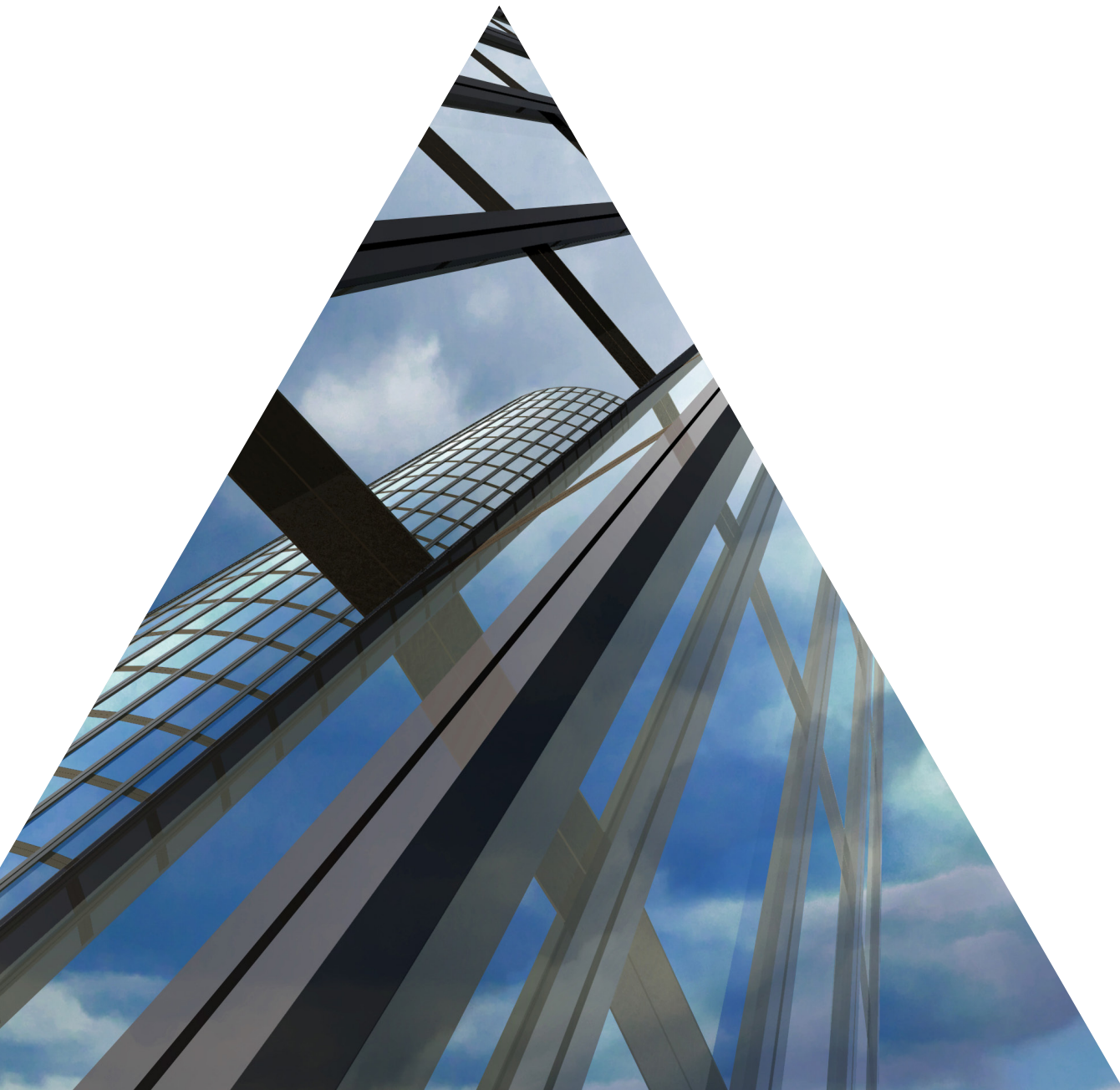


IT modernization: Simplify and optimize IT

Gain immediate benefits with secure, reliable
IT operations at a lower cost each year



IT modernization

This series explores ways to lower costs and complexity, increase speed, and improve agility and security through IT modernization.

- **Simplify and optimize IT**
- **Modernize applications and data**
- **Operate and secure hybrid cloud at scale**



Immediate benefits on the modernization path

During rapidly changing business conditions, legacy systems can be inflexible and impact the ability of the business to evolve quickly.

While applications running on legacy infrastructure often provide key points of differentiation for the business, they can be prone to outages, capacity issues and high maintenance demands.

While enterprises are seeking ways to lower costs and achieve greater agility, security and resiliency, many will maintain on-premises workloads for years to come in an environment spread across data centers and private and public clouds.

To address these business needs and gain immediate savings to invest in modernization, organizations can focus on simplifying and optimizing their IT environments, applications and processes.

