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How Agile Application Portfolio Rationalization Delivers Digital Success

Frequent tweaks based on user feedback can help IT provide the right mix of applications with the least delay and cost to advance business objectives.

Executive Summary

The effective use of digital typically requires organizations to revamp, if not update, applications and apply data in new ways to grow revenue, cut costs and speed the delivery of new products and services. Existing application portfolios are often unable to keep pace with the dynamism of today's digital economy because they are too complex, rigid and bloated with unused or underused apps.

The answer: Application portfolio rationalization (APR) that assesses and adjusts a business's application mix to meet its changing needs more quickly and flexibly. Done right, APR consolidates unneeded applications, dramatically reduces the time required to deliver new products and services, taps the lower cost and scalability of the cloud, standardizes processes for efficiency and compliance, and frees funds for innovation.

This white paper explains how an agile, iterative approach to APR avoids the pitfalls that sink many traditional APR efforts. By involving all the right stakeholders more deeply at each step, agile APR quickly delivers a mix of applications that more closely meets a business's digital needs, and that its employees are more likely to use.

> Complex, inflexible application portfolios weighed down by applications that no longer meet the business's needs can delay or even prevent digital progress by locking up to 80% of IT budgets into the maintenance of such applications.

HOW APR HELPS ENABLE DIGITAL BUSINESS

To succeed in the digital age, organizations must reassess their applications and infrastructure in the face of ever-faster and less predictable changes in business dynamics, technology, customer needs and regulations. This flies in the face of stiff headwinds, which include tighter profit margins, rising competition and compliance with increasingly steep requirements to protect customer data.

In the coming months and years, the pivot to full-on digital will also require organizations to:

- **Perform more complex and real-time analysis of data from both legacy systems and newer sources such as social media and the Internet of Things (IoT).** The companies with the best insights into their operations and the needs of their customers will not only maximize revenue and profits from their existing businesses but will be first to create markets for new products and services which they can dominate.

- **Allow enterprise applications, services and products to derive insights from, and provide data and services to, devices ranging from smartphones to wearables to sensors on the IoT.** This can facilitate additional revenue streams from new products and services, as well as from (where appropriate) the sale of data about customers, products and market trends.

- **Quickly and easily migrate applications and data among on-premises and cloud-based platforms** to speed the delivery of products and services, as well as to meet performance, cost, compliance and other objectives.

Complex, inflexible application portfolios weighed down by applications that no longer meet the business's needs can delay or even prevent digital progress by locking up to 80% of IT budgets into the maintenance of such applications. A portfolio that contains too many applications that serve similar purposes across geographies or business units also makes it harder to standardize processes for greater efficiency, compliance, security and customer service.

As it eliminates or consolidates applications, APR frees money now spent on maintenance for more innovative growth opportunities. By moving applications to more scalable and cost-effective platforms such as cloud, rationalization makes it easier for the organization to deploy new applications to exploit growth opportunities and to handle rising transaction levels.

By giving users a greater voice and stake throughout the process, agile APR requires fewer iterations and delivers a better and faster match between applications, infrastructure and a business's needs.

APR aligns a business's applications and infrastructure with its digital needs, and helps it assess its digital readiness, through a structured set of processes:

- **Identifying business objectives** such as revenue growth, increased efficiency, reduced complexity, lower costs and improved security and compliance.

- **Inventorying existing applications and infrastructure** (both customer-facing and those that support internal processes) to understand their intended use, how well they meet digital business needs, and which are unused or underused.

- **Performing a weighted assessment** of the business value, technical value and cost of each application and its associated infrastructure.

- **Creating a detailed plan** for retaining, retiring, or reengineering applications to reduce the number of legacy or obsolete applications, and creating a new portfolio of applications that are flexible, agile and open enough to meet even unpredictable future needs.

- **Helping organizations identify critical business processes** that could be digitized and mapping current applications to these processes.

