



→ 4 rapid modernization tips from the front lines of critical missions

Introduction

Every interaction between the Government and the public is an opportunity to deliver the value and competency Americans expect and deserve.¹

Amid tremendous global health, social, economic, and environmental challenges, Americans around the country are grappling with massive problems. Pandemic impacts. A mental health crisis in teens. Intensifying natural disasters. Opioid addiction. Citizens need relief and are often in emergency mode.

And federal agencies are feeling the impact. As the intensity of these challenges rises, so does the pressure to deliver excellent, equitable, and secure federal services—a top priority on the [President's Management Agenda](#). Mission leaders are on the front lines, tasked with meeting aggressive new mandates and placing citizen needs at the heart of service delivery improvements.

Yet, [80% of federal IT budgets](#) are spent on operations and maintenance, not mission support. From minor process inefficiencies and delays that frustrate daily users to major failures (like the botched rollout of [healthcare.gov](#) in 2013), agencies struggle with the when, where, and how of using technology to help improve the delivery of essential services—and the stakes have never been higher.

Against this complex and sobering backdrop, enter low-code application platforms. These platforms offer agencies the ability to build applications at an accelerated rate to quickly deliver meaningful solutions that drive mission outcomes.

¹ The President's Management Agenda



In this paper, we'll share what it takes to rapidly launch a successful platform-based solution that helps meet needs such as:

- How can I leverage technology to improve my mission outcomes?
- How can I empower my staff to make better decisions?
- How can I make my program/office/department more efficient?
- How can I focus on and enhance user experience?
- How can I respond quickly in emergency situations when I only have hours or days to stand up a digital solution?

TIP #1 Shape digital solutions through a mission lens

Lean into the democratization of digital delivery.

Low-code application platforms—such as ServiceNow, Salesforce, and Appian—offer agencies a way to quickly deliver new applications and services while saving time and money. These platforms make development that was historically reserved for IT professionals and engineers accessible to those more closely aligned with missions.

Low-code platforms open the aperture, empowering business technologists, analysts, and citizen developers to partner with IT developers to form multidisciplinary teams. These teams foster a digital democratization, allowing those who are deeply invested in mission success to have a closer connection to final delivery.

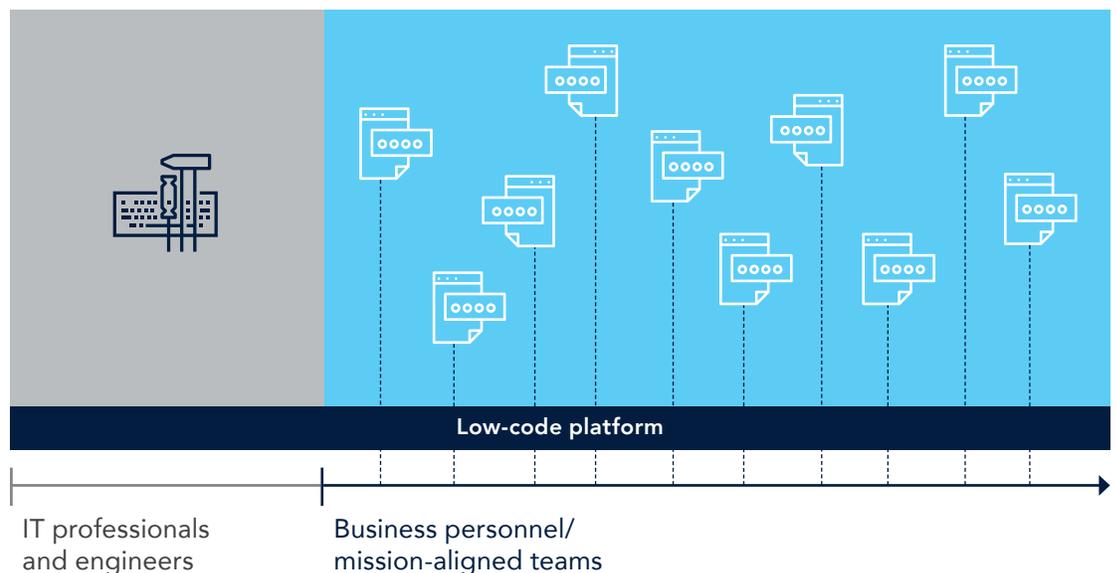
Multifaceted teams, sometimes referred to as “fusion” teams, can work together to rapidly build high-impact digital experiences that combine mission outcomes and technology innovation **within days or weeks**.

What are fusion teams?

A fusion team is a “multidisciplinary team that blends technology or analytics and business domain expertise and shares accountability for business and technology outcomes,” according to Gartner.

Progressive enterprises are empowering fusion teams by enabling IT professionals to work with business groups outside IT to build digital capabilities, channels, and products that meet business objectives.

Figure 1: Low-code platforms democratize the ability to solve problems, improving collaboration with IT and empowering mission-aligned teams to build applications with relative speed and ease.



