



For Cloud Professionals, part of the On Cloud Podcast

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Title: Weathering the storm: leveraging cloud for business continuity

Description: We face unprecedented times and no one is sure what will happen next. That's why organizations are in critical need of strategic direction and business continuity. Key steps include leveraging cloud technologies where possible, making the most of the technologies already in place, and providing ongoing communication and support for employees. In this episode of the podcast, David Linthicum and Mike Kavis discuss some of the challenge's companies face and some core technologies and strategies that will be crucial in achieving business continuity—especially as more work moves to a remote model.

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Operator:

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David Linthicum:

Welcome to this special edition of the On Cloud Podcast. So we recognize that this is a challenging time and we hope everybody's staying safe out there. We certainly are and many have reached out to us both over the past week with questions and concerns ensuring the stability within their IT infrastructures really around the pandemic at this crucial moment. Well, we don't know when this is going to end or what's going to happen over the next few weeks; we can give you some business advice in terms of how to deal with IT issues today. Ultimately if we're dealing with resource constraints, if we're dealing with things that are changing – how do we deal with security? How do we deal with operations? How do we keep our systems moving forward? So joining me today is a friend and colleague in the cloud, Mike Kavis. How are you doing, Mike?

Mike Kavis:

Doing pretty good, Dave. Always a pleasure to chat with you on these topics.

David Linthicum:

So let's consider some of the core technologies that are typically going to be mission-critical to some of the businesses. And we're hearing about challenges out there, specifically if they can't keep their infrastructure running because they can't man the datacenters, they can't man the offices, and they're in essence trying to do things remotely. So obviously we're considering business continuity. Disaster recovery really kind of is a core thing to deal with, things such as a pandemic, and typically pandemics are going to be listed in business continuity and disaster recovery. So, Mike, what advice would you give people as they're dealing with it now, not in terms of planning but if they've gotten to a point where they are missing some resources, they're having to manage their infrastructure remotely, what are some of the best practices you see emerging?

Mike Kavis:

Well, one of the best practices is to really have some strong leadership here, right? The fact that everyone's distributed and everyone's an island of one now, you really need to get the message out. What could happen is everyone's trying to solve the same problem in different ways. So the first thing is to communicate frequently, get a grasp on what the situations are, and then have consistent top-down messaging so everyone's on the same page. You know, there's all kinds of technology challenges, but right now it's really about, you know, is everyone on the same page.

David Linthicum:

So typically enterprises are going to have a solution between public cloud providers and on-premise providers. So going forward, what precautions should they take in dealing with this duality of resources, as we're dealing with these things remotely? Which ones are easier to deal with than the others? And what kinds of special tools and technologies can we employ today to move things forward?

Mike Kavis:

Well, the things that are probably easier were the things that were built to be elastic, which are usually the things built natively in the cloud, right? They're typically built to handle spikes. The things that are going to be challenging are more of the legacy-type infrastructures that the only way to scale is to throw hardware at. So those are going to be harder. In the middle of all of this is everyone's working remote now, so how well is staff used to using remote capabilities and how good is the remote capability? So for some companies like in consulting, we're pretty much used to it. But in a lot of companies it's not used as much, maybe a smaller percentage of the staff, and do they even have the bandwidth or the right tools to do these types of things?

David Linthicum:

So what should leadership do? I mean, obviously we need command and control, so what kind of things should be implemented, best practices, ways in which we can in essence drive the business mission forward and do so with good leadership?

Mike Kavis:

Well, the first part is to show some empathy towards the people, right? Because there's a lot of people in circumstances they're not used to, especially people with young children. Now those kids aren't in school and now you're trying to work and they're crawling all over you. And sometimes you have – both parents who are used to not being there; now they're working out of the same office. So it's understanding that it's a challenging environment for a lot of people and have empathy for that. That's the first part.

The second part is have a common message, right? Show calm – be calm. I've seen some unfortunate reports of people demanding people to come into work, not wanting to close their business down, but I've seen the opposite where people are going out and saying, "Look, this is our situation. I'm going to be open and honest. This is what's happening. This is the impact. Now take care of yourself first, and now here's the plan going forward." So this is really a leadership challenge than anything else.

David Linthicum:

Yeah, and I think that leadership should overcommunicate at this point. So as Mike said, it's good to kind of remain calm, but also communicate as to what the issues are and some of the risks and things that need to be done. I'm finding that people during situations such as this are very good, I really have a lot of faith in people. They're able to step up and solve some issues and without a lot of red tape being pushed in front of people. People just kind of love helping other people, and I think that ultimately you need to kind of promote that kind of an attitude, that if someone needs help, reach out. And if someone can provide help, then they should be able to provide it. And I think that that's kind of the way to do kind of a load-balancing thing right now for maintaining systems. We may find that someone is overloaded and someone's underloaded, and the ability to kind of equalize things, even though you're working remotely, is going to be important.

