

2021 State of Cloud Cost Report

Cloud usage and costs have surged during the past 12 months for both SMBs and enterprises, and are projected to continue growing even with a return to normalcy after COVID-19. Still, companies of all sizes are struggling to monitor and forecast cloud costs, detect spikes and glitches in real-time, and create visibility into their cloud spend. As a large and fast growing share of the budget for most organizations, often exhibiting variable and volatile behavior, cloud cost monitoring is quickly becoming a priority for organizations across the board.



Executive Summary

The move to cloud computing has been a no-brainer for many enterprise companies. But unlike many other operating costs, cloud computing is an expense that is largely variable. Cloud services and Software-as-a-Service represent a large and fast growing share of the budget for most organizations. Cloud computing is projected to make up 14% of enterprise IT spending worldwide in 2024 – up from 9% in 2020, according to a recent report by research firm Gartner, which projects that this trend will continue. The firm says that this year alone worldwide spending on public cloud services will grow 23.1% in 2021 to total \$332.3 billion, up from \$270 billion in 2020.

One of the most challenging aspects of managing cloud infrastructure is cost monitoring, optimization and forecasting. There are countless services to keep track of – including storage, databases, and compute – each with their own complex pricing structure. That's one of the reasons that, compared to most other organizational costs, monitoring cloud costs to detect anomalies in real-time and to accurately forecast monthly costs is inherently complex. Cloud costs represent such a significant portion of a company's operating budget, and are so challenging to stay on top of, that there is an emerging field called FinOps that specializes in merging engineers, developers and financial professionals in order to optimize these expenses.

What makes monitoring cloud costs even more challenging is the fact that traditional tools offered by cloud providers typically have a delay in the time it takes to report on costs. What this means is that if there are glitches in your cloud environment, the resulting surprise expenses can significantly impact the bottom line.

The 2021 State of Cloud Cost Report survey, conducted in April and May of 2021, opens a window to the ways more than 100 organizations of varying sizes and verticals are progressing in their journey to cloud and cloud cost monitoring.

The following are some of the insights we found the most interesting:

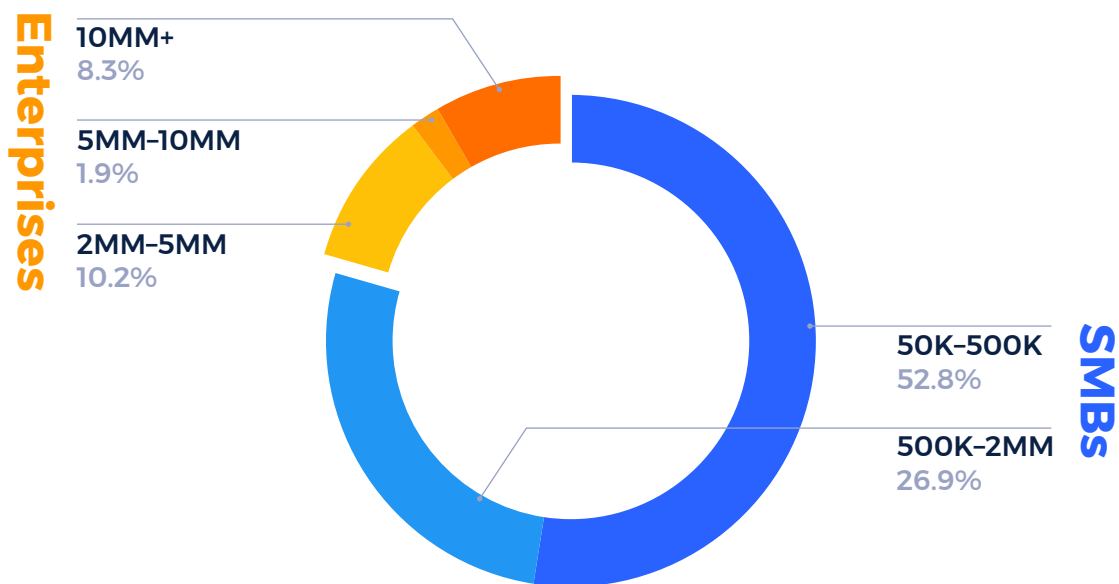
- Cloud costs are skyrocketing, and most organizations are having a hard time controlling these costs
- Enterprises have less insight into cloud costs than SMBs
- 2020 was a particularly challenging year for managing cloud costs, primarily due to the transition to remote work, with everyone seeing a jump in cloud costs, month-over-month, during a six month period.
- Many organizations experienced a challenging or somewhat challenging experience when transitioning business-critical operations to the cloud, with only 10% reporting a smooth transition.

