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WHITEPAPER

SUCCEED IN THE NEW DIGITAL BUSINESS LANDSCAPE

44%

of business leaders expect their industry to be significantly disrupted by digital business trends over the next three years.[1]

22%

say their industry has already been disrupted by digital business trends.[1]

Digital transformation is essential for success in increasingly competitive markets.

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DIGITAL TRANSFORMATION IS CRITICAL TO BUSINESS SUCCESS

Across industries, organizations are responding to evolving customer behaviors, market opportunities, competitive pressure, and regulatory and compliance standards by undergoing digital transformations.[2] Software is at the core of this shift, which requires drastic changes to business and operational models. Success depends on using software to maintain a continuous competitive advantage over a growing number of rivals.

As a result, IT organizations must adopt a more strategic role in delivering greater business value and ensuring competitive differentiation. They must change how they deliver, manage, and integrate applications and data. To do so, IT teams need to modernize the infrastructure they rely on and deliver everything—from infrastructure resources to applications—on demand and as a service.

However, traditional processes, infrastructure, and applications can restrict these efforts. For example, 46% of business leaders say that their organization operates too slowly and has too much bureaucracy.[1] Accordingly, organizations are looking for ways to become more agile and responsive. 53% of business leaders are investing in modern technology to develop digital products and services faster, while 42% are focusing on digital-first to improve customer-facing processes.[1]

Change is inevitable, but determining where to start on your digital transformation journey can be challenging. This review of digital transformation discusses the challenges, transitions, and benefits of the four main stages of this journey.

MOVING FORWARD IN A DISRUPTIVE, DIGITAL WORLD

To succeed in a digital economy, organizations must deliver innovative applications faster while still maintaining core stability. A hybrid IT approach helps organizations achieve this balance. According to Gartner, this approach to IT delivery includes two distinct modes:

- **Mode 1:** Predictable, linear, and focused on stability and accuracy
- **Mode 2:** Exploratory, nonlinear, focused on agility and speed[3]

1 Harvard Business Review, "Surviving Disruption, Leading Change: Winning in the Application Economy," November 2015.

2 Altimeter, "The 2016 State of Digital Transformation," September 2016.

3 Gartner, IT Glossary: Bimodal, located at blogs.gartner.com/it-glossary/bimodal/.
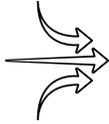
A hybrid IT strategy lets organizations with large infrastructure and application investments continue using those assets while also improving agility and responsiveness. As a result, they can better prepare for a digital future.

However, organizations face four main challenges when adopting hybrid IT:

1. Slow delivery of existing applications affects productivity.

2. Infrastructure complexity hinders comprehensive visibility and management.

3. Limited infrastructure scalability prevents deployment of cloud-native applications.

4. Inflexible operations and development processes cannot support fast-changing business needs.

There are four corresponding phases to overcome these issues:

1. Accelerate service delivery.

2. Optimize your IT resources.

3. Build a scalable infrastructure.

4. Modernize development and operations.

In traditional IT, phases 1 and 2 will help you increase IT's relevance and reduce complexity by streamlining infrastructure and operations. After IT resources are made available, phases 3 and 4 focus on improving agility and increasing scalability to support digital business processes.

ACCELERATE SERVICE DELIVERY TO INCREASE I.T. RELEVANCE

For most organizations that rely on traditional IT, service delivery involves manual intervention, usually in the form of request approvals, resource configuration, and infrastructure management. Highly skilled staff perform many low-value resource delivery tasks that take days or weeks. As a result, overall productivity suffers and time to market for new products is slow. Business departments may resort to unofficial public cloud resources, or shadow IT, instead of waiting for IT to provide services. Additionally, manual resource configuration increases security and compliance risks.

By implementing a service catalog and automating resource provisioning, IT teams can accelerate service delivery while increasing control, consistency, and relevance. Accomplishing this improvement requires management tools that work across your environment. A service designer uses these tools to set up your catalog, then works with development, infrastructure and system administration, and security teams to create self-service catalog items based on cross-organizational, security, and compliance requirements. Next, they connect each catalog item to the relevant automation for deployment. Developers can then request predefined, certified resources through this self-service portal. Using automated workflows, requested resources are quickly, securely deployed across virtual or cloud infrastructures.

By combining a service catalog with automation, delivery time can be shortened from days or weeks to just minutes. Developer productivity increases as they spend less time waiting for resources. Streamlined processes reduce operational costs, and applications and services can be delivered to market faster to take advantage of new revenue opportunities. IT staff spend less time provisioning services and can shift their focus to more valuable projects. Subsequently, your IT organization becomes more relevant and valuable to your business.