- **Identifying interfaces** that span multiple business processes.

- **Determining the complexity** of each process area.

- **Confirming that the digital blueprint aligns** with the overall business environment.

- **Gathering input from customers and end users** to help prioritize digital initiatives.

In our view, however, too many APR initiatives fail. This leaves enterprises paying for more applications than they need and saddled with slow, inefficient and rigid processes that reduce efficiency and make it harder for them to innovate.

The answer: Applying agile, iterative principles to APR to create a flexible, robust, optimized application portfolio more quickly and at lower cost than traditional methods. By giving users a greater voice and stake throughout the process,

agile APR requires fewer iterations and delivers a better and faster match between applications, infrastructure and a business's needs. Giving users a bigger say in the process also makes it more likely they will use the revised application portfolio to drive the digital change the organization needs and thus deliver a greater ROI from the APR process. All this gives an organization the ability to discover and meet new market needs before its competitors.

FIVE WAYS APR FAILS

Successful APR requires change, not only in applications but in how human beings and organizations work in the real world. Many APR efforts flounder because they fail to take such complexities into account.

Five common "worst APR practices" we have found are:

1. **A top-down down focus that, because it lacks sufficient input from front-line managers with the best views of the business, fails to reflect emerging digital needs.** Users who believe the focus of an APR effort is on eliminating applications often fear this will endanger their jobs, force them to learn new systems or make it harder to meet their key performance indicators. As a result, they often try to protect old, inefficient applications by giving them higher scores than they deserve during the APR assessment. This lack of accurate user feedback and involvement also makes it less likely they will use the new mix of applications, which reduces the benefits of the APR effort.

How APR Advances the Digital Agenda

Digital Requirement	How APR Can Help
Collect and analyze more and different types of data to improve business processes, better understand customer needs, and provide new digital products and services.	**Clarifies the company's requirements for data, and for platforms that allow cost-effective, forward-looking analysis of such data, through a detailed roadmap for rationalizing and enhancing data flows among applications and analytic platforms.**
Provide bidirectional sharing of data and services with an ever-expanding range of devices, including wearables, IoT sensors, autonomous devices such as automobiles and intelligent agents such as price-comparison bots.	**Clarifies the requirements for an architecture that spans new and existing applications and enables the associated data flows.**
Flexibly and dynamically move applications and data to public and hybrid clouds to meet cost, performance, security and other requirements.	**Creates a process to periodically identify applications that are best suited for the cloud and whose architecture makes such a migration feasible.**

Figure 1

In an attempt to cut short-term spending, many organizations upgrade only those systems that cause the most obvious and pressing problems, such as an inefficient or outdated manufacturing execution system. Such one-off upgrades are often difficult to integrate with other legacy systems such as ERP platforms, which slows implementation, increases long-term costs and reduces efficiency.

2. **Focusing on cost without enough emphasis on overall business impacts.** Too many organizations approach APR only as an opportunity to reduce their total cost of application ownership. As a result, they may fail to meet business-critical needs such as security and compliance, or (even more important) to develop more flexible architectures that enable them to grow by meeting unpredictable digital challenges and opportunities.

3. **Rigid, inflexible inventory and evaluation methodologies that do not accurately assess each organization's unique needs.** Even when APR templates and models are customized for a specific industry, the questions and assessment criteria are often not detailed and granular enough to capture the needs of users in a specific company. Nor do they identify the hidden inefficiencies unique to that organization that raise costs and make it harder to meet the needs of the digital marketplace.

4. **Siloed upgrades that delay the APR process and raise long-term costs.** In an attempt to cut short-term spending, many organizations upgrade only those systems that cause the most obvious and pressing problems, such as an inefficient or outdated manufacturing execution system. Such one-off upgrades are often difficult to integrate with other legacy systems such as ERP platforms, which slows implementation, increases long-term costs and reduces efficiency. They can also delay the productivity and cost benefits of mergers and acquisitions because they do not consolidate all the resulting redundant or overlapping applications.

