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Modernization in the Digital Era

Competing successfully against digital disrupters requires a fresh approach to modernizing your existing IT landscape

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Over the course of the past two decades, companies have invested hundreds of billions of dollars and millions of man hours developing and maintaining what are now considered their legacy IT systems. And while these systems are largely reliable, capably performing the record-keeping jobs they were built to do, they are being taxed in unanticipated new and sometimes costly ways.

IT can no longer remain behind the scenes. Today it belongs on the forefront or edge of business focused on digital touch-points with over-the-top customer experience as well as data and analytics for the highest consistency and unprecedented knowledge of clients' behaviors. The need for legacy systems to interact with digital applications is pushing them to process dramatically increased transaction volumes and operate at speeds greater than the systems were ever designed to handle.

Online and mobile commerce in every industry is straining companies' legacy systems considerably with an increasing number of requests for product, pricing and other data. Whereas a decade or more ago, only a few hundred dedicated users—such as an insurance adjustor or a travel agent—would access a company's system for data, today companies contend with millions of requests from outside users and data aggregators for that same information. And the company's yield from these new transactions is much lower than in the past (think information-only versus revenue-generating). This increased volume requires more computing resources to support the same level of revenue generation than it used to, pushed to unprecedented volume peaks by new technologies, such as consumer shopping bots.

Beyond performance challenges, established companies are at a competitive inflection point. New digital disrupters can build a brand-new, IT landscape, while companies with legacy systems must seek ways to integrate new, digital technologies harvesting legacy technology to maximize their IT investments. In many cases, much of the legacy IT is perfectly viable, and companies simply need to enhance their systems with digital technology to meet growing demand. To do so, they must establish an optimal mix of applications with digital touch-points, mapping out a logical, economic and disciplined plan to accelerate their journey to digital via legacy—by carefully considering all of the latest modernization approaches at their disposal.

Legacy, selectively exposed

When companies think about how to bring their legacy systems into the digital era, their initial assumption is they will have to 'rip and replace'. Sometimes this method may make sense, but more often bringing IT systems into digital-ready mode is an iterative process—one that doesn't involve a start-from-scratch approach.

Though there is no one-size-fits-all solution, there are many techniques companies can take to integrate aging applications with digital channels without ripping out the entire legacy backbone. The key is creating flexibility to add new digital layers which supplement business functionality and support growth. Companies can start by decomposing existing systems and breaking them into discrete components.

This is a far less disruptive approach than completely replacing an existing core legacy system and allows companies to create new channels at scale. Additionally, gradual integration can be a less disruptive and easier approach to modernization than wholesale change. Another valid option is to put a fence around other applications by reinvesting in them but not modernizing them.

For example, a large electricity supplier wanted to unlock the value of existing systems by seamlessly connecting them with new technologies such as mobile, APIs and cognitive agents.

The company broke down application functions into reusable building blocks through a structured decomposition process. An important part of the initiative included defining clear interfaces and creating an API management layer to measure consumption and avoid overtaxing traditional applications as well as digital channels.

Similarly, a leading bank moved from its traditional branch focus to become more digital and customer-centric by implementing digital banking architecture and platform based on open source technologies. By decomposing its separate lines of business systems and instituting a cross-channel banking platform, the bank improved customer experience, increased application agility and enabled account opening to be reduced from 2 weeks to 7 minutes.

Workload shifting and data acceleration

By allowing their services to be consumed on a pay per consumption basis, companies can increase their revenue base through non-traditional clients.

Along with the decomposition approaches described earlier, there are several other tried and true methods companies can now employ on a pay per consumption basis to enable leveraging legacy systems and existing architectures with digital channels at scale.

One such approach is to shift workloads off core legacy systems to environments such as cloud or, data acceleration layers that support requisite elasticity.

Companies also are looking to integrate legacy data with analytics engines and other digital channels. Migrating read-only transactions and data to modern ecosystems such as data lakes and resilient distributed datasets, help in acceleration of digital adoption.

One company implemented a data lake, based on open source technologies, around its existing core banking system. This allowed the company to reuse components of its original system to accelerate time to market for new features by six months. In addition, the data lake contributed to a reduction in its online transactions by as much as 60 percent and freed up 50 percent of its capacity for other processing needs.

Taking Action

To compete in the digital age, companies need their older systems to step up their game at scale. And interact with new technologies and share data across applications.

Selectively exposing legacy and adding new digital layers enables this flexibility. And, there are modernization approaches to fit each application's needs. For example, moving applications to a data acceleration or cloud-based layer during seasonal spikes in transactions; breaking down an application into a library of components for application reuse; or creating an API management layer to facilitate access by other systems or external entities. Through leveraging contemporary modernization options, enterprises can transform their legacy IT systems for the digital era without replacing them.

An important first step, when considering how to integrate legacy and digital, is to understand the

business requirements. Are you considering opening your backend systems as a result of growth in business transactions and change in yield because of digital channels? Are your increased compute requirements still delivering value? What is your approach for keeping complex legacy systems up and running while also increasing efficiencies? Are your legacy applications able to keep up with changing compliance and cyber risk challenges?

Discovery tools and cognitive agents can provide a clear view into your legacy applications so that you can best determine what modernization approach will deliver the most business value for each targeted application.

Once you understand this optimal legacy landscape, it is beneficial to consult with your architecture staff or a systems integrator to determine how to approach modernization without disrupting the user experience. During this step, it's critical to evaluate which applications provide your business with key functionality and have the biggest impact on potential growth and business strategy to select the applications that make the most sense to modernize.

The final step is creating a modernization plan, incorporating both business and IT objectives, to transform traditional applications and help companies compete in the digital era.

Data acceleration

To unlock the value hidden in their data, companies are harnessing data acceleration, allowing data to flow easily and usefully through the entire company—and eventually throughout each company's ecosystem of partners, including suppliers and customers.

Data acceleration introduces tools and techniques that enable massive amounts of data to be transported, stored and accessed at lightning speeds. It applies to non-transactional or read-only data; optimizes the exchange between data consistency and availability; and enables interaction with data in a more agile way. Data acceleration helps companies move data swiftly, perform analysis on the data, gain actionable insights and facilitate faster responses.

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To learn how to transform your IT environment to be digital-ready, please contact:

Pramod Bijani

Accenture Technology— Modernization Services pramod.bijani@accenture.com

16-1364