

White Paper

The New Government Modernization Imperative: Automation and the Power of Applying AI

Sponsored by: UiPath

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IDC OPINION

Increasingly demanding citizens expect quick, personalized, convenient, omni-channel government services, similar to their service experiences with the private sector. To enable government employees to deliver improved citizen services, agencies are modernizing IT for digital resilience, digitizing data, automating processes, and deploying cloud. Overall, defense agencies are focused on defending national sovereignty and enabling the armed forces by securely storing and accessing secret and classified data, tying data from intelligent edge devices to operations and predictive insights, and automating the analysis of data in real time for force protection.

However, agencies face challenges from the traditional lift-and-shift modernization approach that has led to componentized applications and end-to-end fragmentation. This results in the need to access multiple systems to perform tasks, an increasing rate of application proliferation, as well as little or no integration of apps. Agencies are making substantial efforts to standardize IT and app platforms to directly address misalignment with older systems that are still mission critical.

Agencies also need to gain insights from data that is on premises, in multiple clouds, and at the edge. This exponential proliferation of digital transformation, the increasing distribution of data and workflows, hybrid work models, hybrid multicloud, and edge computing have thrust agencies into a new trajectory requiring automation, digitalization, and interconnectedness. Ultimately, this is the precursor for applying artificial intelligence (AI) with confidence.

IN THIS WHITE PAPER

This IDC white paper presents challenges U.S. federal, state, and local agencies face in continuing their modernization and keeping up with technology innovations to produce outcomes. Data regarding federal agency use of AI is presented, along with current challenges of deploying generative AI. An overview of the UiPath Business Automation Platform for mission impact is summarized as well as the many benefits that UiPath provides to government agencies. IDC foresees a different trajectory for the future of government modernization, and this, as well as essential guidance for agencies, concludes this report.

SITUATION OVERVIEW

Government leaders need solutions that have the biggest impact on mission, while branch/business and technology line-of-business executives need efficient and intelligent business processes and operations. In addition, the workforce needs to deliver frictionless experiences and the ability to provide better outcomes to agency constituents.

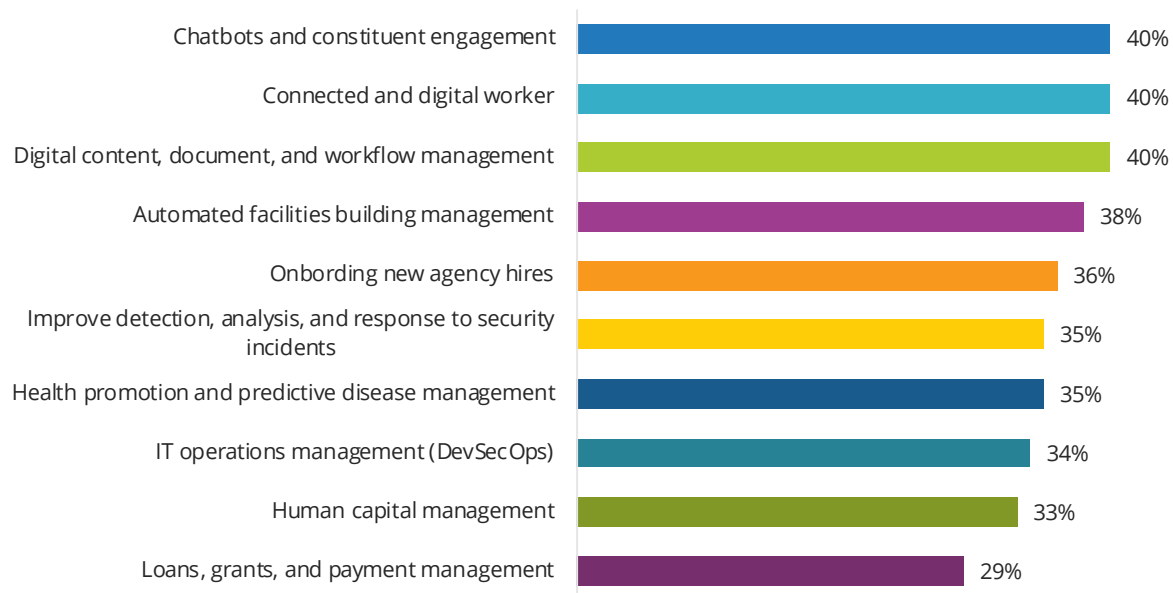
The solution isn't migrating to yet another cloud platform but to deploy a fully automated enterprise that works at the intersection of people, process, data, and systems. Agencies should use an automation platform to efficiently deliver AI into operations, decisions, and processes throughout the organization. AI can discover automation opportunities from existing agency workflows, processes, and applications – and prioritize tasks. AI enables agencies to automate cognitive processes like analyzing documents or carrying on conversations or leverage automation to apply machine learning models to large data flows. And agencies can leverage AI-empowered automations that improve a robot's vision so it can see and interact with nearly any system interface.