5. **The lack of an implementation plan.** Rationalizing a complex portfolio requires choosing and deploying new applications, training employees on them, reconfiguring business processes, integrating new applications with legacy systems, negotiating contracts with new vendors and assessing whether to site new systems on-premises or in the cloud.

Identifying those applications and making higher availability for them a priority in the APR process would help assure the new portfolio drives higher productivity and user satisfaction.

Many organizations fail to take this into account in planning an APR effort. Others fail to implement the recommendations of an APR plan if they already meet current production and revenue goals. This imposes an ongoing, hidden tax in the form of inefficient, manual processes as well as lost growth opportunities because the organization cannot quickly adapt to new digital needs.

EIGHT BEST PRACTICES FOR AGILE APR

Like DevOps in the application development world, agile APR taps the power of user input – and frequent changes based on that input – to enable digital to take hold more efficiently and effectively. We recommend the following best practices for achieving the maximum benefit from agile APR.

1. **Gather accurate user data.** Engage users and other stakeholders more completely and consistently to generate more accurate data about how they use their current applications, the quality of those applications and emerging digital requirements. Freeze the templates that capture functional, technical and cost data about applications only after completing discussions with stakeholders and workshops that train users in how to gather the required data. Quickly customize templates and models based on user feedback to assure they reflect the features and functions users need the most. This iterative improvement of the data collection process helps assure that the new application mix meets the needs of the business and will be used.

2. **Find hidden needs.** Consider conducting on-site research at customers' offices to identify and meet their hidden human needs. This approach – which we call Insight to Code (see "Digital Engineering: Combining Computer Science with Social Science to Translate Human Needs into Precise Code" for more detail) – goes further than conventional focus groups and interviews to gain insights into user needs and incorporate them into new solutions. Such interactions help improve the APR process by identifying new user needs and data flows which the new, rationalized portfolio will need to support. This, in turn, increases end-user satisfaction and retention and produces incremental revenue.

A security assessment would include, for example, how well an application's level of security aligns with its importance to the business, how vulnerable it is to attack and the number of threats it has faced in the past.

Such research might show, for example, that users were annoyed by frequent application downtime due to unplanned maintenance during working hours. Identifying those applications and making higher availability for them a priority in the APR process would help assure the new portfolio drives higher productivity and user satisfaction.

3. **Vet the data.** Be sure department heads communicate the critical drivers of the APR exercise to all users to ensure the timely collection of accurate data. To avoid similar and biased answers from a lead that handles multiple applications, establish a team from multiple business units to define metrics based on application/platform cost, value and available data. Validate users' answers to eliminate "fudged" answers aimed at protecting their current applications. After an initial check to identify issues such as format discrepancies, missing data and manual errors, a mathematical model can check for inconsistencies such as a user ranking an application poorly on most of the individual criteria such as "user-friendliness" or "quality of reports" but still ranking the overall application highly.

4. **Look beyond features and functions.** To better focus APR on the organization's IT and business needs, proactively identify and address governance, regulatory or security issues that could delay the APR effort. A compliance gap, for example, would occur if an application that handles customer data from the European Union fails to meet the requirements of the General Data Protection Regulation (GDPR). A security assessment would include, for example, how well an application's level of security aligns with its importance to the business, how vulnerable it is to attack and the number of threats it has faced in the past.

5. **Clarify business goals.** Create clear, quantifiable measurement criteria and key performance indicators, as well as a cost/benefit analysis, to help effectively communicate the need for (and benefits of) APR and generate the needed support.

6. **Be flexible.** After receiving feedback from users on their application requirements, recalibrate the model based on the value of the functional, technical and cost aspects for each business unit, as well as for the subdimensions within each category. This allows organizations to assign different priorities for various parameters, such as a bank giving more weight to security than to ease of use.

