

STATE CLOUD READINESS REPORT

State agency IT leaders see cloud computing as a pivotal pathway to improving mission services. But impediments, including acquisition capabilities, remain.

PRESENTED BY

statescoop

UNDERWRITTEN BY

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EXECUTIVE SUMMARY

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

- The progress state government agencies are making adopting cloud computing for a variety of mission support and enterprise business applications.
- How ready state 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.



Closer Look

*Findings from this report showed parallels to an earlier **report of federal government IT executives**, published by FedScoop. The results showing significant differences or parallels from the two studies are indicated in the “Closer Look” sections in this report.*

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

- **Cloud readiness:**

State IT leaders report their agencies are at varying stages of cloud readiness for eight types of workloads. Two in 10 are ready to “provision cloud services” or “operate cloud environments at scale” for mission support applications; but twice as many are still at the assessment or selection stage of Gartner’s 6-stage cloud readiness scale.

- **Investment outlook:**

70% of state IT leaders expect their agency will put most of their investment funds towards a combination of cloud models over the next three years, versus on-site, government-run data centers.

- **Investment priorities:**

42% expect their agency to migrate at least some of their IT infrastructure to the cloud, or augment existing systems with cloud services, over the next two years.

- **Top motivators:**

The need to enhance continuity of operations, analyze data and modernize systems are the top internal factors driving cloud adoption. Externally, pressure to reduce total operating costs and also improve mission critical services are also key drivers for cloud adoption.

- **Impediments:**

Concerns about the complexity of extending legacy applications to the cloud and securing them in a hybrid environment remain the biggest impediments to cloud adoption.

- **Acquisition challenges:**

Overall, 60% of state IT executives say their agency has inadequate or only average acquisition capability to contract cloud services. And an equal proportion rated available contract vehicles for acquiring cloud services “difficult to use” or average at best.

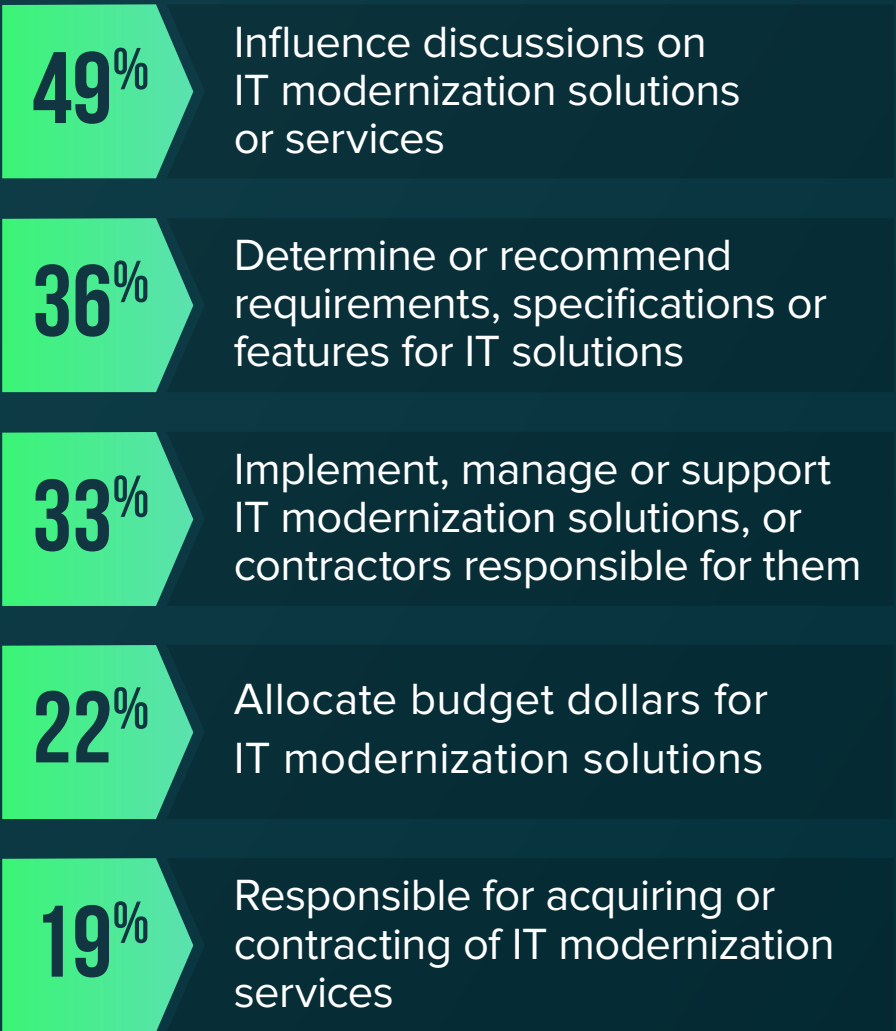
WHO WE SURVEYED

StateScoop conducted an online survey of 150 prequalified state government IT decision makers about their agency’s cloud adoption practices and investment plans. The survey was conducted in October / November 2018.

Respondent breakout by job title:



Respondent breakout by IT involvement*:



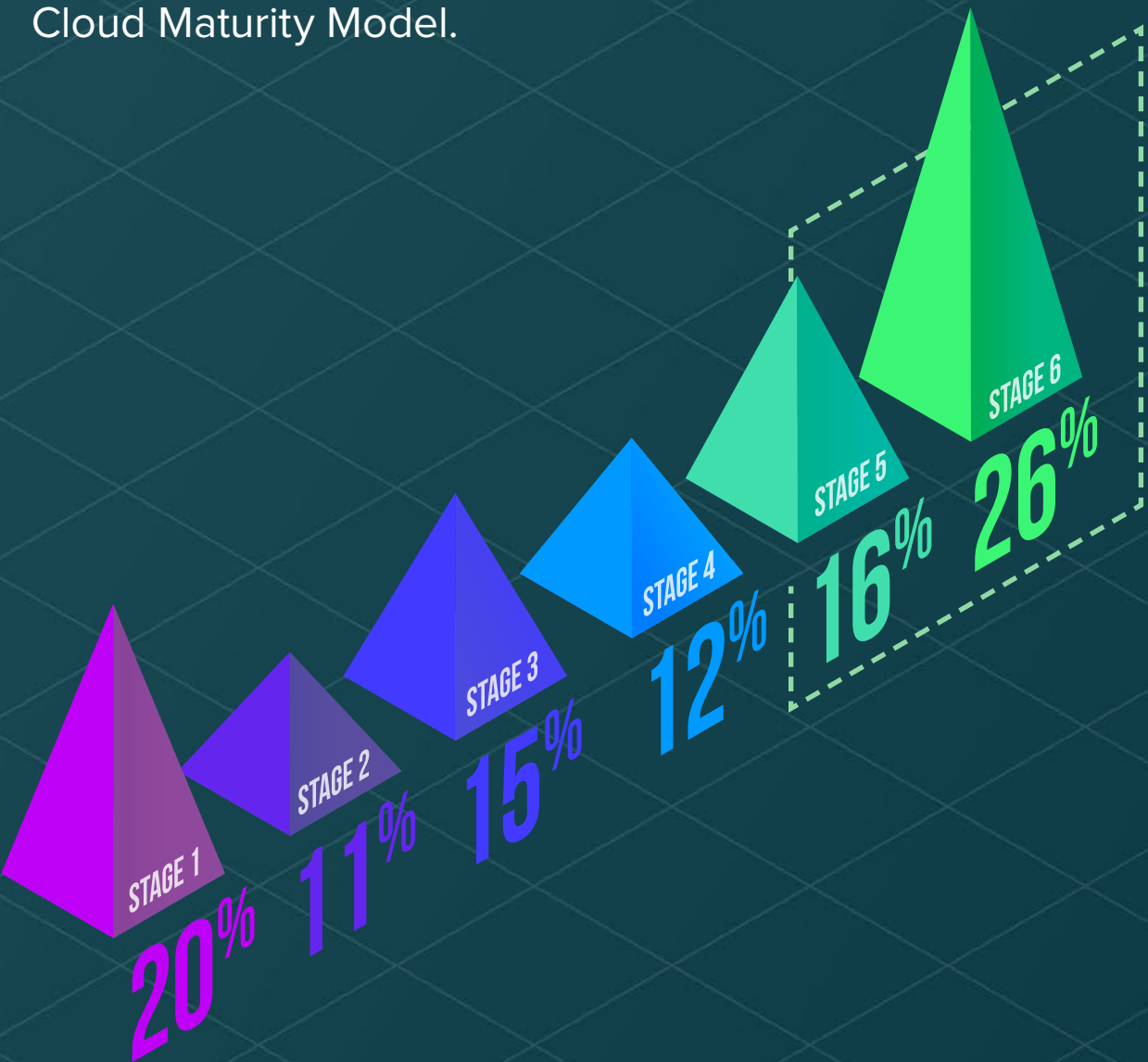
*(Select all that apply)

ENTERPRISE BUSINESS SOLUTIONS: CLOUD READINESS MATURITY RATINGS

Nearly one-third or more of state IT executives say their agency is ready to move a variety of applications and workloads through stages five and six of Gartner’s 6-stage cloud maturity model. However, more respondents show their agencies are still in stages one and two with their business applications. Ratings for specific workloads are as follows:

Email/Collaboration

42% 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)

