CapTech

Cloud Adoption: 90% People, 10% Technology

CAPTECH TRENDS PODCAST | EPISODE 26

Vinnie:

Welcome back to CapTech Trends. Today, I have with me, Mike Diiorio. Mike is a director at CapTech, in charge of our cloud offering, and he's our Azure subject matter expert.

Vinnie:

What we're going to talk about today is the first of four podcasts. Every year, CapTech puts out trends at the beginning of the year, that are a result of us talking to our clients, analysts, our account managers, our subject matter experts, and really using discipline and rigor from an architecture perspective to refine that into where we believe the industry is going. And then, we offer that information back to our clients, through presentations, and white papers, and podcasts, and other things. It also serves our recruiting and how we have good market strategies and that thing as well. So, Mike, welcome.

Mike:

Thank you.

Vinnie:

We were talking before we started. Mike and I go back 20 years. So-

Mike:

Yeah.

Vinnie:

Long relationship.

Mike:

Long time.

Vinnie:

So, this first trend Mike, is about productivity and seemingly that's not a very interesting trend, right?

Mike:

No.

Vinnie:

Right? But, where we're coming at this from, is in the heart of COVID... And by the way, the larger trend here is refining all the things that you have. And so, you're recognizing that the trends that came before are maturing and it's really how we can figure these things together and get maximum value out of it.

Vinnie:

So, in the heart of COVID companies who were, and we've said this before on the podcast, who had good architecture, good methodologies, and power teams were able to accelerate. And those who didn't, had to get their act together pretty quickly and do things that they didn't think that they could do. One of the things that we saw was a reaction to getting new functionality out, new channels, to do curbside pickup, to do paperless transactions really, really, really, really quickly. So, what I wanted to start with, with you, from a cloud perspective, what is it about cloud that enables these companies to be able to react more quickly and have more flexibility in how they go to market?

Mike:

Yeah. And I think one of the longest things to get going in a lot of new applications and new initiatives is the infrastructure piece, right? So, cloud naturally gives us a couple of button clicks and I can stand up servers and containers and be functional very, very quickly. So, virtualization was the tip of the spear of that. And now, that you can take the virtual machines and put those into the cloud, that gives a company and say, "Wow, I can either lift and shift what I have. I can start from scratch and just create new servers the way we have them on prem, and be up and running very, very quickly without that long pole of acquiring hardware."

Vinnie:

So, sure, you get the hardware more quickly and you're pricing it per usage.

Mike:

Hopefully.

Vinnie:

Hopefully.

Mike:

Yes.

Vinnie:

Right? But, I'm going to pick on your lift and shift thing. So, if I lift and shift poor architecture. I stood it up quickly in an environment, but it doesn't mean it's any more flexible or, easy to go to market than it was before.

Mike:

No. And in some cases, you can actually be in a worse case scenario, because if you lift and shift, you're picking up everything, warts and all, it could be mis-sized. And a lot of times what you miss, is all the optimization that you would get by moving to the cloud. So, you're really looking to right-size the servers, make sure your discs are there, make sure your networking is appropriate. So, things that you might take for granted in your data center, now you really have to make specific decisions about how are you provisioning it in the cloud.

Vinnie:

So, lift and shift has a negative connotation?

Mike:

Yes.

Vinnie:

For a reason.

Mike:

Yeah.

Vinnie:

And that's not a long term strategy.

Mike:

No.

Vinnie:

Where are there and how are there short term gains, where it does make sense to start there? And then, what risks do you run by doing that?

Mike:

So, what we see in a lot of the short term, is if you have a data center contract and you say, "I need to get out of here by some date and I have 90 days to get out of a data center." Then, that is obviously a first step to say, "Well, I can just lift and shift, get out of the data center and get into the cloud." That would be a good first step. Because, again, you haven't really taken the cloud native approaches to really optimize and get the benefits of the cloud. So, while that may get you out of your data center and into the cloud, the next step is to say, "Well, how do I actually cost optimize? How do I performance optimize?" And that really, takes you into looking at the applications and the things that you're moving to say, "Is there a better way to do this? Can we refactor the application? Do we need to rewrite the application, to make more better decisions? Cost, performance, and things like that to really benefit from using the cloud."

Vinnie:

So, here's where I get wrapped around the axle.

Mike:

Mm.

Vinnie:

That all sounds great, but in a large company, it sounds complicated to have a strategy around- so that different business units, or even different parts of the IT and application development organizations, aren't doing those things independently of each other and differently from each other.

