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POINT OF VIEW | APPLICATIONS

Retake Control of
Your Applications

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Table of contents

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Organizations need new solutions to integrate data and functionality across their application portfolio

Managing applications used to be straightforward, with only a handful of applications for IT staff to monitor and maintain, but the last decade of rapid technological advancement has made this more complex. A confluence of factors, from corporate mergers and acquisitions (M&A) to cloud services, edge computing and many others, has led to an explosion of new application designs and technologies. Today, most major companies manage a vast and diverse portfolio of applications, and these organizations need new solutions to integrate data and functionality across that portfolio.

For IT personnel, a ballooning application portfolio equates to added, and often overwhelming, complexity.

As teams struggle to keep up with demand, insufficiently managed applications can create a host of problems, including wasted costs and resources, technical debt, stifled productivity, an inability to update critical infrastructure, and security and compliance failures. It leaves CIOs under constant pressure to streamline and optimize the company's application portfolio. It's a daunting blend of responsibilities rolled into one job description. Effective application management entails not only maintaining and supporting the company's core systems but also identifying and driving adoption of new, more powerful applications while phasing out redundant or outdated applications. And every piece of the puzzle is expected to fit neatly into the bigger picture, integrating seamlessly and working harmoniously with the business.

Achieving order and balance amid the chaos of a sprawling application portfolio can be a constant battle. But there are ways to take back control and, in doing so, heighten overall business performance. This paper takes a deeper look at what's driving complexity and discusses a modern and sophisticated approach to making application management simpler and more effective.

Making sense of the complexity

Before solving a problem, it helps to know what's causing it. In the case of the application portfolio becoming unwieldy, there are plenty of reasons why this happens.

First, applications tend to proliferate as a company grows. It can occur organically, as the company's operations and workforce expand, but also rapidly; growth can happen overnight. M&A transactions, for example, complicate application portfolios by bringing IT teams a laundry list of integration and compatibility issues, gaps to address and redundancies to eliminate.

Adding to the large volume of applications, and the corresponding complexity, are the burgeoning trends of cloud, edge computing and IT democratization. As companies give employees more freedom to choose and use their devices and applications (or develop their own), the technology team must deal with resource-heavy shadow applications and porous security.

These issues have been around for years, but recent events exacerbated many of them. When the global pandemic hit in 2020, companies rushed to launch new digital capabilities to better serve remote employees and customers. Many business units took matters into their own hands, procuring or creating their own solutions, unknowingly muddying the waters of the technology ecosystem.

The difficulty of application management isn't only portfolio size; it's also in how certain applications are used and where they reside. For example, companies may be tempted to replace core legacy systems with something newer and better, but an existing application is often so deeply ingrained in the fabric of the organization that the risks (such as compliance and loss of institutional knowledge) and costs (training and organizational change management) of starting fresh can present major challenges. Even with expert management and excellent business intuition, the process could take years.

Rather than replace a legacy application, some companies may want to upgrade and migrate it to a cloud environment — a move that if not done correctly can lead to expensive and time-consuming complications.

Finally, the intricacy of application management overlaps with another demanding IT job: data management. Today's applications generate enormous amounts of data that, ostensibly, companies can harness to reveal valuable business insights. But as the application portfolio continues its unchecked expansion, the resulting deluge of data becomes increasingly difficult to organize, interpret and effectively utilize. All this complexity prompts one all-important question: How can companies regain control of applications to maximize their value?

Organized chaos

The ideal application portfolio is a tightly controlled array of systems working in lockstep to power a well-oiled machine. In truth, few organizations achieve such precise coordination. Large enterprises often maintain hundreds of applications, each in a different stage of its lifecycle with different issues to address. These include the following:

- Cloud applications that require new enhancements and expansion
- Applications that are on the path to modernization and migration to cloud
- Legacy applications that can connect to new digital technologies through application programming interfaces
- Applications launched by citizen developers that need centralized management and governance
- Outdated systems that should be modernized but lack funds and business acceptance
- Legacy applications that are nearing retirement but require support until then

Every additional application creates a new layer of complexity and potential risk to the organization. It's easy to see why so many companies seek expert support from application services providers.

Key qualities of modern applications

Life is easier for any manager lucky enough to have smart, capable, hard-working employees. In the same way, well-designed applications make application management much simpler.

Applications have evolved significantly in recent years, and they continue to evolve and improve. Companies can benefit from this by migrating to the latest versions of critical applications and transitioning from outdated legacy applications to modernized platforms. Whether purchased off the shelf or custom-built, applications in a high-performing enterprise should meet most, if not all, of the following criteria:

- **Efficient.** It's essential to understand whether applications live up to their full potential. If a certain application takes too long to process routine transactions, for example, or is riddled with error-inducing code, it may quietly zap worker productivity and drag down business performance. An optimized system with standardized processes can eliminate technical debt, increase output and reduce costs.