So operations is going to be critical and we're typically going to have to do this in a virtual way. Clouds are different to operate than some of the on-premise systems, and some of the challenges they're going to run into is basically remote management of systems that are within datacenters where they may not have managed them that way before, but also the ability to manage cloud-based systems, which are kind of designed to be managed remotely. So what kinds of synergies should people look to? What are some of the best practices with the tools and technology out there, Mike?

Mike Kavis:

Well, people who build in the cloud who don't bring their old tools with them are pretty much already using APIs, SaaS solutions, solutions that you just need a browser to use. So, in that case, they're in good shape. The harder ones is when you're relying on physical things. So some of the best practices around this is, again, you should be able to do most of your job from home. It's creating an environment where you can do that job and using collaboration tools with your peers who you're often in meeting rooms with to be collaborating all the time, because it can be a danger if you're in your own personal silo and your teammates are in their personal silos and they're not communicating enough. So it's really visibility – creating that visibility of work, always collaborating, whether that's through chat tools or online tools like what we're using here, and just trying to make the best out of a hard situation really.

David Linthicum:

Yeah, scalability becomes a challenge as well, and as we're trying to operate these systems remotely we're going to find that during a crisis like this that some systems are going to be left alone and some systems are going to need to scale for example systems around healthcare, systems around distribution of supplies, medical supplies, things like that. And there's kind of a double whammy here because they need to scale and they're also critical to us getting through something like this and getting on the other end and having enough medical capabilities available and the supplies available to in essence address all the needs that are out there.

So in looking at how systems scale some of the things – I mean, I have a couple of words of advice, Mike, and I'd like you to give a couple of words as well. Ultimately this is about trying to plan as to how much scale you're going to need. In other words, look at the growth and figure out a good estimate in terms of how you're going to predict the growth over time and where the limitations are going to exist. And so if you're going to find limitations in the systems, you're in the cloud, that's fairly easy to fix because we're able to provision systems virtually on demand: storage, compute, whatever's needed – add additional databases, whatever. If it's an on-premise system, in other words it's a datacenter system, then we may have to take action there. We may have to expand the hardware and software but do so in a way that's kind of wise. And if you have a choice and you're able to move some of those loads into the cloud, then that's probably not a bad place to put them. But this is not a time where we're going to migrate to the cloud. This is a time we're going to leverage the architectures that we in essence have picked. What's your advice, Mike?

Mike Kavis:

Yeah, it's similar. I've actually seen a lot of companies looking at some of the call-center capabilities that their cloud providers have, sometimes as a backup but sometimes actually saying now's the time to really start moving some of that workload and test some of these systems out. So that's one. The other part is there's a human component of scale and you used the healthcare example. You know, they're probably being overloaded with calls. Maybe they divert people from other priorities that may be probably a low priority now and actually put more people and more eyeballs on these types of things. So it's a combination of the tech and resource management.

David Linthicum:

Yeah, I think that's great advice. I noticed one of my clients is actually taking the developers off of development for this time and putting them on operations. And now that we have dev and ops that are basically combined together, we're finding that developers have operational skills and operators have development skills. So that was kind of a benefit of DevOps we really didn't think about, the ability to in essence redirect people's skills at different parts of the organization to solve different problems. Did you anticipate that, Mike?

Mike Kavis:

That's true DevOps there. Instead of creating a dev silo and an ops silo you're putting them together. That's the essence of DevOps, right?

David Linthicum:

Yeah, and one of the leadership organizational challenges out there is – and this is something that is maybe addressed after we get back to normal, but the ability to in essence flatten the organization. I think that organizations that have a large hierarchy, a deep hierarchy are going to be a little bit more difficult to steer through issues such as this, versus organizations where people wear many hats and do many roles and belong to many teams. And going forward organizational planning that's able to get around issues and have agility within those systems is going to be a priority. So you may take time today to kind of look at your organization and figure out with the current challenges that you have ways in which you can flatten it out so to provide more dimensions and allow people to step into different roles and solve different problems. Now, Mike, you work on OTT models. What's your opinion on this?