Six key steps can be taken in-house or through IT outsourcing (ITO) to create a lower-cost, streamlined IT environment (**Figure 1**).

Quick ways to simplify IT

 Technology refresh	Improve security and compliance, performance and cost of operations <ul style="list-style-type: none"> • Refresh to modern technology platforms and architectures • Eliminate unused or underused IT systems and services
 As-a-service solutions	Streamline operations; reduce technical debt <ul style="list-style-type: none"> • Deploy consumption-based solutions for storage, backup, networking, disaster recovery, apps development and testing
 Application rationalization	Reduce cost and release budget for innovation <ul style="list-style-type: none"> • Rationalize redundant and underused applications • Align applications with business requirements
 Continuous optimization	Continuously optimize IT resources to match demand <ul style="list-style-type: none"> • Optimize the placement of resources for business continuity (on-premises or on public cloud) • Optimize workload and application performance
 Intelligent automation	Avoid recurring operational issues and deliver new releases faster <ul style="list-style-type: none"> • Automate and optimize application development and management, and IT operations • Incorporate greater insights, speed and efficiencies into IT operations to reduce downtime and risk
 Data center exit	Lower data center costs through consolidation, outsourcing and cloud deployment <ul style="list-style-type: none"> • Eliminate capital costs and improve disaster recovery, security and uptime • Increase efficiency and meet green energy goals

Figure 1. Enterprises can take important steps to quickly simplify and optimize their IT environment.

Many organizations do not have an accurate accounting of their own IT estate.

Every organization will likely start in a different place on the simplification journey or address multiple areas simultaneously. For example, a badly needed technology refresh or the removal of redundant or unused applications may be the first priority before embarking on a data center exit.

The introduction of intelligent automation may be the top priority for accelerating application deployment. As-a-service solutions can meet immediate needs for improving resiliency through better backup and disaster recovery. That's why it's crucial to conduct a thorough assessment of the current environment and develop an overall plan for simplification and optimization.



Telecom firm finds issues with 60 percent of its hardware

An infrastructure health check at a global telecommunications company pinpointed 75 “must-fix” items to avoid service interruption. The firm found nearly 60 percent of its hardware was out of support and many operating systems were at end of life.



Technology refresh

Organizations have to grapple with the fate of aging data center hardware and networking gear that no longer support the agility and flexibility required in a modern IT environment.

Fundamentally, organizations should upgrade to the latest operating systems to avoid security vulnerabilities and improve quality and performance. In addition, server consolidation, server virtualization, containerization and cloud-based approaches such as serverless computing can help companies streamline and optimize their server landscape.

Platform-as-a-service providers deliver a virtualized environment for running core enterprise applications such as SAP, providing a more agile platform for spinning up and modifying core business functions.

Based on DXC’s experience with customers, about 10 percent of the average IT budget is spent on networking technology. One way to reduce network costs and improve network performance is to deploy software-defined networking (SDN) — for both WAN and LAN — to get off the hardware-upgrade treadmill and improve security.

With SDN, companies install a software overlay that manages and orchestrates the underlying hardware. Networking gear is virtualized, allowing companies to eliminate custom hardware appliances and replace them with software running on standardized, high-volume servers or in the cloud.

Upgrading the IT infrastructure to modern tech platforms and architectures provides the underlying foundation to support a modern environment. In addition, any application being considered for cloud migration needs to be upgraded to the latest version.



As-a-service solutions

A key upgrade that will help enterprises respond to sudden changes in the business is deploying as-a-service solutions for core functions such as backup, storage, disaster recovery (DR), applications development and testing. For example, many enterprises use only about half of the storage they’ve already purchased. All of that unused storage not only costs money to buy, but is also expensive to maintain.

By switching to consumption-based storage, enterprises can replace a fixed-capacity storage environment with a flexible, outsourced storage solution that offers continuous improvement and can scale up or down depending on changing business needs.

Backup is another critical area that is fraught with complexity and high cost. Enterprises struggle to develop a streamlined solution that encompasses recording equipment, backup tapes, storage, handling and physical security.

By pivoting to consumption-based backup services, organizations can eliminate the need for tape backup, provide a centralized, scalable solution for critical and noncritical data, and ensure they are deploying the latest data protection technologies.

DR demands a level of commitment that is hard for do-it-yourself programs to sustain. Many enterprises find their DR plans are incomplete and untested when disaster hits.

But thanks to virtualization and cloud, enterprises can deploy an affordable and manageable DR plan.

Consumption-based DR as a service enables an organization to maintain a full replica of data and applications that functions as the business environment while primary systems are being repaired. The switchover to the replica system can happen in hours, minimizing the impact of a disaster.

In each case, as core infrastructure is modernized, enterprises can drive down costs, reduce maintenance demands and free up capital to invest in higher-value projects.



