



The Role of Integration in Application Modernization

Cloud integration bridges the gap between legacy and modern IT infrastructures to speed projects and bring greater agility to your business operations

Ask a dozen IT and business leaders to define *modernization* of business applications, and you'll likely get a dozen different answers.

For many, modernization means replacing costly and outdated on-premises legacy systems with more flexible user-friendly cloud applications. For others, it means introducing interoperability between mission-critical legacy systems and SaaS services. Some will also cite the need to embrace mobile, big data, and Internet of Things (IoT) technologies.

The shape and scope of modernization vary widely, but its goals are common across organizations and industries — to reduce costs and support a broader digital transformation strategy for building a more agile, customer-centric, and data-driven business that can outpace the competition.

Regardless of the technologies or business goals, integration makes modernization work. Modernization cannot happen if new cloud applications exist in silos, leaving data fragmented across the enterprise.

Modernization fails if a mission-critical legacy ERP application cannot communicate with a modern cloud application for sales automation, human resources, or marketing.

In many cases, integration software needs modernization. Traditional on-premises middleware — such as extract, transform and load (ETL) tools or enterprise service bus (ESB) frameworks — is not well suited for rapid and efficient integration across hybrid IT ecosystems of cloud and in-house systems or mobile and IoT technologies. And point-to-point coding introduces a complex web of spaghetti connections that are inflexible and costly to develop and maintain.

The most effective modernization strategy focuses on business applications and the integration infrastructure. This two-pronged approach better aligns IT investments with business objectives. With this strategy in place, organizations can move towards building a modern and transformative digital ecosystem with fluid interoperability and data exchange across internal and external applications.

They can easily bridge between applications in the cloud and on-premises.

From modernization to digital transformation

Modernization and digital transformation are complementary but distinct. Modernization can be viewed as a foundation for digital transformation.

Think of it this way — no organization running 1980s-era green-screen applications can be a successful digital-first enterprise. While most green-screen systems are retired, many successor applications running on premises face their own green-screen obsolescence. They are becoming increasingly out of place in today's more dynamic application and data hybrid infrastructure.

As applications age, costs typically increase. Organizations encounter difficulty and expense finding specialized resources to maintain and add custom code, which is usually poorly documented. Vendor licensing and maintenance costs remain high. And if a vendor phases out support for an older product, organizations must cope with maintenance headaches and version lock.

The inefficiency, inflexibility, and limited visibility of outdated software exacts additional costs on the business. Porting an old application to a new on-premises server requires capital investment and resource allocations. Such factors have driven rapid growth in public cloud applications, with the analyst firm IDC projecting that worldwide spending on public cloud services will grow at a 19.4% compound annual growth rate (CAGR) — almost six times the rate of overall IT spending growth — from nearly \$70 billion in 2015 to more than \$141 billion in 2019.¹

Cost reduction alone can spur modernization. Legacy systems represent a familiar culprit in the 80/20 budget straitjacket, with 80 percent of an IT budget dedicated to “keeping the lights on” and just 20 percent left to invest in digital transformation initiatives.

Four thousand business leaders cited insufficient budget and resources as the top barrier to digital transformation in a survey by research firm Vanson Bourne conducted on behalf of Dell Technologies.² That study also found that just 28 percent of respondents believed they could innovate in

1: IDC, “Worldwide Public Cloud Services Spending Forecast to Double by 2019,” January 21, 2016.
2: Dell Technologies, “Embracing a Digital Future: Transforming to Leap Ahead,” October 2016.

“Customers are faced with two challenges. On the one hand, they need to embrace digital transformation. On the other hand, they need to modernize their infrastructure in order to pay for the digital transformation, because it's not as if they're given an extra budget...”

Michael Dell
Chairman and CEO, Dell Technologies

agile ways, and only 26 percent could deliver personalized customer experiences.

Modernizing from costly and inflexible technologies positions the organization for enterprise-wide digital transformation. Choices in integration strategy and technology make or break modernization efforts and determine the success of digital transformation.

An integration-centric approach to modernization

To bridge the gap between their existing on-premises systems and the rapidly increasing array of powerful cloud-based enterprise applications and services, many organizations turn to the cloud. Organizations realize that cloud-based integration presents the best way to address the core challenges to their application modernization strategies.

An integration platform as a service (iPaaS) is ideal for cloud-to-cloud and cloud-to-on-premises scenarios because of native cloud connectors that on-premises tools

lack. Organizations find iPaaS well-suited to connecting mobile and IoT data, applications and devices that often live outside the firewalls of the enterprise. And at many enterprises, iPaaS augments traditional ETL and ESB middleware systems that have difficulty managing connections with cloud-based applications and data.

iPaaS has matured rapidly since Boomi introduced AtomSphere, the industry's first iPaaS, in 2007. Now, Dell Boomi supplies enterprise-grade capabilities to more than 5,000 customers for any-to-any data and application integration, master data management (MDM), API management, and EDI management.