U.S. federal agency executives are using AI in many processes and indicate that AI has the greatest impact on constituents, employees, and workflow (see Figure 1).

FIGURE 1

Areas Where AI Has the Greatest Impact: Constituents, Employees, and Workflows

Q. Please rank where AI is having the greatest impact on mission outcomes.



n = 100

Source: IDC's *Industry AI Path Survey*, September 2022

AI holds immense potential for the government workforce, enabling workers to be more productive and agencies to provide more efficient services and timely critical information to warfighters and coalition

forces. Enterprise Automation platforms are a catalyst for safely applying AI and enabling AI capabilities to evolve to 10x today's potential.

The Advent of Generative AI

As agencies consider deploying generative AI, caution prevails in deciding what data sets and prompts are provided to the large language models (LLM) so that agencies do not introduce unintended decision making or cybersecurity risks such as potential data breaches, identity theft, financial fraud, or inadvertent release of privileged information. This vulnerability requires agencies to be aware of data classifications and requires a governance policy, overall data literacy, and training before consideration for broad agency use and large scale roll out. According to a Federal News Network article of June 14, *GSA joins EPA in putting the brakes on how employees use generative AI*, a recent GSA memo states that "non-public data such as work products, email, controlled unclassified information, and other similar information cannot be disclosed as inputs for LLM prompts." Further, GSA states that "the output from LLMs used to generate code or publishable material shall be manually reviewed by the approved user for accuracy, functional effectiveness and suitability, and intellectual property, including copyrights and trademarks, terms of service, or end-user license agreements as LLMs may have been trained on data that AI providers may not have had full legal rights to use."

In contrast, intelligent automation models do not present the risk of sensitive government data being transferred to train systems that are not authorized to operate in the federal government. Intelligent automations are deployed securely across all types of government missions in such use cases as financial modernization – automating back-office payments from speeding up reconciliation for emergency payments to constituents, to quickly reimbursing employee travel. Agencies are deploying intelligent automation not only to financial applications but also for procurement, HR, supply chains, contact centers, IT services automation, securing missions, enabling frontline employees to make timely data-driven decisions, and determining eligibility for services. And providing ease of use through deploying NLP is having an even greater impact on employee productivity and engagement.

Enterprise Automation platforms are de-risking the application of AI to business processes that cross multiple systems and readying those same processes for the application of LLMs or other large-scale AI.

CONSIDERING UIPATH

UiPath is a global \$1.249 billion company with 3,833 employees. The company's vision is to deliver the fully automated enterprise where organizations use AI-powered automation to unlock their creativity and full potential of every worker. UiPath offers an end-to-end platform for automation, combining the leading robotic process automation (RPA) solution with a full suite of capabilities that enable government agencies to digitally transform.