Mike:

Mmm-hmm.

Vinnie:

So, then I think we need to have a strategy-

Mike:

Right.

Vinnie:

Then, I think we have to have a governance model to make sure the strategy is adhered to.

Mike:

Absolutely.

Vinnie:

Now, things don't feel flexible, or fast anymore.

Mike:

See, and this is where you get into part of the training and making sure that your people are comfortable in that environment. Because a lot of the resistance and the friction comes from, "Well, we used to do it this way in the data center, but now I've moved to the cloud and those tools and techniques may not be available to me anymore." So, now it's almost like, we have to learn the skills in that particular platform to make sure the people are functional and that helps get around you figure out, "Okay, what are the policies in place? Is it because, we want cost and we want budget controls? Or, are there security and policy things that are physically restricting people from standing up a new service?" Those are the different, yet similar things in a way that they're trying to have some strategy and control.

Vinnie:

One of the big benefits I see in moving to the cloud, is it's a catalyst for having more modern architectures- approaches to things, platforms. I remember, coding 15, 20 years ago, even where you had people who could sling code pretty well-

Mike:

Right.

Vinnie:

And solve a problem. But, they weren't following design patterns.

Mike:

Mmm-hmm.

Vinnie:

Right? I fell into that camp early on, until I was educated on what design patterns were and why they were important. And then, none so righteous as the converted, right? And then, I was hugely into that stuff. So, I see that same thing happening now, where you have some legacy architecture, some point to

point architecture, some technical debt. So, when you say, "You have to learn and be comfortable with the cloud." What I hear in my head, is not so much the tooling as being difficult- or, even a language change as being difficult. It's the design patterns and higher level architectures that will make the biggest difference in how flexible and reactive you can be to the market.

Mike:

Yes, absolutely.

Vinnie:

But, is that a shared opinion? Or, are people overlooking that? That seems like a big deal.

Mike:

There is a gap in that and really, on the consulting engagements that we walk into and help folks look at this, understanding the things that are out there from the vendors like Cloud Adoption Frameworks, or the things that they put out for their recommendations, like the well architected frameworks. Right? And you look at these and there's a set of reference architectures. And when you look at that and you say, "Oh, this is how I would map a typical interior architecture into a cloud infrastructure, using platform as a service, instead of just virtual machines." Right? And now, you can start to see and say, "Oh, I can actually take the same code, but I may have to make some configuration changes, or put some new things in for observability and monitoring, that didn't exist previously, that make it easier in the cloud, but it's not a huge rewrite."

Mike:

And in other cases, there are things that are just a total mismatch, where you have to look at and say, "Okay, well you have to do this completely differently." But, using the guidance that the cloud vendors put out there for you, is a great way to start to help you figure out, what is my path? What is my roadmap? How do I get there? And start to identify the gaps of, "Oh, well, we didn't design this application this way before. Because, we just didn't know any better, but now we've got some experience and now, you're moving to the cloud." Now, it's a time to look at that and say, "Let's fix this."

Vinnie:

Yeah. I think about this in terms of other language modernization efforts we've had before, right? Where, yes, I agree with you. And I've looked at well-architected framework and other things where the cloud vendors are providing guidance on how to move to the cloud in a responsible, well-architected way.

Mike:

Right.

Vinnie:

An argument could be made though. And this was true with other language modernizations, that there's a simplification as well. So, it's a little bit easier to adopt and use and implement these patterns. But, in that simplicity, you're losing some of your deep domain expertise.

Mike:

Right.

Vinnie:

And it's always been my position, that you need that master builder somewhere on the team. You need the person who really knows beyond what the well-architected framework is telling you, what's really going on.

Mike:

Yes.

Vinnie:

So, are you seeing that same thing? And how is that being implemented at clients?

Mike:

Yeah. And that's one of the first things where you really have to have strong advocacy. And we've seen this before, even in DevOps, right? You want somebody who's a cloud, or a DevOps advocate that can help lead the way and lead teams and train. The same is true with cloud, from the engineering architecture and advocacy. Someone that can stand there and say, "This is why we would use cloud." Or, "This is why we would use this pattern, versus another one, to really understand what does it mean to be in the cloud, versus just hosting it on premises, versus why does this pattern work? And this other pattern doesn't work?" But, it's also understanding the long term strategy and thinking outside the box, like you said, that having the domain expertise of understanding, we don't architect it this way, because we have 10 other applications that have a similar pattern that we're also trying to make in a cohesive nature, right? Now, you're looking at it from a much higher level in that just one, siloed application.