Application rationalization

Rationalizing applications is a key step toward simplifying the IT estate. Enterprises can better understand what applications they are running, who is using them and the demand on IT capacity and resources.

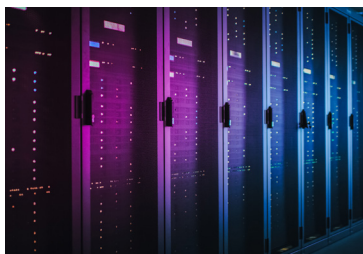
Modern application discovery tools can paint an accurate, detailed, real-time picture of how an organization uses its IT infrastructure. The discovery process can identify zombie servers hosting applications that are no longer being used, over- and under-utilized servers, and cases where the organization is running multiple applications that all do the same thing.

Using automation and systematic, data-driven insights, application rationalization simplifies operations, drives down costs and serves as a key step on the road to cloud migration. Done right, it can slash the number of applications in the portfolio by more than 60 percent.

In situations where multiple apps should be consolidated into one, the most important factor is getting buy-in and authority from business leaders to retire redundant apps.

The decisions on which applications to retain and which to retire can be relatively straightforward based on cost, number of impacted users, strategic relationship with the software vendor or strategic value to the business.

End-of-life applications present unique challenges. While business leaders may be reluctant to abandon a familiar application that has served the company well for many years, IT leaders should make the case that EOSL software that is no longer eligible for support is expensive to run, might violate regulatory requirements and could pose security risks.



Server consolidation helps global insurer free up 100TB

Through server consolidation and optimization, a global insurer saved \$1.4 million by avoiding the purchase of two data center servers, reallocating 100TB of SAN space for new growth and reducing data center maintenance costs.



Continuous optimization

Workload optimization is key to making sure multicloud IT environments are running at peak efficiency. Workload optimization automatically allocates resources to the workloads that need them the most, optimizing application performance. Toolsets automatically maximize workload density and resource utilization, minimizing costs no matter where the application is running.

In addition, workload optimization tools can place, size and move workloads while maintaining compliance with regulations and policies. And, they deliver business agility by providing all workloads the necessary resources in real time, so new services can be provisioned to meet business demand.

Workload optimization tools are vendor- and environment-independent, and analyze the storage and network layers at a granular level to identify bottlenecks across the stack. However, they also encompass strong capacity planning and modeling capabilities to reduce manual work and allow faster planning for refreshes, capacity changes and migrations.



Consumer goods firm improves performance up to 92 percent

A large consumer goods firm faced performance issues with its legacy systems, requiring many hours of IT staff intervention. DXC automated up to 14,000 actions per month, improving workload performance up to 92 percent across its applications, and freeing up staff for cloud- and mobile-first initiatives.



Intelligent automation

Another key driver of efficiency is IT automation. Enterprises can deploy tools that gather telemetry data streams on the performance of devices, services and applications.

As operational constraints are identified, intelligent AI-based analytics recommend ways to improve processes through a cycle of data collection, analysis, modeling and experimentation.

Lean processes can eliminate inefficiencies and continually improve delivery, optimizing workflows and team performance for better quality and outcomes. Robotic process automation can slash transaction time by 65 percent, reduce operational time by 50 to 80 percent, and cut application deployment from 3 hours to 15 minutes.

Automated processes such as rules-based filtering of requests and grouping requests under a single incident help resolve most trouble tickets without human intervention. In times of high demand, digital agents and chatbots can function as virtual contact centers, eliminating the need for working from one physical location.

Data mining, machine learning and predictive analytics also can identify ways to reduce costs and deliver innovation in areas such as applications management, IT delivery operations, DevSecOps enablement and self-service.



Data center exit

Most large enterprises operating multiple data centers can find ways to lower costs through consolidation, outsourcing and cloud deployment. In many cases, aging data centers have outdated equipment and are poorly designed for power consumption, cooling and expansion; therefore, the cost of upgrading is no longer viable. In addition, organizations may need to improve disaster recovery and backup across data centers or move critical applications to a Tier III environment with “five nines” of uptime.

And with a growing number of organizations setting zero-carbon goals, data centers are an obvious area of focus for increasing efficiency and supporting alternative energy sources.

The process of migrating from data centers starts with a careful examination of the application environment, with an eye toward eliminating redundant systems, modernizing applications and moving them to public and private cloud. In reality, the best data center exit may be a hybrid workload placement strategy that utilizes the cloud, in-house consolidation and third-party outsourcing facilities to address varying levels of needs including latency, availability, security and regulatory requirements.

Exiting data centers is one of the most complex migrations IT organizations face; therefore, a strong governance program, a roadmap of agreed-upon objectives, a management framework for making changes along the way, and executive-level buy-in are crucial to program success.

