

# Application Modernization in the Public Sector: Embracing Agility to Support Innovation

Federal, state, and local government agencies can speed application modernization and fuel innovation with cloud-native integration across hybrid IT environments.



# Meeting the Demands of a Digital World

The pressure is on public sector IT to modernize in the digital era.

It's about cost efficiency, streamlined operations, data-driven decisions, and digital innovations. Fundamentally, it's about better service to stakeholders — citizens, businesses, legislators, nonprofit partners, and other governmental agencies.

Public sector IT can't be enslaved by legacy technologies if it's going to achieve those goals. Modernizing from outdated on-premises systems to best-of-breed cloud applications is a top priority for IT leaders at the federal, state, and local level.

Integration plays a pivotal role in application modernization. As new apps are rolled out, they need to connect across an evolving hybrid IT landscape of both new cloud applications and mission-critical legacy systems.

Just like other technologies, integration has moved to the cloud. Integration platform as a service (iPaaS) is the catalyst to jumpstart modernization. And it provides a future-proof framework to connect anything, from mobile apps to Internet of Things (IoT) devices that can power "smart cities."

In this ebook, you'll get an inside look at how and why public sector IT is embracing cloud-native integration to support and sustain application modernization in a fast-changing world.

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**Against a backdrop of technological change, governments are under increasing pressure to improve constituent services,** making them as fast, personal, and agile as commercial services have become.  
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KPMG,  
**Modern Government**

# Navigating the Challenges of Legacy Technical Debt

Outdated technologies and legacy applications are an obstacle for public sector CIOs looking to innovate and deliver modern services to their constituents. Federal, state, and local government agencies need to evolve to more flexible digital platforms to fulfill mission objectives.

Under pressure to meet the needs of a digital society and trim operational overhead, public sector IT leaders have begun to take stock of their applications and decide what to keep, what to replace, and what to retire.

This process of “application rationalization” is needed to alleviate the pains of brittle legacy architectures — high maintenance and upgrade costs, limited flexibility, and poor connectivity for newer mobile and edge devices. Those factors drive up technical debt for IT organizations at the federal, state, and local level.

Technical debt is the accumulated burden required to maintain IT projects developed or integrated hurriedly in the past, and it consumes a large share of government IT budgets. For example, **78.5 percent of federal IT spending** in 2018 went to operations and maintenance of legacy systems. That left just 21.5 percent for what the government categorizes as development, modernization, and enhancement.

Technical debt ends up starving IT organizations of funding, time, and energy they could otherwise devote to strategic initiatives such as digital transformation. One way or another, old, costly applications need to be replaced with modern applications, or they need to be rationalized to connect with newer cloud applications and services.

Application modernization is imperative for public sector IT organizations that want to drive innovation. While goals behind IT modernization may vary from state to state and agency to agency, the common objective is to substantially change the way IT organizations structure themselves and deliver services.

## Best practices to manage technical debt:

1. Conduct a thorough technical debt assessment
2. Create a modernization roadmap — prioritize what to address and what not to address
3. Start with a small project
4. Document everything — requirements, architecture, maintenance, etc.
5. Define your KPIs for success

# Modernizing Applications and Their Integrations

Application modernization takes advantage of the agility, flexibility, and cost savings available with new cloud-based applications.

But no application ever operates as a silo. The old applications being replaced, whether running on-premises or in the cloud, are most certainly connected to other applications and data repositories.

And chances are those integrations were built using older technology that involved custom coding. Some of the integrations might be point-to-point. Others might be managed by an enterprise service bus (ESB) or other legacy middleware.

In either case, replacing an old application with a new application requires breaking those old integrations and building new integrations to leverage data for insights, orchestrate processes, and support innovation.

The question for public sector CIOs, enterprise architects, and application teams is: “How do we create modern integrations among these new best-of-breed applications?”

Should federal, state, and local CIOs rely on the old technology that created the previous hard-wired integrations, or should they modernize integrations at the same time they modernize applications?

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**The use of data is transforming society, business, and the economy.** The federal government needs a robust, integrated approach to using data to deliver on mission, serve customers, and steward resources while respecting privacy and confidentiality.  
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The President’s Management Agenda,  
**Leveraging Data as a Strategic Asset**

# Supporting Modern Applications With Modern Integration

Application modernization requires integration modernization. Integration modernization doesn't require eliminating all old integrations or ESBs at once. Rather, it's an initiative that can proceed application-by-application.