SMBs and Enterprises face similar challenges

Anodot surveyed 108 senior IT, finance, and operations leaders with a range of annual spend on their experiences managing cloud costs during the pandemic and shortly thereafter, as vaccinations became commonplace and more people returned to work.

The survey skews toward smaller organizations. As the figure below shows, 79% of participating organizations are SMBs that spend less than \$2MM annually on cloud services. While both SMB and Enterprise respondents reported similar challenges controlling cloud costs, enterprise respondents had more variance on their heavy use days, noticed spikes sooner – and had less insight into cloud costs than their SMB counterparts.

Q1 What is your average annual spend on cloud services?

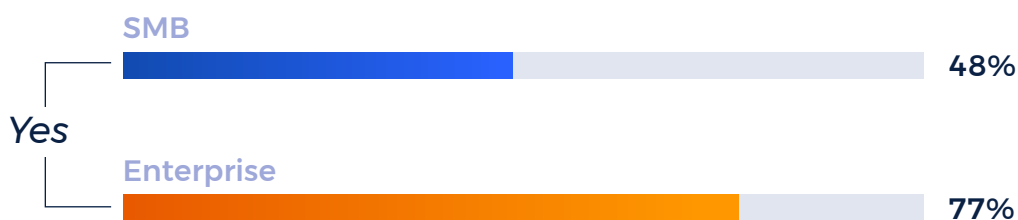


	All Respondents	SMB	Enterprise
50K-500K	57 (52.8%)	57 (66.3%)	0 (0%)
500K-2MM	29 (26.9%)	29 (33.7%)	0 (0%)
2MM-5MM	11 (10.2%)	0 (0%)	11 (50%)
5MM-10MM	2 (1.9%)	0 (0%)	2 (9.1%)
10MM+	9 (8.3%)	0 (0%)	9 (40.9%)

Cloud costs are dynamic and unpredictable

Cloud costs are skyrocketing across the board, and most organizations are having a hard time controlling these costs. More than 47% of SMB and 77% of Enterprise respondents say they have been “surprised” by cloud costs or had an incident where cloud costs suddenly spiked. However, since many of the traditional monitoring tools have a built-in data lag, when these anomalies inevitably occur they can’t be resolved until after the cost has been incurred.

Q2 Have you been surprised by your cloud costs or had an incident related to cloud costs?

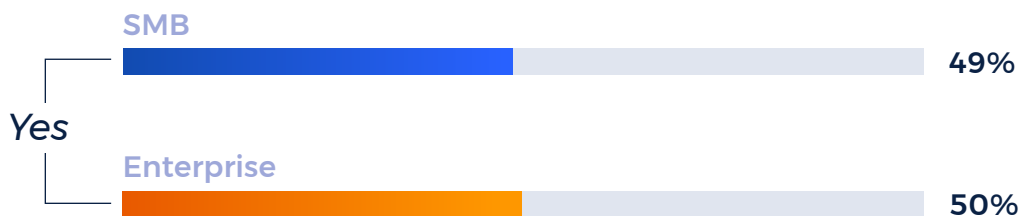


	All Respondents	SMB	Enterprise
Yes	58 (53.7%)	41 (47.7%)	17 (77.3%)
No	50 (46.3%)	45 (52.3%)	5 (22.7%)

Real-time remediation is a dream for most

Only half of survey respondents said they were able to remediate cloud usage and cost issues in real time, with no variance between SMB and Enterprise respondents. With a growing number of services, instances and regions, cloud cost optimization is becoming increasingly painful. Managing AWS, Azure, and GCP budgets requires proficiency, agility and time – especially when any glitch can result in massive cost bleeds. The biggest challenge with the cloud is visibility into costs. Since companies usually work with different cloud technologies and tools, cost and monitoring reports are usually fragmented, preventing a much needed holistic view.

