

2022 State of APIs in the Public Sector

Public sector IT leaders double down on
API-first strategy to drive innovation





IT leaders in the US public sector continue to embrace APIs as a way to become more efficient, provide secure access to public data, and increase developer productivity.

Facing unprecedented pressure to adopt cloud services at a breakneck pace, public sector leaders have risen to the challenge and demonstrated API adoption rates that are comparable with the private sector. In several areas, including security and governance, public sector adoption of APIs remains a key part of digital transformation efforts.

However, challenges and opportunities remain—the transformation is not yet complete. Future investments in areas such as API analytics and lifecycle management, microservices and containers, and hybrid cloud initiatives will continue modernization and transformation projects for many public sector organizations.

Google Cloud recently surveyed IT leaders at US public sector organizations with more than 1500 employees to discover how they are using APIs, where they are finding success, the challenges that remain, and where they plan to invest going forward. Overwhelmingly, the survey revealed an API maturity level on par with or ahead of the private sector. The vast majority are centrally managing their API programs as part of an API-first strategy, or building APIs with individual teams and managing them all through a center of excellence. More than half (54%) of these public sector leaders see APIs as a way to enhance digital experiences and accelerate innovation. A focus on APIs and API management is helping IT leaders make sure their data is secure while also providing easier access for customers.

Market forces shaping API trends

The public sector, particularly the US federal government, has a strong history of cloud adoption. [Since 2010](#) when they first unveiled plans to move services to the cloud, federal agencies have optimized their total investment in IT and reaped benefits including better efficiency, innovation, reliability, and security. In 2019, the federal CIO unveiled the [Cloud Smart](#) strategy, which equips agencies with information and recommendations based on successes in public and private sector use cases. It focuses on three key pillars of successful cloud adoption—security, procurement, and workforce—in order for the government to improve its ROI, enhance security, and offer higher quality services.

As of 2019, US federal agencies saved a total of \$290 million using cloud services. They have also benefitted from improved customer service as well as more cost-effective IT service management options.

According to the research conducted by Google Cloud, 60% of public sector organizations operate in a hybrid cloud environment, while only 5% indicated they were primarily on-premises or co-located. Meanwhile, 15% see themselves as cloud-native. For example, the Treasury Department's Workplace Community Cloud and GSA's Cloud Marketplace "connect development teams to an ecosystem of foundational and enabling elements, from virtual machines to low-code platforms so they [can focus their time and energy on the agency's mission.](#)"

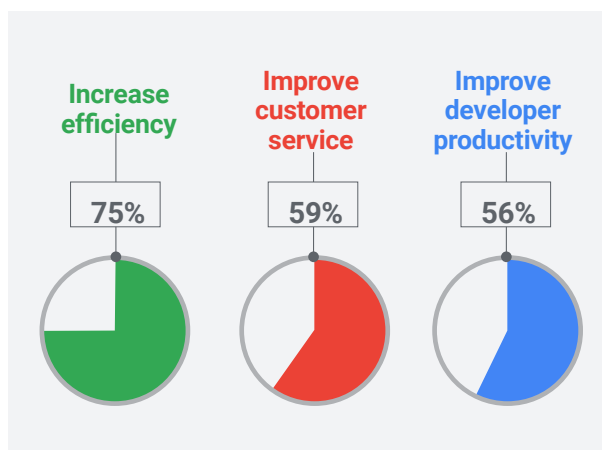
The value of APIs in the public sector

The survey found a very strong level of API maturity within the public sector. A dominant majority (86%) of organizations either centrally manage their API programs as part of an API-first strategy, or build APIs with individual teams and manage them through a center of excellence. Only 15% of those surveyed said they have siloed APIs without a central management platform; at best, those groups have an API gateway.

Most public sector organizations also take a multifaceted view of APIs—they are seen either as enhancers of digital experiences and products, or as a way to accelerate innovation by facilitating collaboration. This is key in the public sector, where doing more with less is the standard operating procedure for many. Using APIs help streamline development and ultimately, save time and resources by providing secure, scalable, and governed access to data and services for developers.

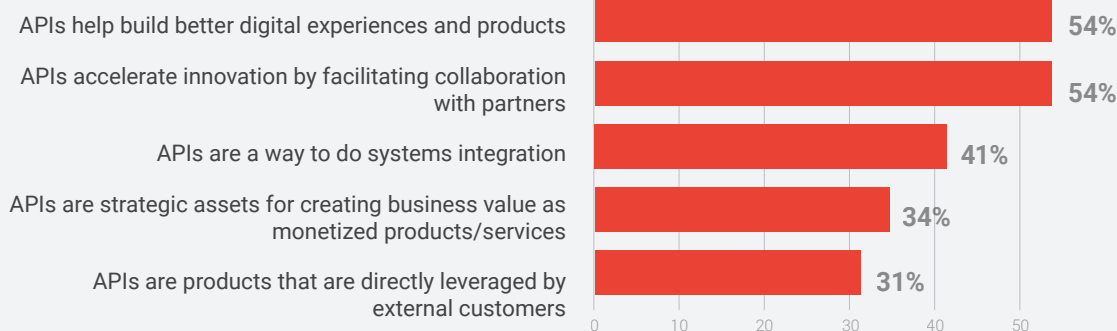
The increasing adoption of API-first strategies among public sector organizations has had a considerable impact on improving internal efficiency and productivity.