Connecting People, Process, and Tools to Outcomes

The AI-powered UiPath Business Automation Platform for mission impact works at the intersection of AI and automation, combining leading robotic process automation with a full suite of capabilities to understand, automate, and operate end-to-end processes, offering unprecedented time to value. This solution is an open platform and enables agencies to innovate operations, apply AI, and deliver impacts throughout the organization, across any type of technology or system, and to the edge. UiPath's Business Automation Platform for mission impact is a vendor-agnostic, open platform, and purpose built for better outcomes and improved employee experiences by connecting people to digital

tools and systems, automating tasks within those processes, and simplifying work. The AI-powered UiPath Business Automation Platform combines UiPath's RPA solution that includes natural language processing, API integration, intelligent document processing, process mining, and low-code application development.

UiPath offers a low-code app builder called App Studio. Without training, this solution enables employees to build apps quickly using a web browser through a library of drag-and-drop controls. In addition to connecting low-code solutions to APIs and transactional data sources via RPA, UiPath enables agencies to work with existing applications and data that are not easily programmable such as legacy applications without an API, virtual desktop infrastructure (VDI) environments, or data comingled with web experiences. Most notably, App Studio automates experiences across multiple other systems without moving the data from one platform or system to another – enabling ease of use and velocity in low-code application development.

As agencies use AI to discover automation from their existing workflows, processes, and applications, their RPA's vision can interact with nearly any interface. This enables agencies to efficiently deliver AI into operations, decisions, and processes throughout the organization, as well as leveraging automation to apply machine learning models to large data flows. Agencies can also automate cognitive processes like analyzing documents or carry on conversations.

UiPath's Intelligent Document Processing solution is powered by specialized AI, a targeted method for applying AI and ML to specific enterprise use cases. Intelligent Document Processing includes over 30 specialized AI models tailored for specific business use cases – such as claims reconciliation, know your customer (KYC), and accounts payable and accounts receivable automation. This enables agencies to automate document-intensive processes, reduce manual paperwork, and increase operational efficiency. In addition, extracting data from unstructured communications like emails is powered by the large language model within Communications Mining.

UiPath Orchestrator gives agencies the power to provision, deploy, trigger, monitor, measure, and track the work of attended and unattended automations centrally – securing and ensuring productivity for the entire digital workforce. An action log of every action in Orchestrator is provided, and this enterprise-scale deployment and management tool is capable of universal monitoring and remote control and optimization for unattended robots in the cloud or on premises. UiPath Orchestrator integrates with the systems agencies currently use and provides complete automation life-cycle support with versioning and role-based control. Enterprise credentials are supported via pluggable or native credential stores. UiPath Orchestrator is available as a mobile management app for iOS and Android.

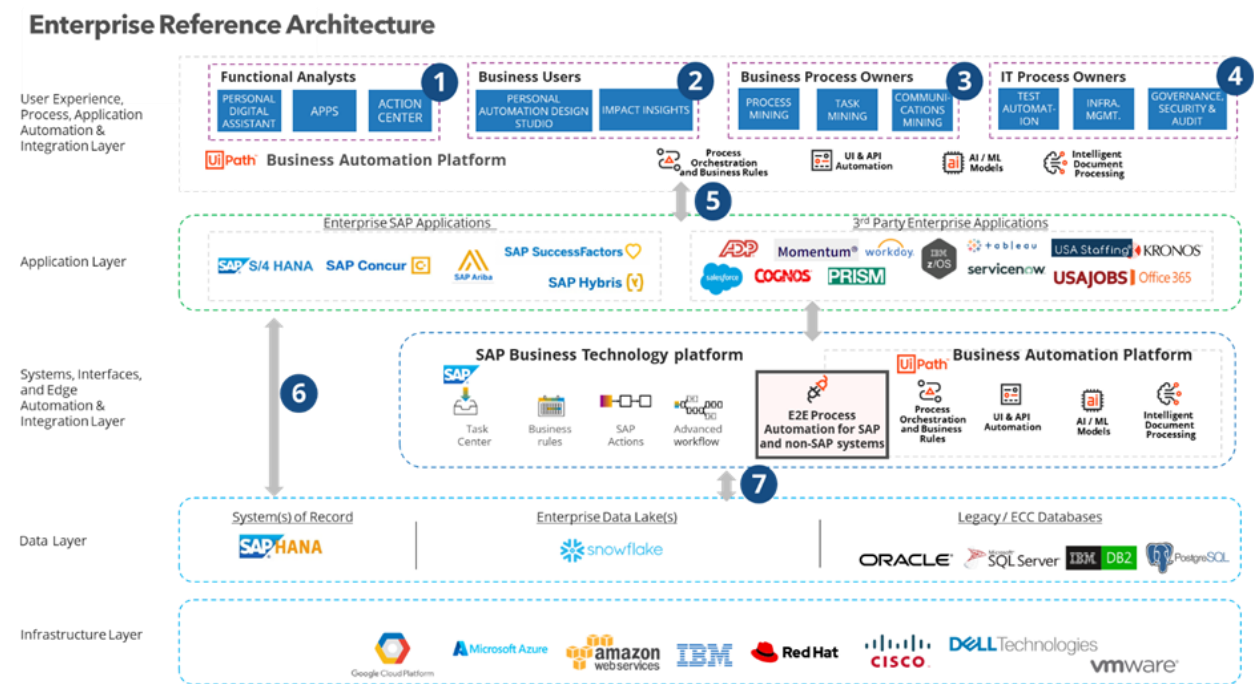
UiPath Orchestrator ensures compliance and security with centralized monitoring, analysis, configurable alerts, and audit on a secure, certified platform and provides:

