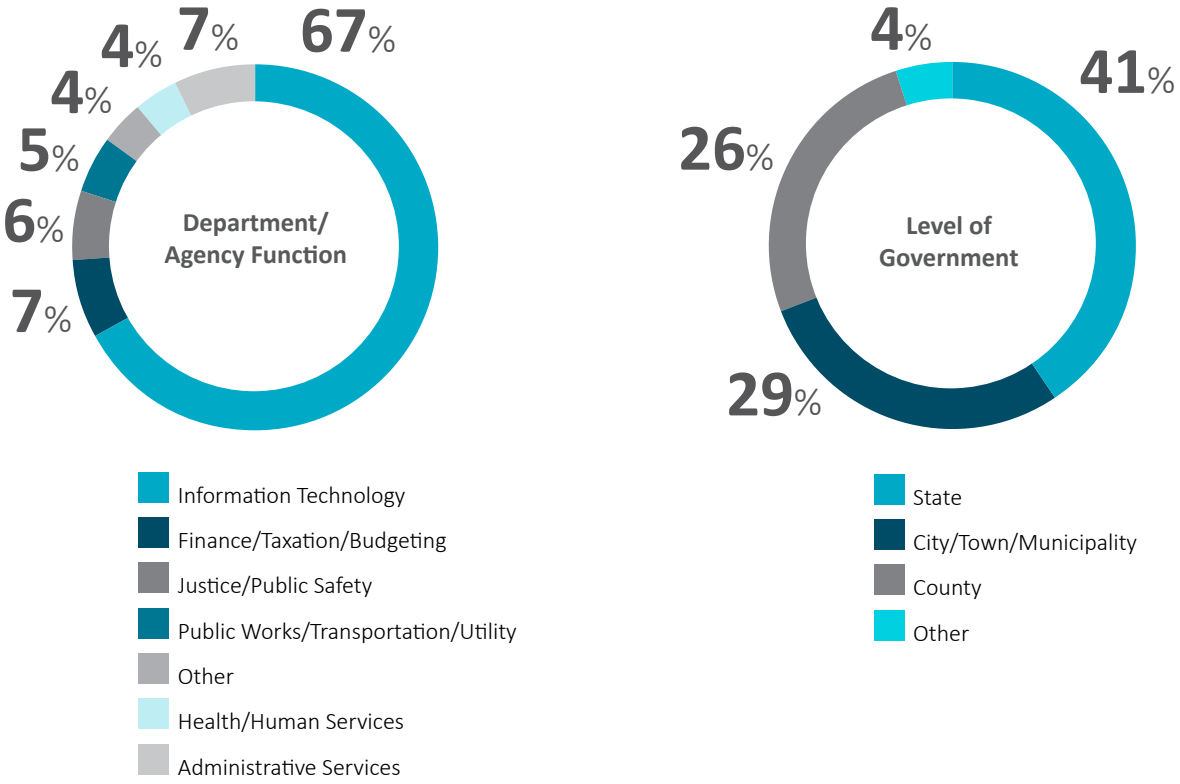
CENTER FOR DIGITAL GOVERNMENT

Keeping Pace with Modernization in the Age of Rapid Obsolescence

The Center for Digital Government (CDG) recently conducted a survey of 190 state and local government technology professionals on the topic of legacy systems and IT trends. Areas of inquiry included spending on legacy system maintenance and modernization, perceived benefits of modernization, and the use of agile project management to modernize legacy systems.

Respondent Demographics

CDG surveyed 190 state and local government professionals in December 2018. The following data shows respondents' demographics by role and level of government.

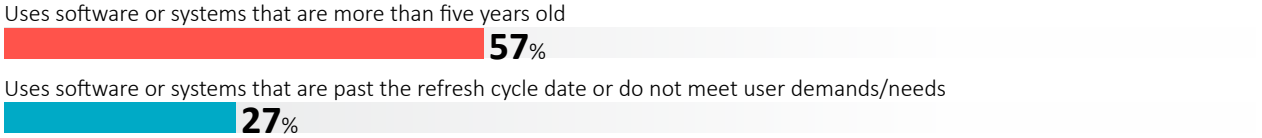


Systems Can't Keep Pace with State and Local Government Needs

In today's fast-paced technology environment, even relatively new systems are becoming outdated and not meeting business needs. In the past, a system was often considered "legacy" when it was 10 to 20 years old. Now, 57 percent of respondents say their systems are becoming legacy after just five years. Importantly, nearly 30 percent deem a system legacy when it is past its refresh date or can't keep up with user demands. As systems become obsolete faster, whether or not a system is legacy is increasingly shaped by two main questions: Does the system meet its intended purpose? Can it easily be adapted when requirements change?

To keep pace with legacy systems, forward-looking government organizations are taking a low-code approach — a new way to visualize the application development process — to cost-effectively and easily extend their useful life, as well as modernize them with minimal investment and disruption.