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4 *Red Hat internal customer case study.*
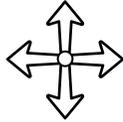
OPTIMIZE YOUR I.T. RESOURCES TO INCREASE EFFICIENCY

Complex infrastructure forces IT staff to devote the majority of their time, budget, and other resources to day-to-day management and operations, leaving little room for new business initiatives. Disparate management tools prevent IT staff from tracking resource use and increase the risk of security and governance issues. Manual workload management often results in poor application performance and increased operational expenses. Running all applications in expensive virtual environments increases infrastructure costs.

Optimizing IT resources with policy-based automation and unified management can solve these challenges. Automated load balancing provides reliable performance to consistently meet service-level agreements (SLAs). Appropriately sizing virtual machines (VMs) prevents overprovisioning and releases resources for other uses. Automatic placement puts workloads on the right infrastructure—whether physical, virtual, or private or public cloud—to optimize cost and performance while ensuring compliance. Consolidated visibility into resources lets you track use and complete chargeback.

In addition, an optimized IT environment provides many business benefits. Centralized management and visibility lower security and compliance risk. Faster application performance improves internal and external user experience. Better resource allocation reduces infrastructure costs. Simplified administration speeds operations, helping IT staff reallocate time to strategic initiatives.

BUILD A SCALABLE INFRASTRUCTURE TO SUPPORT DIGITAL DEMANDS

Cloud-native applications require a dynamically scalable infrastructure. However, scale-up infra-structure is typically expensive, complex, and unable to meet the scalability needs of web applica-tions. At the same time, building and maintaining a scale-out infrastructure can be complicated, and many in-house solutions lack enterprise-grade features.

Constructing a scale-out infrastructure using a production-ready OpenStack distribution and soft-ware-defined storage can help you meet the requirements of cloud-native applications across mul-tiple environments. An OpenStack-based architecture uses common hardware to provide massive, cost-effective scalability. Full-featured, high-quality management tools streamline administration. An enterprise life cycle ensures you have a secure, maintained, and updated version of OpenStack.

A production-grade scale-out infrastructure lets organizations take advantage of cloud innovation with less risk. Integrated, validated security protects environments from threats, while compre-hensive management tools improve compliance and governance. Additionally, dynamic scalability reduces infrastructure costs and helps IT organizations meet spikes in demand.

MODERNIZE DEVELOPMENT AND OPERATIONS TO IMPROVE AGILITY

Traditional application development processes are often too slow and cumbersome to support agile business operations. Applications built with this approach are typically monolithic, rigid, difficult to update, and unable to operate and scale independently. Collaboration between development and operations teams is limited, resulting in slow, inefficient application deployment.

Building cross-functional development teams and using a modern development platform to stream-line processes can increase business agility. A microservices-based architecture incorporates development and operational needs to speed development, deployment, and updates. A simpler development cycle moves new features to production faster. Teams can make more frequent changes to applications and increase the success rate of those changes. Reduced dependencies between applications offer independent and efficient scaling.
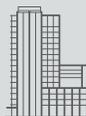
This DevOps approach speeds time to market for new applications and features, helping businesses access market opportunities faster. Simplified operations reduce application development and operation costs, and a straightforward development process also supports innovation throughout organizations.

ACHIEVE SUCCESSFUL DIGITAL TRANSFORMATION WITH RED HAT

Choosing the right solution to modernize your infrastructure and operations is critical. An effective solution combines innovation, integration, flexibility, and investment protection. Red Hat delivers these features and more in an enterprise-grade software portfolio that includes all of the necessary technology—including infrastructure, storage, management, and application platforms—to modernize your IT environment and application development.

As a trusted open source expert, Red Hat is dedicated to helping organizations safely, securely take advantage of open innovation. Red Hat's fully supported technology solutions are based on industry standards, and integration throughout Red Hat's software portfolio increases protection, interoperability, reliability, and performance. In addition, Red Hat investments continue to deliver benefits throughout your digital transformation journey—regardless of where you start.

Red Hat also provides expert support, services, and training to simplify your digital transformation. Red Hat subscriptions include award-winning support[5] that provides access to Red Hat engineers, the latest product knowledge, and best practices. Red Hat Consulting works with customers to solve complex business problems with consideration for unique goals, organization, and technology. Red Hat Training and Certification helps IT teams gain the skills to efficiently and effectively deploy, operate, and maintain open source IT and cloud environments.

PREPARE YOUR BUSINESS FOR THE FUTURE

In every industry, business models are evolving. To be successful in a digital world, organizations need to become more agile and efficient than ever while maintaining stability and reliability. By accelerating service delivery, optimizing IT, building a scalable infrastructure, and modernizing development, organizations can stay ahead of the competition.

Learn more about preparing for the digital world at redhat.com/it-infrastructure.

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5   https://www.redhat.com/en/services/support

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Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

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