Ensure the right security and deployment approach

Underpinning all of these decisions about simplifying and optimizing IT are questions about securing the enterprise and choosing the best approach for deploying new solutions. With a wide variety of options available for in-house and outsourced services, organizations are inundated with tools and practices that vary across lines of business and regions. Addressing these foundational issues is a key part of the modernization journey.

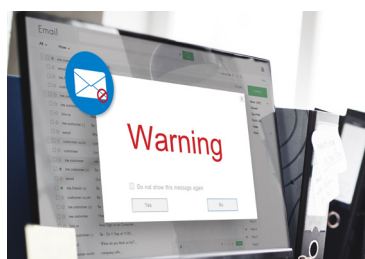
Virtualization of networks and IT infrastructure also provides a more simplified approach to security. Software-defined networks abstract controls from traditional hardware devices to the network, allowing the implementation of tools that simplify security across each network layer — data, applications and architecture. Automated monitoring helps manage risk more effectively and ensures faster incident response.

Centralizing identity management across the environment controls access to important data for customers, partners, employees, machines, connected devices and cloud-based services.

Unifying access control not only protects against unauthorized access, but also improves the overall user experience, increases loyalty and builds trust.

Many legacy systems still have traditional security controls that are no longer fit for purpose. Installing antivirus software on servers used to be a best practice, but today's threats can circumvent antivirus software that relies on signature-based technologies to detect malware.

Today, adversaries are more likely to compromise systems through phishing and locally installed tools using techniques that cannot be detected by signatures. Upgrading endpoint security controls with machine learning technologies can help identify anomalous behavior inside the system.



Insurer eliminates 129,000 alerts through automation

A global insurance company automated IT processes and solved 129,000 alerts related to CPU, memory and storage — eliminating manual intervention and accelerating time to market for new products.

Simplifying and optimizing existing systems and infrastructure can create immediate benefits for IT operations and the business.

Get faster results through IT outsourcing

While organizations can reach their goals to simplify and optimize IT through in-house resources, in many cases IT outsourcing (ITO) is the best option for immediately realizing cost savings, which can be reinvested in modernization.

Unlike in-house approaches, ITO delivers savings year over year by shifting labor costs, consolidating storage, servers, networks and data centers, and reducing software licensing, maintenance and overhead costs. In many cases, IT outsourcing can achieve run-rate cost savings of up to 30 percent within the first year.

These savings enable a path for future modernization, including the integration of on-premises and multicloud resources, which drives innovation, efficiencies and additional savings.

Conclusion: Simplify, optimize and reduce costs

Simplifying and optimizing existing systems and infrastructure can create immediate benefits for IT operations and the business. These key strategies help maximize returns on investment:

- **Assess your end-to-end technology environment.** Most IT simplification efforts focus on data center and resource consolidation, but enterprise IT organizations should also focus on refreshing technology and optimizing availability and performance for current operations — and future growth.
- **Rethink traditional approaches to infrastructure management.** Resilient IT environments must establish strong service-integration policies, governance and security across IT and suppliers, providing complete visibility into operations and business processes. And consider moving to a more consumption-based model to control costs and increase flexibility. These efforts will enable further optimization of IT activities and resources.
- **Invest savings in modernization.** For most large organizations, simplifying and optimizing IT could generate millions of dollars in immediate savings by eliminating assets, streamlining operations and reducing staff time needed to maintain legacy environments. Rather than just cutting costs, organizations should develop a long-range plan for managing a multicloud environment with both on-premises legacy applications and cloud-native applications.

By focusing on simplifying and optimizing IT, enterprises can take immediate steps to streamline operations, lower costs and create more resilient operations during changing business conditions.

How DXC can help

One of the world's leading IT services firms, DXC Technology is a recognized leader in complex, enterprise-scale transformation. DXC helps customers:

- Reduce IT operating costs by 30%
- Manage 150 data centers and 640,000 virtual machines
- Migrate more than 60,000 workloads to the cloud annually
- Resolve 16,000 security incidents a month

DXC runs and maintains mission-critical IT systems for:

- 6 of the top 10 Fortune 500 aerospace and defense firms
- 3 of the 4 largest U.S. airlines
- 6 of the world's top 10 automakers

Find out how DXC can support your immediate and long-term modernization goals. Schedule a workshop and develop a roadmap for change.

Learn more at
www.dxc.technology/ITmodernization

About the author



Brian Fowler is offering general manager for VMware Management and Hosting Solutions at DXC Technology. He leads the development of end-to-end offerings to simplify and optimize IT. Previously, he led managed services offerings such as virtual private cloud, storage and continuity solutions and was an early pioneer of infrastructure as a service with Hewlett Packard. A graduate of the University of London, Brian has lived in the UK and France, and he currently resides with his family in the United States.

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