The Two Most Common Definitions of Legacy



Legacy System Maintenance Is Devouring Budgets

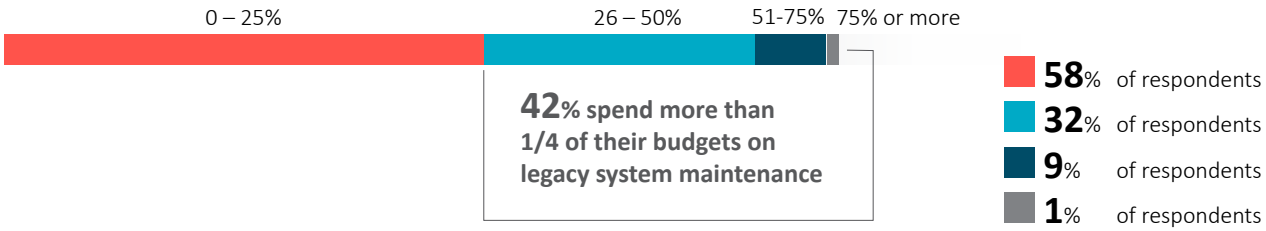
Forty-two percent of respondents said they spend more than a quarter of their IT budgets on legacy system maintenance, and in the case of 10 percent of respondents, more than half of their IT budgets are consumed keeping such systems running. When broken down by level of government, the data found legacy system spend is higher for states — 20 percent of state-level respondents said they spend more than half of their IT budgets maintaining legacy systems.

Even a small number of legacy systems can burn through budgets and consume IT hours. A separate survey question revealed 59 percent of responding organizations have 10 or fewer legacy applications.

According to GovTech Navigator, the total estimated state IT spend for 2019 is $53.1 billion and the estimated IT spend for local governments is $54.4 billion. With IT spend this large, it's easy to see how maintenance dollars can quickly add up. Besides diverting precious funds away from modernization and innovation, legacy systems impose non-monetary costs, such as slowing down innovation and application development. This means organizations can't quickly adapt and improve systems to provide the modern services and experiences citizens expect. Data from the survey confirms this: Nearly 60 percent of respondents spend less than one-quarter of their budgets on modernization. With so much of the budget consumed by maintenance, there is little left over for agencies to launch new services and functionalities.

To optimize spending and reduce risk, government organizations need flexible development solutions that enable them to nimbly evolve existing applications and systems, and also address modern use cases such as machine learning, natural language processing and other innovations.

Budget Spent on Maintaining Legacy Systems



System Modernization Will Lead to Improved Efficiency, Better Citizen Experience and More

The more quickly organizations can take advantage of modernization benefits, the faster they can address some of their most persistent challenges related to staffing shortages, tight budgets and citizen satisfaction. Modernization also provides an opportunity to strengthen cybersecurity by reducing patchwork infrastructure, the number of unsupported applications, outdated technology, gaps in visibility and more.

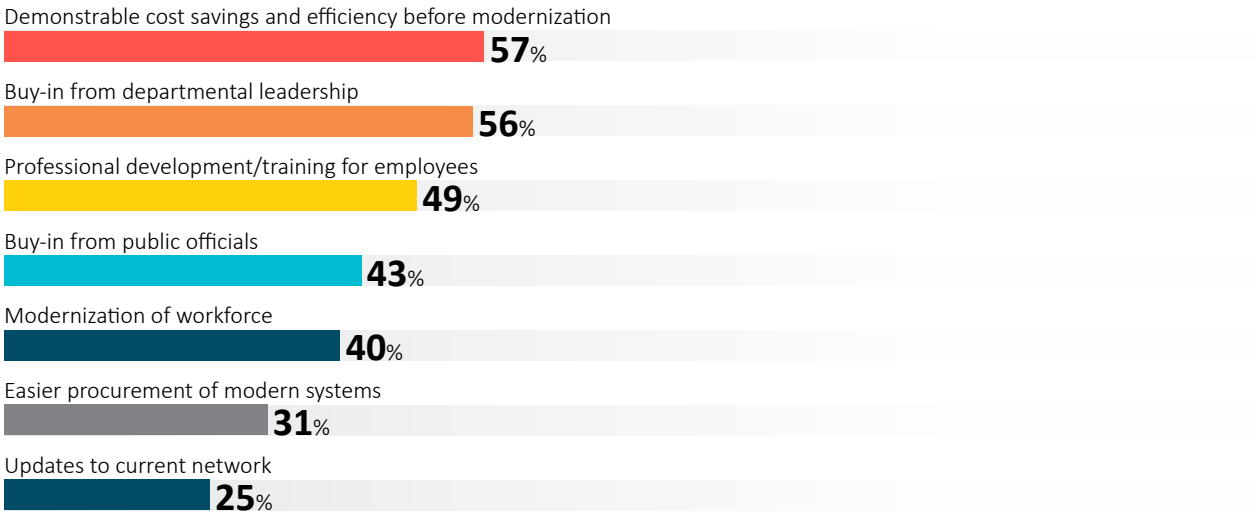
Benefits of Modernization

Efficacy and Buy-In Pave the Way for Modernization, But Workforce Proficiency Is Also Important

When asked what is needed to modernize legacy systems, respondents' top three choices were demonstrable cost savings and efficiency (57 percent), buy-in from departmental leadership (56 percent) and professional development/training for employees (49 percent).