Q3 Are you currently able to remediate cloud usage and cost issues in real time?

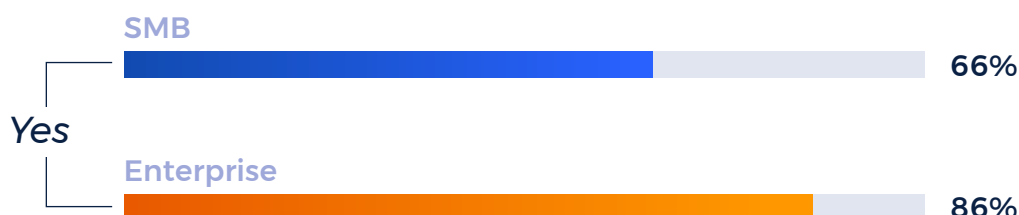


	All Respondents	SMB	Enterprise
Yes	53 (49.1%)	42 (48.8%)	11 (50%)
No	55 (50.9%)	44 (51.2%)	11 (50%)

Cloud costs are a daily consideration

About two-thirds of SMBs and 86% of Enterprises said cloud costs were a consideration in day-to-day business activities. SMBs typically have less of a focus on optimizing their cloud costs since they usually have a small team and need to focus on building the product. As companies start to scale, they realize that cloud costs are a big line item that needs to be optimized. Cloud costs can grow very quickly, so having someone on the team that understands the complexity can be very beneficial.

Q4 Are cloud costs a consideration in your day-to-day work?

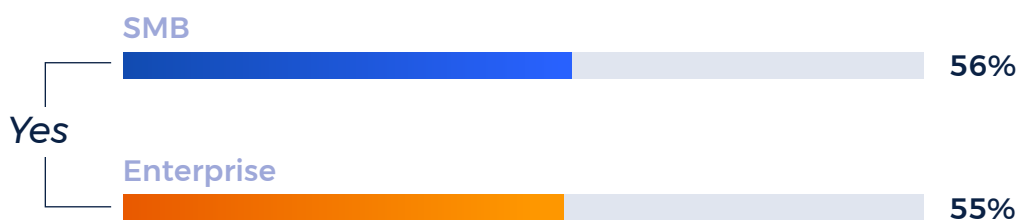


	All Respondents	SMB	Enterprise
Yes	76 (70.4%)	57 (66.3%)	19 (86.4%)
No	32 (29.6%)	29 (33.7%)	3 (13.6%)

Cloud usage budgets are the norm, for some

Teams are prioritizing cloud cost monitoring and clear budgeting. More than 50% say their organization allocates a cloud usage budget per developer or per team. Still, it is very hard to consolidate multiple cloud technologies costs into a single report or dashboard to see the drivers per initiative, and not per technology or user.

Q5 Does your organization create a cloud usage budget per developer or per team?