Low-code platforms aren't new—according to our [2021 federal digital transformation report](#), 95% of federal employees agree it's increasingly critical to adopt low-/no-code solutions.

These platforms have proven their value as they allow agencies to [strike the perfect balance](#) between compliance and agility—empowering and uniting employees across departments while quickly delivering wins for CIOs, mission leaders, and citizens.

65%
of app development will
be done on low-code
platforms by 2024.

Gartner

Benefits of low-code application platforms

- **Increase speed-to-delivery:** Modular and reusable building blocks eliminate “plumbing code.” You can stand up apps in days or weeks, not months or years.
- **Lower cost:** All apps share a common data structure, which drives efficiency and reduces ongoing O&M cost. That also reduces engineering efforts.
- **Deliver exceptional user experiences:** Citizens and federal employees expect digital experiences that are more in line with what they experience in their daily lives. Low-code platforms put user experience at the core.
- **Scale without sprawl:** Building apps on IT-approved platforms reduces technical debt while simplifying governance, allowing developers to build secure, flexible apps to scale.
- **Democratize the ability to solve problems:** By placing the tools into the hands of the people who understand the mission, agencies can build effective solutions at an unprecedented rate and scale.
- **Reduce need for shadow IT:** Apps built on an IT-approved platform give agencies more standardization and security across departments while empowering citizen developers to build compliant digital experiences quickly.



But for all their many benefits, the full power of low-code platforms can only be realized when front- and back-end users are considered, and domain expertise is woven into the development process—even in rapid deployment situations.

Federal modernization has a set of unique—and often complex—factors such as FedRAMP authorizations, legacy technology, and culture challenges.

Knowing and understanding how federal agencies operate is essential—this knowledge allows projects to hit the ground running. Agency leaders need partners who understand existing and emerging technology, but also have experience navigating the intricacies of mission programs, domains, and government workplace culture. That is what truly drives mission outcomes.

Eliminate the learning curve—the importance of domain expertise

Partners who understand the environment of government and program mission needs can develop digital experiences with no learning curve.

For example, we have managed the Children's Bureau's [Child Welfare Information Gateway](#) (CWIG), a crucial online repository of information for social workers, since 1990. When it was time for CWIG to modernize, our deep knowledge of their mission and domain allowed us to shape a modernization roadmap with user and mission needs at the core.

Low-code platforms in action

During the early stages of the COVID-19 pandemic, the U.S. government's public health apparatus launched several initiatives to help the research community investigate and respond to the novel Coronavirus.

In less than one month, ICF built a portal to help the National Institutes of Health's National Cancer Institute understand how genetics impact COVID-19 severity.

We harnessed the power of the ServiceNow low-code platform and our experience working with the National Institutes of Health and the National Cancer Institute to build COVIDcode—an online enrollment questionnaire that collects and tracks various specimens related to [COVID-19](#) patients.

Because of the system architecture, standards-driven data model, and ready-to-use UX components, our team was also able to iterate on the application to accommodate more targeted information collection and additional factors such as vaccinations when needed.



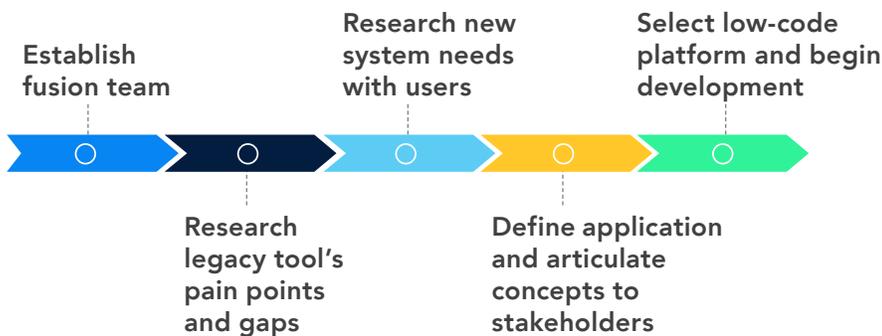
TIP #2 Become experience obsessed—even in rapid development situations

Tech for tech's sake is never a winning strategy and while low-code application platforms are at the core of many successful digital workflow enhancements, the future of government application development will need to consider all users and touchpoints.

Many federal agencies have already begun to prioritize customer experience and user experience in the creation and delivery of their digital applications. But it's just as vital to factor in employee experience and consider how those experiences differ across the applications, channels, and touchpoints users interact with along their journey. That concept, known as "total experience," combines all experience elements and should be included in development to achieve meaningful and lasting results.

For example, we worked to support the [Office of Child Care](#) program leaders to modernize their legacy data collection system to ensure mission success in tracking and reporting funding outcomes for child care programs.