Public-Facing Website

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



- 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

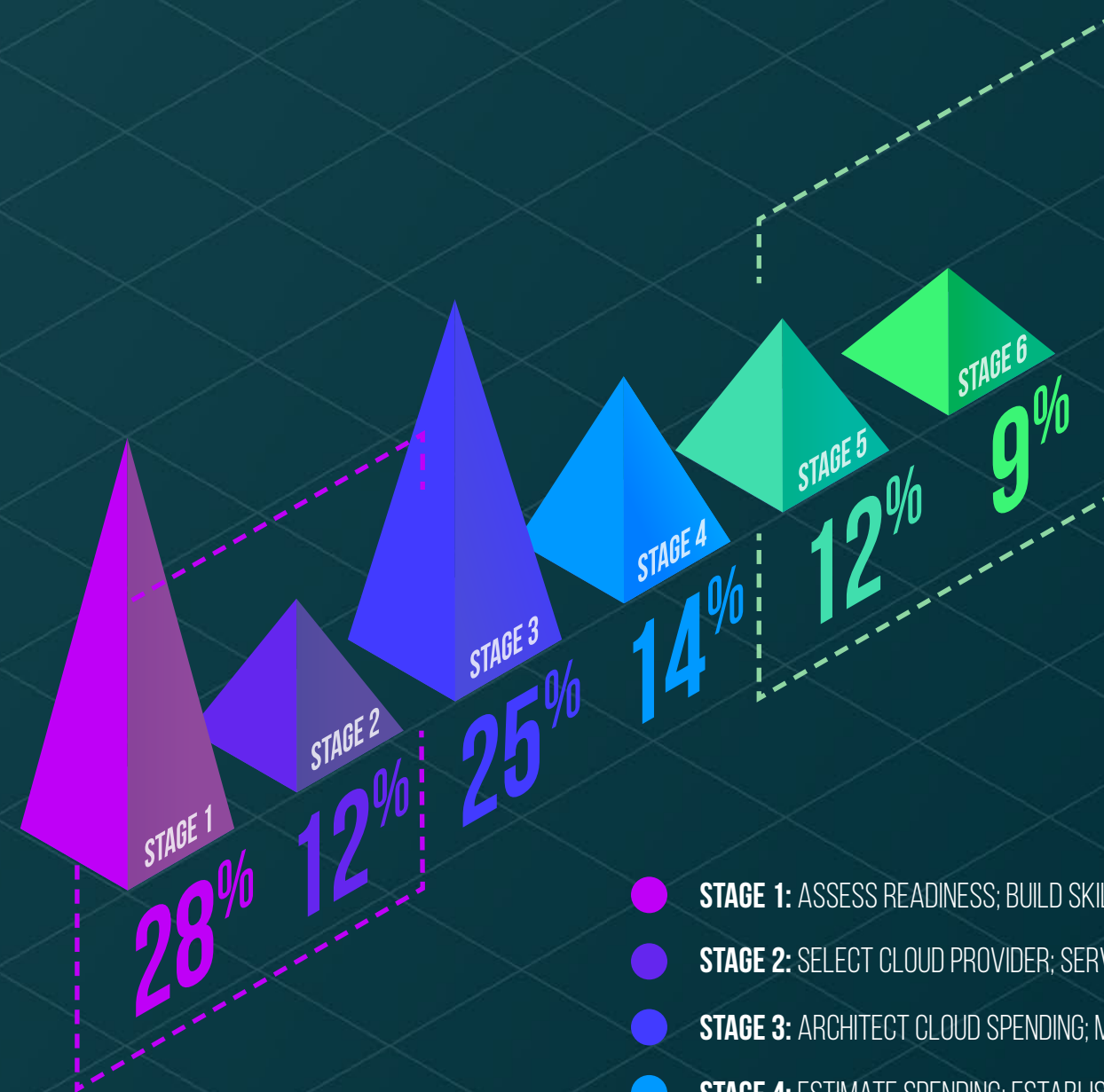
29% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model.



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)

Business App (Financial, E-Commerce)

21% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model; but 40% are still at stages 1 and 2.



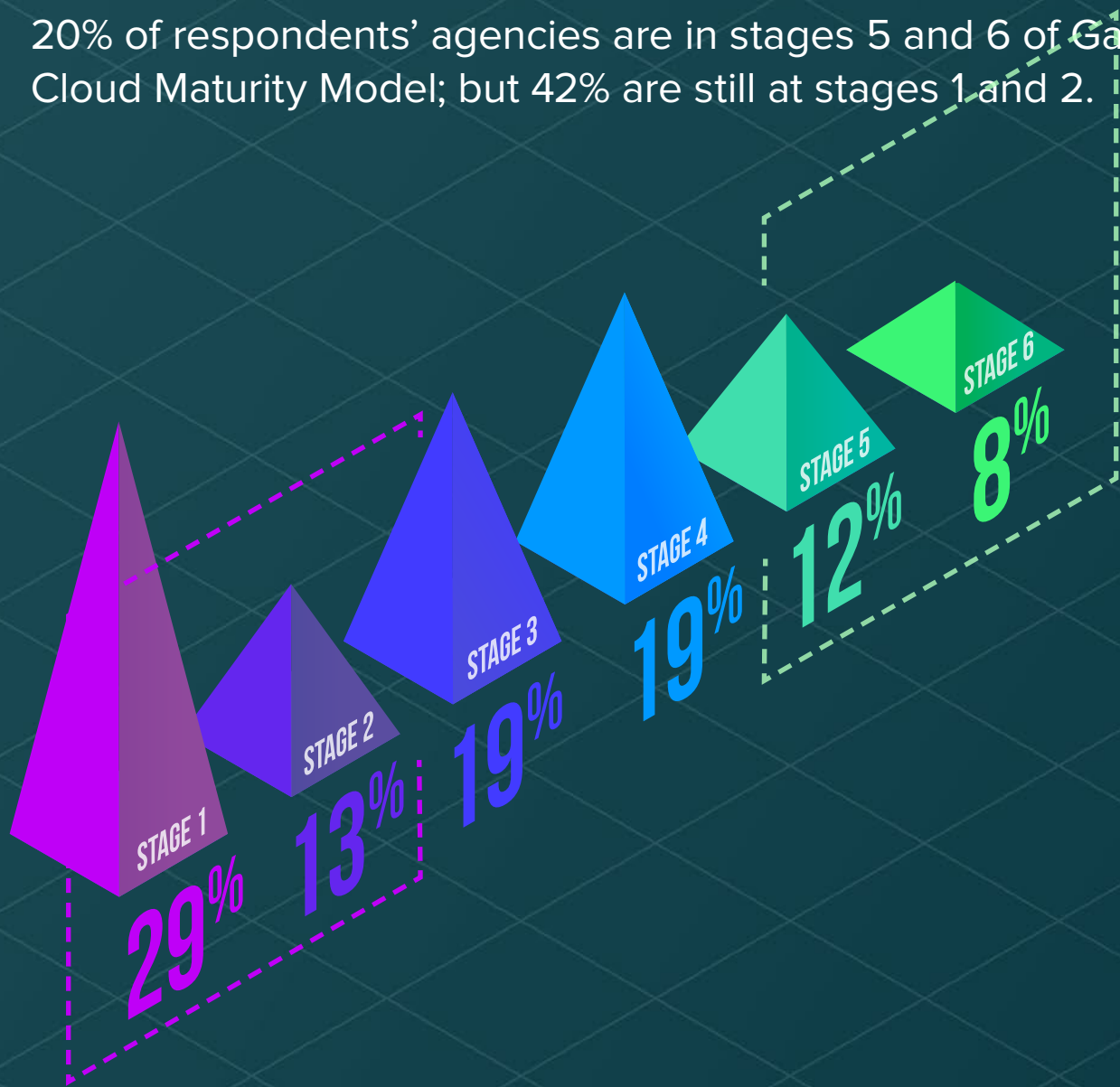
- STAGE 1: ASSESS READINESS; BUILD SKILLSET
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- STAGE 6: OPERATE CLOUD ENVIRONMENTS AT SCALE

MISSION SUPPORT SOLUTIONS: CLOUD READINESS MATURITY RATINGS

Roughly two in 10 IT executives say their agency is ready to “provision cloud services” or “operate cloud environments at scale” for a variety of mission support solutions. But 4 in 10 IT respondents reported their agency is still at the “readiness assessment” or “selection” stage for those same applications or workloads. Rating for specific workloads are as follows:

