experience tells us that it is often difficult to manage, pushing operational cost and complexity to unsustainable and uncompetitive levels. Moreover, rising cost pressures, higher service expectations, new risks and threats, the need for agility and speed and the growing list of emerging capabilities only compound the inability to harness the sum total of an organization's overall assets for real competitive advantage.

Increased instrumentation of the physical world – for example, vehicles guided by GPS, RFID chips embedded in retail items, or intelligent sensors built into manufacturing equipment – helps drive additional value from traditional assets. The challenge for many organizations is to leverage these assets to improve service levels, reduce costs and prevent security problems, while also laying a foundation for breakthrough productivity, accelerated new value creation and increased speed and delivery of services.

For many organizations – *change is imperative*. In a smarter planet, the most successful organizations will be those that successfully deploy their assets to address today's service, cost and risk issues as well as seize tomorrow's opportunities for growth, leadership and differentiation.

Service expectations have never been higher

Organizations are no longer striving to simply align business and IT assets in support of the business, but to meet the increasing demands of digitally savvy customers who expect innovative, high-quality 24x7 services.

- 33% of consumers shopping via a broadband connection will wait no more than four seconds for a Web page to render.¹
- The average new application can take up to six to nine months to deploy.

Costs are skyrocketing

In today's financial climate, cost efficiency is top of mind for the vast majority of C-level executives – and they are not just looking to drive down overall costs, but to use their available dollars better.

- In distributed computing environments, up to 85% of computing capacity may sit idle.
- On average, for every 100 units of energy piped into a data center, only three units are used for actual computing.²
- 40% – 70% of electrical energy is lost due to inefficiencies in the grid.³

Risk is a business reality

Organizations are struggling to stay ahead of the risks that plague them – while still supporting business goals – and addressing various regulatory, organizational and industry-based compliance drivers.

- Weather-related events inflicted one trillion dollars in damage from 1980-2003.⁴
- Security breaches are on the increase: U.S. cyberattacks have increased 158% since 2006⁵, and worldwide cyberattacks increased 30% over the second half of 2008.⁶
- 33% of consumers notified of a security breach will terminate their relationship with the business partner they perceive as responsible.⁷

Thinking differently about infrastructure

In order to meet rising service level expectations and cost-saving objectives, it's time to start thinking differently about infrastructure. IBM offers a strategy for designing and evolving business and IT infrastructure that enables organizations to move beyond simply addressing the daily operational challenges. A strategy that transcends physical boundaries to improve service delivery, drive down infrastructure costs and help manage risk. This helps organizations concentrate on what they can do now within the context of a bigger picture.

Dynamic Infrastructure: Transforming business and IT assets into higher valued services

The IBM strategy helps deliver a shared, integrated and highly available infrastructure that can address today's challenges and tomorrow's opportunities. Not only can it help ensure high availability and quality of existing services, it also can help meet customer expectations for real-time, dynamic access to innovative new services. Not only can it help contain operational cost and complexity, but it can also help achieve breakthrough productivity gains through virtualization, optimization, energy stewardship and flexible sourcing. Not only can it help meet current security, resiliency and compliance challenges, but it can also help organizations prepare for the new risks posed by an even more connected and collaborative world.

As part of IBM's strategy for creating a dynamic infrastructure, our unique approach can help:

- Enable visibility, control and automation across all business and IT assets.
- Transform these assets into higher valued services.
- Optimize the supporting infrastructure to achieve more with less.
- Address the complexity of managing information growth.
- Leverage flexible sourcing, such as cloud computing.
- Manage and mitigate risks.

This design spans business infrastructure and assets, data center systems, distributed computing resources and software applications. With the increased instrumentation and interconnection of business assets, the management paradigm for these resources can shift from labor-intensive monitoring and reporting to automated tracking and integration. And as this shift occurs, the emerging infrastructure model is one in which *all assets* are managed together and a host of efficiencies and new opportunities can reveal themselves.

“A dynamic infrastructure integrates business and IT assets and aligns them with the overall goals of the business while taking a smarter, new and more streamlined approach to helping improve service, reduce cost, and manage risk.”

A dynamic infrastructure is ready-made for today's instrumented world. It transforms physical and digital assets into higher valued services. It is optimized to the point that you can achieve greater results with less human intervention – and leverage new technologies and strategies like cloud computing – to deliver necessary services with agility and speed.

Initiatives to consider when building a dynamic infrastructure

Organizations can build a dynamic infrastructure via multiple initiatives, or “on-ramps” that serve as mutually reinforcing paths to success. Each initiative provides incremental value and helps improve overall operations, while also working within a larger context to elevate your organization’s agility and speed. Dynamic infrastructure initiatives include:

- Service Management
- Asset Management
- Virtualization
- Energy Efficiency
- Business Resiliency
- Security
- Information Infrastructure

A flexible sourcing strategy is also an important part of establishing a dynamic infrastructure. Many organizations employ a mix of sourcing options to create the most effective solution to meet their needs. With the right tools, technologies and skills, a dynamic infrastructure can be managed on-site, remotely or totally outsourced. And emerging models like cloud computing can enable access to needed, standardized IT resources to rapidly deploy new applications, services or computing resources without re-engineering the entire infrastructure – or, in some cases, without having to have an infrastructure at all.

Dynamic Infrastructure: Implementation approach

IBM has a long history of helping clients transform their business models and integrate their business and IT environments. IBM’s leadership in industry and business solutions has helped organizations better align their corporate assets with their strategic initiatives and achieve their requirements to improve service, reduce cost and manage risk.

There are many important considerations when building a dynamic infrastructure

- *Understand how to get started:* IBM can provide proven tools, assessments and workshops to measure business impact, as well as a collaborative relationship to help build the right blueprint for success.
- *Leverage flexible sourcing options:* IBM provides services to match your needs, whether you want cloud services, outsourcing, managed services or project-based services.
- *Collaborate with our experts:* With tens of thousands of professionals focused on security and privacy, mainframe and open systems, ITIL, networking and SOA, only IBM can offer such extensive experience advising clients on business transformation, application, data center and service management processes.

Realizing business goals

When all is said and done, infrastructure enables all commerce and communication – the roads, networks, utilities and technologies – that both connect and differentiate organizations, competitors and customers. These public and private resources vary in value, condition and status, but they all they bring companies and countries together – and they are, themselves, increasingly instrumented, interconnected and intelligent. As a result, our planet is getting smaller, flatter and smarter every day.

Our ability to leverage and utilize our smarter planet is within our reach. We can achieve faster, better management of a wider range of devices and systems than ever before by building a more dynamic infrastructure that delivers superior business and IT services with agility and speed.



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- 1 Jupiter Media, Akamai, 2008
 - 2 U.S. Department of Energy , May 18, 2007
 - 3 U.S. Department of Energy , May 18, 2007
 - 4 IBM
 - 5 US Department of Homeland Security
 - 6 IBM Internet Security Systems X-Force
 - 7 Ponemon Institute, 2007

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