7. **See the big picture.** Take a comprehensive architectural approach, with up-front assessments of the expected effort required to implement the portfolio rationalization. By understanding the scope of work up-front, business managers can budget for an overall rationalization plan, thus avoiding siloed upgrades and easing the application and data integration effort.

8. **Follow through comprehensively.** Prepare and execute a detailed plan to apply the APR recommendations for applications to retire, consolidate and upgrade. This includes, for example, training end users and familiarizing them with the changes implemented in the portfolio to assure the maximum use of the new, rationalized portfolio. It also may include renegotiating maintenance and support contracts to ensure the organization is not paying unneeded support costs and is getting the best support for its investment and for deciding which applications to host in-house and which in the cloud. A phased implementation delivers the initial benefits most quickly to drive continued support from users and business leaders.

AGILE APR FOR DIGITAL SUCCESS

APR is seemingly straightforward: Assess an organization's existing applications and infrastructure and modify them to better meet its needs at the lowest possible cost. But getting APR right requires meeting a complex blend of technical, business and cultural challenges. In the digital age, it must also provide the flexibility to quickly and easily upgrade applications and infrastructure to meet unpredictable technical and business needs (see Quick Take, page 10).

A successful APR effort also relies on getting accurate answers about application value from front-line business users, gathering a detailed enough picture of an organization's specific business needs, and then providing a roadmap so the rationalization is implemented and the optimized applications are used. (see Figure 2).

A truly agile and iterative APR program meets these goals, giving the enterprise the tools and flexible architecture to grow by meeting today's, and tomorrow's, digital needs more quickly and at lower cost than its competitors.
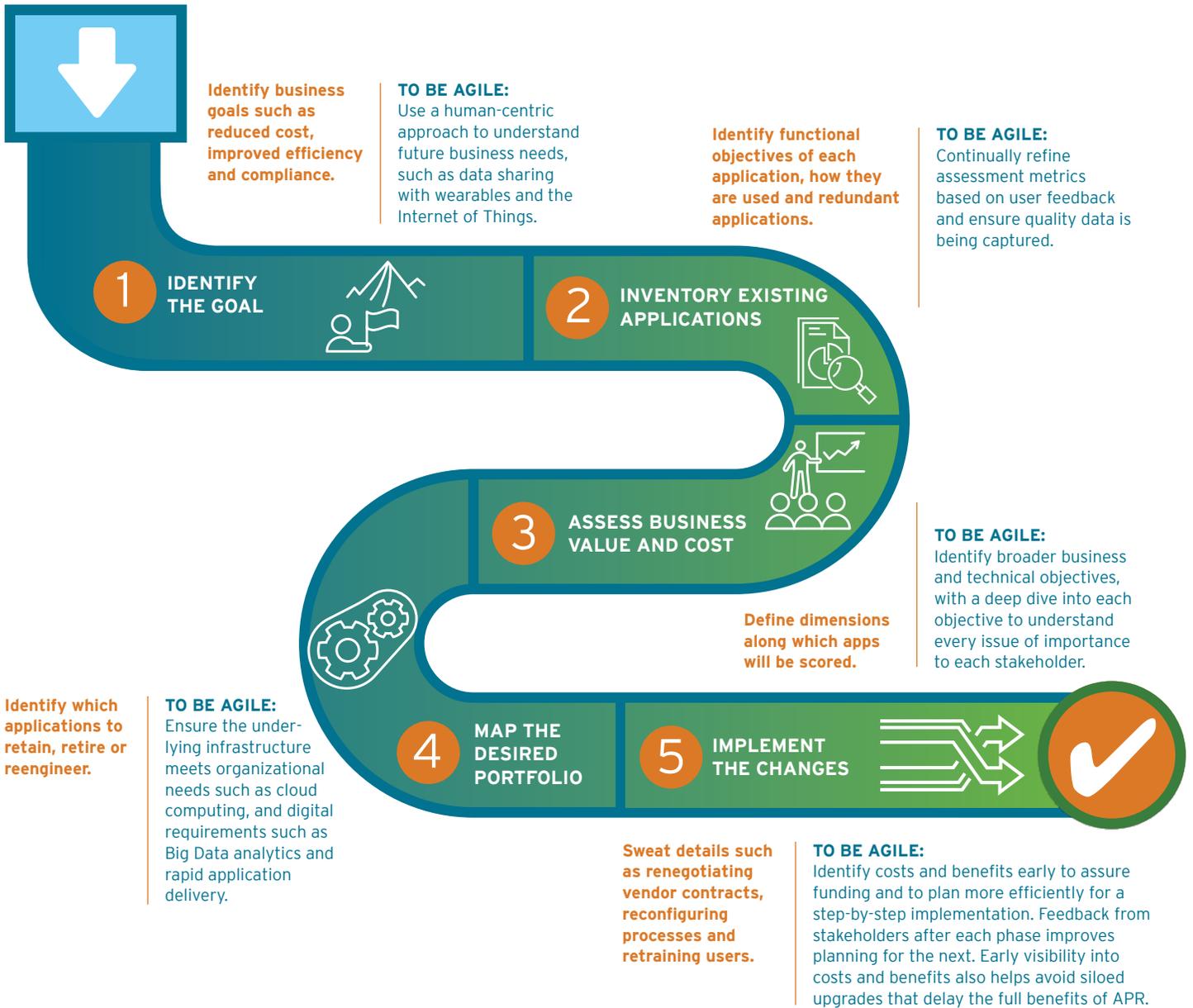
How Agile APR Speeds Digital Change