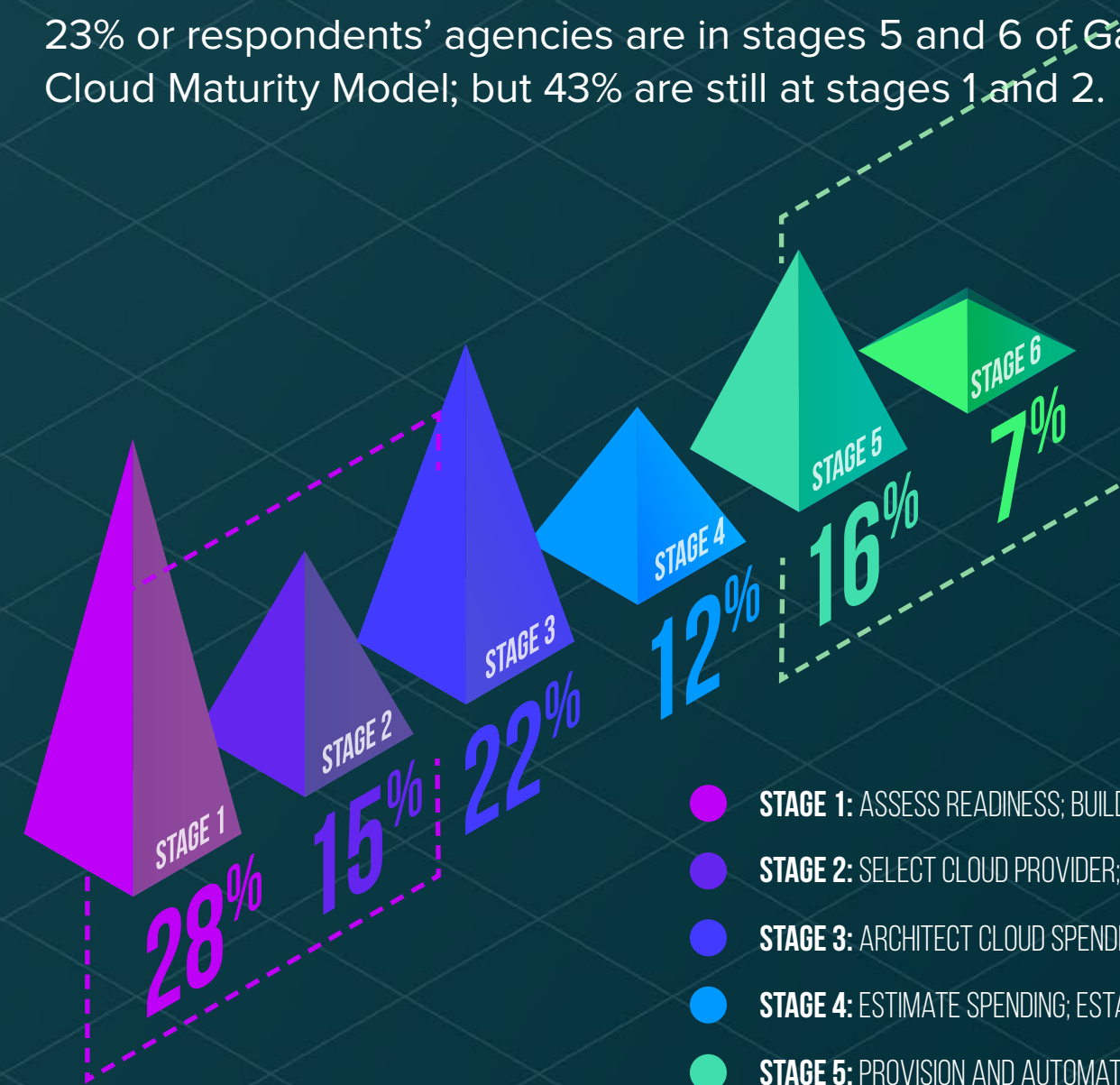
Data Analytics

20% of respondents’ agencies are in stages 5 and 6 of Gartner’s Cloud Maturity Model; but 42% are still at stages 1 and 2.



Development Environments

23% of respondents’ agencies are in stages 5 and 6 of Gartner’s Cloud Maturity Model; but 43% are still at stages 1 and 2.



- STAGE 1: ASSESS READINESS; BUILD SKILLSET
- STAGE 2: SELECT CLOUD PROVIDER; SERVICE
- STAGE 3: ARCHITECT CLOUD SPENDING; MITIGATE RISK
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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)

MISSION SUPPORT SOLUTIONS: CLOUD READINESS MATURITY RATINGS

Containers/Microservices

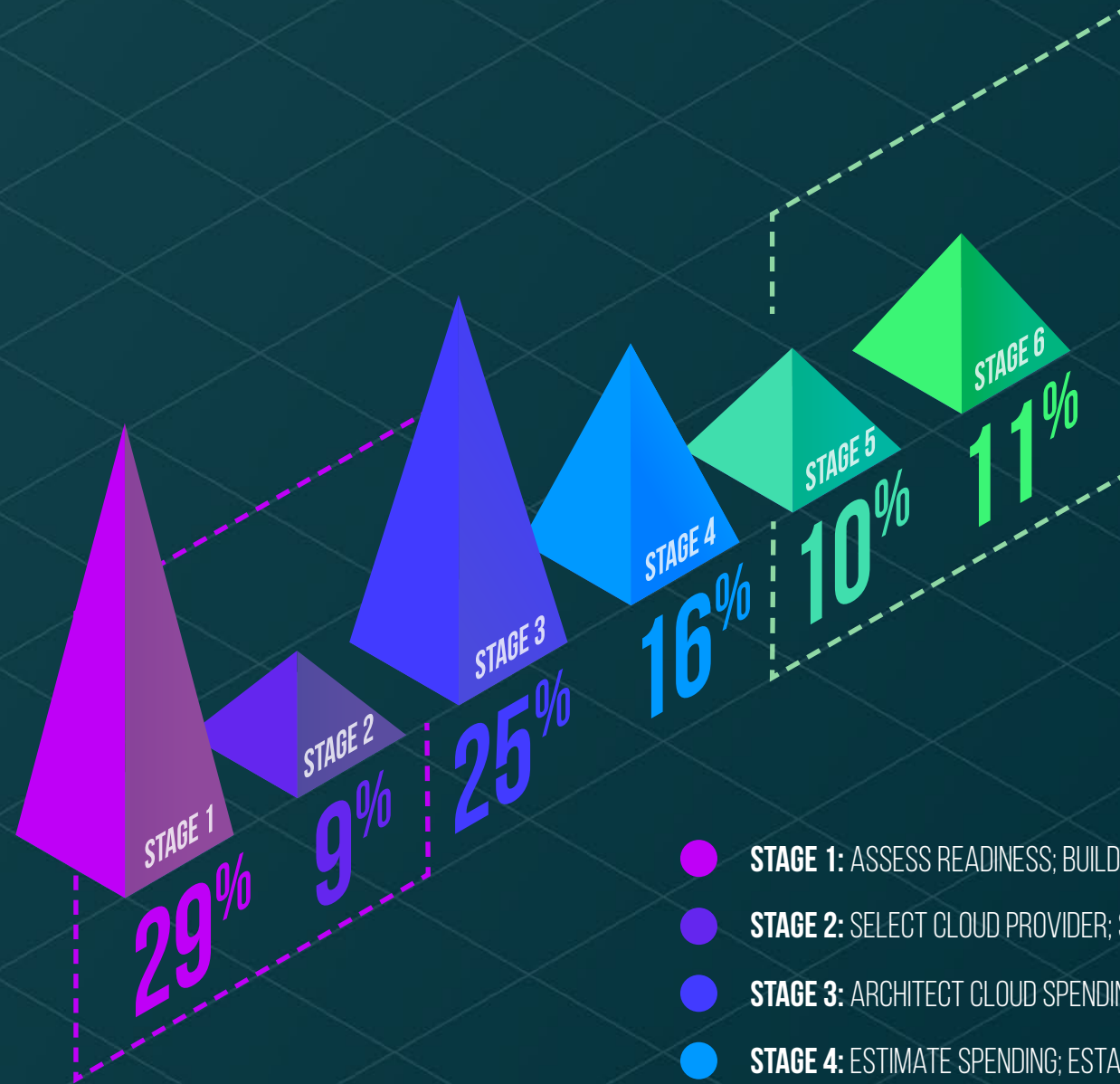
21% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model; but 44% are still at stages 1 and 2.



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)

Agency Mission Support Apps

21% of respondents' agencies are in stages 5 and 6 of Gartner's Cloud Maturity Model; but 38% are still at stages 1 and 2.

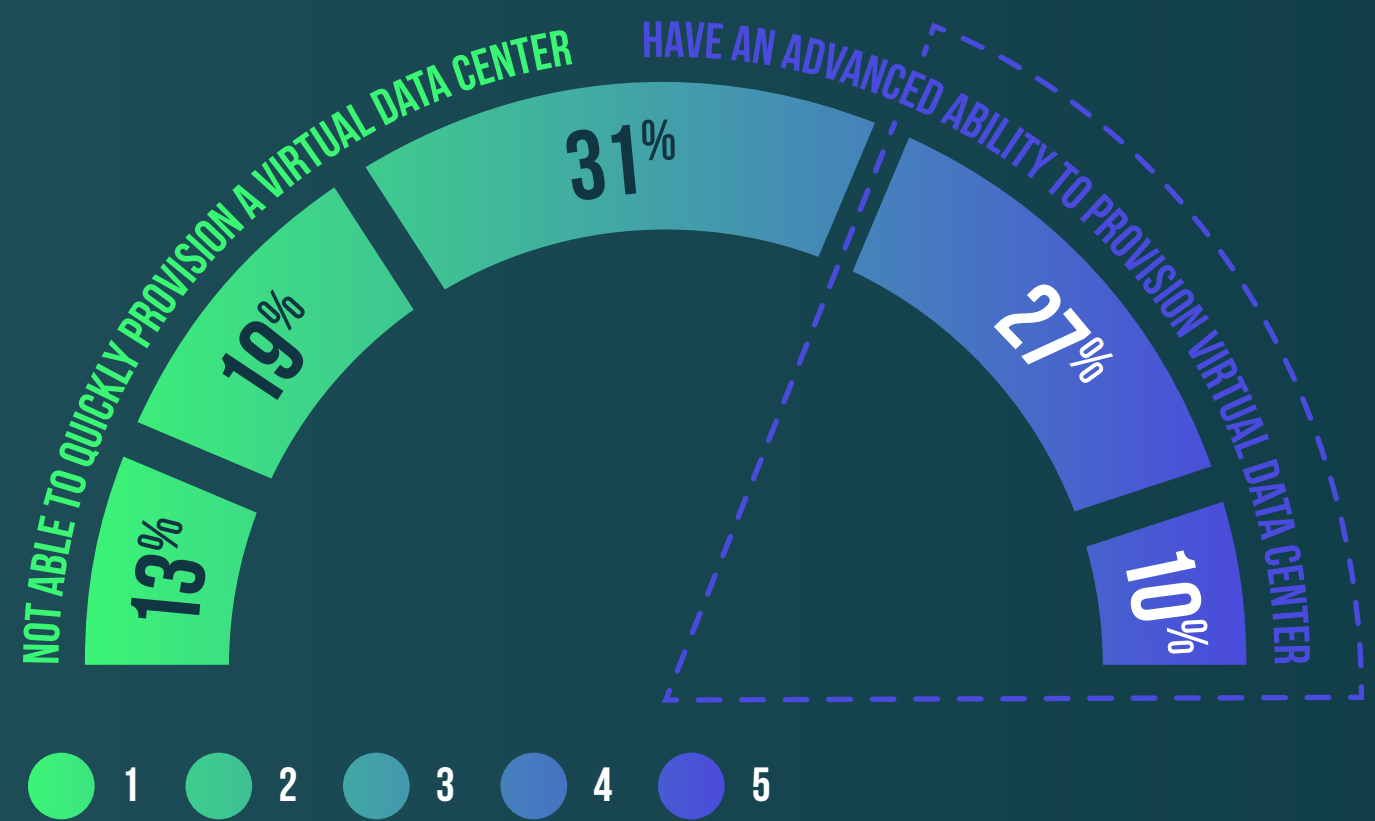


- STAGE 1: ASSESS READINESS; BUILD SKILLSET
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VIRTUAL DATA CENTER PROVISIONING READINESS

Nearly 4 in 10 IT executives say their agency has relatively high or an 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?