- Data encryption in-transit (https with TLS 1.x) and at rest (AES-256)
- ISO 27001:2013 attestation across SaaS and on premises
- Robot protection status through integration with CrowdStrike Falcon
- Insights of licenses across the entire enterprise

Figure 2 illustrates the UiPath enterprise reference architecture.

FIGURE 2

UiPath Enterprise Reference Architecture



1 = CX/EX 2.0; 2 = citizen development/grassroots automation; 3 = applied AI; 4 = enterprise impact planning, automation governance, and enterprise test; 5 = cross-system and cross-process integration and automation and interoperability; 6 = system to system, interface, command line, mainframe, API automation, and integration; 7 = application to data automation and integration/data stays where it is

Source: UiPath, 2023

Partnership with Peraton

UiPath and Peraton have announced an agreement to deliver the UiPath Business Automation Platform as a cloud-based managed service to high-security environments within U.S. intelligence, defense, and civilian agencies. This enables Peraton to take advantage of the UiPath AI-powered automation platform in sensitive environments as a managed service – either via cloud or via on premises with expert support in automation scripting, implementation, and management. As a result, agencies will be able to rapidly scale in any mission area, take full advantage of higher productivity and increased visibility, enjoy enhanced insights with real-time situational intelligence, advance their digital transformation, and improve mission outcomes.

Partnership with SAP

UiPath recently announced an expansion of its partnership with SAP to offer the UiPath Business Automation Platform to agency customers as an SAP-endorsed application and on the SAP Store, the online marketplace for SAP and partner offerings. The expanded partnership allows agencies to transform businesses, move key systems to the cloud, and enhance them with UiPath’s platform. This partnership builds upon the momentum of SAP Build Process Automation and enables agencies to execute business transformations, migrate-critical mission systems to the cloud, and augment existing

systems with the UiPath Business Automation Platform for mission impact. The combination of UiPath and SAP allows for seamless end-to-end integration of various systems, including procurement, supply chain management, financial management, CRM, and human resources. By integrating with enterprise vendor applications and custom applications across SAP and non-SAP solutions, UiPath accelerates digital transformation efforts, automates critical business operations, and eases migrations to SAP S/4HANA reducing cost, time, and effort. This integration enables UiPath to empower organizations in public sector and other regulated industries to digitize manual processes, integrate those processes across any type of technology, apply AI to make those processes more intelligent, and offer vastly more efficient experiences for government users.