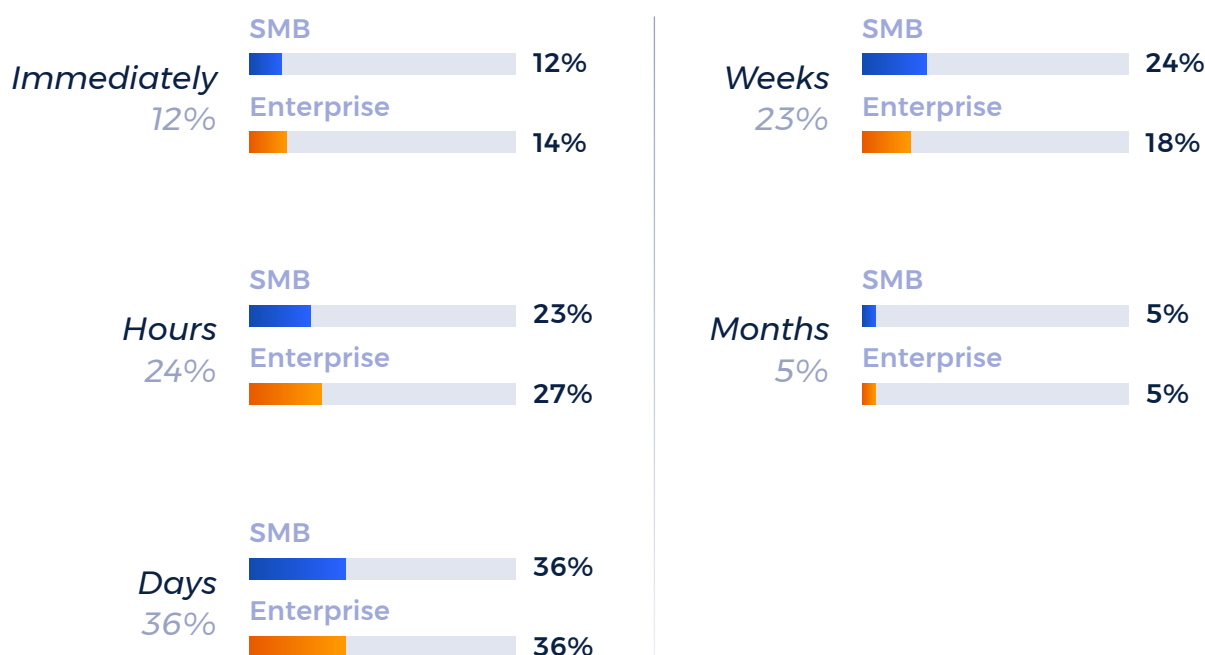


	All Respondents	SMB	Enterprise
Yes	60 (55.6%)	48 (55.8%)	12 (54.5%)
No	48 (44.4%)	38 (44.2%)	10 (45.5%)

Undetected cloud spikes are an ongoing concern

For the vast majority of companies, it can take anywhere from a few days to a few months to detect an anomalous surge in cloud costs. Only 40% of Enterprise and a third of SMB survey respondents stated that they were able to detect spikes in cloud costs immediately or within a few hours. More than a third of respondents admitted that it took them at least a few days to detect anomalous surges, which can easily reach \$100,000s in unnecessary revenue loss. This delay increased cloud costs by a staggering 10%. On the far end of the scale, almost a third of SMBs and a fifth of Enterprises stated that it can take weeks or months to notice a spike in cloud costs.

Q6 How long does it take you to notice a spike in cloud costs?

