

Conquering Technical Debt: 5 Ways CIOs Can Drive Digital Transformation

CIOs these days face a tough mandate: Lead the organization on its path to digital transformation. No longer are they simply asked to be trusted operators and provide a commoditized service to support business units by provisioning and managing technology.

Now, as experts in both technology and business, CIOs are being asked to work as trailblazers and change agents, collaborating with other business leaders to launch innovative projects that will do nothing less than reshape the organization, its operational agility and perhaps even its mission.

But what is the biggest technical obstacle CIOs face in accomplishing this objective? Technical debt.

Technical debt, in the words of one CIO, is “the conglomeration of bad design, bad code and corner-cutting that accrued over the years so we could get something out the door.” It’s technology, new or old, that has been poorly implemented. It was often rushed into service to meet a deadline. And now it requires time and money to maintain and improve, if possible, beyond its original capabilities.

Large enterprises — even well-known ones — find themselves struggling to overcome the operational and financial burdens of technical debt. We know of a major bank, for example, that devotes 85 percent of its IT budget to maintaining old middleware and ad hoc projects from the past two decades, rather than investing in new initiatives that could deliver competitive advantage.

Technical debt is the spaghetti code of yesteryear. It’s middleware that requires expensive maintenance work and yearly upgrades to on-premise servers. It now consumes the majority of an IT organization’s budget and time, preventing strategic investments in digital transformation.

A Plan for Overcoming Technical Debt

How does a CIO overcome technical debt to obtain the time and resources necessary for leading the organization’s digital transformation?

Based on our work with a wide-range of businesses and larger corporations around the world and across industries, we suggest five steps for overcoming technical debt:



1. Fix the way you integrate applications and data
2. Fix your business data and institute data governance
3. Create data hubs that provide a complete view of customers, products and other key business areas
4. Share data with critical stakeholders, including partners
5. Create workflows that streamline processes

Let's examine each of these in turn.

1. Fix the way you integrate applications and data

In most enterprises, a lot of technical debt involves point-to-point application integrations that were built with custom code. A business unit needed one application to connect to another, and IT assigned programmers to the task, creating a point-to-point connection.

When one of those applications needed to connect to yet another application, developers wrote more custom code and created another point-to-point connection.

Integrations were rarely centralized through a common platform. Code was rarely reusable. Connections were “one-offs,” and now those myriad “one-offs” require a small army of developers and QA testers to be maintained or expanded. Adding to this complexity: Some of the “one-offs” may have been built by consultants, who might have used different coding conventions and code bases than internal developers did.

A better approach is to adopt a central, low-code integration platform with ready-to-use connectors and reusable components. CIOs can now replace old, custom code with standard connectors that are automatically updated by an integration platform as a service (iPaaS),

taking advantage of cloud-native technologies and low-code development environments.

Benefits

Adopting an iPaaS to address integration sins of the past offers these benefits:

- Streamlined, accelerated integration development that can be more than 5X faster than traditional integration approaches
- Improved operational agility from rapid integrations
- Reduced maintenance costs and improved reliability, thanks to a consistent code base and vendor-supported connectors replacing custom-built point-to-point integrations
- Budgets and personnel made available for new, strategic projects because integration now requires only a fraction of the resources previously required

2. Fix your business data and institute data governance

If you've fixed integrations between applications, you can more easily address the quality of the data those applications rely on.

Is data consistent across applications and business units? Have you identified the application or data repository that should serve as the “golden record” for each data type? Or is your sales organization working from one definition of “shipment date” while your logistics team is working from another?

Once you have fixed the technical debt in your integrations, it's time to fix the technical debt resulting from poorly controlled data.

Implement a data governance tool that clearly identifies the golden record for each data type, so that when you need to combine data to create a new workflow or service, you can be sure you're working with the correct, up-to-date data. You're now guaranteed that data is consistent across all your systems and applications.

Next, ensure that integrations are drawing on golden records and that business decisions are always being made with the most accurate, up-to-date data available.