UiPath Provides Many Benefits to Federal Agencies

- **Customer experience and employee experience 2.0.** UiPath's digital assistant and embedded composable apps are defining a new experience layer that is frictionless. This combination allows users to ask questions of multiple systems at the click of a button from their phone or desktop, trigger data entry across multiple systems in specified order, and run task-based repeatable processes for routine basics like out of office, time and attendance, or routine personnel actions. The major difference is that these experiences remove the need to actively go to systems – they bring the data and processes from those systems to employees' or customers' fingertips.
- **Alignment with government requirements.** UiPath's data strategy is aligned with federal government requirements, so agency data is managed consistently and in compliance with the framework for data governance.
- **Ensures your data stays where it is.** Unlike other solutions available to federal agencies, UiPath will never ask agencies to replicate or move their data to UiPath. The UiPath Business Automation Platform for mission impact interfaces with agency data and performs intelligent automation wherever agency data resides, even within legacy systems. This enables agencies to get value out of existing processes and systems without deploying a new architecture.
- **Addresses workforce shortages.** Enabling employee engagement and attracting skilled talent to work in government is a key concern of agencies. Agencies need to quickly enable new recruits to engage in meaningful work, enable higher level of productivity, and attract citizen developers, even enabling them to automate their own work. Using a mission automation platform to reengineer agency processes and redesign work not only addresses workforce shortages but also enables agencies to become more strategic regarding talent. Through automating and offloading repetitive tasks to digital assistants, agencies can increase productivity through speed of response and empower employees to make better and more consistent decisions with fewer errors or mistakes – reducing rework time. Through the use of digital assistants, agencies can attract higher skilled employees who expect digital data and tools ready for their use as well as for collaboration with other employees and constituents.
- **Enables secure sharing of information.** UiPath's automated digital assistants are able to address issues of organizational silos/policy constraints enabling implementation of process automation across different types of classified networks.
- **Provides program integrity.** In addition to enabling data-driven decisions at speed, agencies are using the UiPath Business Automation Platform for mission impact for program integrity, scanning application and verification documents, comparing with data on file, verifying recipient, and eligibility. This type of automation can reduce processing time to seconds that typically takes humans 10-15 minutes.
- **Applies AI today *and* in the future.** Intelligent document processing, process mining, and task mining are all examples of intelligently integrating AI into highly repetitive service delivery

workflows. Ingesting, reviewing and adjudicating benefits claims, invoices, interagency fund transfers, and countless other document-oriented business processes serve as high-value areas where AI is removing manual clerical work and helping government workers make higher-quality decisions, faster. These same use cases will be enriched in the future where additional types of AI can be applied, like large language models that can help find, interpret, and apply the appropriate regulation to permit for accelerated approvals.

- **Value from your enterprise IT investments:** Many investments for many decades make up the enterprise ecosystem in any agency. These systems are rarely integrated together from the perspective of the employee or the customer and thus have always been in search of modernization that improves the outcomes of the mission. UiPath's Business Automation Platform for mission impact, automation, integration, experience, and AI are delivering that transformative mission impact that had been locked up in silos for many years – proving to be the next generation's impact and modernization catalyst.

CHALLENGES/OPPORTUNITIES

As part of their digital-first strategy, agencies are automating processes and applying AI to text, audio, video, and images to accelerate mission outcomes. As long as UiPath continues to focus on the things that matter – allowing users to ask questions of multiple systems from their phone or desktop, trigger data entry across multiple systems in specified order, run task-based repeatable processes for routine actions, and remove the need to actively go to systems by bringing the data and processes from those systems to agency employees or customers – the company will enable agencies to embrace the new modernization imperative of enterprise automation with applied AI.

FUTURE OUTLOOK: A DIFFERENT TRAJECTORY

In the early days of digital transformation, agencies' focus was often on transforming the business, and experimenting with technology. Initially agencies solved problems in departmental silos – in branches, directorates, and field operations. Success wasn't always scalable, and outcomes were not always clear. This resulted in islands of innovations often with little to no interoperability across technologies resulting in brittle connections. As a result, agencies are now entering the era of digital business – with a focus on clear and measurable mission outcomes. Organizations will still modernize and transform, but that is no longer the primary focus in a digital-first world. The goal is to run a viable digital agency for the long term.

