

FEDERAL CLOUD

READINESS REPORT

Federal agency IT leaders now view cloud services as instrumental to improving mission services – with 6 in 10 planning to shift IT investments towards cloud-based models over the next three years. While agencies report increasing readiness to provision cloud services and operate at scale, a host of impediments remain.

PRESENTED BY

fedcoop

UNDERWRITTEN BY

vmware



carahsoft

EXECUTIVE SUMMARY

In a new survey of federal government information technology decision makers, underwritten by VMware, Intel and Carahsoft, FedScoop explores:

- The progress federal agencies are making adopting cloud computing for a variety of mission support and enterprise business applications.
- How ready federal IT executives say their agencies are in provisioning virtual data centers and operating cloud environments at scale.
- Which types of data center and cloud computing models IT leaders expect their agencies to invest in most over the coming three years.
- The leading internal and external factors currently driving agencies to the cloud — and what steps agencies are taking to get there faster.
- Perceptions about agency acquisition capabilities and contract vehicles to facilitate cloud adoption.

Top Line Findings: The advancing state of cloud adoption in federal civilian agencies

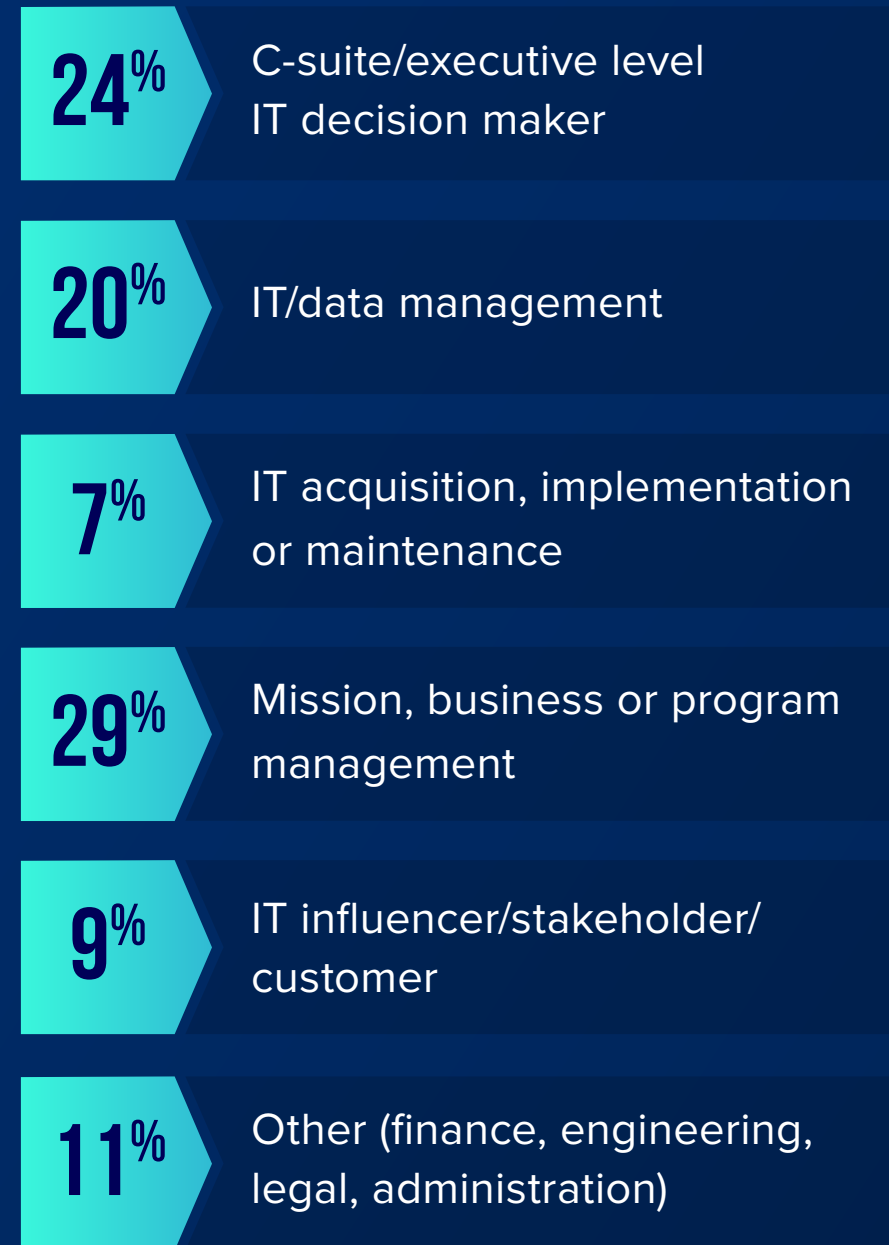
Federal agencies continue to make greater headway adopting cloud computing than many might suspect. According to agency IT leaders in FedScoop's latest survey:

- 2 in 3 say their agencies are ready to move a variety of applications and workloads through advanced stages of Gartner's 6-stage cloud maturity model.
- 1 in 5 are ready to provision cloud services and/or operate cloud environments at scale to support their agency's mission.
- 6 in 10 report that over the next three years, their agency will invest most in a combination of cloud models – government-only cloud, public/commercial cloud or hybrid cloud.
- Currently, though, only 1 in 3 say their agency has relatively high or advanced ability to provision a virtual data center.
- While IT security concerns remain an obstacle — and a rationale — for moving to the cloud, the top motivations for adopting cloud now are: to improve mission critical services; address technical constraints inhibiting IT modernization; and increase the ability to manage and analyze data.
- Among other impediments to cloud adoption, 55% of IT executives say their agency's ability to acquire cloud services is inadequate or only average; and 6 in 10 rated available contract vehicles "difficult to use" or only average at best.

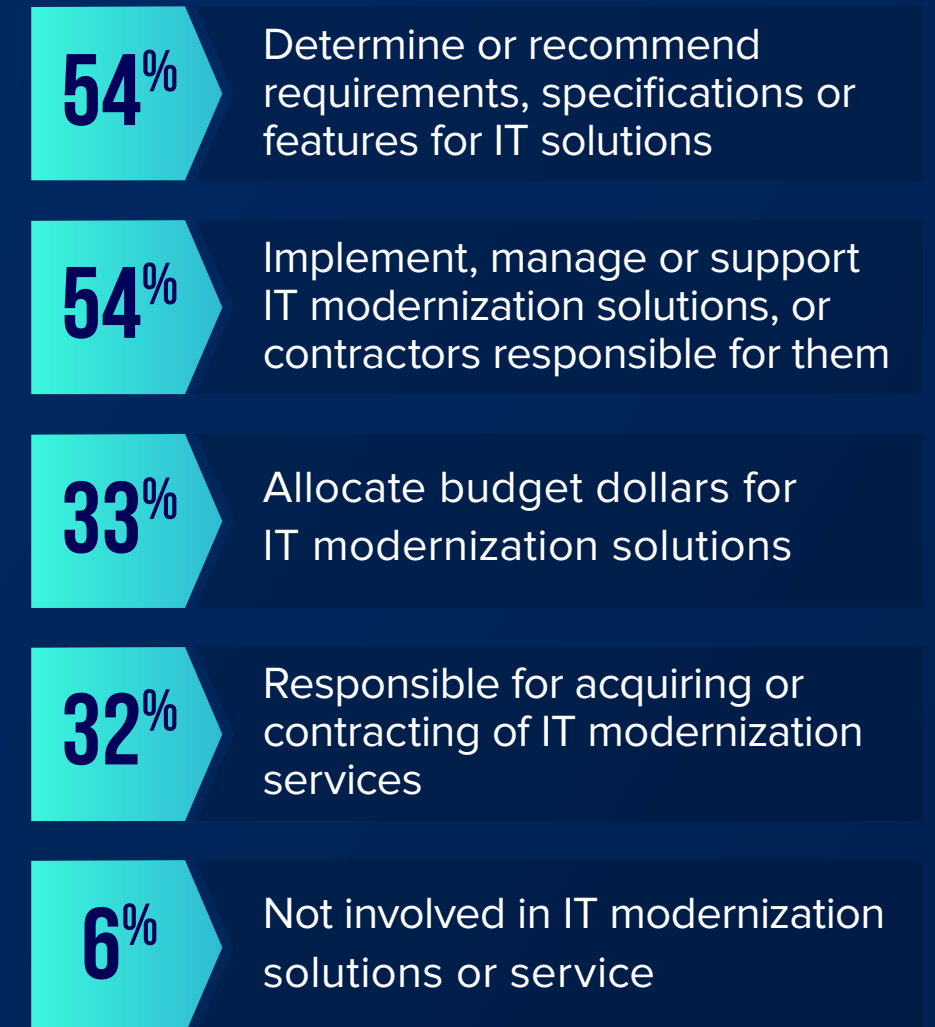
WHO WE SURVEYED

FedScoop conducted an online survey of 150 prequalified federal government IT decision makers at civilian agencies about their agency's cloud adoption practices and investment plans. The survey was conducted in October 2018.

Respondent breakout by **job title**:



Respondent breakout by **IT involvement***:



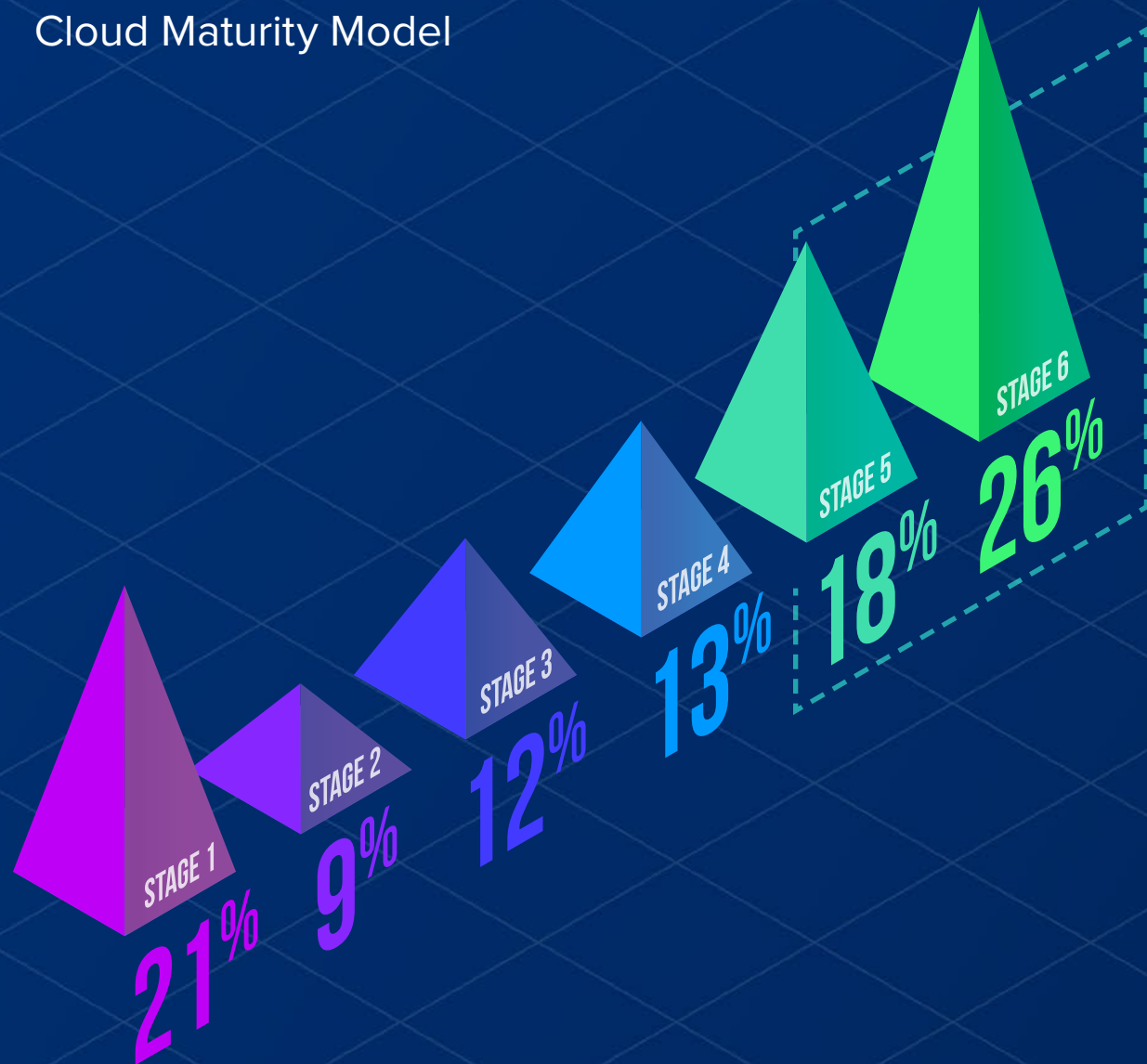
*(Select all that apply)