- **Agile and scalable.** The better an application performs, the more users it attracts. That's a good thing — until the number of requests outstrips the system's capacity and creates efficiency problems. Critical applications must adapt to fluctuating business needs, scale up or down quickly, and accommodate continuous development and deployment of updates.

- **Predictive**. Today's strongest applications are rarely caught off guard. The inclusion of artificial intelligence, machine learning and analytics-driven services automatically detects and prevents errors and failures before they occur**.**

- **Modern and driven by the customer experience.** In today's digitally enabled world, users expect real-time interactive transactions in applications that are fast, operate across a vast range of device types, and are highly intuitive and simple to use — just like the most popular consumer applications they use every day in their personal lives.

- **Secure.** It should go without saying that applications must be fortified to protect the sensitive data that travels through them, but that's often not the case. Many legacy applications lack the capabilities to guard against today's more sophisticated cyberattacks. And new, custom applications built by citizen developers may not take appropriate defensive measures. Application management teams must ensure data quality and integrity.

These criteria represent an ideal scenario that companies should strive to achieve in every application. The reality, of course, tends to be harder, which is why many enterprises require a coordinated, strategic effort to optimize applications across the board.

A bird's-eye view of the application portfolio

To gain perspective on a diverse application portfolio, start with an organized inventory of the hundreds of applications in play. While every company's assortment of applications looks a bit different, most portfolios can be divided into five main categories:

- **Software as a service (SaaS), platform as a service (PaaS) and cloud-native applications** that allow for continuous transformation as new technologies emerge and equip the organization to capture maximum value from cloud investments

- **Packaged and enterprise applications** that should, if possible, be modernized and migrated from legacy versions to the cloud, so they can continue to evolve with the business

- **Mobile applications** that are essential to deliver improved user experiences and drive digital business but may require integration with other applications and data sources that don't innately support mobile capabilities

- **Web, custom and commercial off-the-shelf (COTS)** applications that offer advanced functions, clearly defined processes and scalability; it's a wide-ranging group

- **Core/legacy applications** that are business critical but don't always receive adequate budget for upgrades

Taking back control: Manage any app, anywhere

Understanding what a modern, high-functioning application should look like is only the first step. The hard part is creating a systematic approach to monitor every application, bring it up to date and ensure it's continuously optimized. Many organizations fall short, due to the sheer volume of and the complex interplay between applications and their associated platforms.

To take application management to the next level, companies must create an environment that provides complete visibility of the application portfolio and empowers IT staff to manage it with relative ease. The goal is flexibility, to manage any app from anywhere. More specifically, IT organizations should strive to achieve the following four key capabilities with their application management partners and employees:

- **Platform independence.** A frustrating aspect of application management is the need to develop and maintain multiple versions across various platforms, such as desktop, mobile and cloud. In a modernized application management approach, IT employs cross-platform development and applies universal updates, which dramatically reduces workload and delivers a more consistent user experience.

- **Continuous improvement.** A high-performing application management function does more than maintain the status quo. It works to make applications better, faster and more reliable. Teams must be structured and equipped to bring those improvements into action.

Through NTT DATA's work with Public Transport Victoria, the agency constantly improves its mobile application to make it easier for passengers to plan rides and pay for service.[1]

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- **Standardized methods.** A mark of any successful operation is the ability to deliver positive outcomes not once, but repeatedly and consistently. Application management is no different. Organizations must be able to draw from prior experiences, with the appropriate planning and governance, to perfect how they operate, transition and transform the application portfolio so they can do it with good results every time.

Another client, Jackson National Life Insurance Company, had dozens of applications in need of updates. We helped migrate more than 40 applications to modern code platforms, and in doing so created a standard model for modernization that consistently improves each application's performance, enhances the user experience and lowers the company's costs.[2]

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- **Seamless service delivery.** Keeping a wide variety of applications in top working order requires efficient systems to quickly move new applications, updates and fixes from development to operations. Organizations may leverage agile and DevOps practices, accelerators, automation and other tools to drive speed and agility through the application lifecycle.

With NTT DATA's support in these areas, a leading auto loan financer was able to reduce time to market for application development projects, and the company expects to reduce the total cost of operations by $1.6 million over three years.

Although it's possible to achieve these capabilities internally, most organizations lack the dedicated resources to build and maintain a fully formed application management function. An external application services partner can offer specialized expertise and objective guidance to accomplish specific business goals in less time.