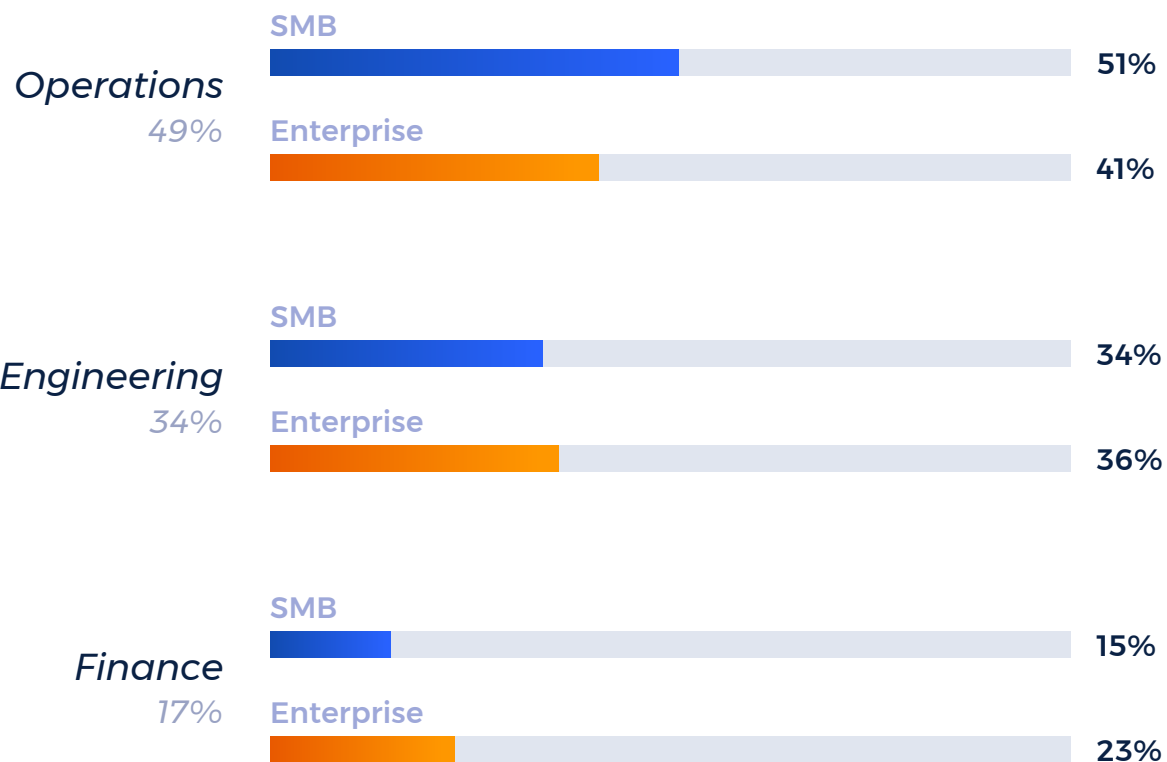


	All Respondents	SMB	Enterprise
Immediately	13 (12%)	10 (11.6%)	3 (13.6%)
Hours	26 (24.1%)	20 (23.3%)	6 (27.3%)
Days	39 (36.1%)	31 (36%)	8 (36.4%)
Weeks	25 (23.1%)	21 (24.4%)	4 (18.2%)
Months	5 (4.6%)	4 (4.7%)	1 (4.5%)

Operations is watching, sometimes

So who discovers incidents first? In about half of all cases it's the operations team, followed by engineering, then finance. Traditional cloud cost monitoring tools often have a data lag of 8 to 48 hours, which means that organizations have much leeway to become more proactive in preventing runaway usage and costs. To initiate this effort, teams should consider implementing machine learning for real-time cost monitoring, usage monitoring, and cost forecasting. What's more, ML-based solutions offer the granularity, speed, and accuracy to detect and resolve incidents before any serious financial damage has been done.

Q7 Who is the first one to notice a spike?