ENTERPRISE BUSINESS SOLUTIONS: CLOUD READINESS MATURITY RATINGS

Roughly 2 in 3 federal IT executives say their agency is ready to move a variety of applications and workloads through advanced stages of Gartner's 6-stage cloud maturity model. More than 3 in 10 are in operational stages. Ratings for specific workloads are as follows:

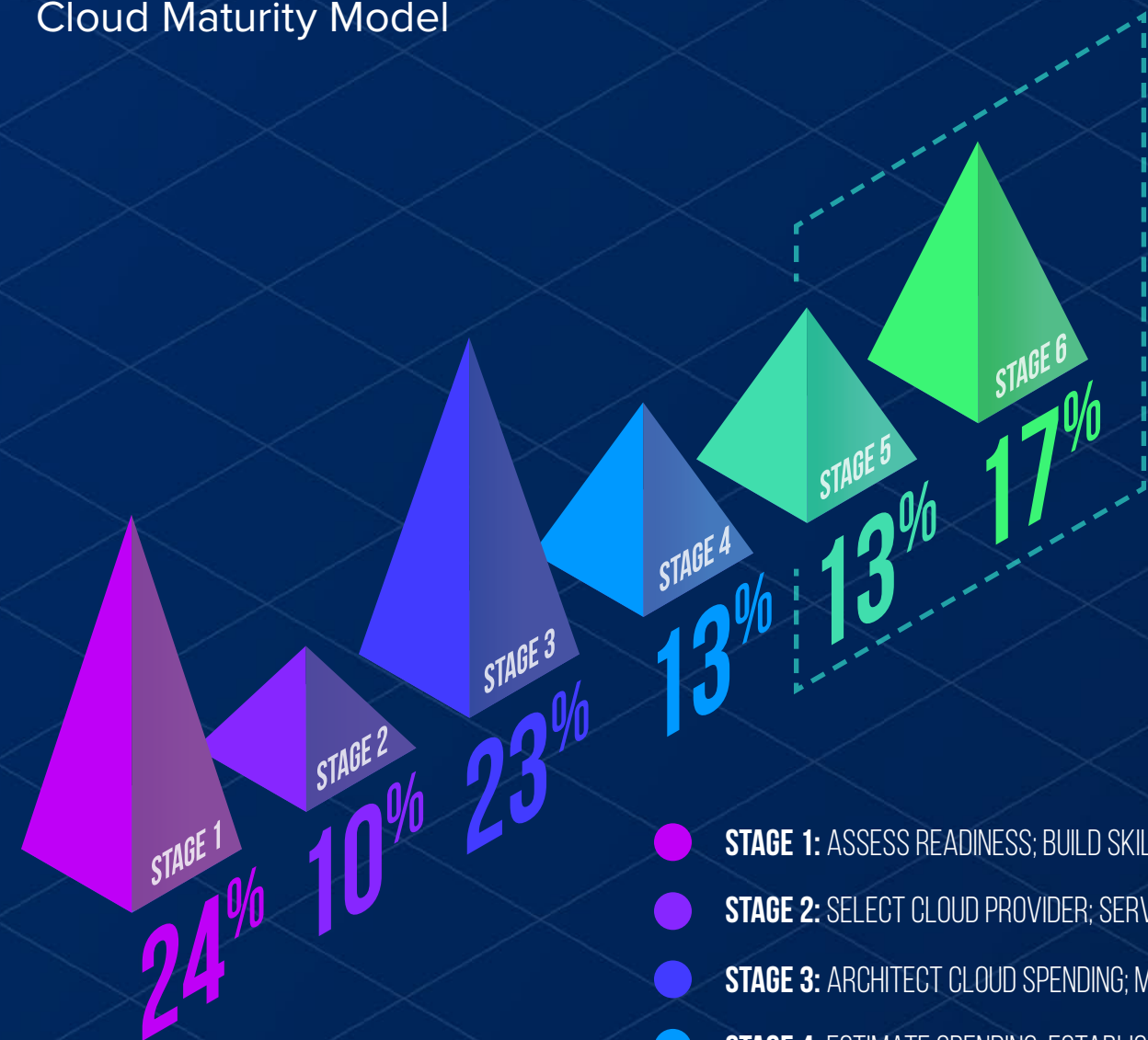
Email/Collaboration

44% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model



Public-Facing Website

30% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model



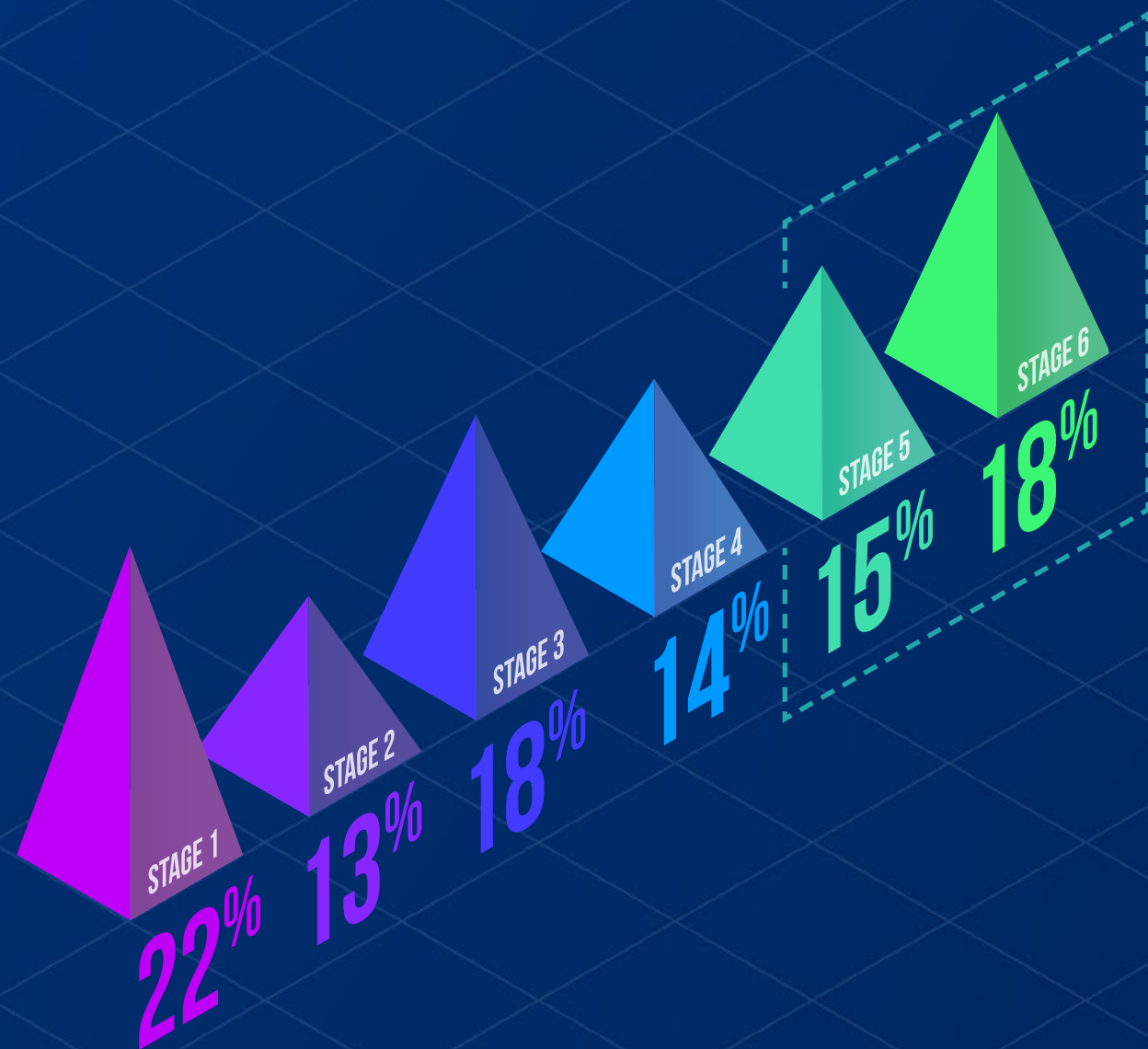
Q: How far along is your agency in adopting the following cloud-based applications or workloads?
(Select the farthest stage your agency has reached implementing the following, effective as of Sept. 30, 2018)

- STAGE 1: ASSESS READINESS; BUILD SKILLSET
- STAGE 2: SELECT CLOUD PROVIDER; SERVICE
- STAGE 3: ARCHITECT CLOUD SPENDING; MITIGATE RISK
- STAGE 4: ESTIMATE SPENDING; ESTABLISH GOVERNANCE
- STAGE 5: PROVISION AND AUTOMATE CLOUD SERVICES
- STAGE 6: OPERATE CLOUD ENVIRONMENTS AT SCALE

ENTERPRISE BUSINESS SOLUTIONS: CLOUD READINESS MATURITY RATINGS

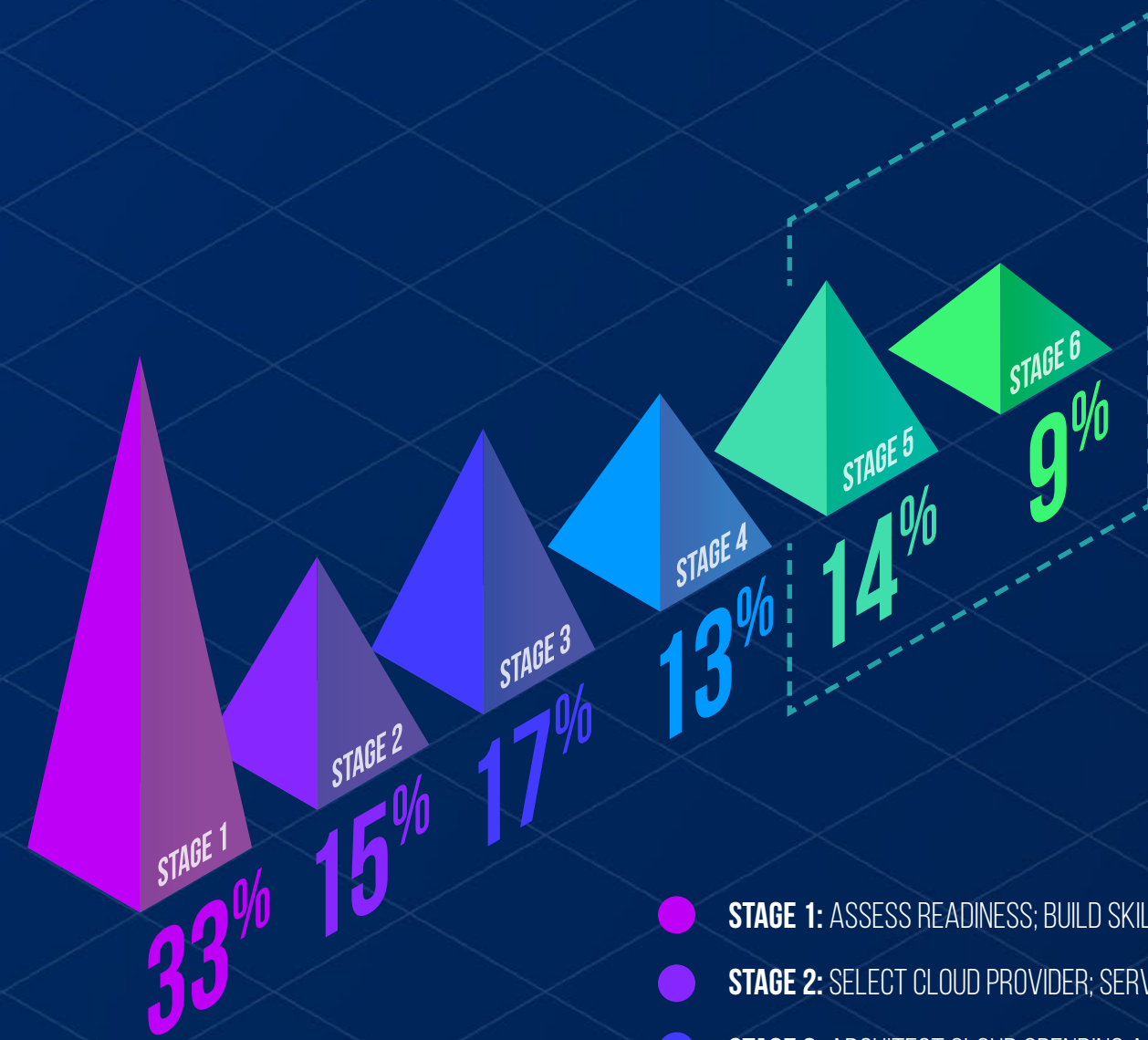
Office Productivity Suite

33% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model



Business App (Financial, E-Commerce)

23% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model



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- **STAGE 6:** OPERATE CLOUD ENVIRONMENTS AT SCALE

MISSION SUPPORT SOLUTIONS: CLOUD READINESS MATURITY RATINGS

About 1 in 5 IT executives say their agency is now ready to “provision cloud services” or “operate cloud environments at scale” for **mission support applications, data analytics** and **development environments**.