But integration modernization does require a new approach. It starts by establishing a new model and foundation for how you integrate the mix of applications in your rapidly evolving hybrid architecture.

Critically, your new integration platform should be able to equally support both new cloud applications and your existing legacy applications. And it needs to be able to easily bridge between those two worlds.

As with other applications and technology services, integration is moving to the cloud. A modern integration platform as a service (iPaaS) can support the needs of a hybrid infrastructure, as well as provide a host of other advantages over legacy integration technologies. These advantages include increased business speed and agility, with much lower costs and risks from inaccessible or poor-quality data.

Once these new integrations are in place, the IT organization can begin replacing the old applications without the risk of disrupting business operations. And the organization will have reduced its technical debt, freeing resources for new, more strategic initiatives.

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**92% of state CIOs plan to expand use of cloud-based “as a service” models by 2020.**

83% of state CIOs are taking or plan to take a lead on advocating for data as a strategic asset.

2019 State CIO Survey, NASCIO

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# The Benefits of Modernizing Applications and Integrations

The advantages of a modern, cloud-native integration platform are significant compared to legacy middleware and custom-coded integrations.

- **Speed:** A modern, cloud-native iPaaS helps organizations build integrations in one-fifth of the time required by custom coding and traditional on-premises middleware. The speed at which you can connect new cloud applications to enterprise data is key to increasing the speed of your modernization efforts, and ultimately how quickly you can fulfill mission objectives.
- **Agility:** With the speed of an integration platform that uses a low-code development environment, you can easily provide data to applications and people when, where, and how they need it. That helps ensure your public sector agency can swiftly digitize services while avoiding needless costs.
- **Reduced costs:** Because your integration work is done so much more quickly, development and testing time is dramatically reduced, helping trim labor costs. And with a cloud-native platform, you avoid all the capital costs of on-premises software, including hardware upkeep and software maintenance.
- **Reduced risks:** Because integrations are no longer brittle, you can make changes quickly and easily. Your IT team no longer needs to handle software upgrades, as they're automatically provided by your cloud integration vendor. And with baked-in security features and standards support, a modern cloud integration platform provides consistent and thorough protection to demanding requirements.

## With an iPaaS, federal, state, and local IT leaders can easily:

- Extend legacy architecture to the cloud
- Create a cloud-agnostic strategy to use best-of-breed applications
- Expand into IoT use cases and data streaming services
- Aggregate data to a destination data depot for comprehensive analytics
- Leverage AI and machine learning to unlock more value from the data
- Keep up with security vulnerabilities
- Lower demand on budgets and other IT resources

# Case Study: Integration Modernization at a Large International Airport

At a large international airport in the U.S., the IT team struggled with slow, costly integration development and maintenance through an on-premises legacy middleware platform. That roadblock frustrated the airport's goals of customer-centric innovations, faster IT delivery, and a strategic move to a cloud-first hybrid IT environment.

The airport, owned and operated by city government, modernized its integration practice with Boomi's cloud-native platform. The IT team saw a dramatic improvement in integration development speed, and substantially reduced maintenance and infrastructure costs.

Using Boomi, the airport needed just four months to complete a complex airport information hub migration that took two years with the previous legacy middleware. Boomi integrations were rapidly devised for connections involving dozens of cloud and on-premises applications, and proprietary and partner systems.

Within seven months, the airport standardized all its integrations on Boomi, increasing scalability and availability of mission-critical systems. In one case, a Boomi integration streamlined onboarding of vendors that lease space at the airport. That allowed the airport to bring in new vendors faster, reducing revenue loss from vacant airport property.

"We consolidated a lot of our revenue streams that were coming from disparate revenue systems using Boomi, which improved the way revenue streams were being recorded and invoiced to our customers," said an airport solution architect. "This allowed our finance team to have more confidence bringing on additional revenue streams, which directly affects our financial performance."

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**Every initiative that we are working on has been accelerated. It is not a one-off here and there — it applies across the board.**

The Boomi Platform has helped us accelerate our time to delivery.