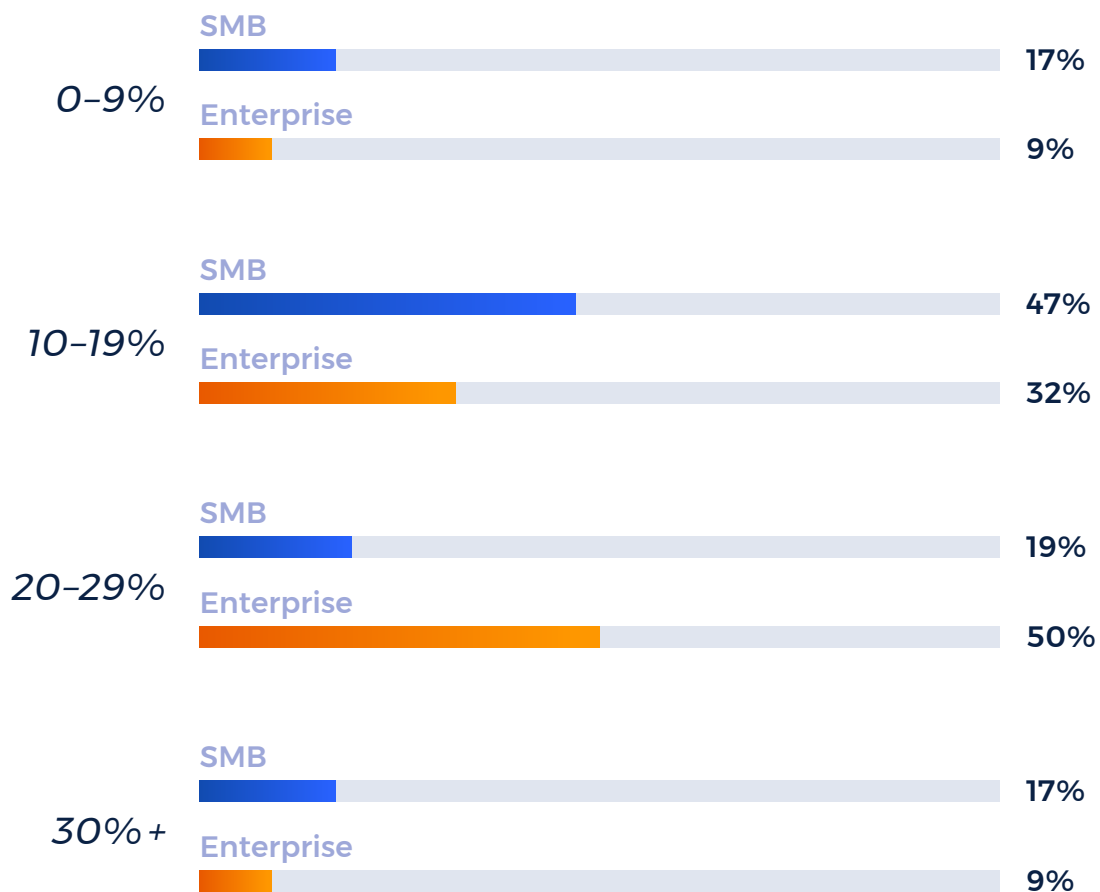


	All Respondents	SMB	Enterprise
Operations	53 (49.1%)	44 (51.2%)	9 (40.9%)
Engineering	37 (34.3%)	29 (33.7%)	8 (36.4%)
Finance	18 (16.7%)	13 (15.1%)	5 (22.7%)

Scale means more volatility on heavy days

On heavy cloud usage days, nearly two thirds of SMB and 40% of Enterprise respondents reported that cloud cost can surge anywhere from 0-19% higher compared to a typical day. Enterprises are more volatile on their heavy days due to their larger scale infrastructure complexity, with 50% of Enterprises reporting that cloud costs can surge by as much as 20-29%, compared to 18% for SMBs.

Q8 On a heavy-usage day, how much higher is your cloud usage compared to a standard day?