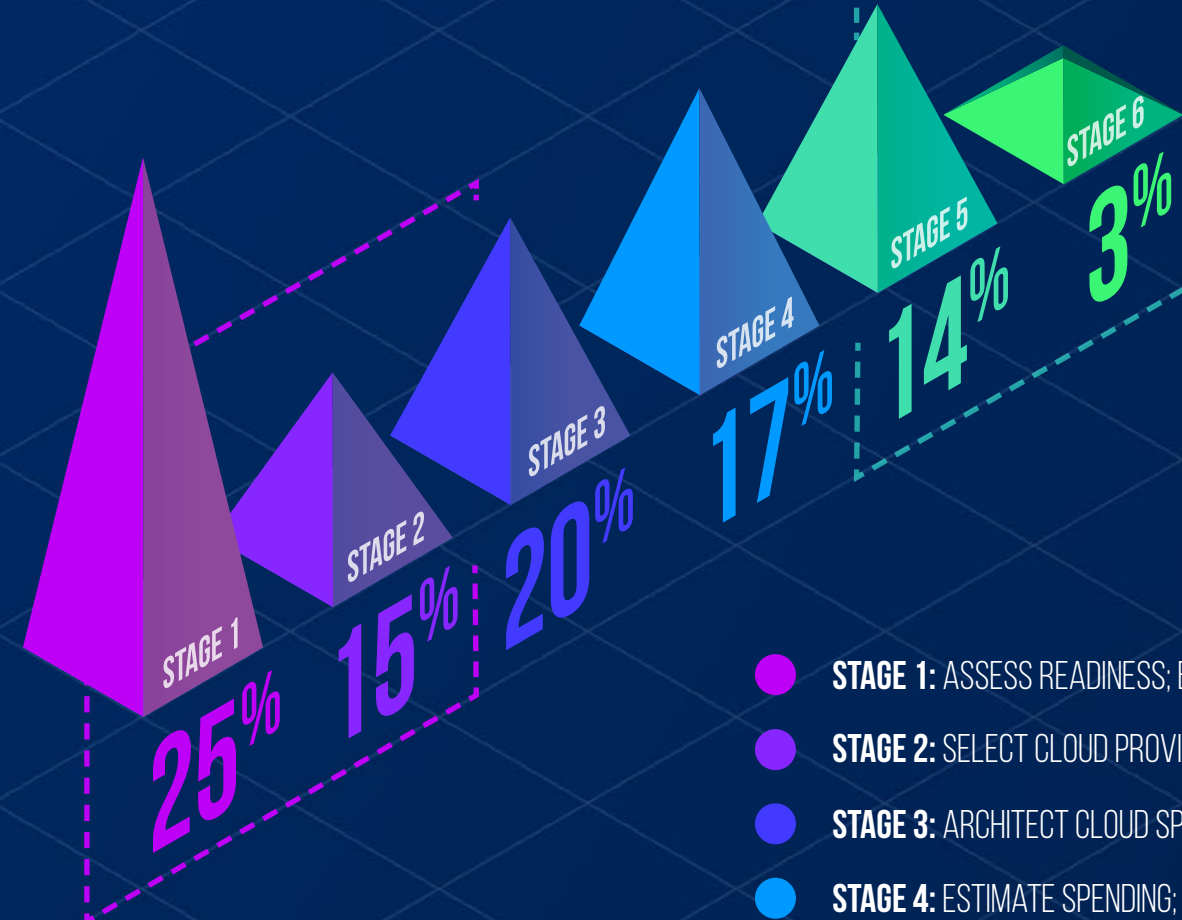
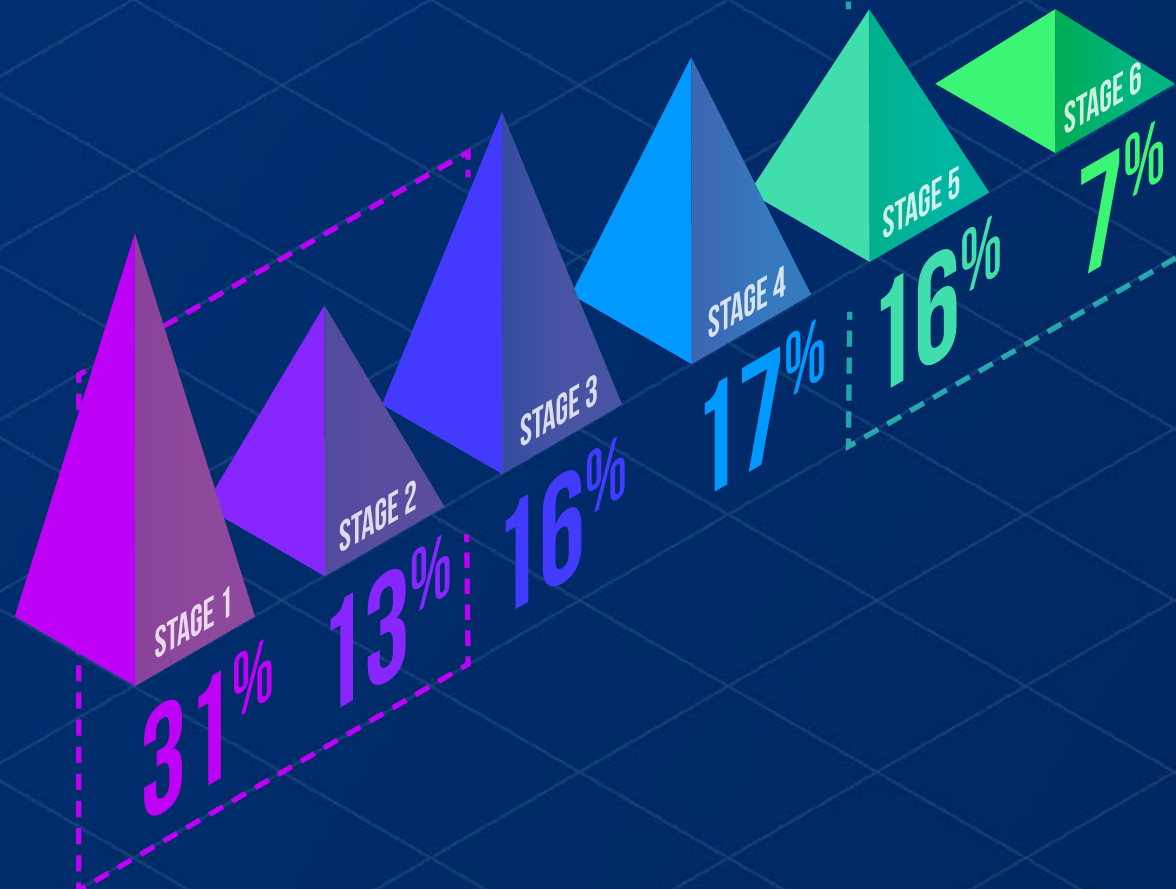
But more than 4 in 10 IT respondents reported their agency is still at the “readiness assessment” or “selection” stage for those same applications or workloads. Ratings for specific workloads:

Data Analytics

23% of respondents’ agencies are in stages 5 and 6 of Gartner’s Cloud Maturity Model; but 44% are still at stages 1 and 2.

Development Environments

17% of respondents’ agencies are in stages 5 and 6 of Gartner’s Cloud Maturity Model; but 40% are still at stages 1 and 2.



- **STAGE 1:** ASSESS READINESS; BUILD SKILLSET
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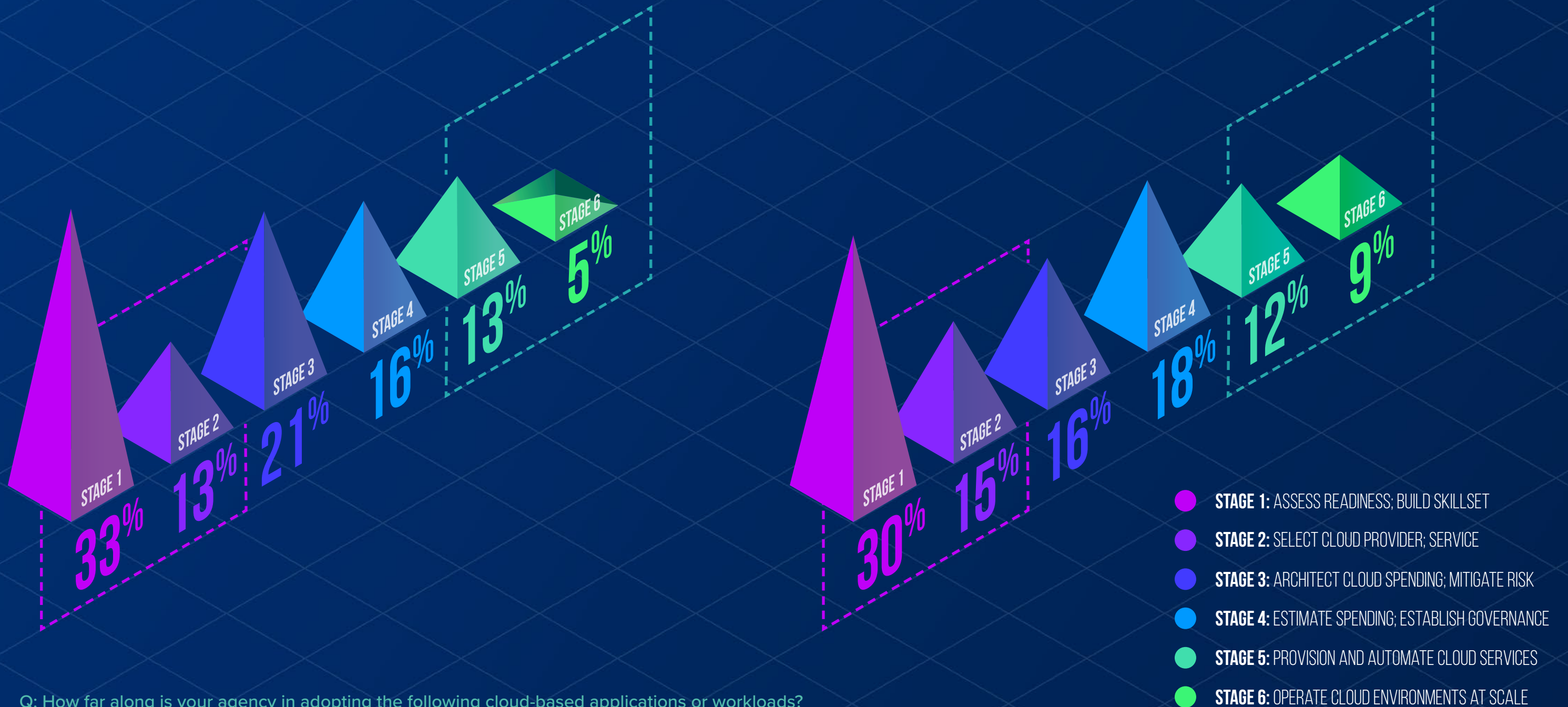
MISSION SUPPORT SOLUTIONS: CLOUD READINESS MATURITY RATINGS

Containers/Microservices

18% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model; but 46% are still at stages 1 and 2.

Agency Mission Support Apps

21% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model; but 45% are still at stages 1 and 2.