Solution Architect,  
Large International Airport

# How Boomi Helps Public Sector IT With Application Modernization

Boomi, a Dell Technologies business, delivers a unified integration platform with the industry-leading capabilities that public sector IT organizations need to modernize and rationalize their applications. The Boomi Platform provides:

- **Agile, low-code integration:** Boomi supplies a low-code development interface and more than 200 ready-to-use connectors. This enables IT organizations to build, in hours or days, integrations that would require weeks or months of coding by hand. Some integrations are so easy to build that business users, called “citizen integrators,” can manage them, freeing IT developers and architects to work on more complex and strategic projects.
- **Data quality governance:** Clean, accurate data is essential for government agencies. On-premises systems for creating a single view of employees, citizens, suppliers, and partners are expensive to maintain. Boomi provides an easy-to-use central hub that synchronizes master data and maintains a single source of truth across an organization’s data ecosystem. Such data management is crucial for reducing risks from data errors and lost productivity from inaccurate or out-of-date information.
- **API management:** Boomi’s API lifecycle management capabilities help public sector IT teams publish and manage real-time data used by internal and external systems. This provides new ways to share data between internal and external sources, as well as reducing costs. And it allows you to seamlessly connect your enterprise as needed to other government agencies, nonprofit partners, and Internet of Things (IoT) devices for “smart city” initiatives.
- **B2B/EDI management:** Through its cloud EDI service, Boomi facilitates data exchange with suppliers to support public sector procurement programs. Because the EDI service runs on the same platform as other Boomi integrations, connecting EDI with business applications like ERP systems is easier than ever. Boomi EDI brings new automation to procurement that can dramatically improve speed and visibility while minimizing manual work.
- **Workflow automation:** Boomi offers a low-code workflow automation and app development environment called Boomi Flow. Using a drag-and-drop interface, enterprise architects, IT engineers, and even business users can quickly design workflows and automated tasks that run anywhere: in the cloud, on-premises, or in a hybrid configuration. Boomi Flow lets you easily tie human-based workflows into operational processes spanning both legacy and modern application infrastructures.
- **Data preparation and cataloging.** Boomi’s platform includes market-leading intelligent data preparation and catalog technology that breaks operational data silos and democratizes information for actionable insights. Based on Boomi’s acquisition of Unifi Software in early 2020, the capabilities help an organization know what data it has, where it resides, and its context. A self-service data catalog lets users “shop” for data to support analytics and business use cases.

Boomi Integration,  
Master Data Hub,  
and B2B/EDI  
Management are  
**FedRAMP authorized**