Vinnie:

So, that depth, is that required on all teams? Or, is there an Application Architecture Guild, that each person has a portfolio of cloud projects are supporting. What's the granularity of that resource?

Mike:

Depending on the organization. If, you're starting from scratch, it's always good to have at least one, or two people carrying that torch to start with. And as your teams grow and their expertise grows, the cloud adoption is obviously, that's just organically going to spread, as that starts to move forward. So, then you can really start to look at training other subject matter experts and folks that can take it from their own teams, and then determine. But, it really has to start from the top. And cloud adoption in general, is an organizational buy-in, this is not just an IT problem. And that's another thing that we see from an organization change management perspective, as it's not just IT's problem, we need to make sure that we have buy-in as a strategy, a long term strategy. And that includes not just putting the cloud in place and throwing our applications up there, but it's making sure that the staff is trained and they know what to do and how to do their jobs.

Vinnie:

Yeah. A quick point I wanted to make, before we move on, you mentioned DevOps. And I wanted to, I guess, just make the point that when we talk about moving to the cloud as a catalyst for good architecture, it's also a catalyst for good process.

Mike:

Absolutely. And DevOps is one of those things when you start looking at cloud adoption, is really successful, because of the amount of automation and the amount of audit tracing, because now, we're not in a data center where you can physically touch the servers anymore, right? And you're getting out of that realm of, "I don't just go down to the server room to swap out a disc." We're dealing with something that you don't see, oftentimes. So, if you haven't built in that tooling and that history and the audit and the observability into those pipelines, now it's going to feel like you're a little blind, right? And that's where people start to get skittish. Like, "I don't know what's going to happen when I run this script." We don't want to have that. We have good practices to say, "This is how you do it. This is how you run it. This is how you look at your logs. This is how you fix your errors." And it's a repeatable process and automate it to the point where you can deploy at scale. And you don't have people in the middle of it.

Vinnie:

Well, people, so let's talk about that next.

Mike:

Yeah.

Vinnie:

So yeah, we're moving to the cloud. We may have a couple lift and shifts that we have a long term plan to get it into a more modern architecture. I've heard this phrase before, no new stuff on old stuff. So, your new stuff doing the cloud, right? And the person who told me that, knows who they are. So, thanks for that. But there's a human side of this. So, you've been working with a mix of technology, some modern, some legacy, a mix of good architecture and bad architecture. And now, you're going to the cloud and it's a chance to really do things fresh, from a good architecture standpoint.

Vinnie:

Where are the gaps from a skills perspective? Both, in maybe a language, maybe platform, maybe application architecture, where are you seeing the gaps? And how are companies addressing that with their workforce?

Mike:

Yup. And the gaps are throughout, because we have instances where we have companies going from a mainframe to a cloud architecture, and now you're going from natural and COBOL and functional programming to object-oriented programming. So, you're really changing people that may not have had to learn new language in the past 30 years, right?

Vinnie:

Right.

Mike:

Now, you're asking them to move and that's a big chunk to bite off. They're still subject matter experts in their applications. So, they're very worthwhile on that team, but having to guide them and say, "Here's the training path to get from where we are to where we need to be." And designing those

training paths, maintaining them long term, these are not one and done type deals and organizations that don't have good learning and development, or they don't really have people assigned to that. That's one of the first gaps we identify and say, "We need to bring in a culture of being able to learn." It's going to be continual learning, right? The cloud, I mean-

Vinnie:

And hire some linchpins to act as a model.

Mike:

Right. So, there's a combination to both of saying, "We can train certain people that want to be trained and if you don't want to be trained, then we know we have gaps that would need to be filled, by either consulting, or hiring in full-time people that have the skillset, that would help us advance quicker. But, the workforce marketplace right now, is really tight in labor, right across the board. So, everyone's starting to get in this realm. It's not so easy to find cloud people anymore, because there are fewer and we getting into the pay scales and everything else. It's a tight marketplace, to find these skills-

Vinnie:

Well, yeah and we see this with every type of... Usually, this was more ERP based. Whether, it's Be PeopleSoft, or SAP, now Salesforce and Workday. When companies train up their employees to be proficient in these tools are super hot.

Mike:

Yeah.

Vinnie:

So, then they start losing people.

Mike:

Right.

Vinnie:

So, I would imagine as companies are helping their workforce become skilled in these tools, they also have to have a retention strategy.

Mike:

Right.

Vinnie:

They may have to pay them more.