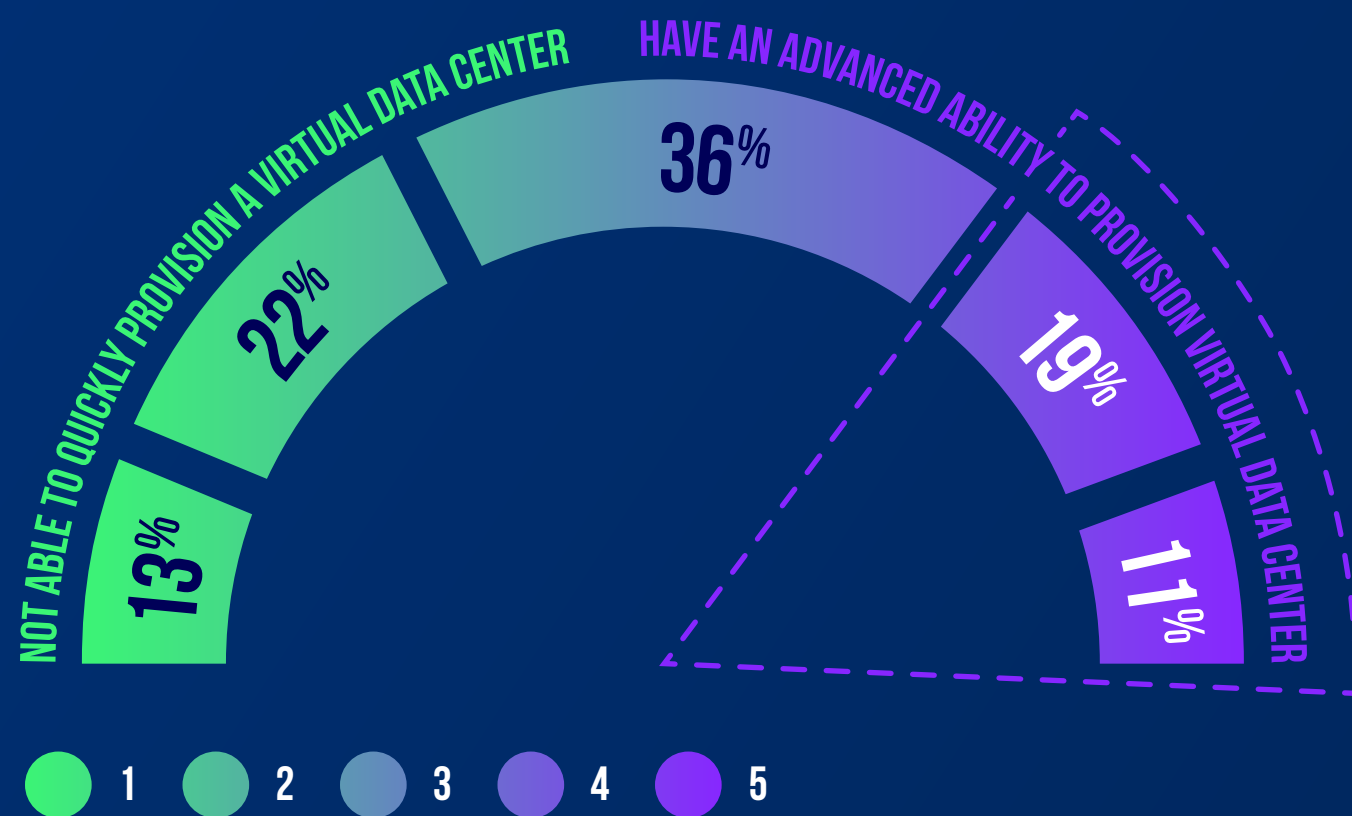
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VIRTUAL DATA CENTER PROVISIONING READINESS

Only about 3 in 10 IT executives, however, say their agency has relatively high or advanced ability to provision a virtual data center quickly.

% IT executives by rating score



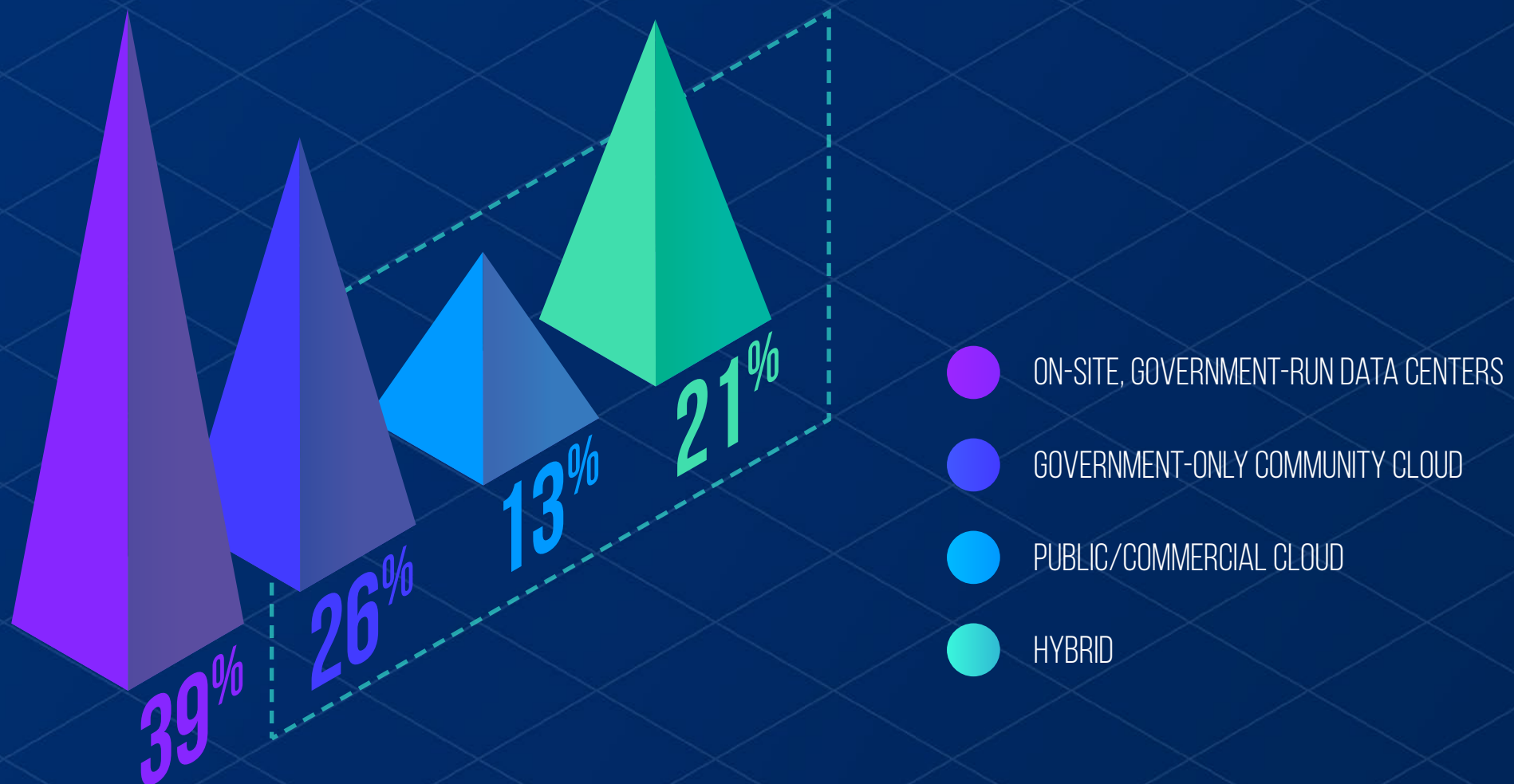
Q: How would you rate your agency's ability to quickly set up virtual data center, on a scale of 1 to 5?

PREFERRED CLOUD INVESTMENT MODEL – OVER THE NEXT THREE YEARS

60% of IT executives reported that over the next three years, their agency will invest most in a combination of cloud models – government-only community cloud, public/commercial cloud or hybrid cloud.

However, 4 in 10 say their agencies will still invest most in on-site, government-run data centers.

IT investment priorities – 3 year outlook



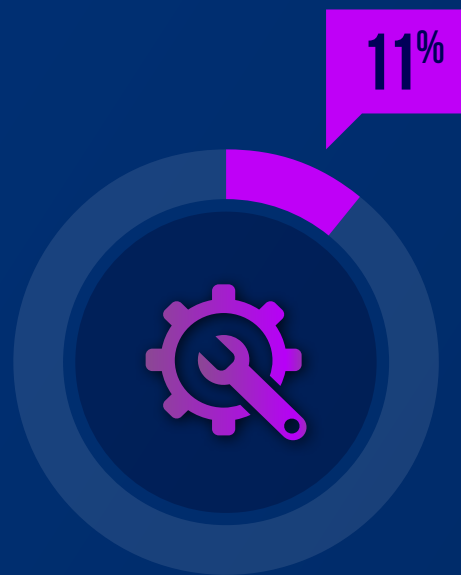
Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

AGENCY INFRASTRUCTURE INVESTMENT PRIORITIES – OVER NEXT TWO YEARS

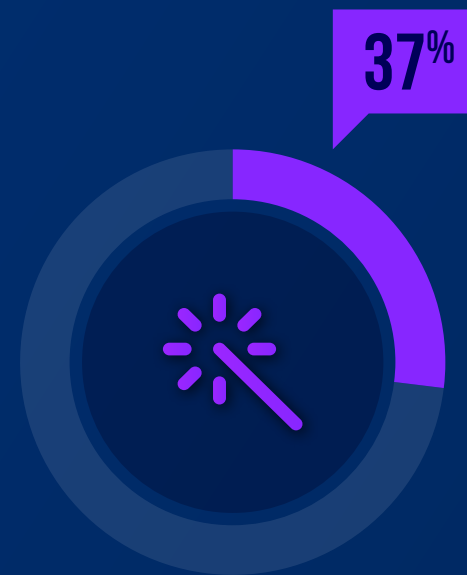
Half of IT executives (48%) reported that over the next two years, they expect their agency to augment or migrate at least some of their IT infrastructure to the cloud.