Mike Kavis:

Yeah, and I think one of the things we're going to learn from this is, you know what? We can do a majority of our tasks from home, right? And with that knowledge what would an operating model look like from that? Because a lot of things that we do today require people to be in physical places, having meetings, doing checklists, all these types of things, and we're getting these asks today. What does an operating model look like today when everyone's remote? Because this could last weeks or could last months, so how do we function as an organization in this new environment we're in? And I think once we come out of this there's going to be a lot of learnings and companies are going to look at this and say, "You know what? We could reduce travel significantly if we plan for more remote work." And then that might also lead to more cloud-based workloads. You know, if I don't have to touch a physical datacenter, if I start moving more to the cloud, I can operate this stuff from anywhere. So I think we're going to see a lot of operating model changes, a lot of org design changes 12 to 18 to 24 months after this as people realize that a lot of work can be done from anywhere as long as you have a good internet connection.

David Linthicum:

So that leads to the silver lining kind of discussion. I hear that a lot out there in the media, people talking about what good can come around something like this and the pandemic that's going through the world right now, and I think that's one of the things. I think we can get better at operating remotely. We can get people off of planes, trains, and automobiles as much as possible. There are still people who need to travel, doctors for example – they have to go to where the patient is, but not always. There's telemedicine where they can actually treat people remotely in some instances. But that solves a couple of problems. Number one, you're going to have the ability to kind of burn less power, and also the ability to have workers that are more productive. And I mean, Mike, how many hours do you think we spend in travel?

Mike Kavis:

Too much. I mean, as someone – I don't live near a major airport, so I don't get too many directs, so a lot of Mondays and Fridays for me were on Wi-Fi on a plane. And people like in sales are traveling every day, right? They're going from place to place. I usually go to an account and I leave at the end of the week. So we spend, especially in consulting, probably 50 percent of our time, or some large number like that traveling.

David Linthicum:

Yeah, and we're not unusual. Everybody who does consulting, and does sales, and does computing environments, and works for technology companies, travel is really kind of systemic to everything that's out there. But ultimately the opportunity is to reclaim some of that time and maybe a silver lining for this is we're getting to a virtual environment where there is less travel. That doesn't mean there's no travel. That doesn't mean we can't step up to the plate and get things done and travel when we need to, but it's not as much of an imperative going forward. So I think that's something to look forward to. And people are going to do the reevaluation, like I said, between 1 to 18 months after this happens.

So let's talk about scaling remote work. And so one of the things that we found out as people are working remotely – there's a couple of things which caused limitations. One was the ability for the virtual private networks to scale. Many organizations that didn't have a lot of people working remotely supported a VPN as a way for people to work remotely. And suddenly when everybody in the company's working remotely, that VPN was having issues, and crashing and ultimately they needed to add additional hardware, software, routers, networking equipment to fix those issues. So this is something that

needs to be thought about going forward to make sure that remote work will scale, and I think a lot of people kind of missed it. Even people who do BCDR work probably asked the typical questions. Is there redundant backup? Can we restore things? Can we have an active/active backup support for existing systems? And no one thought of things like VPN. No one thought of things such as centralized databases. No one thought of things such as bandwidth over the VPN into the mail server. And these are things to address today. Any words of advice, Mike?

Mike Kavis:

Well, another example is when you work with a lot of clients, you get to see a lot of different ways remote work is done. And in some of them it requires a physical laptop with a physical dongle. And I'm going to point on that physical dongle. I think over time we've moved more towards software security as opposed to the physical dongles, but if you're still using something physical like that, and all of a sudden everyone has to go home, how do you get all those – first you've got to buy all those; then you've got to distribute all those. So maybe a lesson is learned here, is to start thinking more about software-based security solutions as opposed to these hardware-based ones.

David Linthicum:

Yeah, the ability to change it on demand, even networking as a service and some of these things that exist in clouds. You know, ultimately the cool thing about that is I don't have to drive to a datacenter, go in there, start unbolting network equipment, take things down for a while, and then bring the thing up and hope that it doesn't have any bugs. Especially if you're trying to do it under these conditions, it's a little bit more difficult to do. So that's things to think about. There's ways to fix the problem. You know, reach out to professionals who understand how to do that. And you'll find there's plenty of people out there that are willing to help you expanding your VPNs as well as helping other things scale.

So going forward we're talking about stuff scalability such as scalability of websites, and many websites exist on cloud-based systems; some of them exist on on-premise-based systems. Of course the cloud-based systems can actually allocate the servers they need to provide the scalability that they need and even deal with redundancy, things like that. What advice would you have for people that are going to have limited scalability because these existing websites sit on an on-premise datacenter, managed service provider, colocation provider, and in essence they're going to have to try other tricks to provide the ability for these things to scale up?