Figure 2: ICF's human-centered design approach to rapid digital transformation for the Office of Child Care



Our first order of business was to form a fusion team consisting of relevant subject matter experts from our public health, public sector, digital transformation, and digital agency practices. Before considering the technology stack, we took a human-centered design (HCD) approach and conducted primary research on the legacy tool's workflow pain points and gaps, as well as discovery of user needs for the new system. Through that experience-centric approach we designed a solution with front- and back-end users in mind to ensure adoption and set the stage for an effective transformation, improving service delivery for child care funding and activity tracking.

"The needs of people—not constraints of government structures or silos—should inform technical and design decisions. We need to continually test the products we build with real people to keep us honest about what is important."

—Digital Services Playbook

What is total experience (TX)?

"Total experience" or TX combines the disciplines of user experience (UX), citizen experience (CX), employee experience (EX), and multiexperience (MX)—into one comprehensive approach toward service design and delivery, according to Gartner.

But what happens when you need to stand up a solution in a matter of days or weeks to meet an urgent mission demand?

Even in fast-turn development situations, the process begins with a business problem. To succeed, agencies must empower fusion teams, eliminate partner learning curves through mission and technology expertise, and blend secure low-code platforms with UX best practices to make expeditious decisions and deploy solutions quickly. Then, after rapid launch, teams can continue to iterate and refine applications—including TX considerations—as requirements emerge and evolve over time.

As stakeholders come together to define and design the solution, they need a way to workshop ideas. This is where prototypes can help.

Accelerate development with a prototype

Creating low-cost concepts and prototypes prior to extensive development is an incredibly important part of accelerated delivery and innovation in the public sector.

Prototypes can range from visualizations of potential technology stacks to solve key problems, to working technology solutions designed to gather feedback, to operating models for new program designs to engage key stakeholders.

Working within fusion teams, engineers can better understand the total experience requirements at the start of a project and transform problems into prototypes in just days. Through this method, engineers can ask questions and learn more about business and customer needs. For example, they might ask about the data flows, what systems will be in place, and how will users interact with those; where are the bottlenecks, and what are the pain points?

Including engineers in the user- and citizen-experience process from the beginning allows them to help drive customer satisfaction because they better understand the nuances of the underlying technology requirements—which help produce better mission outcomes at a more rapid rate.

Fuel the business of transformation

Once urgent mission needs have been met, what happens next?

After quick-start applications are developed and delivering on urgent missions, teams can iterate and build on that momentum to expand the digital transformation journey. The beauty of low-code platforms, of course, is that they provide a secure infrastructure, with reusable building blocks and unified data that can be applied to spin up additional applications as new mission needs arise.

But modernization in the federal government context is inherently complicated. **Mission leaders need to be concerned about continuity of operations and cannot afford to have their programs fail.** And when 51% of federal employees blame [a culture that's resistant to change](#) for their digital transformation shortcomings, it's clear the full potential of these platforms won't hold within an organization unless leaders address workforce resistance.

As agencies adopt advanced technologies, they must also modernize their cultures and embrace lean principles and Agile methodologies. Program leaders must view innovation as a management discipline and create spaces that allow their workforce to try new methods. Intentionally make time and space for teams to think beyond daily execution and have more meaningful discussions around emerging risks and opportunities. That will set a strategic framework to quickly deliver products and services to end users while building flexible teams with the capacity to pivot on a dime in response to changing priorities.

“Low-code/no-code platforms allow agencies to strike the perfect balance between compliance and agility—delivering wins for CIOs, mission leaders, citizens, and employees.”

—Kyle Tuberson, ICF Chief Technology Officer, Public Sector

Leaders should not think of **Agile transformation** as a fixed goal or target. Instead, it should be viewed as an investment of time and resources to ensure the organization is continuously improving efficiency in its delivery of value to end users.

The key to driving missions forward is establishing secure platforms, enabling multidisciplinary teams, and planning with an Agile mindset. Low-code application platforms offer agility and reduced time-to-value. They bring standardization and stability across various agency departments. They reassure IT leaders with the knowledge that applications are being built on a secure platform. And, perhaps most importantly, they reduce the amount of time developers spend on maintaining and building legacy infrastructures

so resources can be focused in areas of greater value to the mission.

But they must be established in a receptive environment and leveraged by Agile teams with a focus on total experience and mission success.

As a recognized leader in government platform modernizations, ICF has built hundreds of mission-critical applications for clients such as the U.S. Department of Treasury, the Centers for Disease Control and Prevention, and the U.S. Department of Health and Human Services. These systems deliver dramatic time and cost savings while empowering agencies to serve faster, smarter, and more effective digital experiences to citizens and employees.

We combine our domain understanding and platform expertise to build digital experiences that help mission leaders improve service delivery and transform the way work gets done.

Transform your data, people, and organization. Talk to an expert.



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About ICF

ICF (NASDAQ:ICFI) is a global consulting services company approximately 8,000 full-time and part-time employees, but we are not your typical consultants. At ICF, business analysts and policy specialists work together with digital strategists, data scientists and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future.