IT infrastructure priorities – two year outlook

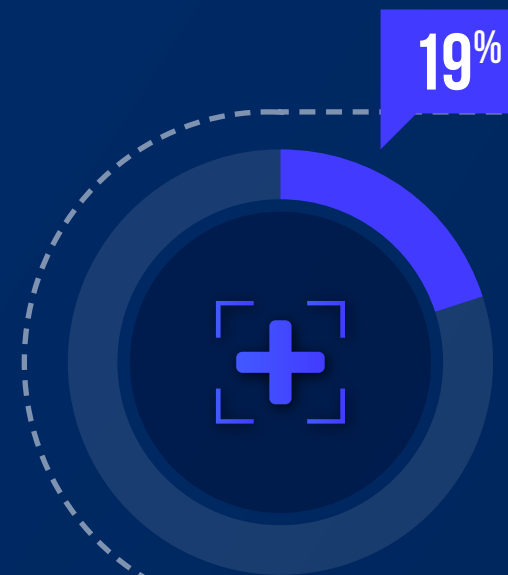
MAINTAIN EXISTING SYSTEMS



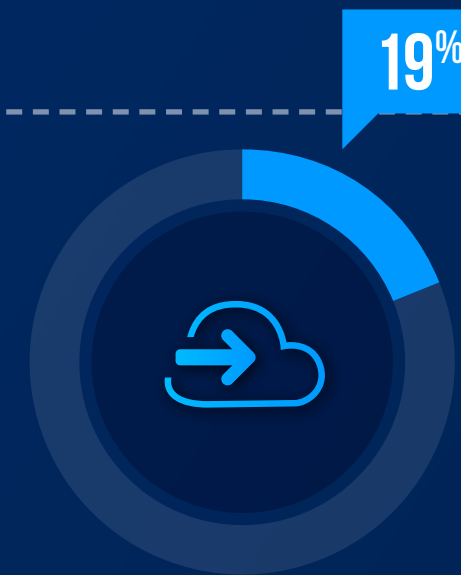
ENHANCE/UPGRADE EXISTING SYSTEMS



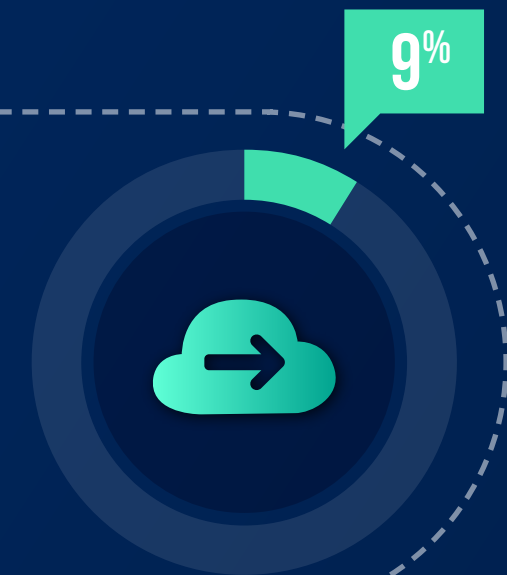
AUGMENT EXISTING SYSTEMS BY ADOPTING SOME CLOUD SERVICES



MIGRATE SIGNIFICANT PORTIONS OF LEGACY SYSTEMS TO THE CLOUD



MIGRATE THE MAJORITY OF IT SYSTEMS TO THE CLOUD



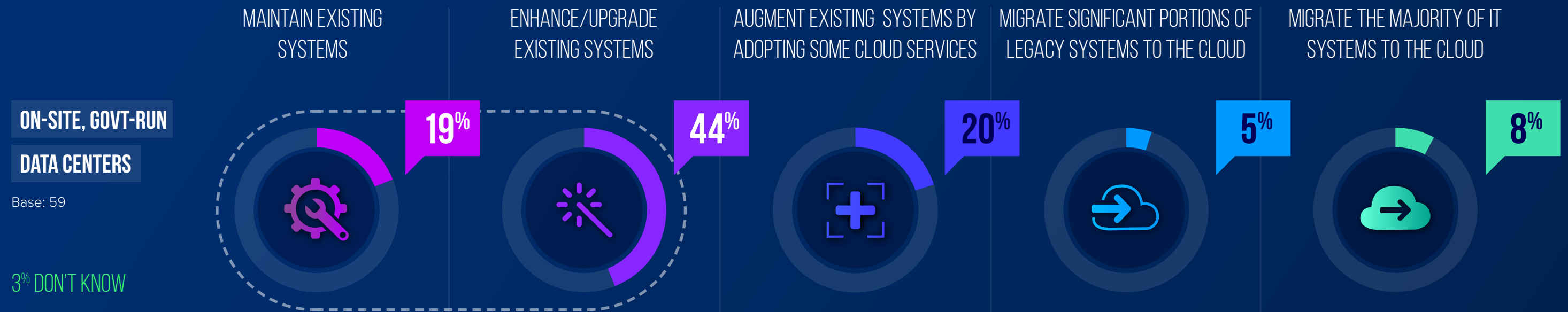
4% DON'T KNOW

Q: Thinking of your agency's IT infrastructure, which statement best describes your organization's primary approach to IT investing over the next two years?

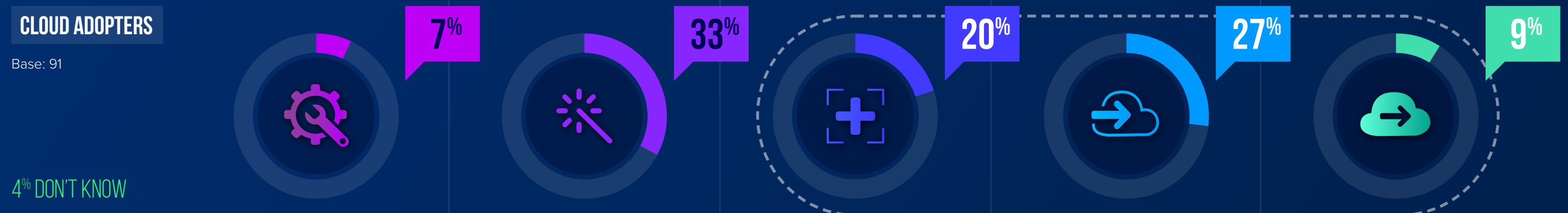
AGENCY INFRASTRUCTURE INVESTMENT PRIORITIES – OVER THE NEXT TWO YEARS

Among those in agencies investing mostly in **government-run data centers**: 63% say investments are going primarily toward maintaining or enhancing/upgrading their existing IT infrastructure over the next two years.

IT infrastructure priorities – two year outlook (breakout)



Among those in agencies investing mostly in **cloud-based models**: Over half (56%) say investments are going primarily toward augmenting infrastructure or migrating their IT systems to the cloud over the next two years.

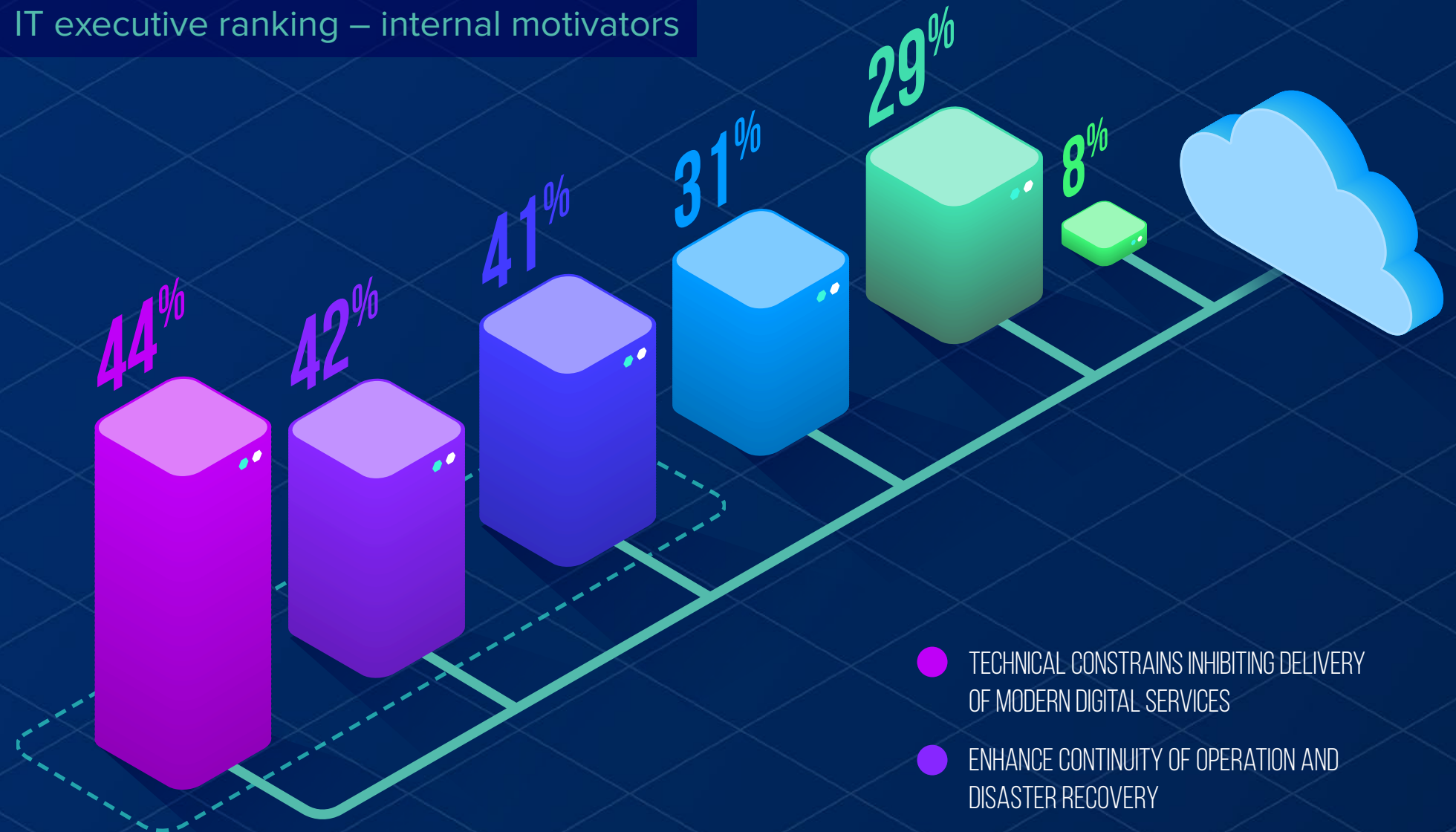


Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

INTERNAL MOTIVATORS FOR AGENCY CLOUD ADOPTION

More than 4 in 10 IT executives report **technical constraints**, **continuity of operations** and **data analytics** demands as the biggest internal factors motivating their agency to adopt cloud computing.

IT executive ranking – internal motivators



● 8% OF OTHER RESPONSES INCLUDED:

“Allows internal IT workforce to focus on mission and deliver mobile apps.”

“Brings our digital assets together [and helps us] use emerging tech to innovate.”

“Improves agility and reduces deliver times.”

- TECHNICAL CONSTRAINS INHIBITING DELIVERY OF MODERN DIGITAL SERVICES
- ENHANCE CONTINUITY OF OPERATION AND DISASTER RECOVERY
- INCREASE ABILITY TO MANAGE, ANALYZE DATA
- MOUNTING TECHNICAL DEBT (COSTS TO REWORK EXISTING CODE)
- INABILITY TO FACILITATE AGILE APPLICATIONS DEVELOPMENT
- OTHER

Q: Which are the biggest *internal* factors driving your agency to consider adopting cloud computing? (Select up to 3)

INTERNAL MOTIVATORS FOR AGENCY CLOUD ADOPTION

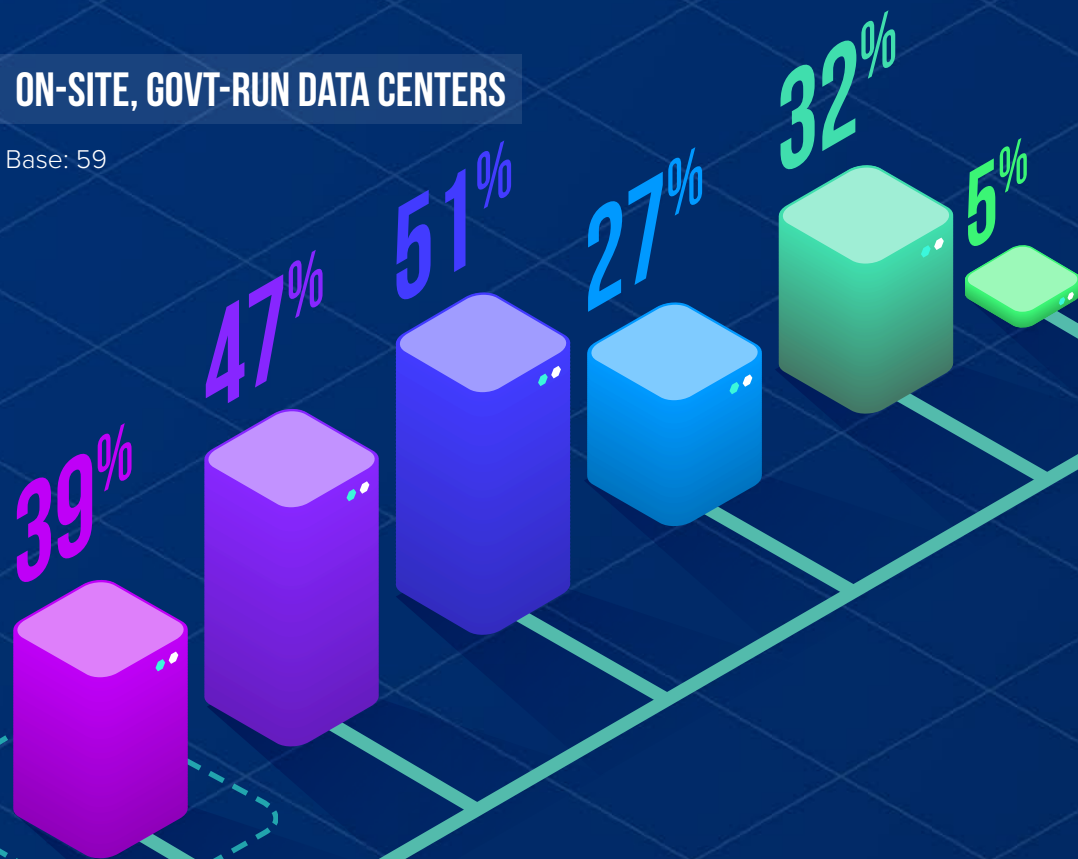
Among those in agencies investing mostly in **government-run data centers**: The biggest factor driving cloud adoption is the need to *enhance continuity of operations and disaster recovery*.

Among those in agencies investing mostly in **cloud-based models**: The biggest factor driving cloud adoption is the need to *increase how they manage and analyze data*.