Mike:

Yup.

Vinnie:

Because, now they're competing with, especially now where you can be a hybrid, or remote work environment.

Mike:

Right.

Vinnie:

Right, if they have these skills, you're not competing with everybody else.

Mike:

Right. And that's exactly why when we go into these things, I tell people that a lot of my cloud migration paths are 90% people in organization and 10% technology, because it's really about this culture change. When you realize that when I say, cloud is a buy-in for the entire organization, it is. Because, now HR needs to be concerned with, "Well, how are we writing our job descriptions? What benefits are we offering compared to some other employer?" Right?

Vinnie:

Right.

Mike:

Now, we're dealing with different business units. How am I marketing my services? How are we saying that we're innovating, oh, we're using the cloud where we didn't use to, right? So, each business domain and area within a company gets touched by this in some way. And it's not just the IT problem anymore, but obviously you need the IT staff to run it and operate and feel comfortable with it.

Vinnie:

Yeah, I'm going to go back to your example before of having the 30 year professional and let's say, natural, right? So imagine that on a resume and then, just shift it slightly. We now have a person who has three certifications in AWS and 30 years of experience. And now, it's like, "Oh, I want that."

Mike:

Right.

Vinnie:

It's a six month turnaround, in terms of certifications and education. But, now that person has many, many, many more options.

Mike:

Right. Yeah. And basically, at this point they could name their price and do whatever they want. In the world, because that is the hot button. But, yeah, it's not difficult to train anyone who wants to be trained. And I tell that people, I tell CapTechers that all the time, "If you want to learn it, I will teach it to you. I will give you all the resources that you need." And that's really where dealing with the people, is the most complex part. Because, it's really about, what does the person want to do with their future? What do they see as their career path? And the folks that want to learn, great, they'll take off. And the folks that are saying, "Man, I'm really comfortable doing what I've been doing for so long." That's a

tougher conversation, because now you got to figure out where's your play in this as we move forward.

Vinnie:

So, talking about cloud platforms, the question I have had for a while, is when a company decides to go to cloud, you hear, "Well, don't put all your eggs in one basket. You probably should have a multi-cloud approach." But, what I see in reality, is most people really having a preferred vendor. Unless, there's a particular platform as a service, or software as a service, that really benefits from a vendor and they make an exception.

Mike:

Right.

Vinnie:

So, with your background in this, what are you seeing in terms of companies going one cloud vendor, or hybrid? And what's the breakdown, if it is hybrid? Is it 50/50? Is it 80/20? Is it 90/10?

Mike:

Yeah. I mean, the multi-cloud and the hybrid cloud are definitely taking over as the preferred model. Hybrid is extremely popular. Obviously, when we were talking earlier about lift and shift, when you say, "Well, I have one application that I want to move into the cloud." But, there's other stuff that's maybe a little bit more proprietary, or maybe we're not ready to completely loosen the reigns. And we keep that on-prem. So, boom, you're in a hybrid scenario, right? But, we're also seeing folks that look at some of the best of breed and say, "I really like Google for their analytics and data visualization, where I'm not getting this on another platform." So, then you see this split based on-

Vinnie:

A multi-cloud split.

Mike:

Yeah. So, the multi-cloud split. So, you're doing two vendors, but you may use one application for one vendor, but you then, do the majority of custom application development.

Vinnie:

But, you're paying for data transport between the two?

Mike:

Right. And that's comes into the strategy of saying, "Well, why do we make these choices?" Right? And it has to be well thought out and understood, because going back to our skills discussion, now I have two teams within my own company that now have to be proficient on two different cloud providers, right? And now, it's really difficult to get really proficient in one cloud, let alone two. Now, you're starting to say, "Woof, my skills specialization is getting more difficult, because now I got to really maintain this team over here, that has the data visualization, versus the custom app dev, this may be a risk to my organization."

Vinnie:

So, multi-cloud, let's stick with that. Because, we know that most people are going to be hybrid.

Mike:

Yeah.

Vinnie:

In multi-cloud, is it more 50/50? Or, is it more 90/10? What are you seeing a break do? Does an organization have to be proficient in both? Or, do they have a primary, secondary?

Mike:

Most people, start with a primary. And then, the only time a second one comes in either, through acquisition, or like I said, there's a specialized thing that they want to do it. So, percentage-wise, we are closer to 80/20 on those choices. And it's been trending up for the past couple of years.

Vinnie:

Trending up. 80's up? Or, the 20 goes up?

Mike:

Yeah. More multi-cloud.