When asked about which of their digital transformation goals they'd accomplished in the last 12 months, public sector organizations indicated:



Half were able to reduce their costs and become more agile, while fewer were able to increase internal collaboration or build and expand partnerships.

Figure 1. How public sector organizations view APIs



Q16: How are APIs viewed today in your organization?

Important public sector API trends

Four key pillars emerged with regard to public sector and their usage of APIs:

1. The public sector is increasing its commitment to continued modernization
2. APIs are bringing real-world benefits to governments and citizens
3. Public sector IT leaders are laser-focused on API security
4. IT leaders are modernizing app development through APIs

Commitment to modernization

Almost all of the public sector organizations surveyed—99%—are modernizing their applications in some fashion. How they are taking the first step varies, however. One-third of those surveyed said they are extending monolithic applications via APIs as their first step, while others are taking a more traditional “lift and shift” approach to migrate their applications to the cloud.

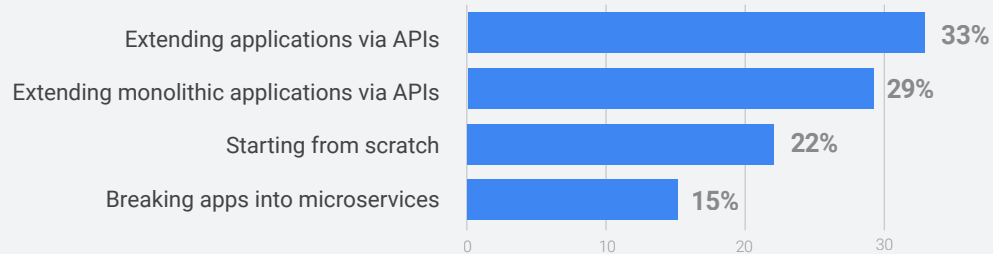
Notably, one in five (22%) public sector organizations are going cloud-native, developing new cloud-only applications and APIs, while a small minority (15%)

are also attempting to break down monolithic applications into microservices. (Figure 2)

Public sector organizations are set to invest in two major technology areas within the next 12 months: Fifty percent are interested in exploring further hybrid cloud adoption, and 50% are looking to increase their use of software as a service (SaaS) to administer workloads. This indicates a measure of confidence that SaaS offerings are working, tempered by an understanding that keeping some data on-premises is warranted.

Figure 2. Public sector modernization

The first step in an application modernization journey for the public sector



APIs are bringing real-world benefits to governments and citizens

The research indicated that most public sector organizations view the use of APIs as enhancers of digital experiences and products, and as facilitators of collaboration. About 75% of those surveyed said that APIs have helped them become more efficient.

At nearly three in five organizations (59%), APIs were able to improve customer service and/or improve developer productivity.

The survey also showed there is still room to improve. When asked about which transformation goals were not accomplished within the last 12 months, just over one quarter (27%) indicated they were unable to reduce costs. While a majority were able to improve customer service (59%) and developer productivity (56%), about 20% failed to accomplish these goals.

Putting APIs to work for citizens

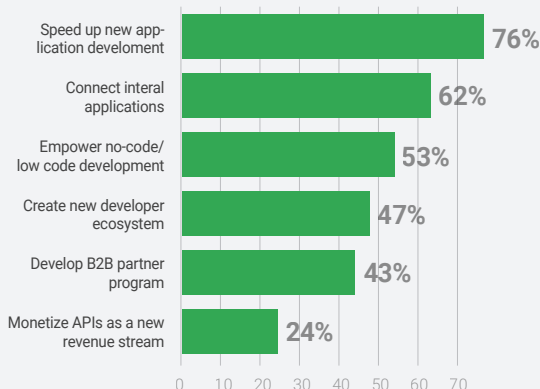
The Consumer Complaint Database is a collection of complaints about consumer financial products and services the Consumer Financial Protection Bureau sends to companies for response. APIs allow external applications to retrieve metadata about the data set and views, query for views matching specified search criteria, or retrieve specific rows of data from the data set and views.

The National Crime Victimization Survey API, provided by the US Bureau of Justice Statistics, collects detailed information about people victimized by certain types of crime. The NCVS RESTful API provides data on violent and property victimization by selecting victim, household, and incident characteristics. It's the nation's primary source of information on criminal victimization.

Public sector IT leaders are modernizing application development through APIs

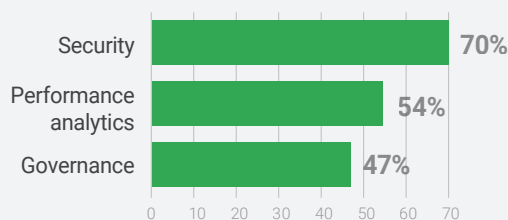
The survey indicated that IT leaders have embraced the use of APIs to speed up their application development (Figure 3). The most important components of their API developer programs focus on security, performance analytics, and governance (Figure 4).