IT executive ranking – internal motivators

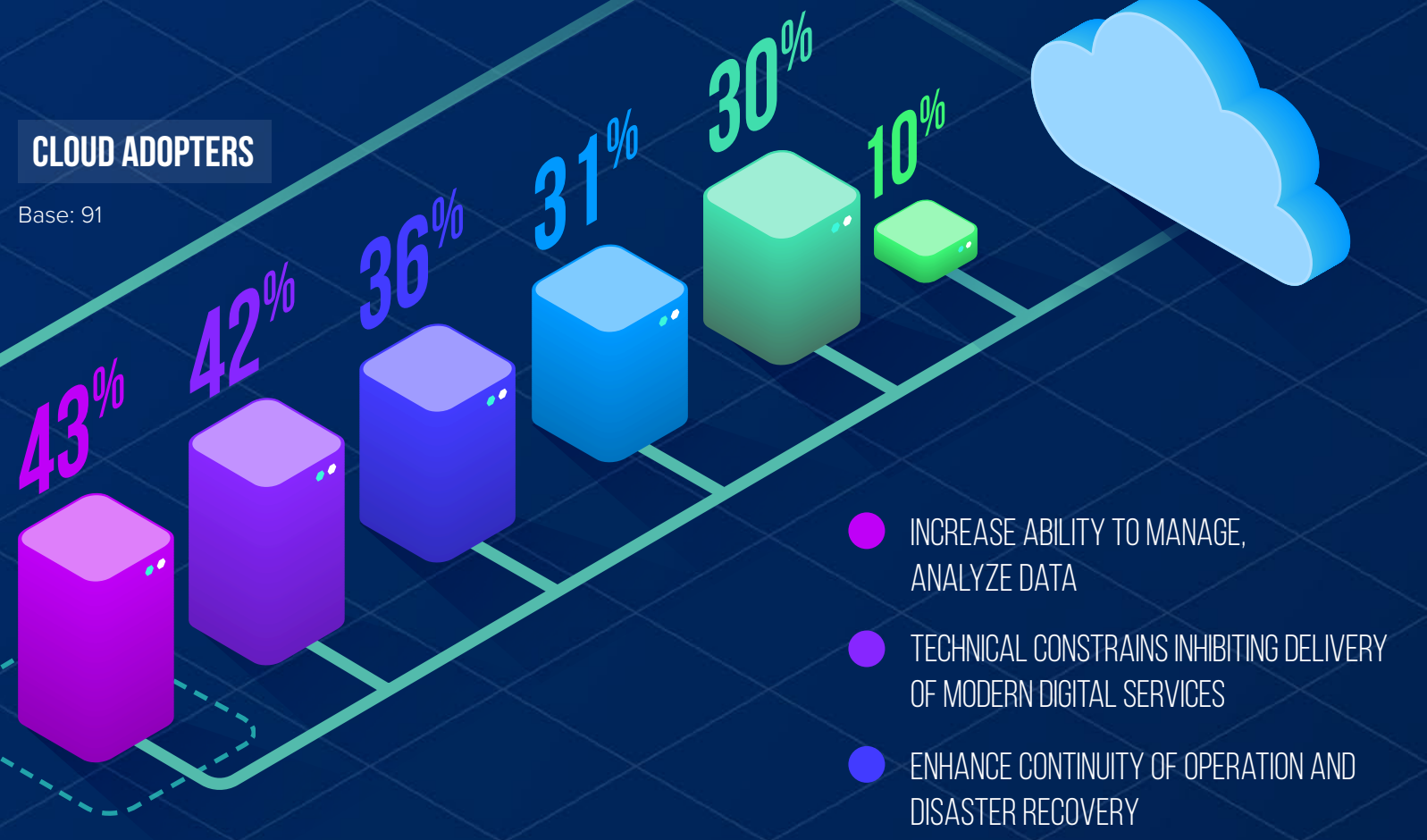
ON-SITE, GOVT-RUN DATA CENTERS

Base: 59



CLOUD ADOPTERS

Base: 91



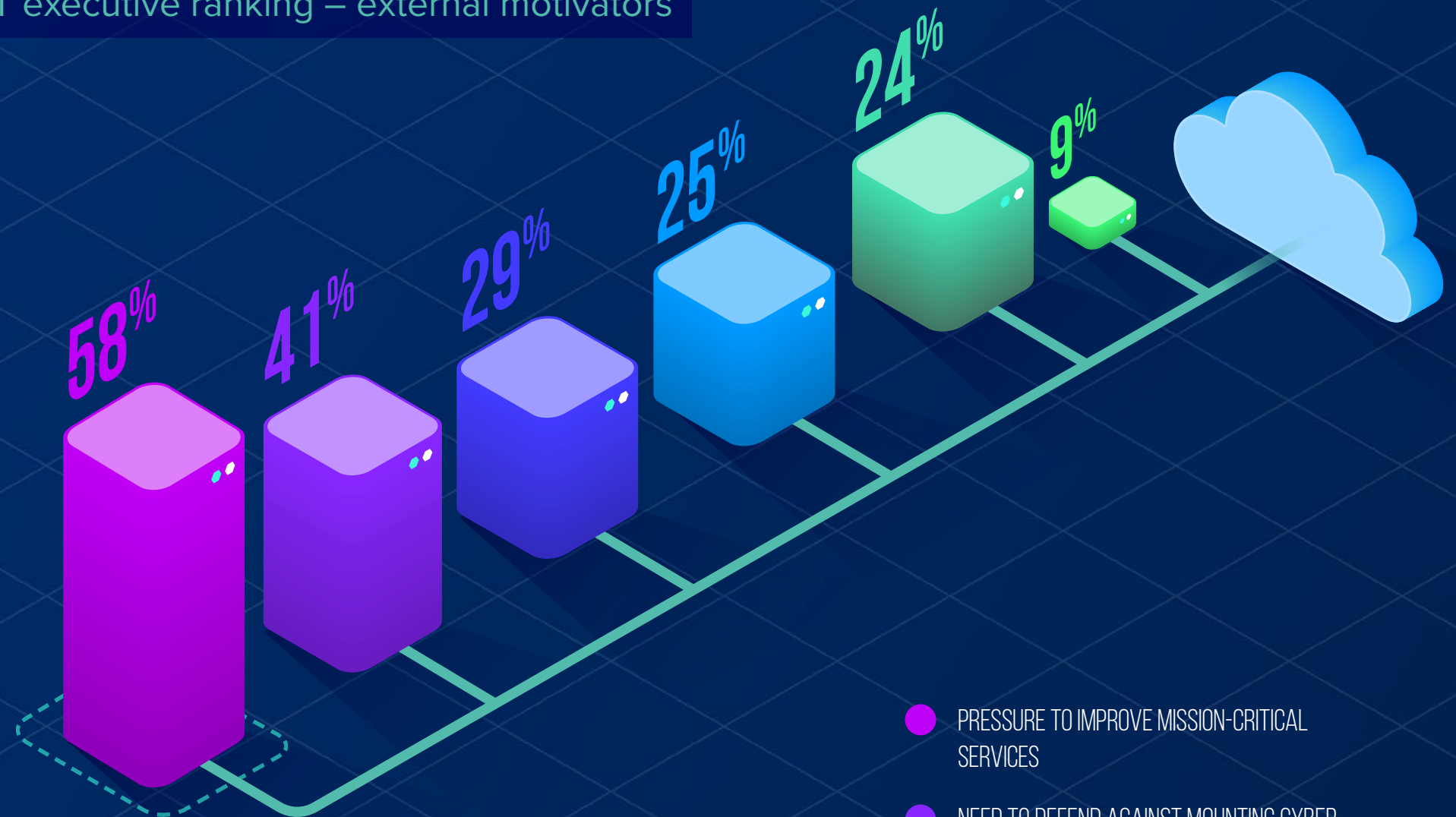
- INCREASE ABILITY TO MANAGE, ANALYZE DATA
- TECHNICAL CONSTRAINS INHIBITING DELIVERY OF MODERN DIGITAL SERVICES
- ENHANCE CONTINUITY OF OPERATION AND DISASTER RECOVERY
- INABILITY TO FACILITATE AGILE APPLICATIONS DEVELOPMENT
- MOUNTING TECHNICAL DEBT (COSTS TO REWORK EXISTING CODE)
- OTHER

Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

EXTERNAL MOTIVATORS FOR AGENCY CLOUD ADOPTION

The strongest external motivator pushing agencies to move to the cloud is the pressure to *improve mission-critical services* (58%), followed by the need to *defend against mounting cyberthreats* (41%).

IT executive ranking – external motivators



● 9% OF OTHER RESPONSES INCLUDED:

“Technical constraints and a need to facilitate agile app development.”

“Get around legislative mandates and oversight that impede efficient operation.”

“Pilots developed with cloud usage.”

- PRESSURE TO IMPROVE MISSION-CRITICAL SERVICES
- NEED TO DEFEND AGAINST MOUNTING CYBER-THREATS
- WHITE HOUSE MANDATES TO MODERNIZE IT
- CONGRESSIONAL PRESSURE TO CONSOLIDATE DATA CENTERS
- OMB PRESSURE TO REDUCE TOTAL OPERATING COSTS
- OTHER

Q: Which are the biggest external factors driving your agency to consider adopting cloud computing? (Select up to 3)

EXTERNAL MOTIVATORS FOR CLOUD ADOPTION IN GOVERNMENT AGENCIES

Among those in agencies investing mostly in **government-run data centers**: The biggest external factor driving cloud adoption is the need to *defend against mounting cyberthreats*.

Among those in agencies investing mostly in **cloud-based models**: Nearly twice as many respondents answered, *pressure to improve mission-critical services*, compared to the next highest factor, defending against mounting cyberthreats.

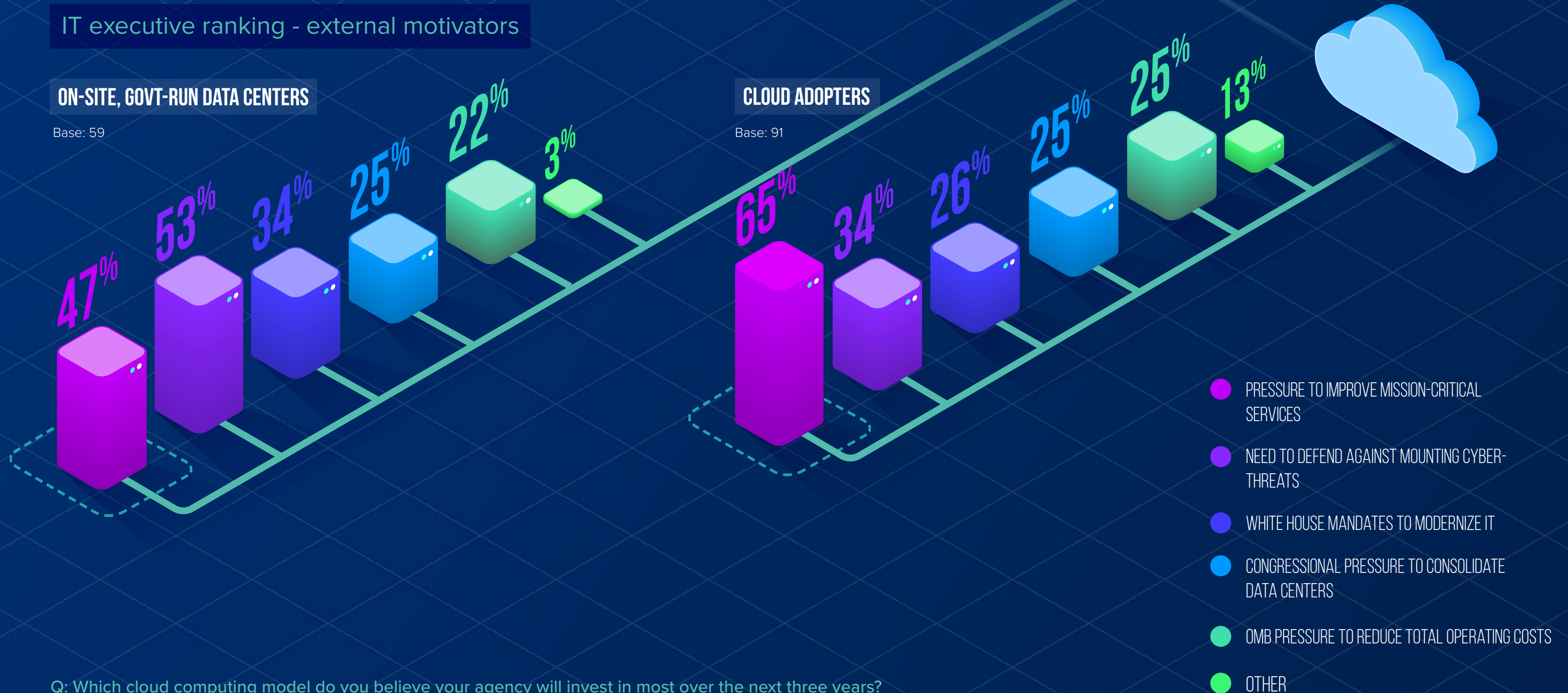
IT executive ranking - external motivators

ON-SITE, GOVT-RUN DATA CENTERS

Base: 59

CLOUD ADOPTERS

Base: 91



Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

INCREMENTAL STEPS FEDERAL AGENCIES ARE TAKING TO MOVE TO THE CLOUD

IT executives rank the top actions agencies are taking to move faster to the cloud include: *replacing selected applications with cloud-ready alternatives* (53%) and *looking to cloud providers to aid with migration* (43%).