The current trajectory is about closing digital gaps – automating and connecting data, processes, and employees to better serve mission outcomes. Cloud pioneers and agency pacesetters with mature cloud operations and architecture models along with well-managed DevOps processes will be better prepared to leverage business automation platforms that understand, automate, and operate end-to-end processes through AI-enabled RPAs. IDC believes that companies with mature "hybrid by design" cloud strategies will be well positioned to take full advantage of AI innovation across many different cloud environments as well as across many different locations, core, and network to edge.

However, agencies with less mature processes and those in the early stages of transformation can benefit from automated intelligent systems. Agencies that have not migrated some parts of their operations can still benefit from aligning digital workflows, automating processes, and deploying AI-enabled digital assistants to deliver real-time information to employees.

CONCLUSION/ESSENTIAL GUIDANCE

Strengthening and Democratizing the U.S. Artificial Intelligence Innovation Ecosystem: An Implementation Plan for a National Artificial Intelligence Research Resource, issued by the White House in January, presents a road map for standing up a national research infrastructure that would broaden access to the resources essential to AI research and development. However, without automating processes, it will be difficult to apply AI to any infrastructure and confidently expect access to key resources for R&D.

The White House *Executive Order on Transforming Federal Customer Experience and Service Delivery to Rebuild Trust in Government* instructs federal agencies to modernize government programs and find ways to reduce costly, time-consuming administrative tasks. These goals are achievable in digital and automation first organizations.

Based on these agency requirements and many other policies and mandates agencies must comply with, IDC Government Insights recommends that agencies:

- **Recognize the need for data in real time so employees can be more creative, work more strategically, and leverage the velocity of connectedness through collaboration.**
- **Ensure automation is central to your road map.** This will be critical to scale your digital business strategies and reduce operating costs. Automation can increase quality, reduce human error, increase compliance, strengthen controls environments, and add new services to your organization's portfolio.
- **Focus on a holistic integration of business processes and a business automation platform.** Integration and automation are inextricably connected. Both are necessary, working together in concert to deliver on the promise of streamlining cumbersome work, and producing more accurate results, key to improving productivity of staff.
- **Consider providing employees with digital assistants to enhance employee experience, improve operational efficiency, unlock cost saving at scale, and create a more resilient workforce.** Digital assistants can increase productivity through speed of response and process flexibility and empower employees to make better and more consistent decisions with fewer errors or mistakes – reducing rework time.
- **Plan to address cultural resistance.** While several agencies are on the cusp of digitally deploying end-to-end intelligent automation platforms, most are deploying intelligent applications in just one or two business processes. If your agency is at the start of automation, plan to address cultural resistance to intelligent robotic processing and enroll agency workers in offloading mundane repetitive tasks and adapting their jobs to higher skill levels.
- **Consider solutions such as the AI-powered UiPath Business Automation Platform for mission impact.** This platform combines UiPath's leading robotic process automation solution with a full suite of capabilities to understand, automate, and operate end-to-end processes, offering agencies speed in time to mission while enabling employees to be more productive and engaged in their work. And UiPath Orchestrator provides centralized management and tracks the work of attended and unattended robots centrally – securing and ensuring productivity for the entire digital workforce.
- **Consider digital assistants as the first step of developing large language models.** Digital assistants create simple app interfaces that make it easy for employees to manage, deploy, and use automations and work with the information the robots bring back. And unlike the vulnerability of training large language models where agencies must consider data

classifications when deciding which data sets and prompts to use to train the model, digital assistants bring AI to workflows, analyses, and decisions, delivering AI into every facet of mission operations.

- **Consider integrated solutions for your highly sensitive secure workloads such as the managed service solution developed through the UiPath and Peraton partnership.** Through this partnership, agencies can create and execute automation strategies, drive mission agility, push automation to the edge, and orchestrate transformational impact for such workloads.

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