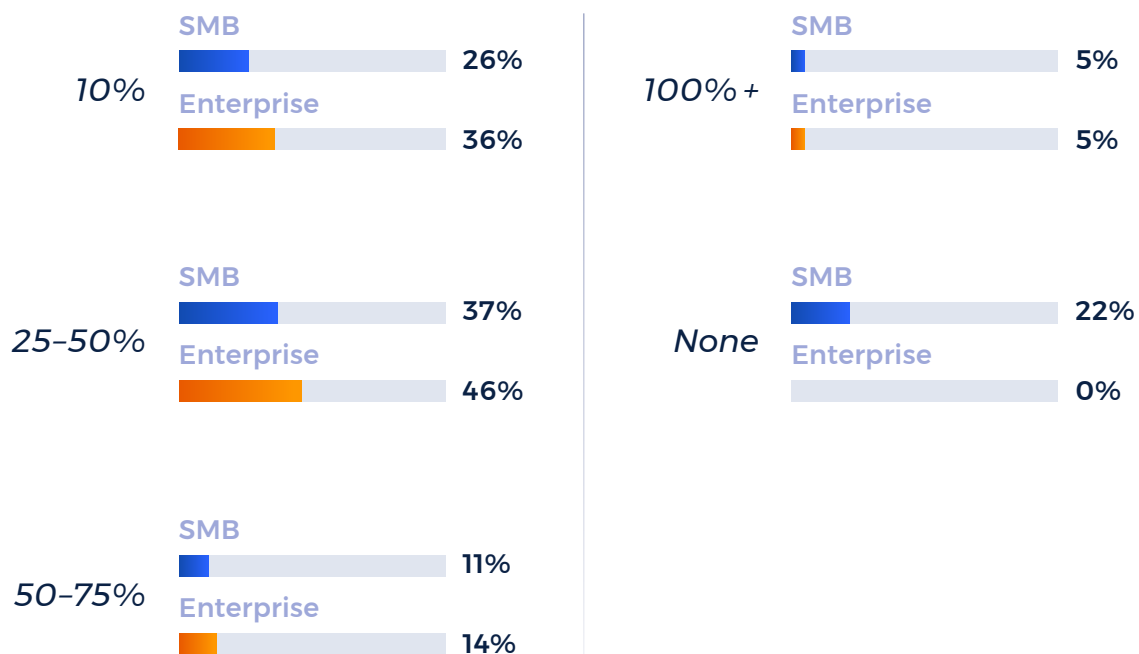


	All Respondents	SMB	Enterprise
0-9%	17 (15.7%)	15 (17.4%)	2 (9.1%)
10-19%	47 (43.5%)	40 (46.5%)	7 (31.8%)
20-29%	27 (25%)	16 (18.6%)	11 (50%)
30% +	17 (15.7%)	15 (17.4%)	2 (9.1%)

Cloud costs are skyrocketing across the board

2020 was a particularly challenging year for managing cloud costs. The move to remote work resulted in spikes due to increased usage of cloud based applications. One quarter of SMB and a third of Enterprise respondents saw a 10% increase in cloud costs, month-over-month, during a six-month period. Nearly half of Enterprises and more than a third of SMBs saw a 25-50% jump in cloud costs. On the edges of the spectrum, one out of six respondents saw a 50% or higher jump in cloud costs, while 22% of SMBs reported that their cloud usage did not spike at any point during 2020.

Q⁹ Did your cloud usage costs spike at any point in 2020? If yes, by what percentage?

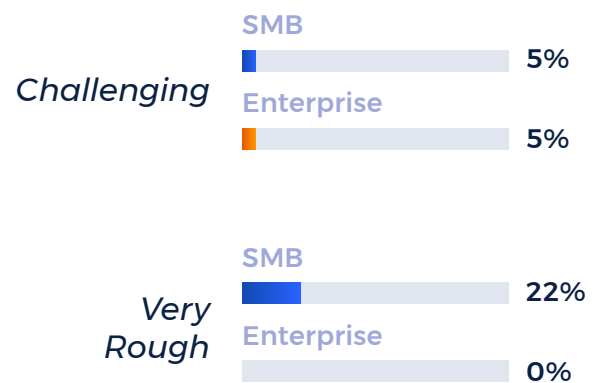
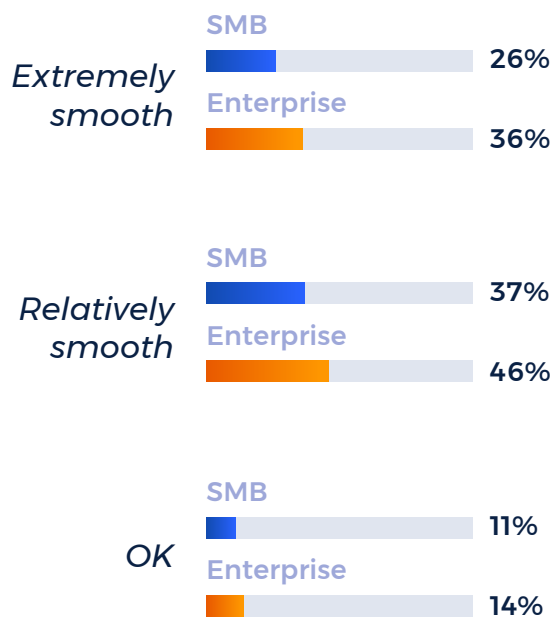