Vinnie:

So, 20 goes up. Okay.

Mike:

So, folks started dipping their toes in. In 2016, 2017, you would see just very single cloud vendor. And they would start with that. And as their experience grew and their needs grow, then you start looking at it and say, "Wow, I really like this other thing." Or, companies are acquiring each other and they may have two different clouds to start with. And you say, "Well, I don't want to spend time and money, pulling all these other stuff, because they've been working well over in that cloud." But, now you have the governance issue of saying, "Let's make sure that we have the tooling and the reporting in place, so that when the CFO says, "How much does this application cost?" Somebody can actually answer that question, without fumbling and saying, "I have no idea." Right?"

Vinnie:

Right.

Mike:

And that's where a lot of the cloud vendors now, when you look at Google Anthos and Azure Arc, these are tools that can be on one platform, but span and look at other clouds to say, "What's happening? What workloads am I running in these other places?" And start getting telemetry to the point where we say, "Okay, I can see that this is costing me 10, this one's costing me 20. Together, I can see this is what my monthly cost is." And really understanding.

Vinnie:

That seems like a best practice to have a single monitoring tool across multiple cloud vendors.

Mike:

Right. And this has been a gap, up until just in the last couple of years that these have really started to come out and you can see the cloud vendors reacting to this. Otherwise, they wouldn't have built it, right? To say, "Oh, if you're on Azure, you can look at your AWS resources." They know it's happening, they want to support that. They don't want to lose the customer and say, "Okay, we could just completely fold." But, now you give them the tools and say, "Okay, now I have a dashboard to actually see what's happening in the cloud. Even though, it could be spanning on premises and in multiple cloud providers at the same time."

Vinnie:

Yeah. And for our listeners, Mike shared some numbers with me prior to this, when we were prepping. And I just think it's a good reminder. I think, the number was 89% of organizations, have a multi-cloud scenario. But, that includes people who may have Amazon for all their app dev and data and use Office 365.

Mike:

Correct, yeah.

Vinnie:

Which to me, technically it is multi-cloud, I wouldn't call that multi-cloud.

Mike:

Right.

Vinnie:

Because, I have a bent towards application development and enterprise architecture and data, machine learning. So, the back office application side to me, doesn't feel like that. So, I would just caution people, when they read those numbers to realize that all of those back office tools are influencing those numbers.

Mike:

True.

Vinnie:

Last thing I wanted to touch on before we wrap up, is something I was thinking a lot about. I was talking to several different cloud vendors, something that frustrates them is stalled migrations. And this goes back to that the productivity trend, right? Between, business and IT. And what we see is a vicious cycle of there being some technical debt, some legacy integration, perhaps through acquisition and the business puts big demands on it to get stuff done. Maybe, some corners need to be cut, right? Maybe, some bad architecture has to go and play, some RPA, or whatever else, right?

Mike:

Right.

Vinnie:

Some point-to-point solutions, such that the next request that comes in, is more difficult and more difficult.

Mike:

Right.

Vinnie:

And more difficult.

Mike:

Yes.

Vinnie:

And because, it's a vicious cycle. So, the business traditionally, would do shadow IT and they would throw a server under the desk, or they would put something in their on-prem point solution, bring a vendor in. What I'm seeing now, is that they're doing that in the cloud.

Mike:

Yes.

Vinnie:

So, they're going out and getting software as a service, or platform as a service. And because, it's cloud, they feel like they should be congratulated. As opposed, to realizing, it's just a new form of shadow IT.

Mike:

Absolutely.

Vinnie:

So, my feedback to the cloud vendors is, "Yes, you have this number for installed migrations, a not insignificant part of that number, was never a migration to begin with."

Mike:

Correct.

Vinnie:

It was a one off shadow IT silo.

Mike:

Yes.

Vinnie:

So, great. What do we do about that? A, how do you get in front of it? And B, once it's there, what do

you do from a cloud rationalization approach?

Mike:

Right. So, getting in front of it, is obviously one of the things that I look for in working with companies, is what is your cloud strategy? If they don't have one and they're just stumbling into the cloud, that's the first thing to address and say, "What is it that you want to do?" And when we look at things like the Cloud Adoption Frameworks, one of the first things that you have to really think about, and this is really just to get everyone on the same page, is what do we want as an outcome? What is our business outcome? Is it a business outcome? Is it a functional outcome? Is it a financial outcome? And really understand, "Well, why are we doing this?" Right? So. You got to figure, "Well, why not just leave all my servers on premises?" Right?