Mike Kavis:

Yeah, that's a challenge. It really depends on the current state of their architecture, right? I mean, a best practice is to loosely couple a system, whether it's on the cloud or not, so that if one piece breaks it doesn't bring down everything. But if you have a 25-year old system with 100 million lines of code, there's not much you can do other than throw hardware at it. So I don't know if I have any great advice for that other than to maybe start thinking about bringing in additional infrastructure.

David Linthicum:

Yeah, one of the things they can try is try to rewrite the pages so they're a bit more efficient. And so one of the things we were good at a few years ago when bandwidth was limited is the ability to kind of write HTML and really write JavaScript and all the things that really kind of drive websites in such a way where it was able to limit the bandwidth it was able to use, and that's because a lot of people were leveraging the internet over dial-up services, things like that. A lot of those tricks can be reintroduced.

And so, as these systems run into these scaling limitations, look at ways to make that code more efficient. Look at in essence kind of removing things such as downloading dynamic images and things like that, and there's ways in which you can optimize those things. Well, they may not look as good, but ultimately they'll be able to scale five or six times as much. And so now's the time to start going through that, and that's something we can typically do in a day, maybe a couple of days, and see if there's ways to optimize those systems. You can throw infrastructure at stuff later; that's a harder problem to solve. But there's tricks you can do today to provide the scalability.

So when we're talking about infrastructure, Mike going forward and kind of measuring where we're going, what should some people look at in terms of their "as-is" state of the infrastructure and their "to-be" state of the infrastructure and opportunities to improve it and doing it on the fly in the middle of a crisis like this? So what are some of the best practices that you think they could leverage?

Mike Kavis:

Well, I think we need to learn from this event, right? If you fast-forward and say, "If this was to happen again, how would I want my datacenter organized? How would I want to work with my partners to be able to instantly tap into more bandwidth? What systems have no business being on-prem anymore and we can move to the cloud so the next time we have a pandemic, or something like this, it's a system that I could be scaling up and down in the cloud? So there's a lot of options, but there's a lot of different vendor solutions that can help you solve these types of problems.

David Linthicum:

Yeah, and those things are available on demand. You can leverage them over a cloud-based system, or you can download the software. So even if you're working remotely, a lot of these things are fixable remotely. Many organizations have no offices and their IT only works remotely, and those are typically smaller companies, but they definitely prove it's possible. And your ability to kind of learn from this and make sure that we have the resiliency going forward so if it does happen again we're in essence not making the same mistakes, and that again is the silver lining in the issue.

So final advice, Mike, people working at home? What would you tell them?

Mike Kavis:

Well, hang in there. Help each other out. You know, for some people like you and me, Dave, we've been working from home for a long time, but for others it's new, so help each other out. Have a little fun with it. There's a lot of people doing some really funny things, having like little breaks and comedy shows, showing pets and stuff.

But I want to hit one other point, is you're seeing the way we're reacting to this is people are coming together, working closer together. We're solving problems quicker than we've ever solved before. Right? And a lot of this is because we're prioritizing what's important. And I hope when we come out of this we continue to do that, because you can see that we can still move fast and be compliant at the same time when we're focused on it. So hopefully we'll

learn from this and we'll continue to prioritize accordingly. We'll continue to cut red tape where it makes sense to cut red tape, and we'll continue to deliver fast. There's some amazing things happening right now both from policy and process and from technology standpoint.

David Linthicum:

Yeah, use this time to benefit professionally as well as personally. Take a walk. You know, get to know your other family members in a much more deeper and intimate way. The ability to kind of read a book if you haven't had a chance to read a book in a long time, and I certainly am guilty of that. I don't think I've read a fiction book in 20 years. And in essence take time for yourself to keep yourself in shape, and even if you have to walk in circles around the house or up and down your stairs, those are things to do. Professionally this is a great time to learn. There's a lot of on demand courses out there. You can take certification on cloud-based systems. There's courses from how to play the guitar to how to build a multicloud architecture. And this is a time when you can enhance yourself and enhance life.

And I agree, Mike. Everybody is acting in a very human way out there. One of the things that really kind of warms my hearts is the compassion I see out there. People are taking care of each other, and that's what we have to do. We have to take care of each other. So good luck on working remotely. If you have any questions, please reach out to Mike or I. We're happy to help you. And best of luck ultimately going forward. So we'll get through this and we're heartened by the stories across the country about people who are being heroes around working remotely and keeping their systems coming together, and many of our clients as well. And reach out to us if we can help you out. Take time – perhaps listen to the past podcasts and learn more about cloud computing. And we're here for you, whether you're currently a Deloitte client or not, and so reach out to us for any reason. Thanks for listening, and please visit Deloitte.com for more strategies on combating COVID19 with resilience. Take care, guys.

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