Figure 3. Top public sector API platform initiatives



Q20: What is your company's top focus on the API platform initiatives?

Figure 4. Most important API program components



Q: Which components are most important to your API programs?

Interestingly, the use of Kubernetes for app development in the public sector is ahead of the private sector. Nearly four in 10 public sector organizations are using Kubernetes to develop applications, with a further 17% planning to do so within 12 months.

Furthermore, more than three-quarters (76%) are using APIs to accelerate their application development, with development technologies expected to grow between 5%-12% over the next year.

Public sector IT leaders are laser-focused on API security

Given the growth in and constant concern around cybersecurity, it is not surprising that public sector organizations are focused on it. Nearly everyone surveyed (85%) said they are currently utilizing API security capabilities, as well as core API gateway functionality. But 38% said potential security risks (or perhaps a hesitance to deploy without understanding the risks) are preventing their organization from accomplishing API program goals.

What's next for APIs in the public sector?

As they push transformation and modernization initiatives forward, public sector organizations are looking at analytics and lifecycle management tools to fine-tune their API process. With robust analytics capabilities, organizations can measure usage and performance data to determine which APIs are most often accessed, and which are driving traffic or revenue.

Nearly half of the survey respondents expect to use more API analytics in the next 12 months (46%) as well as API lifecycle management tools (44%), which indicates a strong desire for continued transformation.

Not surprisingly, most respondents indicated they will focus on API security, with others planning to grow and manage API adoption. Other changes include increasing their focus on governance and investing more in the developer community.

Nearly one-third (29%) of organizations plan to ramp up their API training and education, which indicates they want to solve the time and complexity challenges that many API projects present (Figure 5).

Figure 5. API public sector journey

**Benefits of
API-first strategy**



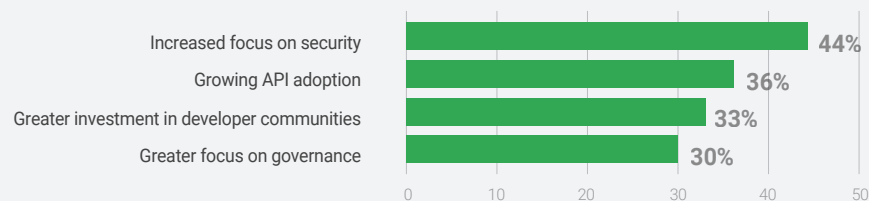
Q16: How are APIs viewed today in your organization?

**Challenges
slowing adoption of
API-first strategy**



Q21: What are some of the challenges that are preventing your organization from accomplishing your API program goals?

The Future



Q27: How do you anticipate your API program will change in the next 12 months, if at all?

**Building a successful API strategy
with API management**

An API management platform enables federal, state, and local government organizations to accelerate application modernization, and decouple from legacy backend systems to optimize their IT operations. By enabling public sector organizations to design, secure, monitor, and manage APIs in any environment, at nearly any scale, an API management platform empowers IT teams to streamline development while securely managing data and services inter and intra agency.

Great progress, more to achieve

In the public sector, IT leaders have embraced APIs as a way to improve the efficiency and productivity of their developers while also improving customer service. APIs have assumed a prominent role in the cloud-first efforts of many government agencies, enabling better digital experiences and accelerating innovation. In a sector often constrained by budgets and politics, APIs serve citizens as well as IT leaders by putting efficient and secure innovation, at scale, within the reach of even the smallest agency.

While time, complexity, and security issues remain for many organizations, most API programs are in full swing, indicating continued progress on the road to digital transformation for those in the public sector.

With additional support from partners and the developer community, public sector organizations can access the right tools to surmount the remaining challenges and become digital-first in many of their operations.

About Apigee API Management

Google Cloud's Apigee API management platform delivers full lifecycle API management to help public sector organizations unlock the value of data and securely deliver modern applications and digital experiences. Apigee offers a rich set of capabilities to enable enterprises to gain control over and visibility into API traffic, including the ability to automate troubleshooting and problem resolution and to derive insights from API usage.

Modernize legacy systems and accelerate development

Apigee enables application modernization by exposing secure and reusable APIs in the CI/CD pipeline to decouple monoliths. This enables public sector organizations to accelerate application development agility, speed, and to lower total operational costs.

Build citizen experiences with secure services and data

Apigee enables public sector organizations to securely and selectively share the right level of data and services with each other to provide an integrated view for citizens.

Govern, secure and aggregate distributed APIs

Apigee provides centralized API governance and security management by enabling services to be safely accessed by authorized parties and distributed between on-prem and cloud endpoints."

[Contact us](#) to learn how Google Cloud can help you achieve your digital transformation goals.

Methodology

The survey was conducted among IT decision-makers at US public sector organizations with 1,500 or more employees. All respondents had some role in purchasing decisions for technology solutions related to API platform initiatives.

Respondents answered a 23-question online survey between April 6, 2022, and May 21, 2022. A majority of job titles of those who responded were either C-level, vice president/director-level or IT managers.