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Reimagining Your Legacy Systems for the Digital Age

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A strategically planned approach to hardening your legacy systems can cost-effectively transform them, making cumbersome systems agile and responsive to changing business needs.

Many organizations still rely on their patchwork of legacy systems to power their day-to-day business, but few modern global companies can depend on such aging infrastructure and continue to stay competitive.

The need for updated legacy systems has become an imperative even as more organizations harness disruptive technologies that have the power to transform how they do business.

Globalization, emerging technologies, increased competition and growing consumer expectations are trends that have reshaped industries in the digital age. Organizations now face the pressure of having to bring new products and services to market faster, against competitors that are more agile technology adopters.

There is also the added expectation from consumers for businesses to provide round-the-clock service, with the same speed and agility they are used to from technology companies.

However, core systems at the heart of business operations are often a patchwork of systems cobbled together over the years. The legacy systems that sit at the core may drive critical day-to-day operations, but they often are a tangle of complexity that doesn't meet business needs.

"All too often, IT hobbles the business with legacy technical debt, overly complex business and IT processes, reluctance to adapt to new technologies and operating models, and increased exposure to security threats," says Pradeep Shilige, Executive Vice President and Global Head at Cognizant Digital Systems & Technology.

Telltale signs to update legacy systems

While you may have been using your legacy systems for some time, at some point it makes sense to update them.

The need for updated legacy systems has become an imperative

"With so much changing so quickly and with so much at stake, it's no longer feasible for organizations to spend 60%, 70% or even 80% of their IT budgets on maintaining their legacy systems," says Shilige.

However, the question for many is when updates should be carried out. The following are signs your core systems are due for an update:

- **High operation and maintenance costs.** The system could be running on hardware or software that is no longer supported. Staff with hard-to-find skill sets can also be expensive. For instance, many COBOL-based solutions are still in service, but there is a decreasing number of skilled COBOL programmers.

- **Lack of integration.** Over time, system maintenance and upgrades have caused functions to break down. The introduction of new applications or extensive customizations has resulted in a patchwork of systems, many of which are not compatible with each other.

- **Poor user experience.** Response times are at unacceptable levels, where staff or customers are unable to access the data they need efficiently.

- **Mismatch between system and business needs.** Your business focus may have changed, but the system can't support the new requirements or is unable to adapt quickly enough.

While these telltale signs suggest it is time for a change, legacy systems can still remain useful or even critical to day-to-day business operations. Instead of replacing their legacy systems, or while migrating to a new system, many companies choose to harden their existing systems.

New applications or extensive customizations has resulted in a patchwork of systems

A Gartner survey found that 45% of respondents said that one of the top five IT project priorities is "application modernization of installed on-premises core enterprise applications" and a further 41% say that "extending capabilities of core enterprise applications" is a top five priority.[1]

Choosing to harden and update your current systems can help you make the most of them and realize potential benefits more quickly. As a lower risk option, legacy hardening can save time and money by reducing support and maintenance costs. It can also help companies unlock additional value that can be reinvested in digital transformation initiatives.

Another advantage is it improves application and system performance. Automating and identifying redundancies in applications and processes can translate to efficiencies, cost savings and less manual labor. Improving interfaces can enhance data access and usability, making it easier to tap valuable data in legacy systems.

Why hardening legacy systems requires careful thought

To undertake a legacy hardening project, IT must understand what approach it wants to take and what it is trying to achieve. One challenge is legacy systems may not fit well with new digital technology. There could be silos between core legacy systems and new applications, leading to a fragmented view of the customer. Often, systems have been upgraded or patched multiple times, making them complex to maintain and update.

"Reducing legacy debt is an ongoing work required to maintain, enhance, secure and update existing applications and platforms," says Prakash Hemdev, Senior Vice President and Global Head of Strategy and Marketing at Cognizant Digital Systems & Technology. "Every time the business creates or acquires a new application or infrastructure component, it adds to this debt, raising the cost of maintaining existing systems."