	All Respondents	SMB	Enterprise
10%	30 (27.8%)	22 (25.6%)	8 (36.4%)
25-50%	42 (38.9%)	32 (37.2%)	10 (45.5%)
50-75%	12 (11.1%)	9 (10.5%)	3 (13.6%)
100% +	5 (4.6%)	4 (4.7%)	1 (4.5%)
None	19 (17.6%)	19 (22.1%)	0 (0%)

Not so smooth a transition to the cloud

The migration to the cloud is in full swing, but many organizations are struggling with the move. According to our survey, only 10% of survey respondents reported having an “extremely smooth transition” to the cloud, about 25% had a “relatively smooth transition,” around 40% said “it went OK.” 25% said they had a “challenging or rough transition.” Businesses looking to implement cloud-based technology and infrastructure face a host of challenges ranging from lack of skills, migrating from legacy architecture, security and compliance issues, managing their technical infrastructure, transforming their corporate culture, budget issues, and hiring.

Q10 If you recently transitioned business critical applications and operations to the cloud, how would you describe that transition?



	All Respondents	SMB	Enterprise
Extremely smooth	10 (9.3%)	7 (8.1%)	3 (13.6%)
Relatively smooth	27 (25%)	22 (25.6%)	5 (22.7%)
OK	44 (40.7%)	36 (41.9%)	8 (36.4%)
Challenging	24 (22.2%)	18 (20.9%)	6 (27.3%)
Very Rough	3 (2.8%)	3 (3.5%)	0 (0%)

Rein-in your cloud costs with Anodot

For many companies, cloud computing costs represent a variable expense that can be optimized with the right monitoring system. The issue with many of the traditional monitoring tools is that they have a data lag, and when anomalies inevitably do occur, they can't be resolved until after the cost has been incurred. Even though cloud platforms provide daily cost reports, dashboards, and forecasting capabilities, in most cases this data isn't accurate enough. Leading companies are therefore adding another layer on top of cloud cost management and optimization, using real-time usage alerts for proactive monitoring of their cloud management stack.

Anodot's Cloud Cost Monitoring solution provides completely automatic and continuous forecasting that analyzes more granular data and delivers better accuracy, including line item breakdowns, daily/weekly/monthly time scale forecasting, and the ability to investigate cost per product. Anodot forecast is updated daily. Anodot collects all cloud cost and usage metrics on an hourly basis to develop comprehensive costs and usage dashboards and demand forecasts. Anodot catches runaway cloud spend immediately, alerts appropriate teams, and provides deep root cause analysis across all cloud resources. The comprehensive cloud cost monitoring solution helps reduce costs immediately with its three-layer business package:

- **Real-time cost & usage monitoring.** Anodot monitors cloud services usage and costs on an hourly basis with a high level of granularity: costs and usage are specific to the service, region, team, and instance type. When anomalies do occur, this level of granularity allows for a much faster time-to-resolution. If usage spikes, a full day doesn't have to lapse before you can resolve the issue and you can actively stop cost increases in their tracks.
- **Comprehensive cost reports.** Anodot uses autonomous analytics to monitor your cloud cost and usage in real time. To stay on top of your usage, Anodot provides a highly granular and comprehensive cost and usage dashboards.
- **Forecast future costs.** Anodot learns the normal behavior of every service and runs prediction models based on historical cost and usage data to generate accurate forecasts for future cloud demand. These allow teams to continuously engage in more effective budget planning and resource allocation.

Smart teams use Anodot to avoid daily, weekly and monthly surprises in their cloud bill. Contact us to learn what autonomous cloud cost monitoring can do for you. Using AWS? You can get started right now with a free trial of Anodot's real-time AWS cost alert & forecasting solution [right here](#), or at the [AWS marketplace](#).