Closer Look

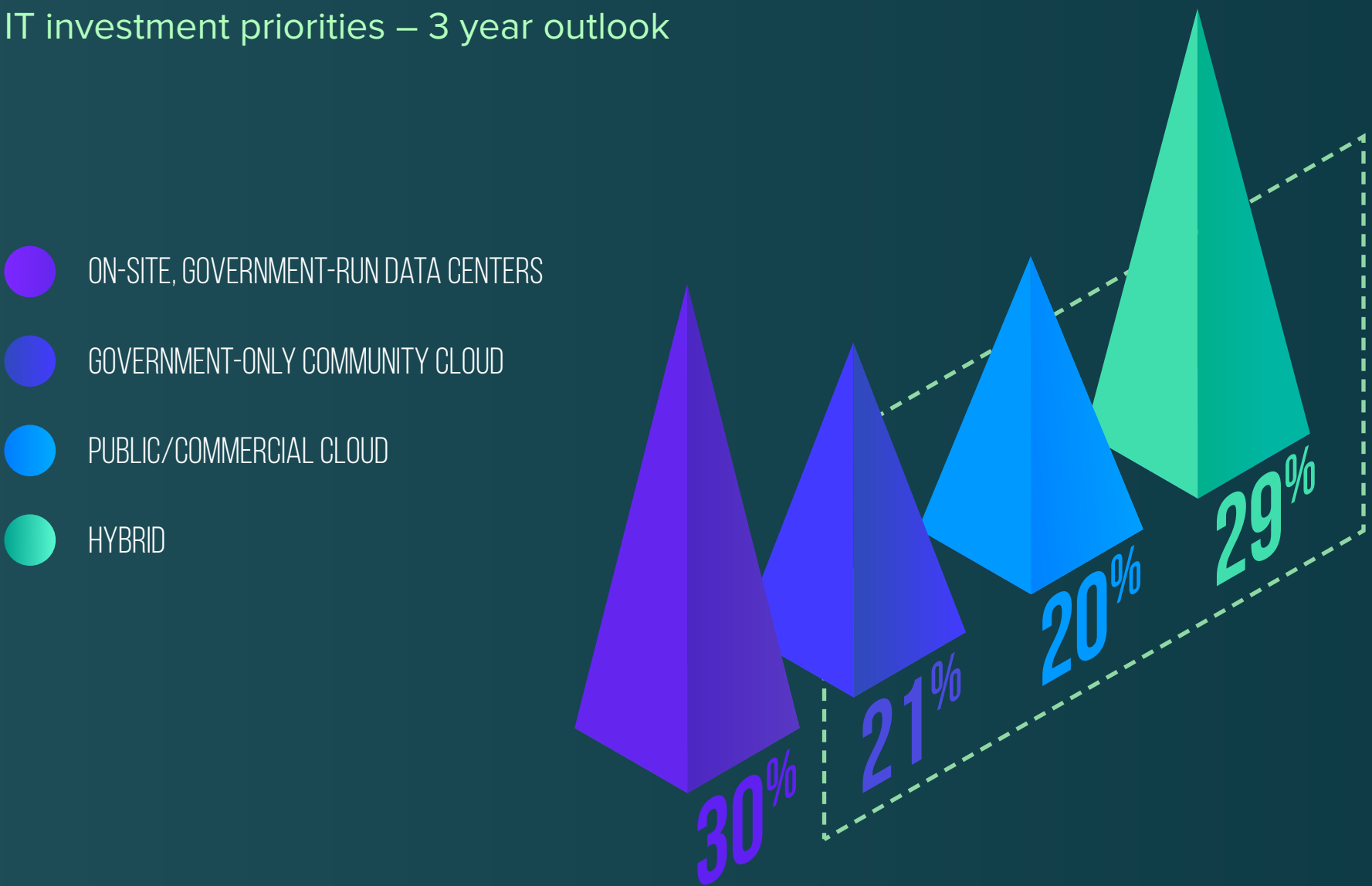
*This compares to 3 in 10 federal executives in a **parallel survey**, indicating that state agencies may have more maneuverability to set up virtual data centers.*

PREFERRED CLOUD INVESTMENT MODEL – OVER THE NEXT THREE YEARS

70% of IT executives reported that over the next three years, their agency will put most their investments towards a combination of cloud models – government-only community cloud, public/commercial cloud or a hybrid approach.

3 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?



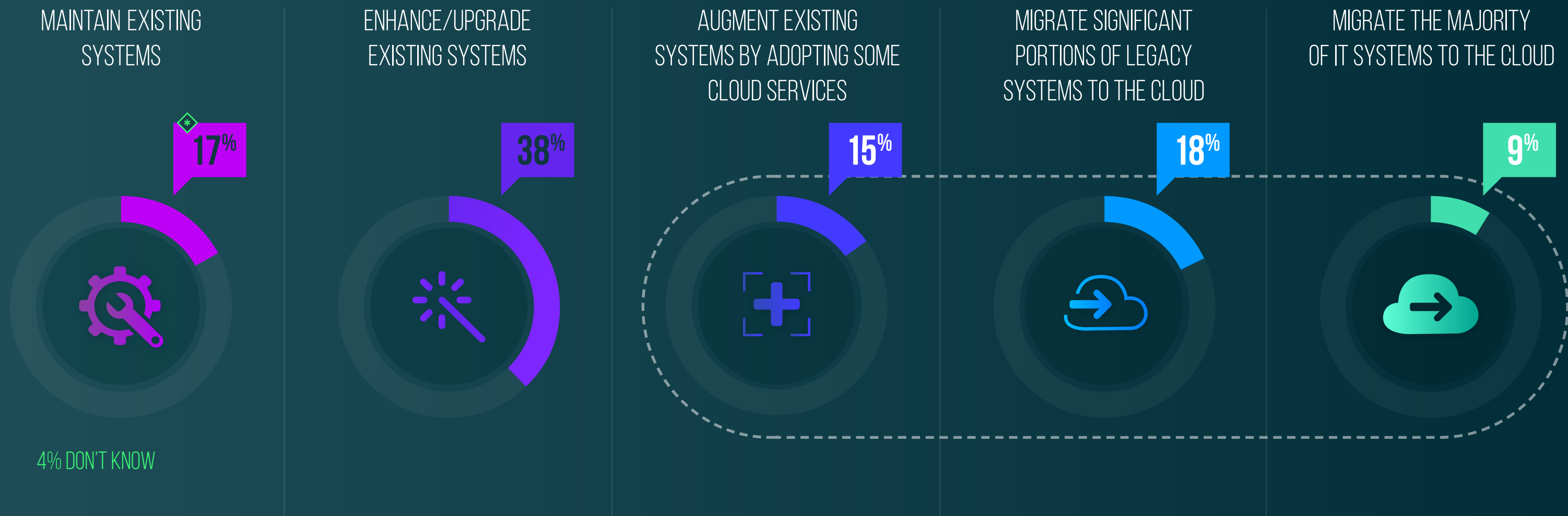
Closer Look

*This compares to 60% of federal IT executives in a **parallel survey**, suggesting state agencies are better able, or more inclined, to invest in cloud computing than their federal counterparts.*

AGENCY INFRASTRUCTURE INVESTMENT PRIORITIES – OVER NEXT TWO YEARS

42% of IT executives expect their agency to migrate at least some of their IT infrastructure to the cloud, or augment existing systems with cloud services, over the next two years. More than half, however, indicate they plan to invest primarily to maintain or enhance/upgrade existing systems.

IT infrastructure priorities – two year outlook



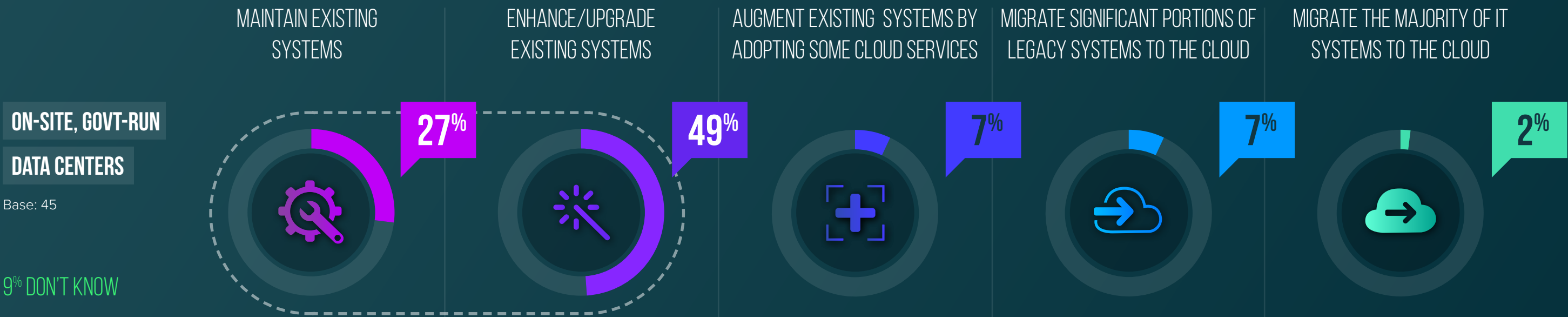
Closer Look: A higher proportion of state officials (17%) compared to federal officials (11%) in a *parallel survey*, expect to invest primarily in maintaining existing systems, suggesting states face a mix of funding and technical constraints.

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?