Benefits

Implementing data governance across the organization delivers key benefits:

- Data accuracy and consistency
- Improved coordination and collaboration across departments and business units
- Improved reporting and forecasting
- More effective decision-making (now that stakeholders have access to accurate data)

3. Create data hubs that provide a complete view of customers, products and other key business areas

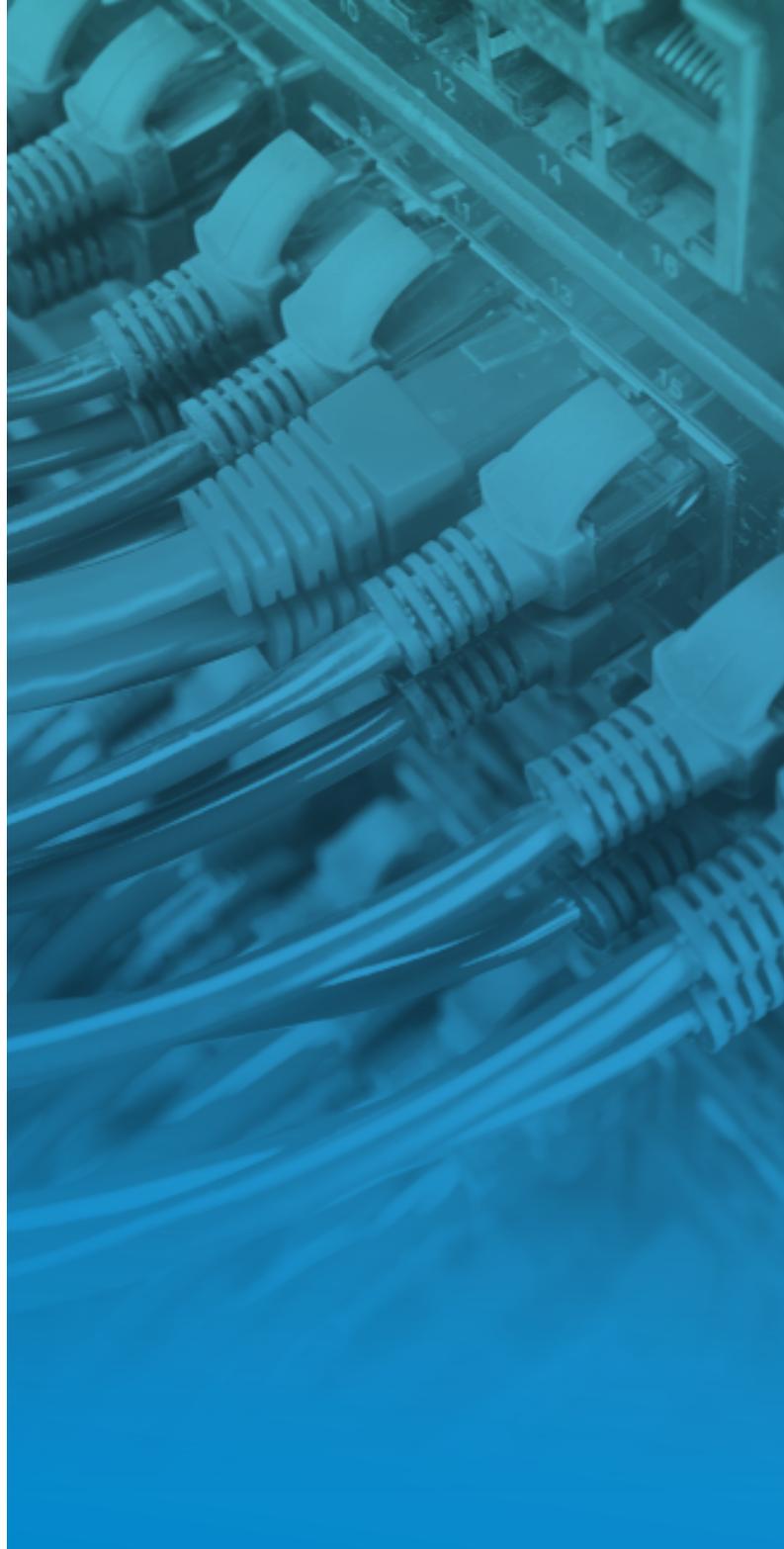
Business plans, forecasting and predictive analytics all require that accurate data be quickly available to authorized stakeholders. Collecting accurate customer records in an accessible data store, for example, does little or nothing to help sales teams and customer service agents. Data must be able to flow quickly and easily to whoever needs it.

One of the best ways to ensure that data is discoverable and accessible is to connect new and existing data sources — including master data management (MDM) systems — to a central hub that can be easily accessed by authorized users and applications.

Benefits

Creating a central hub for data delivers these benefits:

- Accelerated operations, since users no longer have to hunt for data or wait for it to be delivered through manual processes
- Improved data accuracy, which can be critical for logistics, financial forecasting and other operations
- Improved consistency and coordination across departments and divisions, and between organizations and their partners and supply chains



4. Share data with critical stakeholders, including partners and customers

Data isn't valuable just to employees. It's valuable to partners and customers as well.