Q: What incremental steps is your agency exploring to move faster to the cloud? (Select all that apply)

INCREMENTAL STEPS FEDERAL AGENCIES ARE TAKING TO MOVE TO THE CLOUD

Among those in agencies investing mostly in **government-run data centers**, the next most cited steps to speed cloud adoption included: *developing cloud-native applications and looking to cloud providers to aid in migration.*

Among those in agencies investing mostly in **cloud-based models**, the next most cited actions to speed cloud adoption included: *looking to cloud providers to aid in migration and re-platforming selected on-premises apps on the cloud.*

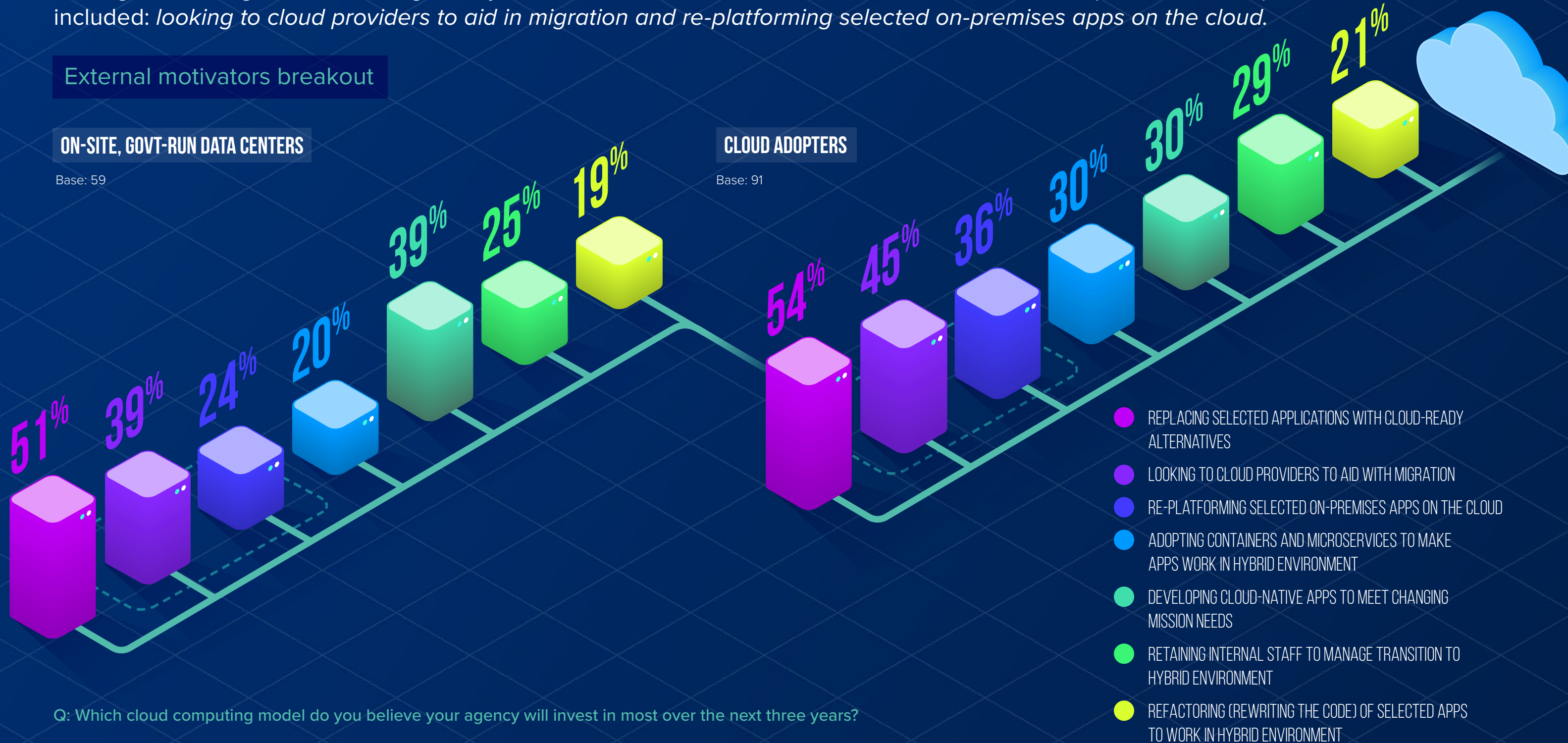
External motivators breakout

ON-SITE, GOVT-RUN DATA CENTERS

Base: 59

CLOUD ADOPTERS

Base: 91



Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

IMPEDIMENTS TO CLOUD ADOPTION PRACTICES

IT executives rank the biggest impediments that inhibit them from adopting cloud computing practices, including:

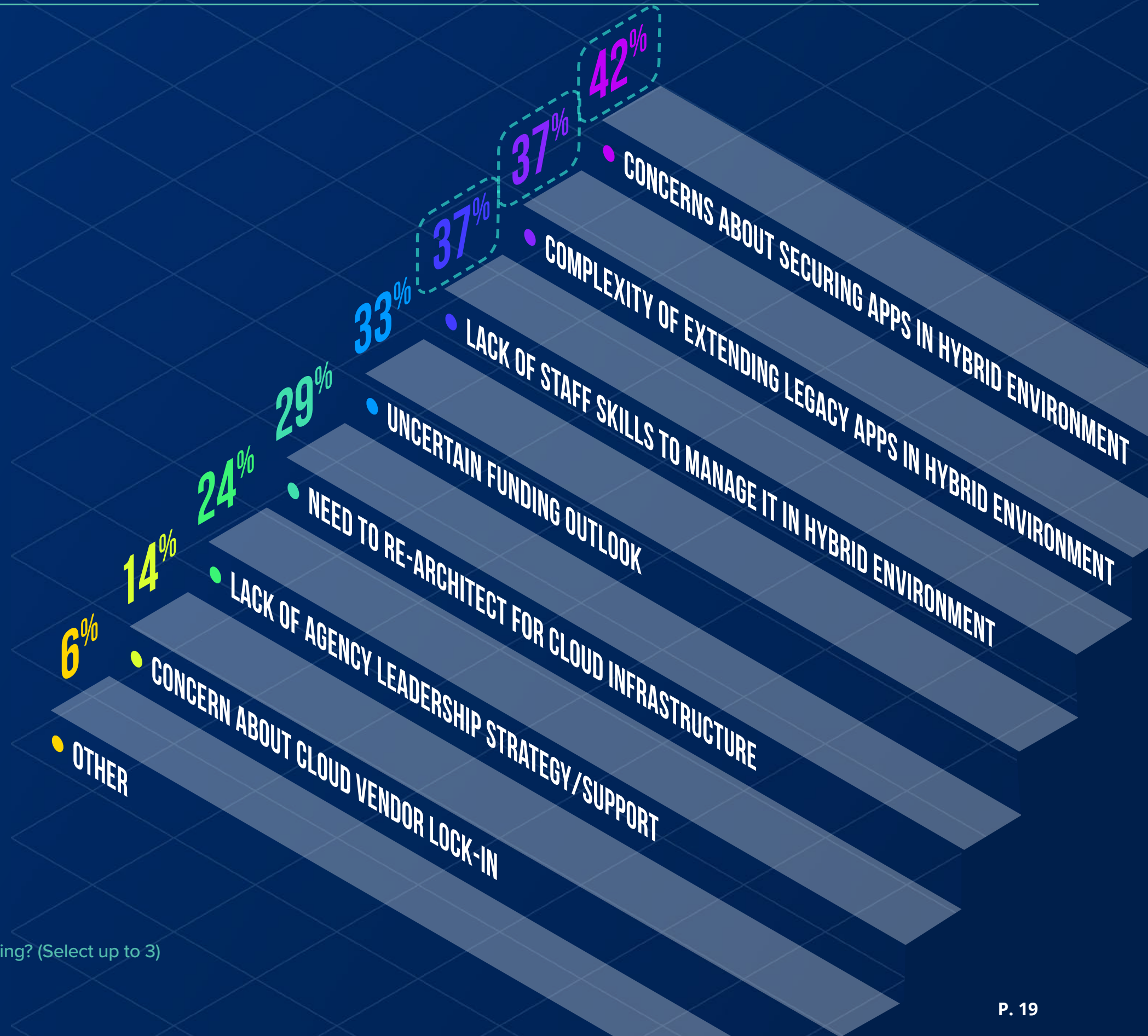
- Concerns about security applications in a hybrid environment.
- Complexity of extending legacy applications to the cloud.
- Lack of staff skills to manage IT in hybrid environment.

● 6% OF OTHER RESPONSES INCLUDED:

“Resistance to change within leadership and rank and file.”

“Contractors/companies do not want to increase efficiency.”

“Concerns about an alternative pet technology of new administration in 2020.”



Q: Which are the biggest impediments to adopting cloud computing? (Select up to 3)

IMPEDIMENTS FEDERAL AGENCIES FACE MOVING TO THE CLOUD

Among those in agencies investing mostly in **government-run data centers**: securing applications in a hybrid environment ranks highest among their top obstacles to adopting cloud computing.

Among those in agencies investing mostly in **cloud-based models**: a lack of staff skills to manage in a hybrid environment ranks highest among their top obstacles to adopting cloud computing.

ON-SITE, GOVT-RUN DATA CENTERS

Base: 59



CLOUD ADOPTERS

Base: 91

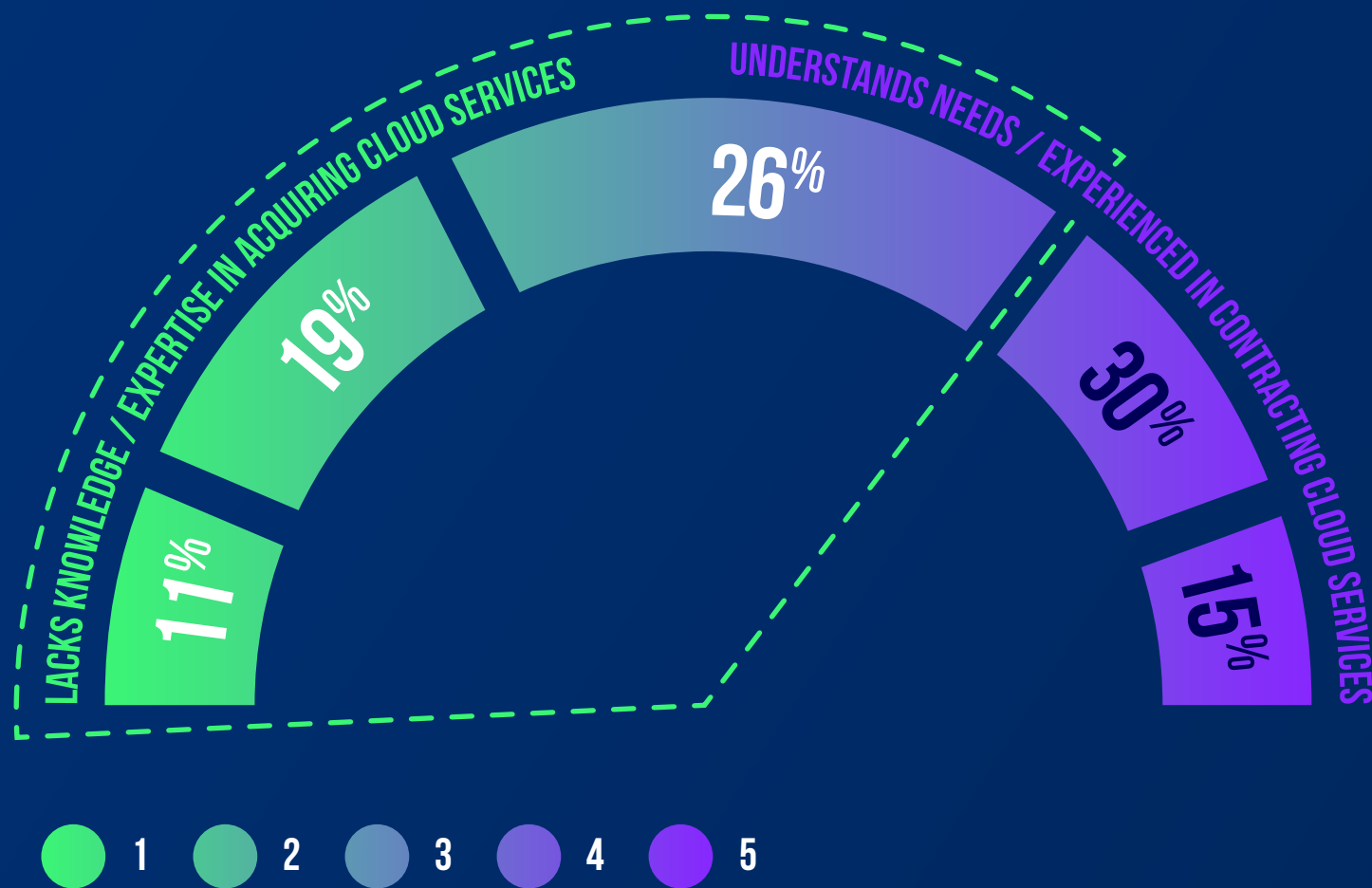


Q: Which are the biggest impediments to adopting cloud computing? (Select up to 3)

AGENCY ACQUISITION CAPABILITY READINESS

Overall, 55% of IT executives say their agency has inadequate or only average acquisition capability needed to contract for cloud services.

