

Techstrong Research

PulseMeter

Sponsored by



Fairwinds

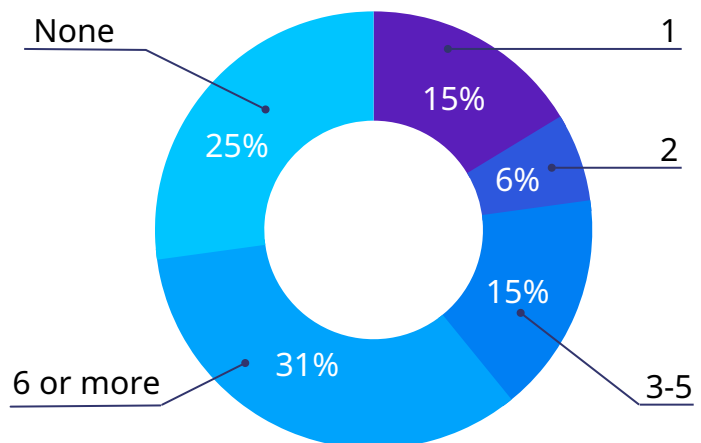
Operational groups face a familiar situation as Kubernetes use scales across the enterprise. They need more structure and discipline in the initial Kubernetes implementations, which creates headwinds in building a secure, reliable and performant environment. To achieve operational excellence, teams must mature the Kubernetes infrastructure by standardizing tools and processes to ensure consistent performance, data protection and resilience.

In 2022, Techstrong Research polled our community of DevOps, cloud-native, cybersecurity and digital transformation readers and viewers to take their pulse on their Kubernetes environment. Respondents indicated the most significant challenges they faced when scaling up a Kubernetes environment were security (24%), interruptions from troubleshooting (16%) and controlling costs (13%), in that order. To highlight the focus on security, over 42% of respondents use automation to enforce security guardrails. And the need to deploy automation remains acute in the areas of managing configuration complexity (20%), tracking down costs and overruns (19%) and checking and remediating vulnerabilities (18%).

Kubernetes Use is Exploding

With 31% of respondents already running six or more production apps on Kubernetes, growth will continue to stress the operational capabilities.

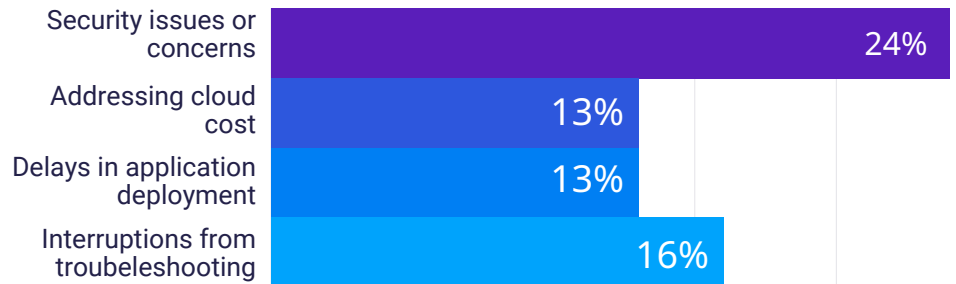
How many production applications are operating in a Kubernetes environment?



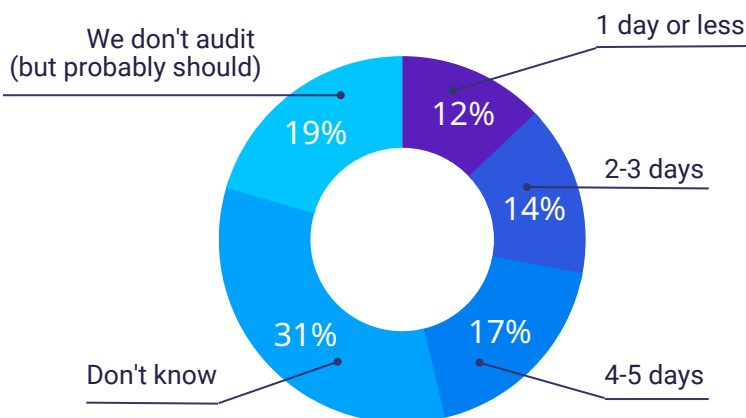
Operationalizing Kubernetes is the Biggest Challenge to Scale

Not surprisingly, security is the top challenge for operations. But challenges in troubleshooting and containing costs are close behind.

What are your biggest challenges managing your Kubernetes environment?



How much time do you spend auditing your Kubernetes environment per month?