Technical debt often creates data silos and leaves an IT organization without any time or resources for opening those silos — not only to internal applications but also to applications used by trusted external users such as



partners and customers.

APIs enable enterprises to make data available to trusted outsiders while tightly controlling the format, volume and frequency of data access. Organizations in industries as different as manufacturing and banking are adopting APIs as a way of improving business communications and operational efficiency.

By implementing APIs for data sharing, CIOs can help their organizations collaborate more effectively both inside and outside the organization.

Benefits

Implementing and managing APIs for data access delivers these benefits:

- Improved coordination with partners and other critical stakeholders
- Increased business agility, since all parties have ready access to the data they need for decision-making and operations management
- Support for creating new products and services that rely on timely access to data

5. Create workflows that streamline processes

Twenty years ago, workflow automation required extensive amounts of custom programming to connect applications and move data from one stage of a workflow to another. Automation was costly and complex. Only workflows that were critical and not susceptible to change would merit the extensive investment in time and technology required for automation.

For organizations today, time and efficiency are critical. The old business process management (BPM) tools of

yesteryear simply can't address the dynamic needs of modern hybrid IT environments.

To deliver new products and services, meet ever-rising customer expectations and remain competitive in fast-moving markets, organizations need to operate with speed and efficiency. Workflow automation is no longer a luxury. Today it's table stakes.

Critically, your workflow automation tools need to work hand-in-glove with your integration tools. Integration is intrinsic to any workflow automation effort.

An advanced, comprehensive integration platform as a service can provide not only application integration but workflow automation as well. Connectors that were put in place for application integration can be used to build workflows that deliver data where it's needed, when it's needed, to boost organization agility and reduce overhead.

The same low-code approach used for building integrations can be applied to workflows. In hours or days, workflows can be created, delivering value in a fraction of the time required for the BPM systems of a decade or two ago.

Benefits

Automating workflows with a modern, low-code platform offers these benefits:

- Streamlined operations less susceptible to error
- Improved collaboration across user departments and organizations
- Increased business agility

- Cost savings from reduced workloads
- Improved user experiences for employees, partners and customers

How Boomi iPaaS Helps CIOs Overcome Technical Debt

The Boomi iPaaS platform delivers the industry-leading integration and data management capabilities that CIOs need for overcoming technical debt and embarking on bold new projects for digital transformation.

The Boomi platform offers:

Agile, low-code integration

Boomi provides a low-code development interface and over 200 ready-to-use connectors, helping IT organizations build integrations in hours or days instead of weeks or months. Some integrations are so easy to build that business users can configure and manage them, freeing IT engineers to work on more complex and strategic projects.

A hub for data quality management

Boomi provides a central hub that synchronizes master data and maintains a single source of truth across an enterprise's IT environment.

API management

Boomi's API design and management capabilities let businesses manage real-time data within their organizations as well as with external systems.

Operational intelligence

Boomi helps organizations deliver critical operations intelligence to employees, partners and customers from any source — whether in the cloud, on-premise, or even with IoT devices at the network edge.

Workflow automation

As part of its integration platform, Boomi offers a modern, low-code workflow automation and app development environment called Boomi Flow. Using a drag-and-drop interface, IT organizations can quickly design workflows and automations that run anywhere on desktops and mobile devices to address the most critical part of any workflow: people.

In addition, the Boomi platform offers these benefits:

- A low total-cost-of-ownership (TCO) that is achievable only with a cloud-native platform.
- High availability from an auto-healing, auto-updating platform with 99.99% uptime.
- Operational efficiency thanks to features like the customer-contributed Boomi Process Library and the Boomi Community website, making it easy for organizations to follow and learn from the best practices of Boomi's 7000+ customers and partners.
- Rapid development speeds from integrations that can be completed up to 10-fold faster than traditional approaches.
- Process optimization that helps enterprises build new business capabilities and launch new products and services, even new lines of business.

In a single comprehensive platform, Boomi provides the critical integration, data governance, API management and automation capabilities that CIOs need for overcoming technical debt and achieving their boldest goals for digital transformation.

To learn how Boomi can help your organization overcome technical debt and rapidly move forward with innovation and digital transformation, contact a [Boomi integration expert](#) today.



Learn more about the Boomi cloud-native integration platform
boomi.com/integration



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