Approaches to revitalizing core legacy systems that involve incremental improvements include the following:

- **Portfolio and workforce rationalization.** Analyze and evaluate your application portfolio for its business value. Identify obsolete, redundant applications, and eliminate or remedy poorly performing application assets.

  Portfolio rationalization is not just about cost cutting, but also about transformation into an agile and productive portfolio that meets the business and IT needs of your organization. A global telecom company increased productivity by 20% and application stability by 40% when global service provider Cognizant helped to rationalize redundant commercial products and improved its application portfolio management.

Legacy systems can still remain useful or even critical to day-to-day business operations

1   "Gartner Says Modernization and Digital Transformation Projects Are Behind Growth in Enterprise Application Software Market," Gartner, Aug. 27, 2015

- **Reduce technical debt through architecture hardening.** It is hard to be agile when bogged down by technical debt. Technical debt is often poor-quality software or other technical problems resulting from code that may have been pushed into production too quickly and now creates incidents that need to be addressed. Technical debt ties up budgets by diverting it to application management instead of enabling innovation.

  Aim to address technical debt by reducing maintenance debt. Take an inventory of existing applications, platforms and infrastructure, and identify what is no longer necessary or cost effective.

  Identify the business transactions undertaken by the key apps, and trace their impact throughout the IT portfolio, determining how long it takes for the transaction and related data to flow through the relevant business processes. Then, rationalize, automate, optimize and transform those processes. Harden your legacy architecture by aligning the features of the applications with business requirements.

- **Process optimization.** Process optimization can mean improving or repairing a business process. One way is to optimize the processes that will deliver a marked improvement in performance, and aim to improve the speed at which transactions are processed, such as having a goal of 99.9% straight-through processing.

- **Platform/product upgrades.** Analyze which platforms and software can be updated. Then upgrade the platforms and update to the latest software releases.

- **Integrated app and infrastructure service synergy.** Driving synergies in application and infrastructure management allows organizations to significantly optimize IT operations, reduce costs, enable faster problem resolution and reduce failures.

Harden your legacy architecture by aligning the features of the applications with business requirements

To increase business value and enhance customer satisfaction, drive synergies by linking outcomes to business performance.

- **Layer on new capabilities.** One approach is to enhance the usability of an existing application by making it available for the web through a service or web front end. This preserves the high investment in legacy applications, improving customer and employee access while making them available as server applications on the host system.

Faced with the fiercely competitive telecommunications market, a Dutch mobile telecom company knew that while its legacy systems were vital to its operations, a refresh was seriously needed.

Possessing a legacy architecture that was spread across a siloed IT stack and managed by a large number of suppliers with limited accountability impeded the ability of its IT organization to respond quickly to changing business needs. When Cognizant helped the telco rationalize its legacy system, not only was its operating expenses reduced, but it also enjoyed improved system uptime and shortened time to market.

The hardening program reduced total operating expenses by almost 18%, improved system uptime to 99.9% and reduced release cycles from nearly five months to eight weeks.

Legacy IT environments represent years of investment and lie at the core of businesses. Any barriers that prevent these systems from being agile and responsive to business needs and a source of innovation must be addressed. With the right strategy and approach, a revitalized legacy system has the potential to be a foundation for enterprise innovation and growth, fueling business transformation for the digital age.

> # With the right strategy and approach, a revitalized legacy system has the potential to be a foundation for enterprise innovation

ABOUT COGNIZANT'S DIGITAL SYSTEMS & TECHNOLOGY

Cognizant Digital Systems & Technology helps clients create, evolve and transform applications, platforms and infrastructure to meet the needs of the modern enterprise—unlocking value in legacy technology environments, adapting to the speed of change and ensuring the integrity of the IT core. To learn more, contact us at simplify@cognizant.com. You can also visit us at www.cognizant.com/cognizant-digital-systems-technology, or email us at Inquiry@cognizant.com.

ABOUT COGNIZANT

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