Mike:

Why even get into the cloud at all? So, until you can rationalize, that strategy is the first thing to really lay that cornerstone and say, "We move from here. And this is why." And everyone understands that. Once you're in the scenario where maybe, we've had folks splinter off and say, "Well, we wanted to do this-"

Vinnie:

We couldn't wait, we had to move.

Mike:

Yeah. You asked for this reporting app, I did it over here and that conflicts with someone else's strategy, because you've decided this other thing. Now, we have these two pieces. At that point, you really look at it. And like we were talking about, with the multi-cloud strategies, you determine, is it worth leaving that application there? Or, should we move it and what is that going to be? What is the level of effort? What is it going to cost me? Am I going to have to rewrite it? Or, am I just looking at re-platforming and redeploying someplace else?

Vinnie:

And if it's done well, I'm thinking... First of all, I didn't want that to come off too negative. I know sometimes, there's strong business cases to go get something done.

Mike:

Yeah.

Vinnie:

And then, there could be some immediate ROI on that. But, because it's cloud and if it is done well, that can serve as a first move in.

Mike:

Absolutely.

Vinnie:

Right? So, then I think, instead of saying, "Okay, well that was traditional shadow IT, that we now have

to decommission and pull in." I think, "Okay, well maybe that's a step one, of how to now turn this into partner with IT now, and turn this into something that can migrate across the organization.

Mike:

Absolutely. And that is a first step, when you look at traditionally, you and I have been around long enough to have written applications and you show someone and say, "That's not really cool." And all of a sudden, your proof of concept winds up in production. Right? You never intended it to go that way. When using cloud, as the shadow IT though. And having those applications, the one little wrinkle that comes up, is when we had shadow IT in your own data center, no one really understood, or maybe accounted for how much did that cost for someone to put that application out there.

Vinnie:

Right.

Mike:

If we're doing shadow IT in the cloud, guess what? Someone's going to get a bill at some point and it's going to have to come due. And that's when you start having some real uncomfortable conversations with the folks that never intended to budget for something like that.

Vinnie:

Especially, if it takes off, right?

Mike:

Right. So, you have something they're going to get $100,000 bill from AWS and you say, "Well, what is this?" And that again, goes into the cloud strategy and the budgeting and making sure everyone's on the same page. But, to your point, it is a good way, if an organization is trying to find their way. To take an application, or look to your IT development folks and say, "What are the tools? What are the techniques? What are the things that are out there?" Because, a lot of times, you're not going to know, until you actually see it work and understand. "Oh, wow. Okay. I understand now that you can build a container app. I see the ability to scale it, burst up and come back down and true utility computing, as far as just paying for what I need, versus this data center that I've paid five times over. And now, I basically have to sit on it for seven years to really get my value back, from the money that we've out. So, those are all conversations that lead back to having a cloud strategy, whether you do it, or whether you don't do it, but making those very conscious decisions about how you're moving forward.

Vinnie:

Great. So, wrapping up, what do we leave people with? What are the top things you want them to remember? Maybe, some resources they can go check out. What's the next step for our listeners?

Mike:

I think, that the key takeaway is really, have a strategy. Making sure that you're planning and working with the organization, if you're going to get buy-in. But, understand why you are, or are not using cloud, but at least make that specific determination. Two, the skills gap is extremely real and very powerful and something that needs to be addressed in just about every migration that we've ever worked with.

Vinnie:

There's a huge OCM part to that, yeah.

Mike:

Yes. And making sure that people understand what it means for their job. Because people, when you start messing with their jobs, they're going to get really uncomfortable. So, you need to make sure that you talk to them, provide those training paths and make sure they completely understand that.

Vinnie:

Yup.

Mike:

Those are my real key takeaways that, we continually see.

Vinnie:

Any podcasters, Twitter people you follow?

Mike:

I'd say, David Linthicum is someone I follow quite a bit on Twitter and LinkedIn, a very prolific writer on just all things cloud, that is very well written articles, very timely, but he is good. He's got some podcasts as well. So, follow him on LinkedIn and Twitter and you get all the info when he publishes it.

Vinnie:

Well, great. Thank you for joining me. This has been a good learning experience for me. I know, a lot of the topics of cloud, but not nearly as deep as you. So, I appreciate sitting down and talking to you about it. And for our listeners, this is Trend 1 of 4. So, there'll be a podcast similar to this on hyper-automation, micro-channels and the productization of data.

Mike:

Excellent. Thanks for having me.