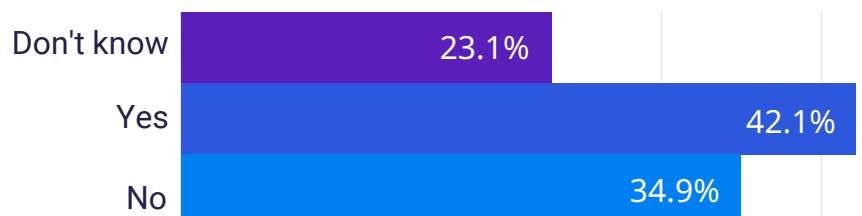
Visibility needs to be easier to address compliance requirements

Auditing consumes significant resources, but is necessary as production workloads migrate to Kubernetes. However, 19% don't bother auditing, which is not a long-term solution.

Automation scales security policy enforcement

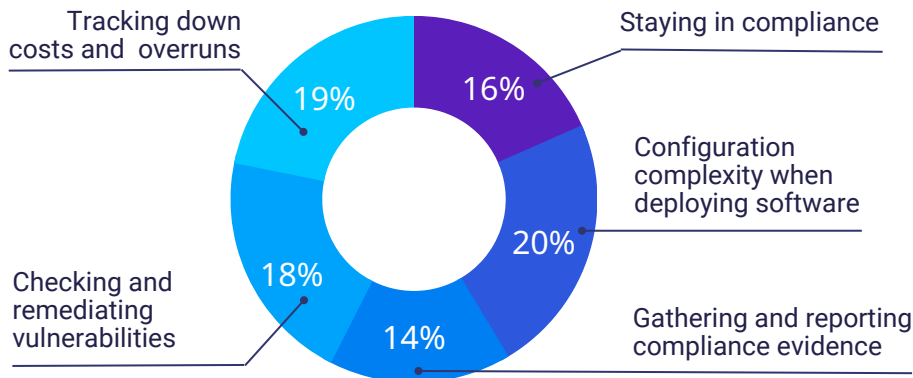
A key indicator of operational maturity is automation, so we expect the number of yes responses to increase dramatically in the short term.

Do you have automation in your DevOps workflow to implement Kubernetes security guardrails?



Other common functions can be automated to facilitate operational scale

Configuration and cost management of cloud-native infrastructure present the most interesting automation opportunities.

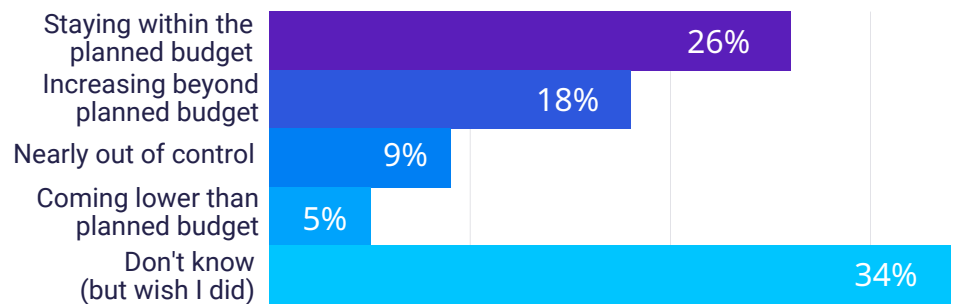


What Kubernetes management activities require too much manual effort or time?

The key to scaling is efficient use of resources

For about a quarter of respondents, scaling Kubernetes didn't blow the budget. For another quarter, it did cause budgets to increase (a dramatic increase of 9%).

As your Kubernetes environment grows, are your costs...?



Techstrong Research Analyst View

Visibility remains a crucial issue for organizations implementing Kubernetes. Almost one-third (31%) of the poll respondents don't know how much time they spend on auditing. Nearly one-quarter (23%) don't know if they are implementing automated guardrails in their Kubernetes environment. Finally, 34% don't know their costs are rising as their Kubernetes deployments grow. It's hard enough to manage an environment when you can see what's going on; it's virtually impossible without visibility. Thus, improving visibility across all aspects of Kubernetes (operations, security and cost management) must be a priority.

Once adequate visibility is achieved, the focus shifts to operationalizing the environment, which means embracing automation. Numerous aspects of Kubernetes security and operations are ripe for automation, including performance optimization, security testing of components and automated guardrails for policy compliance.

The bottom line is that despite the hype around adoption, Kubernetes remains an emerging technology for many organizations. Very exciting indeed, but still immature where the associated toolchains and processes to run Kubernetes at enterprise scale are concerned. Thus, we advise organizations serious about implementing Kubernetes (and other cloud-native technologies) to investigate and implement a toolset that can provide the visibility, operations and security that enterprises demand.