While cost savings and efficiency justify investments in modernization and buy-in helps ensure its success, workforce training is essential for day-to-day operations. Given the IT skills shortage in state and local government, organizations should consider low-code and other agile development solutions that allow them to upskill legacy developers in weeks instead of months; improve collaboration between business stakeholders and IT; and make developers, security teams and other IT personnel more productive and less prone to error.

Top Requirements for Modernization

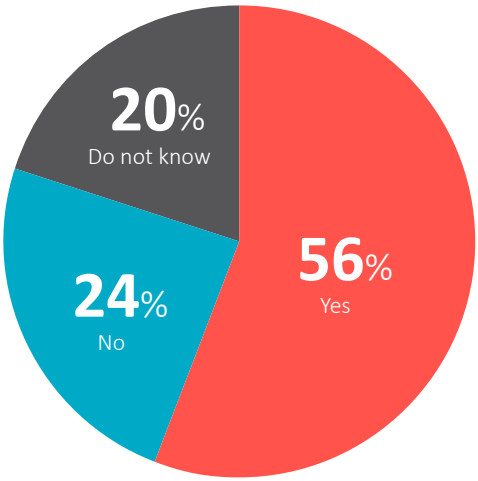


Agile Project Management Is Crucial to Replacing Legacy Systems/Modernization

Fifty-six percent said agile project management is crucial to replacing legacy systems, while 24 percent disagreed — mostly because they thought the term "agile" is overly broad or that agile is simply a fad. This is most likely because government adoption of agile is still relatively immature compared to its use in the private sector.

In a National Association of State Chief Information Officers (NASCIO) survey, almost all responding CIOs said their state was at some phase of agile adoption, with 47 percent of respondents using agile widely, 34 percent in pilot trials and 17 percent with limited use.[1] The number of respondents still in early stages (pilot trials or limited use) indicates organizations may need help in taking more advantage of agile methodology.

Is Agile Project Management Crucial to Replacing Legacy Systems?



1. NASCIO. Technology Forecast 2018: What State and Local Government Technology Officials Can Expect. October 2017. https://www.nascio.org/Portals/0/Webinars/NASCIO%20PTI%20Tech%20Forecast%202018_final.pdf

Speed, Flexibility and Cost Savings Drive Interest in Agile

Of respondents who believe agile is crucial, the reasons cited were mainly related to agile's speed, flexibility and cost savings.

Reasons for Agile

Speed

"Agile allows us to deliver solutions more frequently (iteratively) and build to a final goal. It also allows us to adapt mid-development as discoveries are made, which could mean changing direction."

"The iterative cycle that it brings allows for quick changes and development with input from consulting users, project stakeholders and project sponsors to create a true representation of customer needs, desired functionality and user experience."

Flexibility

"It allows more teamwork and collaboration as well as flexibility when dealing with older systems. This leads to a more efficient system."

"Incremental improvement works better in the municipal environment. It allows change at a reasonable pace, versus 'perfect implementations' which are usually impossible with the policy, time and cultural constraints in municipal IT."

Cost Savings

"PMs may encounter unwritten business practices and have to alter projects which translate to higher costs."

"Planning of purchasing, procuring funding sources, system preparation and project implementation are all highly related to making sure a project is completed on time and with as little error as possible."

Fulfilling the Promise of Agile with Low-Code

Agile demands a faster, low-risk and iterative development approach, which can be made possible by low-code. Low-code provides a visual application development approach that keeps business stakeholders engaged in the process and accelerates development. Using low-code's visual models and prototypes to work side-by-side with business teams, IT organizations can more tightly map solutions to users' needs, eliminate false assumptions, obtain immediate feedback and minimize rework — all goals of agile methodology. Low-code also encourages innovation by allowing collaborative teams to try new things with lower risk. The outcome of these and other low-code benefits is the development speed, flexibility and cost savings that agile methodologies promise.

Gaining Control of Modernization

As state and local governments modernize legacy systems, they'll need to prioritize modernization efforts and then adopt a strategy for either extending the life of an existing system or replacing it. A low-code approach can support both paths. When looking for low-code solutions, organizations should assess the solution's support for a range of use cases (including IoT and artificial intelligence), the collaboration between developers and business users, depth and breadth of development tools, process automation and more.

Produced by: CENTER FOR DIGITAL GOVERNMENT

For: outsystems

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A recognized leader in low-code development by Gartner and Forrester, OutSystems has helped states, municipalities, and local government agencies reduce their application backlogs significantly, slash development costs, and streamline operational processes and workflows. OutSystems is the only solution that combines the power of low-code development with advanced mobile capabilities, enabling visual development of entire application portfolios that easily integrate with existing systems. **www.outsystems.com/local-gov**