Identify business goals such as reduced cost, improved efficiency and compliance.

TO BE AGILE:
Use a human-centric approach to understand future business needs, such as data sharing with wearables and the Internet of Things.

Identify functional objectives of each application, how they are used and redundant applications.

TO BE AGILE:
Continually refine assessment metrics based on user feedback and ensure quality data is being captured.

1 **IDENTIFY THE GOAL**

2 **INVENTORY EXISTING APPLICATIONS**

3 **ASSESS BUSINESS VALUE AND COST**

TO BE AGILE:
Identify broader business and technical objectives, with a deep dive into each objective to understand every issue of importance to each stakeholder.

Define dimensions along which apps will be scored.

Identify which applications to retain, retire or reengineer.

TO BE AGILE:
Ensure the under-lying infrastructure meets organizational needs such as cloud computing, and digital requirements such as Big Data analytics and rapid application delivery.

4 **MAP THE DESIRED PORTFOLIO**

5 **IMPLEMENT THE CHANGES**

Sweat details such as renegotiating vendor contracts, reconfiguring processes and retraining users.

TO BE AGILE:
Identify costs and benefits early to assure funding and to plan more efficiently for a step-by-step implementation. Feedback from stakeholders after each phase improves planning for the next. Early visibility into costs and benefits also helps avoid siloed upgrades that delay the full benefits of APR.

Figure 2

QUICK TAKE

APR Drives Savings for Pharmaceuticals Giant

A Fortune 500 pharmaceuticals giant turned to us for help streamlining more than 600 applications across six business units, supporting functions such as finance, human resources, operations and security.

We worked closely with end users and business partners from multiple departments to understand the application landscape, developing a customizable solution to evaluate application systems from both business and technical standpoints. Our work resulted in a short-term plan for reducing maintenance costs and a long-term roadmap for streamlining the portfolio to better meet the organization's future needs.

Among other benefits, our recommendations are expected to deliver:

- A 5% decline in software maintenance and support costs by identifying and eliminating low-value and underused applications.

- A 15% reduction in application bloat.

- More than $750,000 in savings in the overall cost of applications, in part by identifying applications that no longer need the highest, and most expensive, levels of vendor support.