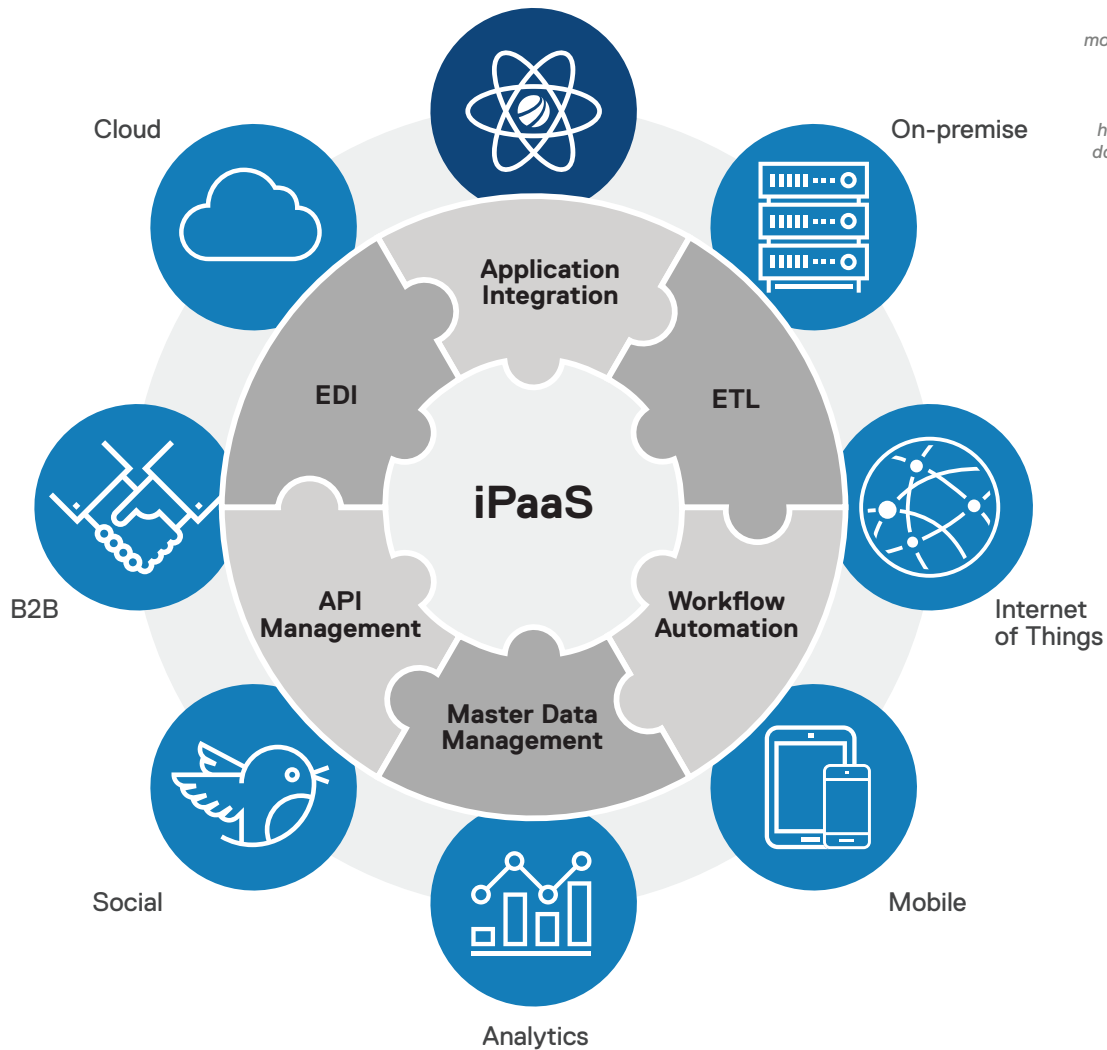
Analyst firm Gartner noted the maturation of iPaaS solutions:³

“Initially perceived as a tactical solution for CSI [cloud service integration], the modern nature of these [iPaaS] platforms has meant that they have rapidly added integration capabilities suitable for many on-premises scenarios as well as for B2B integration and API management. As such, iPaaS offerings are increasingly competing with on-premises integration products for strategic positioning within a company’s integration technology portfolio.”

3: Gartner, “Selecting the Most Suitable Platform for Cloud Service Integration,” October 24, 2016.