Overcoming talent issues

Technology doesn't exist in a vacuum; it's inherently linked to the humans who develop and depend on it. And an improved application portfolio is only as good as the people who manage the applications. On the journey to streamline and modernize applications, many companies find their progress constrained not just by technology issues but by a shortage of talent in the right places.

For example, an organization that relies heavily on a long-entrenched legacy application may be at risk of devastating setbacks if its most experienced system experts retire or leave the company. This creates strong motivation to upgrade to a more modern application, but it also presents challenges when the company lacks the in-house expertise and perhaps funding to implement and manage a new system. To move forward, the company must find a way to capture and transfer still-valuable knowledge and skills from the legacy era while building a base of new talent to manage the new system.

Rather than saddle HR with this daunting talent management request, many IT organizations in this situation choose to partner with an application services provider for technical talent and innovation. An experienced partner can also offer proven methods and automated tools to both extract important information from legacy applications and manage the transition to new software.

A leading hotel and resort chain needed to revitalize its support organization and improve productivity. Leveraging NTT DATA's strength in knowledge management and our application management tools helped fill the client's talent gaps by shifting the company to a service-level agreement for support and providing a dedicated maintenance team. With these improvements, our client now enjoys 24x7 support at a lower cost than it had been paying for 16x5 support.
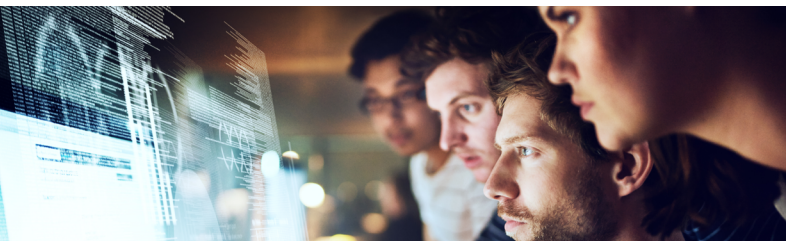
Looking ahead: Automating application management

With its ability to drive efficiencies and cut costs, automation plays an increasingly prevalent role in every aspect of IT, from the service desk to operations and security. It also has a role in application management, but so far that remains an unrealized opportunity at most companies.

As organizations work to streamline and modernize application portfolios, automation is becoming core to every application. Many processes within the application management function (request management, incident management, provisioning, monitoring and testing, for example) can be automated to save the IT staff hundreds of hours. By introducing artificial intelligence operations (AIOps), along with monitoring instrumentation and data collection and analytics, systemic problems can be easily identified and, often, issues impacting application performance can be avoided.

Many applications are built to support an array of business processes that, in many cases, require repetitive taskwork. With proper planning and execution, these processes can be automated to free up human resources and improve throughput with far fewer errors. Connecting and integrating applications and the underlying data to provide a seamless workflow can reduce data inconsistency and improve worker productivity.

One NTT DATA client, a major health insurance provider, struggled with fragmented and inefficient claims processing systems following a series of M&A activity. By modernizing certain applications and automating various processes to better identify risk with predictive models, we helped the company cut core support costs by $13.5 million and dramatically shorten its claims processing time.

While automation isn't typically deployed on a wide scale overnight, the idea is to systematically target the most impactful opportunities and build automation capabilities over time. As application management processes mature, organizations gradually rely less on humans to direct technology and instead allow technology to guide humans in their work. Eventually, routine processes become fully automated, requiring little-to-no human intervention and enabling a state of continuous system optimization.

Conclusion

In business-to-consumer spaces, the "appification of everything" has been a growing trend for years as customers depend on separate digital applications for every service, from ride hailing to healthcare and pizza delivery. Workplace technology tends to follow consumer trends, so there's every reason to expect that applications will continue to proliferate in the office environment as well. Add to that the ever-increasing demands for business agility, scalability, security and cost control, and it's clear that application management isn't becoming any less complex.

This realization leaves companies with a choice: Build and maintain a next-level application management function internally or seek expertise from an external firm that has the capabilities they need. Working with a trusted application services provider can be a smart move for companies struggling to tame a disorderly application portfolio. An ideal partner will have the breadth of talent and experience to manage all applications and technologies, draw on intellectual property to install proven optimization processes and automation platforms, and enable clients to chart a realistic course to meaningful transformation.
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Drew's experiences in application development, systems administration, database administration, networking, security, digital and enterprise architecture, at various levels of leadership, enable him to holistically drive connectivity between business strategies and IT solutions. Today, he leads NTT DATA's application management offerings, including application operations, managed testing, managed application development and modernization, and application portfolio evolution

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Let's partner together

See what NTT DATA Application Management can do for you:

- Deep industry expertise and market-leading technologies
- Tailored capabilities with your objectives in mind
- Partnerships to help you build and realize your vision

Contact one of our authors, or visit nttdataservices.com to learn more.

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