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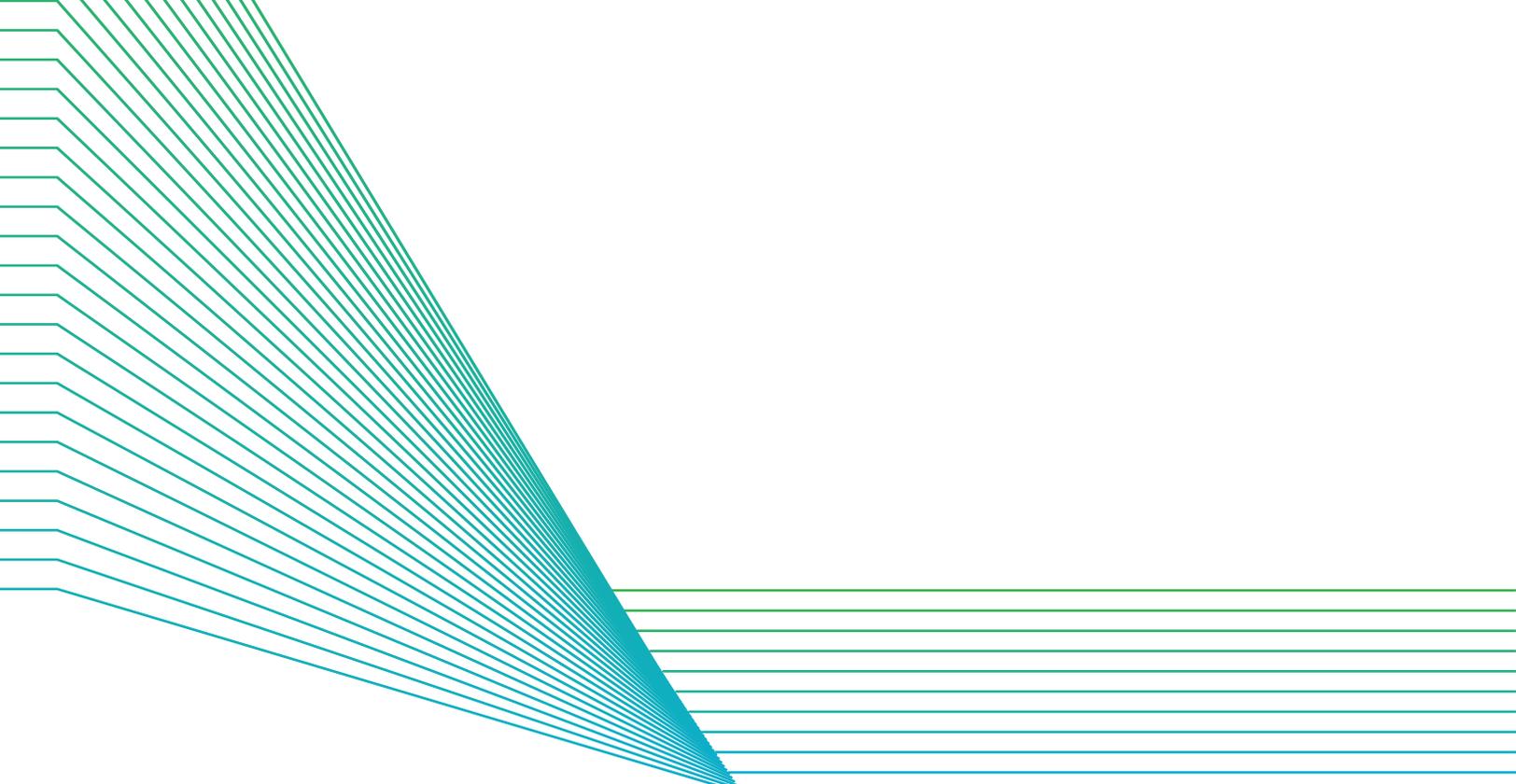
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ABOUT COGNIZANT

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 195 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.

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