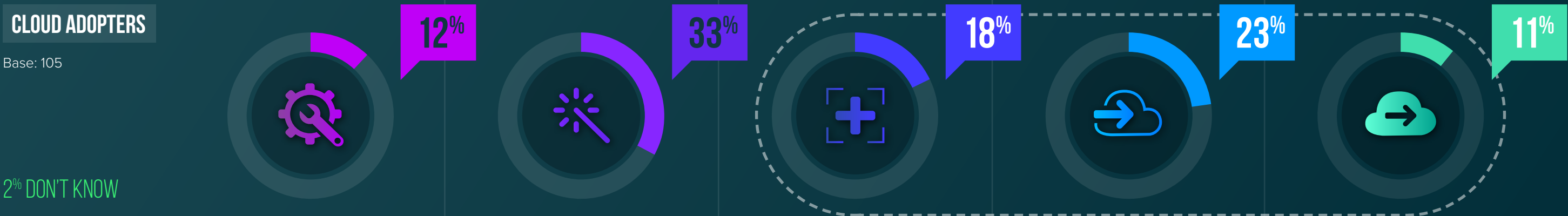
AGENCY INFRASTRUCTURE INVESTMENT PRIORITIES – OVER THE NEXT TWO YEARS

Among those in agencies investing mostly in **government-run data centers**: 76% 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 (52%) say investments are going primarily toward augmenting infrastructure or migrating their IT systems to the cloud over the next two years.



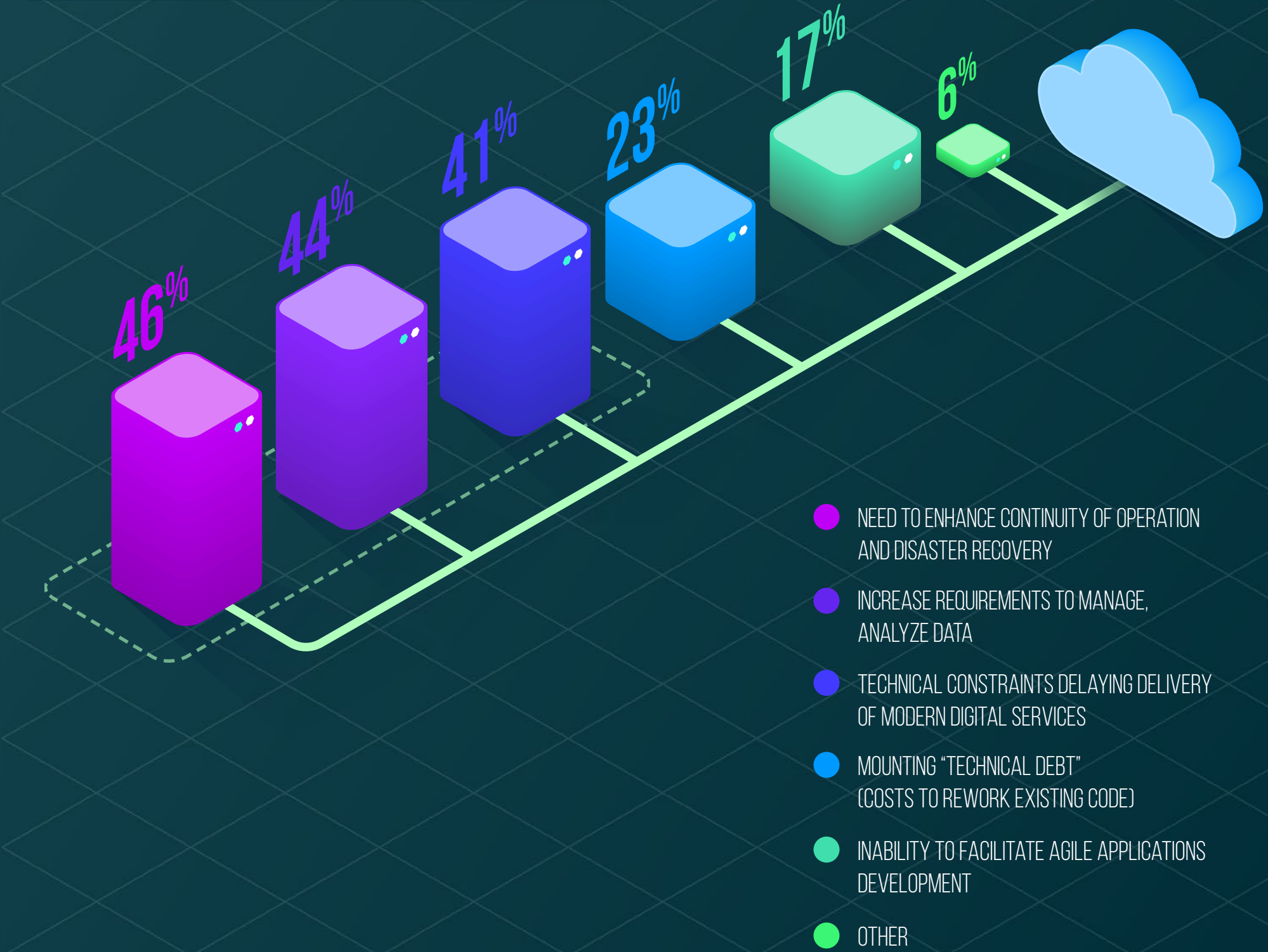
Q: Which cloud computing model do you believe your agency will invest in most over the next three years?

INTERNAL MOTIVATORS FOR AGENCY CLOUD ADOPTION IN GOVERNMENT AGENCIES

More than 4 in 10 IT executives indicate the biggest internal factors motivating them to adopt cloud computing include:

- Need to enhance continuity of operation and disaster recover
- Increase requirements to manage, analyze data
- Technical constraints delaying delivery of modern digital services

IT executive ranking – internal motivators



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

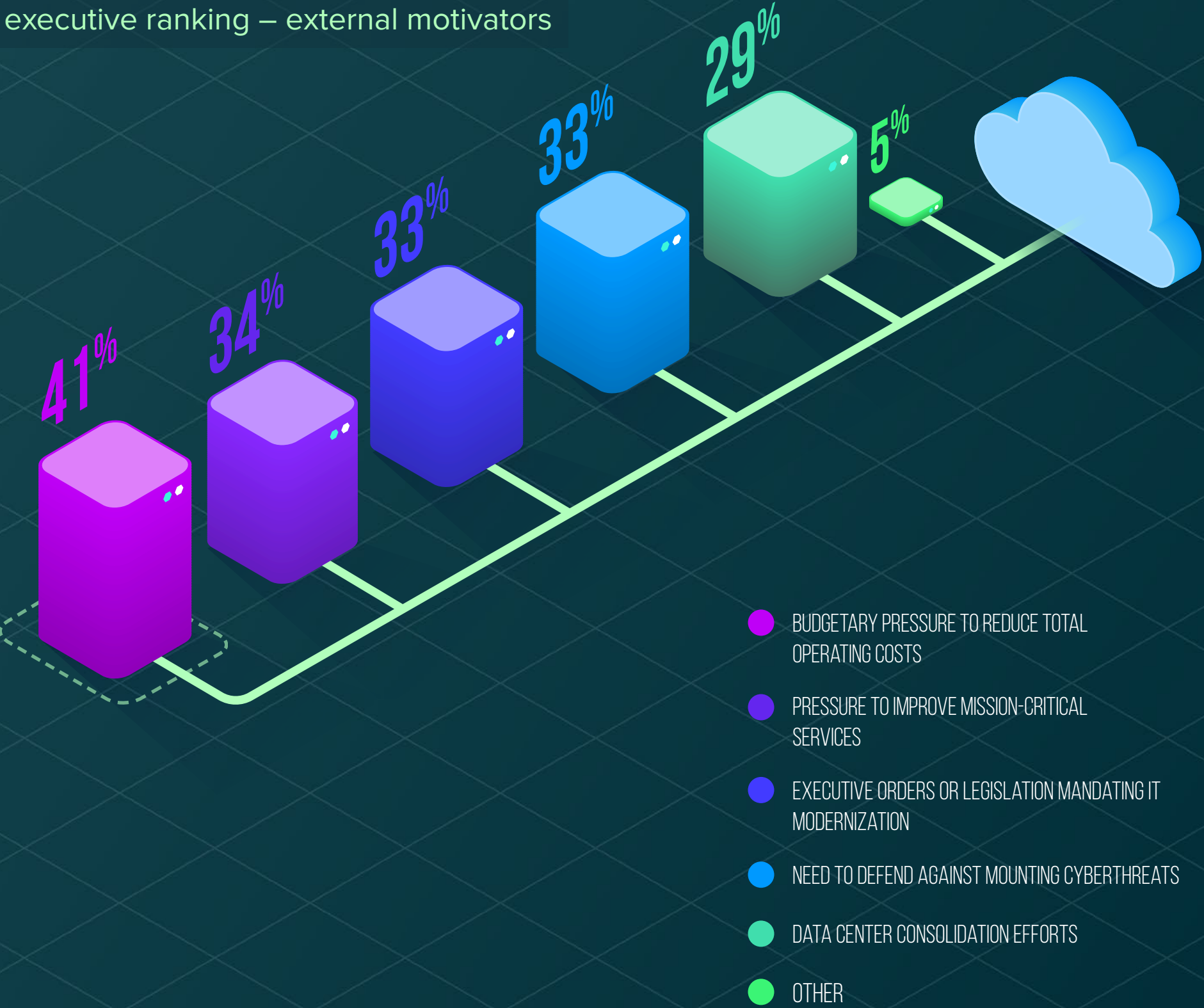
EXTERNAL MOTIVATORS FOR AGENCY CLOUD ADOPTION IN GOVERNMENT AGENCIES

Budgetary pressure to reduce total operating costs was the top-cited external factor driving cloud adoption among 41% of state IT leaders.

More than 3 in 10 respondents also cited:

- Pressure to improve mission-critical services
- Executive orders or legislation mandating IT modernization
- Need to defend against mounting cyberthreats

IT executive ranking – external motivators



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

TOP RANKING EXTERNAL MOTIVATORS FOR CLOUD ADOPTION

Agencies investing mostly in **government-run data centers** are driven by slightly different external motivators for cloud computing adoption than those investing mostly in **cloud-based models**.



