



For Cloud Professionals, part of the On Cloud Podcast

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Title: CloudOps—it's how savvy companies do cloud the right way
Description: It's cliché, but true: Cloud is different than traditional, on-prem IT operations, and it requires fundamental changes to how IT is done. In this podcast, David Linthicum discusses the emerging discipline of CloudOps and how it can help companies get more value from their cloud journey. With CloudOps, savvy companies can rethink and reinvent their operating model and talent and skills mix—and implement the tools (such as AIOps) they need to operate more effectively in cloud.

Duration: 00:15:30

David Linthicum:

Welcome to this Deloitte On Cloud Podcast Knowledge Short, exploring a specific topic related to cloud computing. This is a short tutorial talking about real-world concepts in the emerging world of cloud computing. I'm your host, Dave Linthicum, cloud computing subject matter expert, author, speaker, and managing director with Deloitte Consulting. And this approaching cloud operations the right way.

First, cloud operations, or we'll call it CloudOps for short, is the ability ultimately to maintain cloud-based systems in good working order for a long period of time. So, the objective isn't necessarily getting something right; it's the success around the ongoing operations of these systems, your ability to avoid outages, your ability to avoid breaches, your ability to carry on with sound business continuity, disaster recovery practices, to really kind of protect the processes within the business.

So, CloudOps is mix of proactive and reactive work with data-load job failures, missing directory entries, end-user or developer-caused problems that really end up being the nature of what CloudOps is. And, so, people view CloudOps as something that's reactionary, and, so, in other words, we wait for an issue

to occur—we may call it firefighting—and then we're able to correct the issue once it's known. However, CloudOps, as we move forward past 2021, 2022 is really about being proactive and taking cloud operations to the next level, leveraging automation, leveraging tooling to make it something that's really more of a science, something that's repeatable, something we can carry out over and over again.

By the way, if this sounds unglamorous, it really is. Operations is operations. We've been doing it for years and years. And it used to be folks who carry pagers; now it's folks who carry cellphones. They're able to be on call and react to issues that need to be corrected, and, so, that really doesn't change. However, our ability to stop these issues from occurring and therefore carry on a less-interrupted life is really kind of the goal of CloudOps as we move forward. So, we've traded platforms that sit in your datacenter to platforms that sit in the public cloud. That's how things have changed. The task patterns, work are largely going to be the same. We're operating systems, and we're trying to operate them and maintain them longer term.

So, some argue that ops automation, including tools such as cloud-enabled monitoring and management, make CloudOps just a matter of looking at your smartphone once or twice a day. But still things are a bit primitive. This is really about dealing with most application workloads that are really running the way they used to run. So, the operational procedures at the end of the day, whether they were moved to the cloud or not, are going to be much the same. So, how do we improve those workloads? How do we improve those datasets? And how do we change how we operate the cloud moving forward? Well, I have some suggestions, things you can start to explore.

What's happening now is that people are doing CloudOps basically in the same ways and leveraging the same tools that they did in operating traditional systems in a datacenter. And in many instances, things have gotten more complex because we may be operating application workloads and datasets that exist in a public cloud, but may also be operating things that exist in a datacenter as well, and maybe doing so with the same sort of tools, same sort of processes, same sort of playbooks.

So, ultimately, this is about automating as much as you can, and this is about leveraging tools such as AIOps and other CloudOps as force multipliers to help you normalize the way in which we do operations, remove you from the core complexity, and try to have a more proactive state. In other words, we're spotting issues that are likely to be a problem such as an IO error that's coming from a particular cloud storage system, which is going to indicate a more catastrophic failure and the ability to spot that and fix that problem proactively, before it costs us a lot of money and before it adds a lot of risk.

So, what are the things you need to do to get CloudOps right? Well, first we need to consider what op model we're going to need, our operations model. Keep in mind that the cloud—public cloud or multicloud or hybrid cloud—changes the way that the work is done, who does it, and what tools and processes are necessary for success. So, we really can't take a traditional approach to operating physical systems; we need to figure out how we're going to operate things that we never see in the cloud. And that becomes kind of an operational model change, or an op model change. And this is something that consultants focus on, a lot's been written about it, but, ultimately, this is about you understanding your existing, as-is state, where you need to go, what your to-be state is, and adjusting the operations model or the op model around solving those problems.

So many organizations approach cloud as just another technology. Ultimately, there's a change in the way in which we're consuming resources in the cloud, and, so, therefore, cloud is going to provide us with some additional capabilities and opportunities such as the ability to be more agile, more secure, and more proactive. But we have to have the operation models around those things to take advantage of them. If we try to do things using things that worked for us in the past, we're eventually going to fail with cloud operations. So, we're building a product that continuously iterates the demands of the cloud workforce and operating models that we're going to put in place, so we have to have the right mix of skills, we have to have the right processes, we have to have the right playbooks and the right tooling ultimately that these people, these resources can leverage to make sure they're going to be a good force multiplier and make sure we're going to be successful with cloud operations.

The big thing is the skills change, and this is a bit of a sensitive matter, because obviously there's a huge demand out there for cloud skills now, whether it's CloudOps, or whether you're an architect or a developer. But this is really around getting the skillsets of folks who are able to leverage your automation tools, your AIOps and other systems you're leveraging in the right way so they're going to be effective with those tools. And, so, therefore, understanding the way in which we're going to do operations generally and then drilling down on the specific processes we're going to leverage to do operations and the tools we're going to leverage as force multipliers to allow us to do operations better and automate most of this, we need skills around that are able to leverage those tools effectively.