# Data Journey: Boomi AtomSphere Platform

## Master Data Hub

Synchronize and enrich trusted data

## Integration

Connect applications and data

## Data Catalog and Preparation

Transform known and unknown data

## B2B/EDI Management

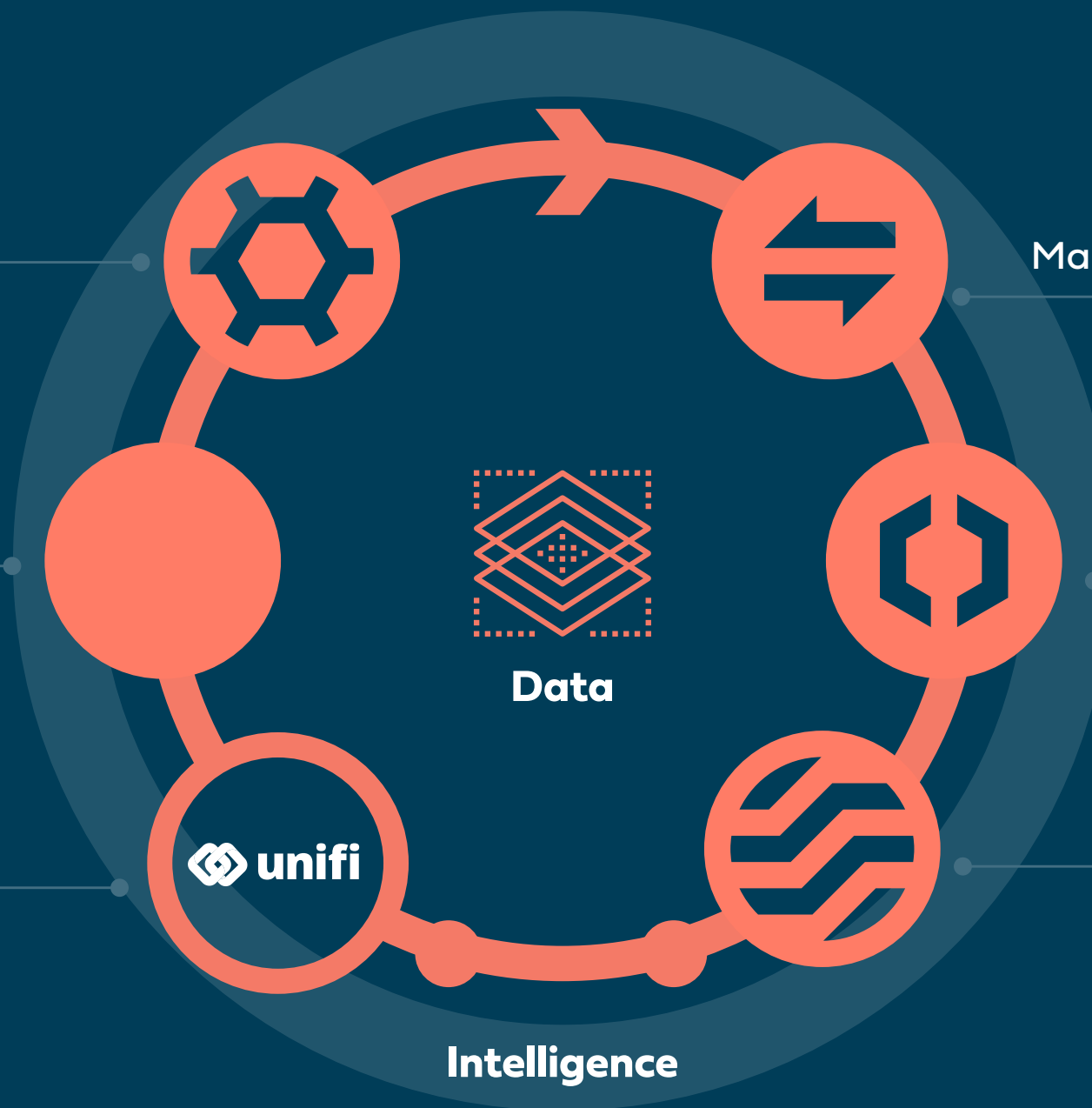
Manage your trading partner network

## API Management

Design, secure, and scale APIs

## Flow

Build customer journeys



# Boomi's modern, unified integration platform supports the key needs of public sector IT organizations

**Connect everything:** Boomi connects applications, APIs, microservices, EDI services, IoT devices, and other data sources to accelerate business outcomes.

**Engage everywhere:** Through Boomi, enterprises can engage more quickly and effectively with customers, partners, and employees. You can use the Boomi Platform to streamline machine and human workflows across your organization and beyond.

**Run anywhere:** With patented Boomi Atom technology, you can deploy your applications wherever it makes the most sense for your IT architecture: in the public cloud, private cloud, a hybrid-cloud environment, or on-premises. A runtime Atom can be deployed on devices as disparate as a jet engine or a Nest thermostat.

## **BOOMI IS ADAPTABLE**

Designed to support agile development, Boomi helps make agencies themselves more agile. The Boomi Platform's low-code interface shortens development cycles. And ready-to-use connectors, templates, and tools from Boomi's community, the Boomiverse, help boost your team's speed, efficiency, and expertise.

Using Boomi, agencies can quickly innovate to improve public services and improve internal efficiency. In addition, the Boomi Platform offers these benefits:

- **A low total cost of ownership** that is possible only with a cloud-native platform
- **High availability** from an auto-healing, auto-updating platform with 99.99% uptime
- **Process efficiency** with features like Boomi Automated Data Mapping, which draws integration insights from best practices across 50 terabytes of data and more than 10,000 Boomi customers
- **Completely flexible distributed architecture** supporting our run-anywhere Atom, the real-time engine for Boomi integrations

Boomi provides the capabilities that state, local, and federal government agencies need for application modernization. By modernizing integrations along with applications, public sector IT organizations can achieve the speed and agility needed to turn agency mission objectives into reality.

**Contact Boomi's integration experts today** to learn how cloud-native, low-code integration can drive application modernization efforts for public sector organizations.

To learn more about how the Boomi Platform can help your federal agency move faster and with greater agility, visit [www.boomi.com/publicsector](https://www.boomi.com/publicsector)

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