Base: 45

Base: 105

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

INCREMENTAL STEPS STATE AGENCIES ARE TAKING TO MOVE TO THE CLOUD

The top actions agencies are taking to move faster to the cloud include: Looking to cloud providers to aid with migration (45%) and replacing selected applications with cloud-ready alternatives (41%).



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 most cited steps to speed cloud adoption is retraining internal staff to manage transition to hybrid cloud.

Among those in agencies investing mostly in **cloud-based models**, the most cited actions to speed cloud adoption is looking to cloud providers to aid with migration.

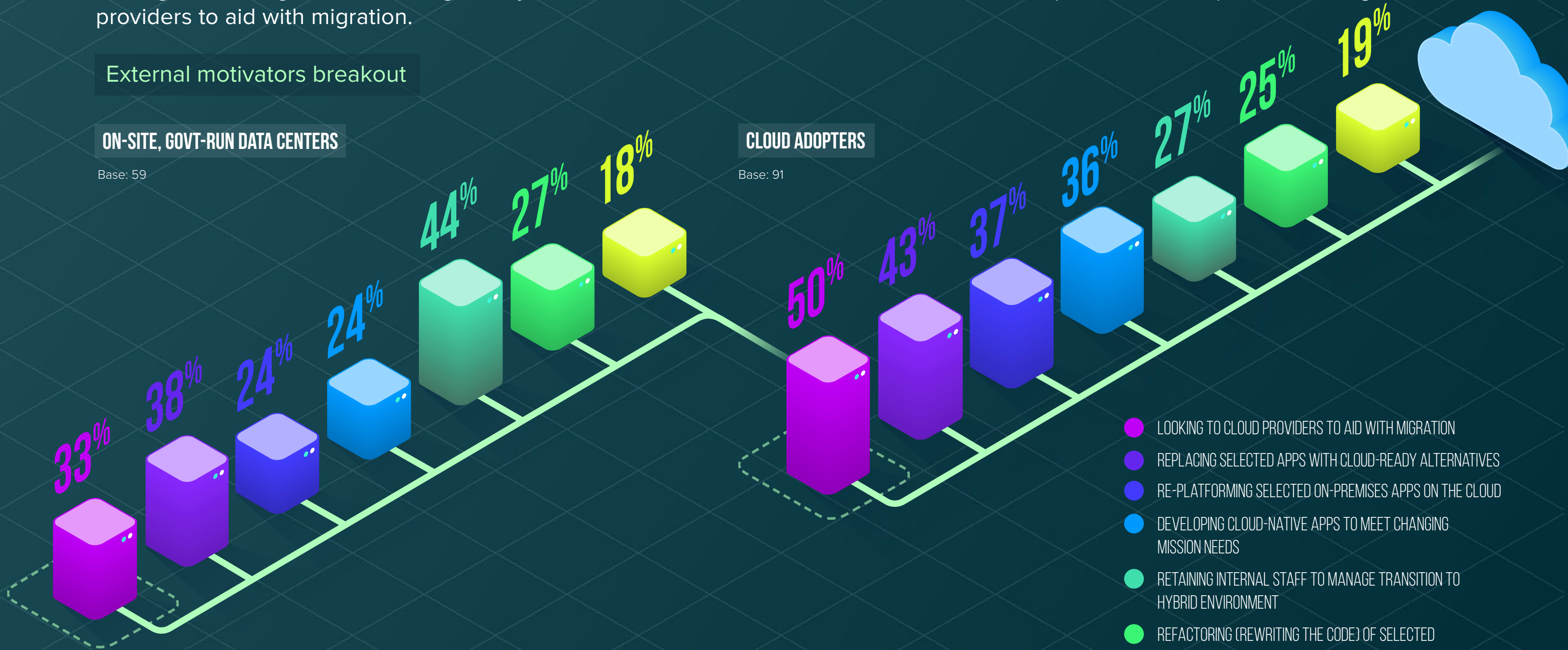
External motivators breakout

ON-SITE, GOVT-RUN DATA CENTERS

Base: 59

CLOUD ADOPTERS

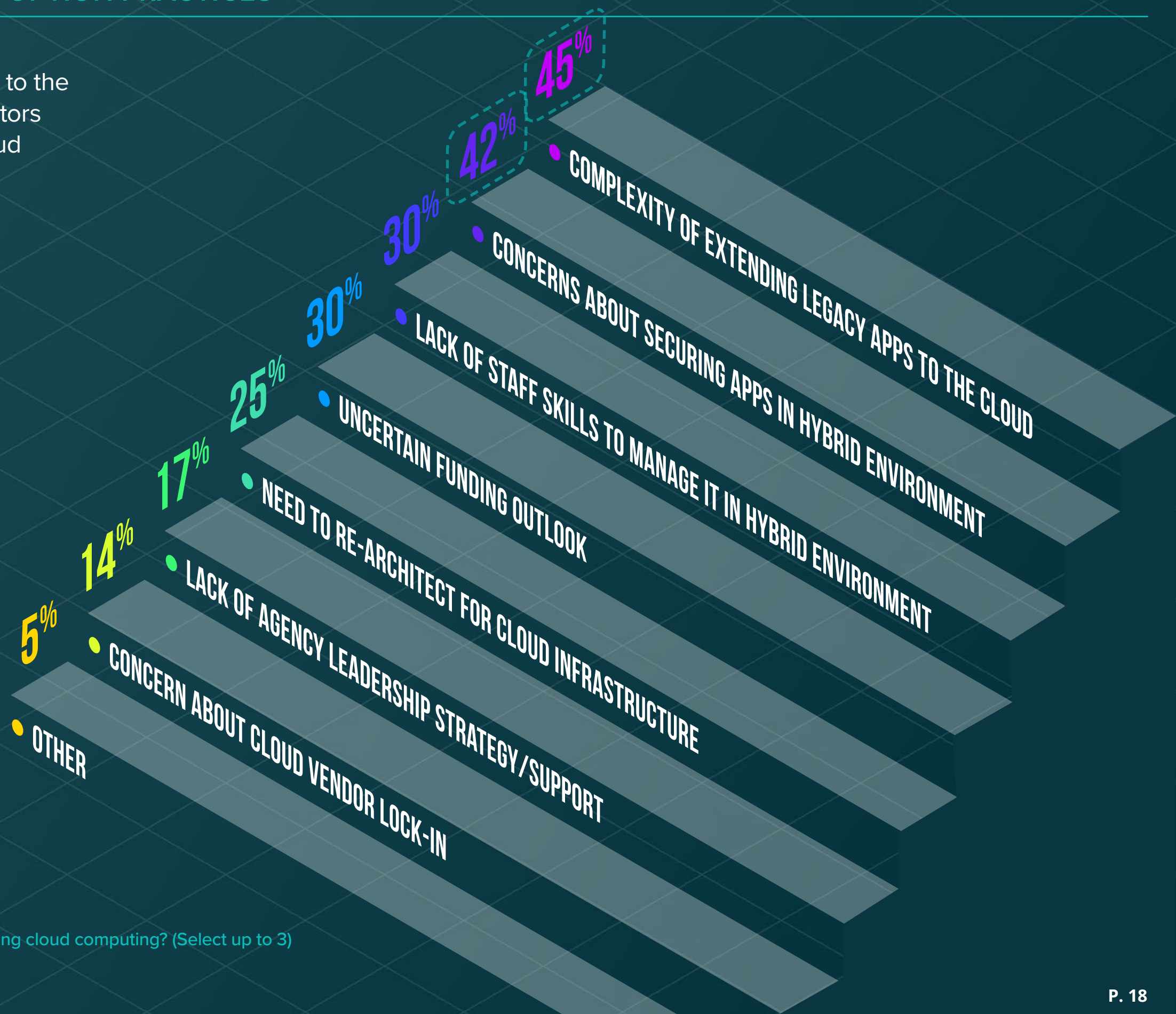
Base: 91



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

IMPEDIMENTS TO CLOUD ADOPTION PRACTICES

Agencies would like to move faster to the cloud, but cite a combination of factors that inhibit them from adopting cloud computing practices.



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

IMPEDIMENTS STATE AGENCIES FACE MOVING TO THE CLOUD

Among those in agencies investing mostly in **government-run data centers**: concerns about securing applications in a hybrid environments ranks number one for obstacles to adopting cloud computing.

Among those in agencies investing mostly in **cloud-based models**: complexity of extending legacy applications to the cloud poses the biggest challenge.