% IT executives by rating score*



Respondents whose agencies plan to invest most heavily in government-only community clouds in the future tended to give their acquisition teams higher marks.

% IT executives by rating score (breakout)**

ON-SITE, GOVT-RUN DATA CENTERS



GOVT-ONLY COMMUNITY CLOUD



PUBLIC/COMMERCIAL CLOUD



HYBRID



Caution: Small baselines

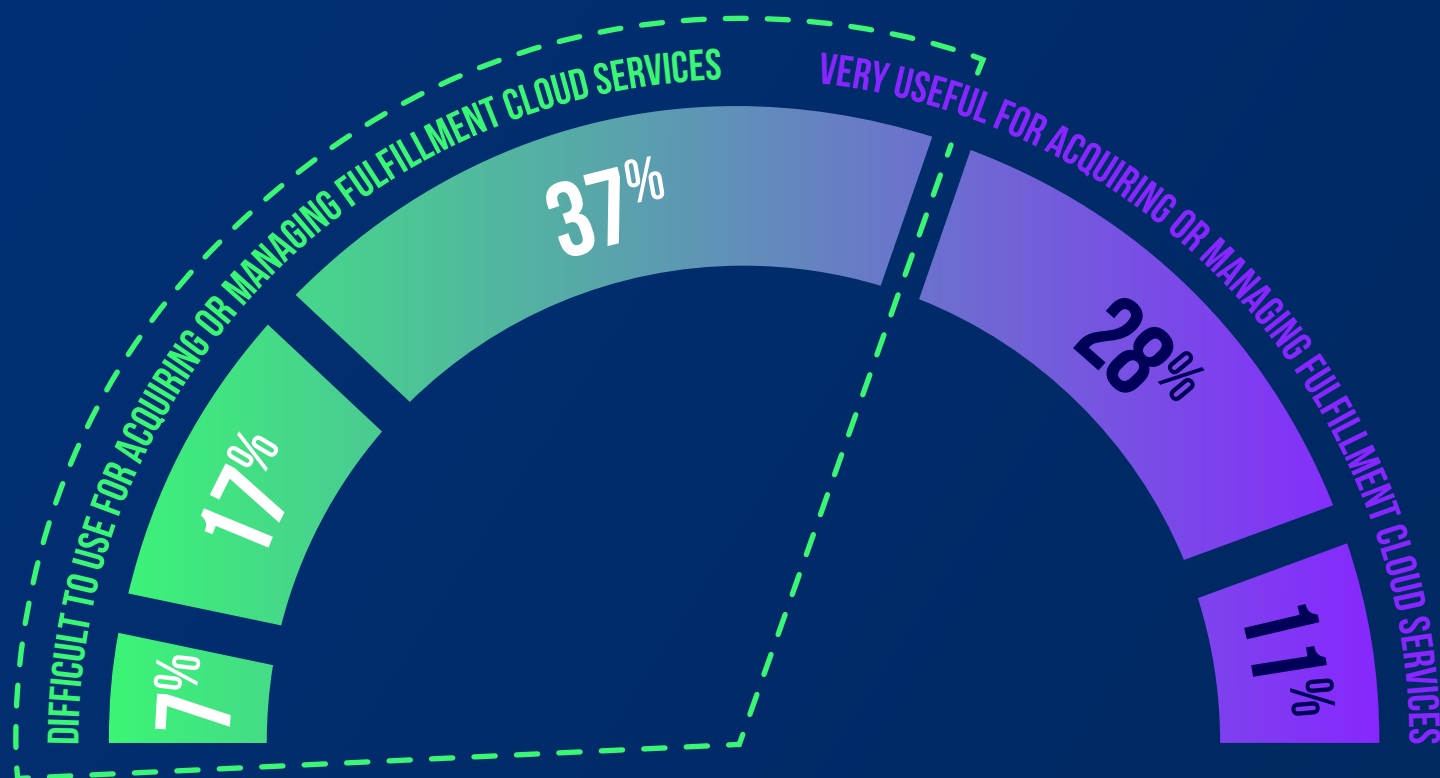
*Q: How would you rate your agency's acquisition capability in acquiring cloud services, on a scale of 1 to 5?

**Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

USEFULNESS OF GOVERNMENT CLOUD CONTRACT VEHICLES

6 in 10 IT executives rated available government contract vehicles for acquiring cloud services "difficult to use" or average at best.

% IT executives by rating score*



Respondents whose agencies plan to invest most heavily in public/commercial clouds or hybrid models were more likely to rate government contract vehicles difficult to use.

% IT executives by rating score (breakout)**

ON-SITE, GOVT-RUN DATA CENTERS



GOVT-ONLY COMMUNITY CLOUD



PUBLIC/COMMERCIAL CLOUD



HYBRID



Caution: Small baselines

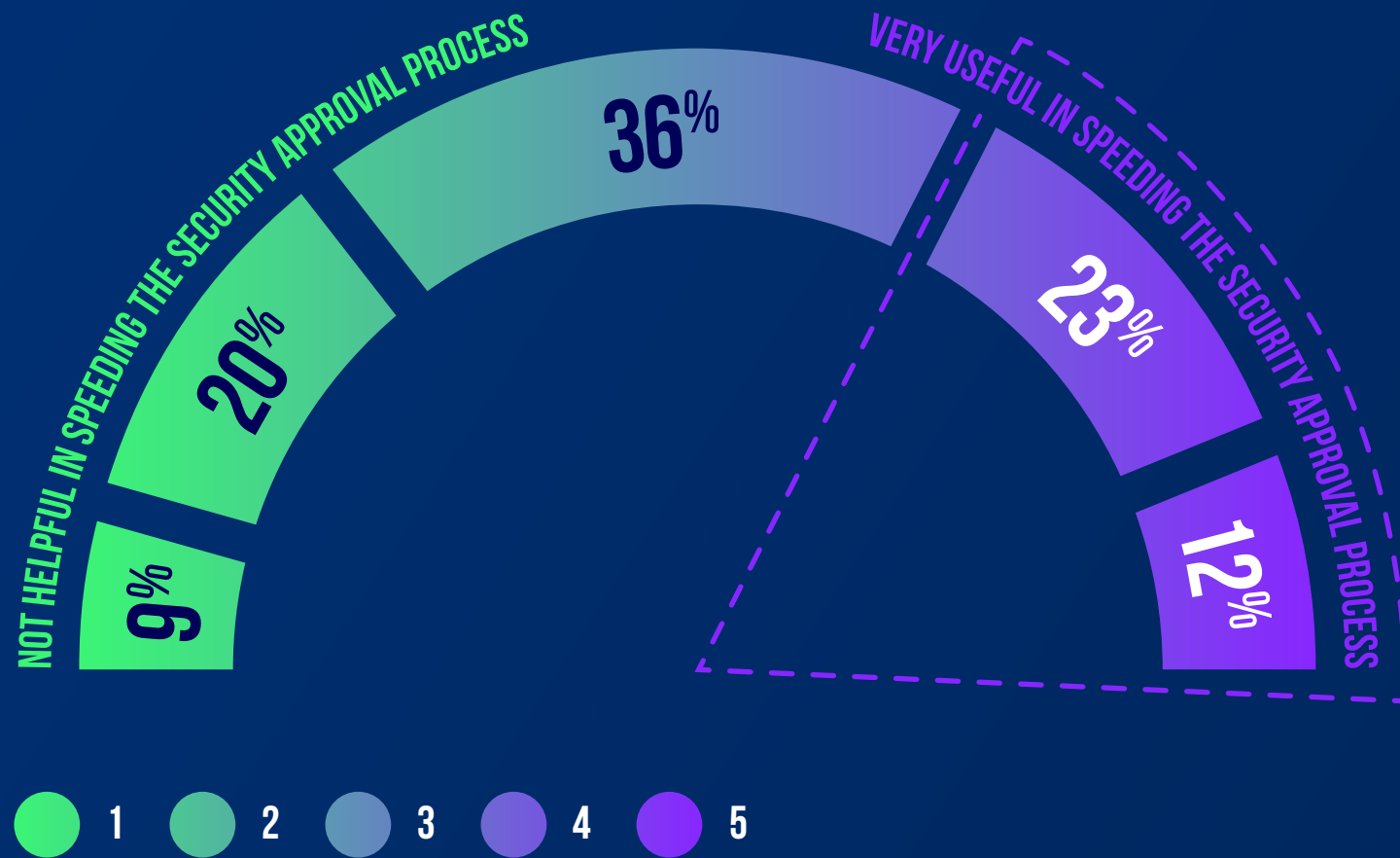
*Q: How would you rate the usefulness of available government contract vehicles to acquire cloud services, on a scale of 1 to 5?

**Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

HELPFULNESS OF GSA'S FEDRAMP TO SPEED CLOUD EFFORTS

Overall, 1 in 3 IT executives found FedRAMP helpful in speeding cloud security authorizations.

% IT executives by rating score*



That proportion jumped to over half (52%) among respondents whose agencies plan to invest most heavily in government-only community clouds.

% IT executives by rating score (breakout)**

ON-SITE, GOVT-RUN DATA CENTERS



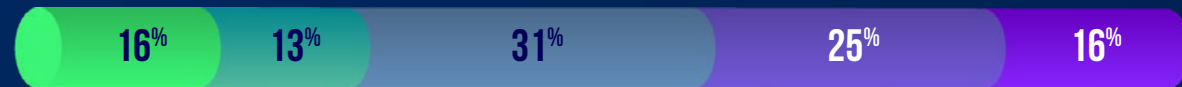
GOVT-ONLY COMMUNITY CLOUD



PUBLIC/COMMERCIAL CLOUD



HYBRID



Caution: Small baselines

*Q: How would you rate the helpfulness of GSA's FedRAMP (Federal Risk & Authorization Management Program) in speeding the process of meeting federal cloud security standards, on a scale of 1 to 5?

**Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

CONCLUSION/RECOMMENDATIONS

- Federal IT leaders expect their agencies will shift the majority their IT investments toward cloud solutions over the next three years. That affirms a broader shift in belief that advantages of cloud computing clearly outweigh lingering concerns about security and other impediments.
- Agencies, however, continue to face significant challenges — and still need help overcoming a lack of skills to manage IT in a hybrid environment and the complexity of extending legacy applications to the cloud.
- While technical solutions are clearly available, IT leaders continue to express concern about the capability of their agency acquisition teams to acquire cloud services using current contract vehicles. That suggests more must be done to update and streamline cloud acquisition practices.
- IT leaders seeking to speed up cloud adoption say the fastest way forward involves a combination of replacing selected applications with cloud-ready alternatives and looking to cloud providers to do more to aid migration.

fedcoop

FedScoop is the leading tech media brand in the federal government market. With more than 210,000 unique monthly visitors and 120,000 daily newsletter subscribers, FedScoop gathers top leaders from the White House, federal agencies, academia and the tech industry to discuss ways technology can improve government and identify ways to achieve common goals. With our website, newsletter and events, we've become the community's go-to platform for education and collaboration.

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