The Dell Boomi iPaaS accelerates modernization efforts by addressing any-to-any integrations with a host of cloud-based data and application management capabilities.



iPaaS supports the goals of application modernization initiatives in several ways. It helps organizations:

- **Reduce costs.** iPaaS offers predictable up-front pricing without capital investments while helping lower total cost of ownership over the long term compared to traditional integration technologies.
- **Speed implementation.** With modern, intuitive interfaces and “no-code” drag-and-drop design environments, iPaaS integration projects can be accomplished in a fraction of the time of traditional methods.
- **Enable agility and innovation.** iPaaS technologies seamlessly connect increasingly disparate “hybrid” systems to enable the data visibility and process efficiencies that are needed for flexibility and innovation in business and IT operations.
- **Decrease resource requirements.** A point-and-click interface, prebuilt connectors, and a configuration-based development environment greatly reduce the need for staff with specialized coding skills.
- **Gain enterprise-wide flexibility.** Unlike ETL and ESB tools with their limitations for cloud connectivity, iPaaS supports integration across any combination of cloud or on-premises systems.

Top use cases for integration-centric modernization

Making agile, cloud-based integration a centerpiece of application modernization opens new opportunities for business and IT. iPaaS supports a range of practical, high-priority use cases far more quickly and cost-effectively than traditional on-premises integration technologies.

 <p>Unlock value from legacy applications</p>	<p>Issue: Despite migration to the cloud, many enterprises shun the risk, cost, and business disruption of moving from on-premises legacy ERP and other systems that fulfill mission-critical functions.</p>	<p>Solution: Using an iPaaS, organizations have a low-risk, cost-effective means of incrementally connecting on-premises systems to new cloud, mobile and other modern applications, preserving IT investments and ensuring business continuity.</p>
 <p>Accelerate cloud-centric business</p>	<p>Issue: Organizations deploying large numbers of cloud apps need a way to rapidly connect them. “Shadow IT” cloud apps deployed by the business without IT oversight introduce new data silos.</p>	<p>Solution: With prebuilt connectors to leading cloud applications, iPaaS provides a fast, repeatable framework to integrate software as a service (SaaS) CRM, financial, human resources, marketing, and other systems. And through iPaaS, IT can far more easily manage the governance and security of cloud-based applications to avoid the development of shadow IT.</p>
 <p>Streamline subsidiary and market expansion</p>	<p>Issue: Expanding into new geographic markets or launching subsidiaries usually requires costly and lengthy deployments to stand up an application infrastructure.</p>	<p>Solution: Organizations can deploy cloud applications at a new location and connect them to core on-premises ERP through an iPaaS that supports robust two-tier architectures.</p>
 <p>Support mergers and acquisitions</p>	<p>Issue: A merger or acquisition confronts IT with ensuring interoperability between diverse applications across the merged organizations. If not addressed effectively, such integration challenges can greatly limit the success of the joined businesses.</p>	<p>Solution: iPaaS-based systems provide the development speed and flexibility IT teams need to navigate the wide-range of integration scenarios required to unify two previously independent businesses.</p>
 <p>Innovate in the API economy</p>	<p>Issue: No longer simply a technical interface, APIs have become a business priority that drives revenue by connecting with internal and partner applications. Enterprises need to leverage APIs to connect mobile, social, IoT, and big data sources with legacy applications, but API development and management are traditionally complex and resource-intensive.</p>	<p>Solution: API capabilities in leading iPaaS systems make API development and management faster, simpler, and more scalable by bringing all integrations and their applications together on one common, drag-and-drop development environment with a centralized “single pane of glass” view of all API connections.</p>

Keeping ahead of the modernization curve

The stunning growth in cloud applications has rapidly reshaped enterprise operations and created a new hybrid model for IT infrastructure. But as organizations are discovering, cloud integration offers the best approach to addressing the challenges of today's far more dynamic application environments.

Cloud-based integration provides a far more agile, flexible and streamlined approach to data and application management. It quickly and cost-effectively bridges the gap between legacy systems and today's cloud, mobile, IoT, and big data systems, helping pave the way to digital transformation.

About Dell Boomi

Dell Boomi, a business unit of Dell Technologies, provides a multi-purpose iPaaS platform trusted by thousands of companies around the world. The Dell Boomi AtomSphere iPaaS platform simplifies complex environments with a single solution that encompasses:

- **Data and application integration** across any-to-any sources and targets, supported by a scalable, secure, enterprise-grade cloud platform.
- **Master Data Management (MDM)** to reconcile data across multiple applications into a single version of the truth.
- **API management** to create, publish and manage fast-growing numbers of APIs for use across internal and external applications.

To learn more, visit us today at www.boomi.com

© 2017 Dell, Inc. ALL RIGHTS RESERVED.

Dell, Dell Boomi, the Dell Boomi logo and products—as identified in this document—are registered trademarks of Dell, Inc. in the U.S.A. and/or other countries. All other trademarks and registered trademarks are property of their respective owners.