ON-SITE, GOVT-RUN DATA CENTERS

Base: 59



CLOUD ADOPTERS

Base: 91

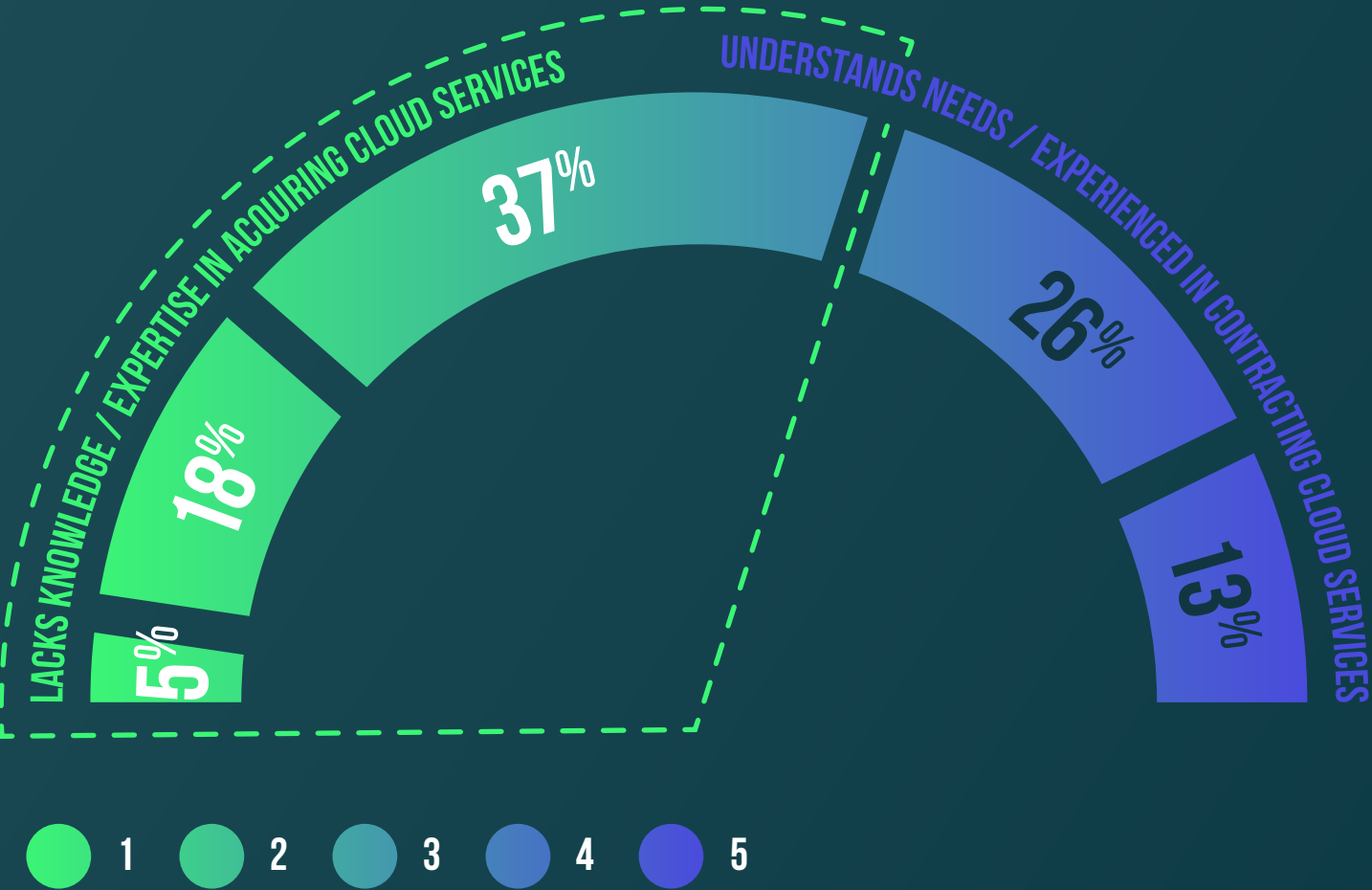


Q: Which are the biggest impediments to adopting cloud computing? (Select up to 3)

AGENCY ACQUISITION CAPABILITY READINESS

Overall, 60% of IT executives say their agency has inadequate or only average acquisition capability needed to contract for cloud services, but ratings varied by investment cohort.

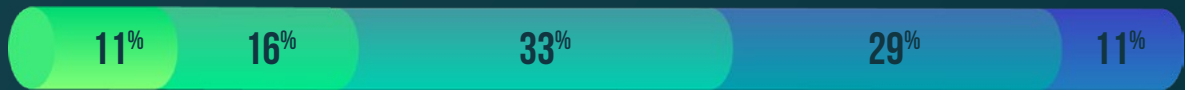
% IT executives by rating score*



Respondents whose agencies plan to invest most heavily in a hybrid solution 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



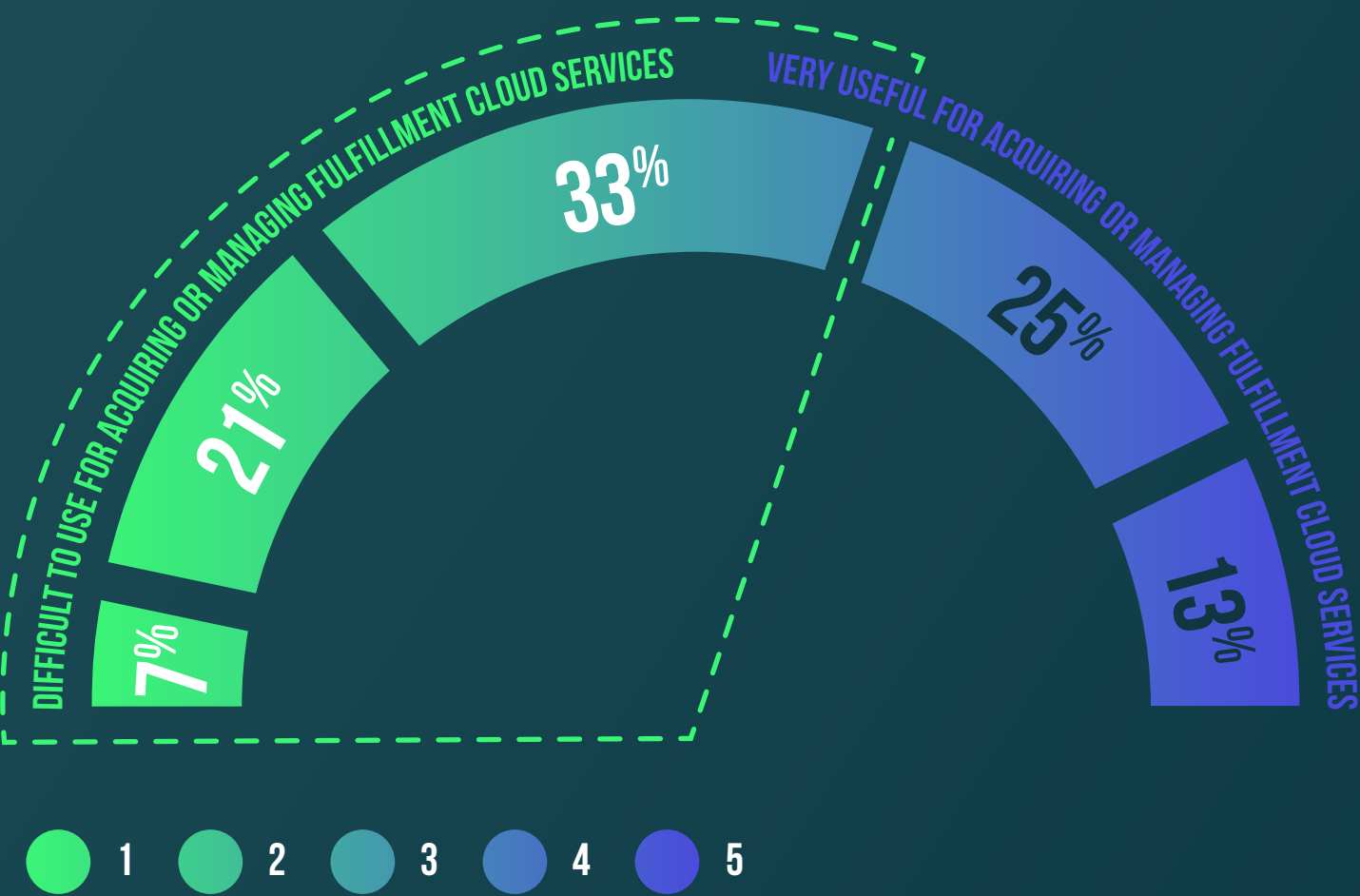
Caution: Small baselines

*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

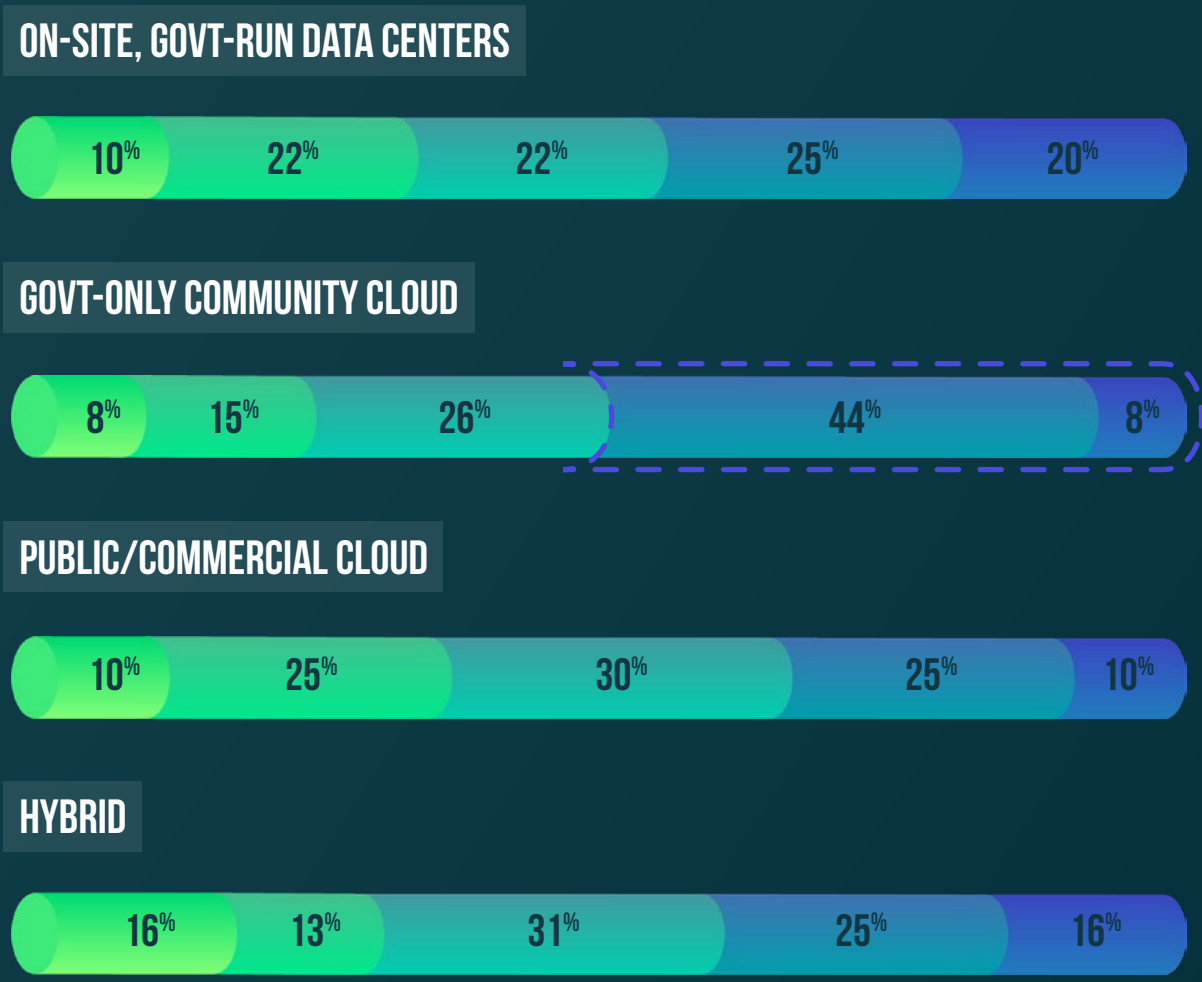
6 in 10 IT executives rated available government contract vehicles for acquiring cloud services "difficult to use" or average at best, but ratings varied by investment cohort.