And you have a couple of choices. Number one, you can certainly hire them from the outside, so folks and consultants who have these capabilities, bring them in, and you can make them productive as quickly as they can. And, typically, they're able to be productive fairly quickly if not immediately because they bring skills in order to do the particular tasks that we're asking for them to do.

However, more often than not, we're building those skills within house. In other words, we're taking the existing operations team that may have worked on the traditional technology and we're retraining them in how they're going to leverage different cloud tools and what a cloud is and how to maintain it and how to operate it. And this is obviously a better approach because we're not displacing people. We're keeping people onboard and we're also allowing them the ability to improve their careers and learn more about some of the more modern technologies out there, inclusive of cloud computing and how we do operations. So, I find that that's typically going to be more effective, but it's usually going to be a mix of skill changes and hiring from the outside that really drives CloudOps.

Ultimately, you need to do a skills inventory. In other words, if we're looking at the existing state of CloudOps, what are the skills that people currently have? What are the skills that you need in moving forward? So, in other words, different technologies, tools, processes, architectural understanding, those sorts of things, and what's the skills gap between your as-is and your to-be state? And once we understand that, we can put a training plan in place in terms of how we're going to close that skills gap or how we're going to hire from the outside or how we're going to leverage consultants to fill in those pieces.

It's very important that we do this, because even if you have the best intent and you're defining the processes as to what CloudOps is, if you don't have the right skills around to make these things work, you're going to find that things are going to go south fairly quickly. You're going to find that failure is going to be more systemic in the organization because people are making simple mistakes. They're not using the tool correctly. They're not using the process correctly. They're not doing things in the right sequence. They're causing security errors—things like that. So, you don't want to be that organization. You want to pay attention to your ops model and pay attention to your skills.

So, let's talk about the tools that we're able to leverage in the world of CloudOps. Well, the big one that everybody is leveraging these days is AIOps, or AI operations. These are either net new tools that arrived on the scene just a few years ago, or they're traditional monitoring and operation tools that have been recast and reengineered to leverage AI systems. And the idea is that we're going to not only have something that's able to operate the environment, but it's able to learn as we progress. So, the AI, or artificially intelligent operations, means that as we solve problems and find the root cause analysis, it becomes more proactive because it becomes smarter.

So in other words, instead of having 50 people around who have different levels of knowledge in how to solve particular problems, we're able to centralize the knowledge management within an AIOps tool and it's able to, in essence, be proactive, think clearly in terms of what things are going wrong and how to fix them, and most importantly it's able to operate 24 hours a day, 365 days a year. So, we're not waiting on certain people to come on shift to solve certain problems; it's able to do so in a proactive way.

And the big benefit is the more we use it, the smarter it gets. It's truly a knowledge engine where it's able to build a knowledge model over time, which takes into account all of this data and understanding that data and understanding how to do proactive events monitoring, how to solve problems before they occur, really get to a better operational state. So, these are tools you definitely should take a look at.

However, there's always a downside to every technology you're going to employ, and CloudOps tools and AIOps tools specifically have a downside. So, these are fairly complicated tools to deploy. You have to connect them up to various systems, either on premise or within the cloud, and it's going to take you some time to not only understand the capabilities of the tool but model how they should be rolled out and how they should be leveraged. This may take two years, three years in many organizations, because they have a tendency to move slower toward understanding how these tools are going to be leveraged, and also we're rearranging things as we move into the cloud. We're removing applications, we're removing datacenters, things like that, and all of these changes are really causing people to focus not necessarily on how things are going to be operated but the changes themselves.

Most enterprises have taken ten years just to get 20 to 30 percent of their workloads into the public cloud, and it may take longer than we think. So, we'll have time to solve this problem, but in many instances the more aggressive we're able to move, the more successful the CloudOps is able to be, because we're focusing time and attention on how CloudOps is going to work because we have to, because things are changing so fast within the organization when leveraging cloud computing as a force multiplier and different toolsets, things like that.

So, think about how fast you're moving into the cloud. Think about your security needs, your operational needs, and then get into the habit of planning on how these things are going to be implemented and how they're going to be operated. And that is looking at things in the wide, in other words, strategically how we're going to leverage operations systems and the right tooling to take things to the next level, and also in the narrow. In other words, what tools and technologies specifically are we going to use? And, also, are those the right fit?

We have a tendency in the world of cloud computing and IT in general to get enamored with tools fairly quickly. We may understand that someone's leveraging a tool in another competing organization and they're doing so successfully. Then people have a tendency to have blinders on in focusing just on that particular ops tool, not looking at other tools that may be better, more viable solutions. So, don't be that person. Ultimately, this is about you opening your mind, understanding your core problems, and then figuring out what tools and technologies need to be implemented to solve those particular problems. And doing so requires some time, and doing so requires some testing, some proof of concepts prototypes, talking to a lot of vendors, doing things that take a lot of time and quite frankly slow things down and are a bit frustrating at times. But that's work that'll come back tenfold in terms of the value that it's able to bring to your operations team because you're picking and selecting the right tools. Keep that in mind.

So, what's core to cloud operations or CloudOps and your ability to do things the right way the first time is really about understanding and planning, and listening to this podcast is a good step. But understand everything you can in terms of what CloudOps is and what are the best processes that are emerging. In other words, how are other people being successful? You can do that by doing a lot of reading and research unto yourself, or hire consultants, or whatever it takes to optimize, ultimately, the CloudOps plan and the CloudOps tooling that you're going to need to be successful. Just taking those steps will provide you with that edge that allows you to avoid mistakes, and, ultimately, this is the way CloudOps succeeds, your ability to avoid mistakes and do things right as much as you can the first time.

Operator:

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