% IT executives by rating score*



Respondents whose agencies plan to invest most in government-only community cloud find government contract vehicles very useful (52%).

% IT executives by rating score (breakout)**



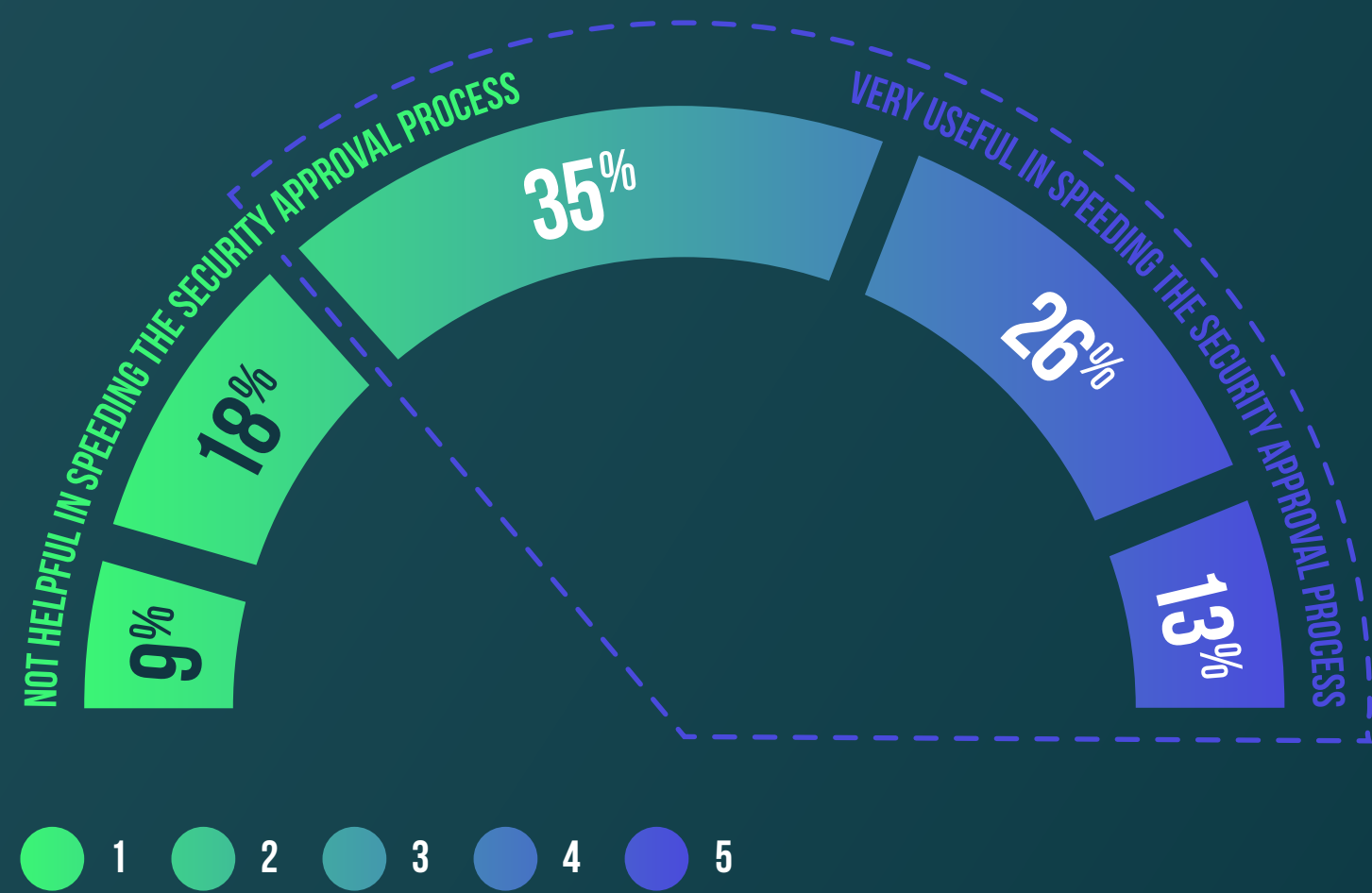
Caution: Small baselines

*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

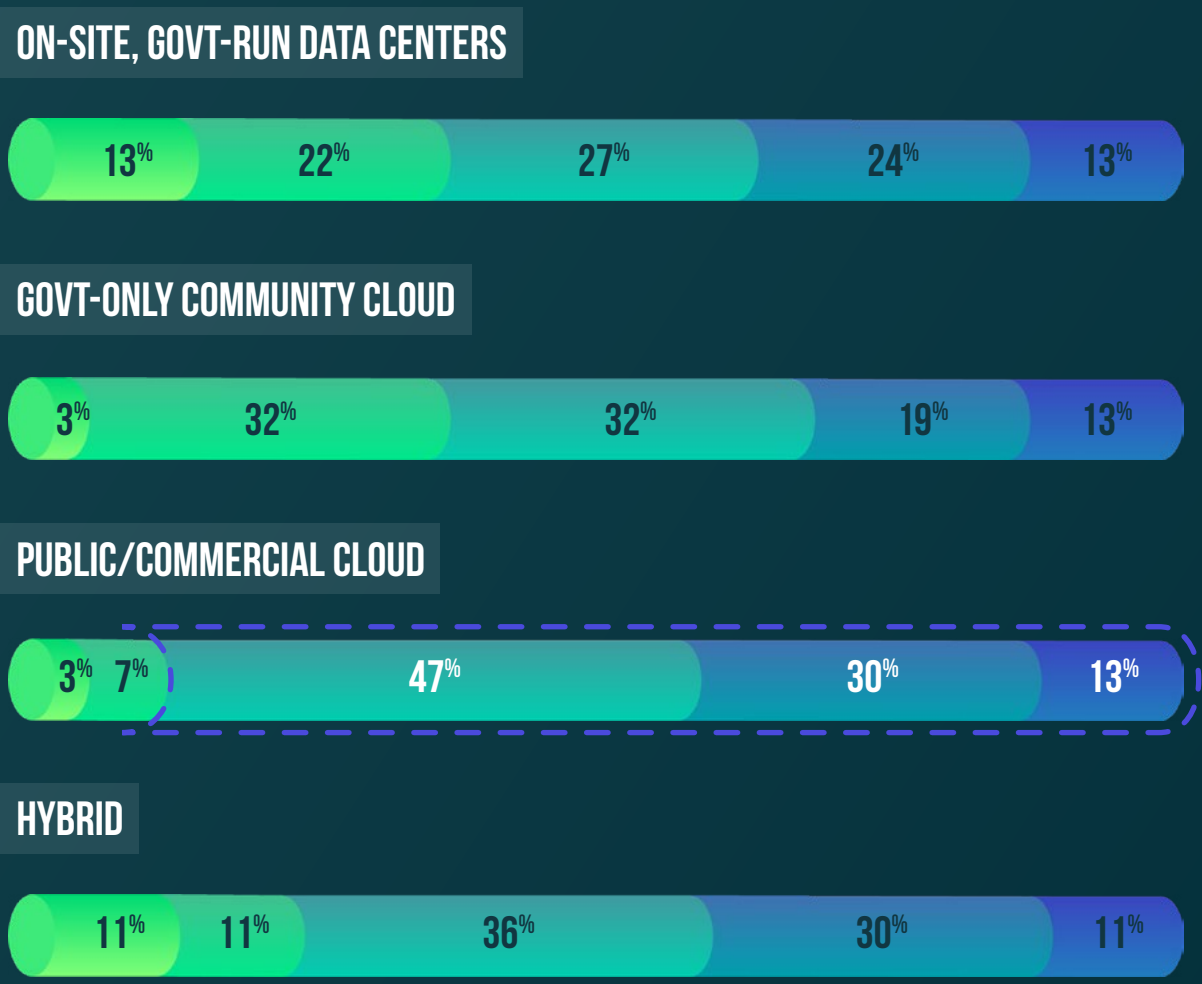
72% of IT executives found FedRAMP of average or greater than average help in speeding cloud security authorizations, but ratings varied by investment cohort.

% IT executives by rating score*



Respondents gave FedRAMP even higher scores when evaluating public/commercial cloud security (90%).

% IT executives by rating score (breakout)**



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

- A majority of state IT leaders expect their agencies will shift IT investments toward cloud solutions over the next three years, suggesting a broader belief that the benefits of cloud computing clearly outweigh lingering concerns about security and complexity.
- State agencies are achieving advanced levels of cloud readiness not just for basic business services but for mission critical services as well, suggesting an emerging period of innovation in digital services in government.
- 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.
- State IT leaders continue to express concern about the capability of their agencies to contract and acquire cloud services using available vehicles. That suggests more must be done to update and streamline cloud acquisition practices.
- State IT leaders seeking to accelerate cloud adoption say a combination of replacing selected applications with cloud-ready alternatives and expert help from cloud providers to aid migration would offer the fastest way forward.

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