

How To Get the Most From the Cloud in Education – Part 2



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Back to School With Your Head in the Cloud

Arthur Germain: Welcome to the digital aspirations in education Podcast. I'm Arthur Germain, and our guest today is Christian Chavez. Christian is the data center Cloud Solutions Architect for Aspire technology partners. And he is going to talk to us a little bit about using the cloud in education. In part one of our podcast, we talked about the benefits of the cloud for education. And we also talked about some of the applications that are being deployed on cloud. So now in part two, Christian, I'd like to have you explore with our audience, what they should expect as they deploy cloud for their team, and maybe talk a little bit about the migration timetable for the cloud.

Christian Chavez: Wow, great question. I'm not an easy one. The expectations I think our mileage may vary may vary, depending on the size of the team. In education, as I'd mentioned, in their first podcast, education, really their IT teams are from large to small, depending on the districts where they are, do they have large organizations that are providing services to them, and providing IT services to them. So mileage will vary on the expectation of moving to cloud, but I can tell you, um, the experience at first right is seems a little daunting. But the level of access, the level of agility that your teams can realize in cloud are going to be huge, right?

Just like anything else that we do day to day, there is a learning curve, depending on what cloud you consume, or what SaaS based applications you're using. So it's really going to be dependent on the learning curve, how much work needs to go into it. But at the end of the day, right, what are we looking to do when we're talking about moving to cloud? And what is the expectation from the team. And typically, when I have conversations that's had that conversations had up front, right, like, who's going to who's going to take this on, who's going to be responsible, what training is available, Aspire helps in that aspect, where we can get the teams ready to be able to consume whatever cloud and being part of that is where level setting the team's what's available to them. But at the end of the day, when you look at the, at the dollars and cents, it actually makes sense. So let's just talk a little bit about some expectations that I've dealt with.

Some expectations were, this is great, you have a single pane of glass or maybe multiples, I had mentioned hybrid cloud earlier, or actually, in our last podcast, I mentioned hybrid, right, where you're consuming some data center, you're also consuming some clouds. So you add an additional layer to your IT teams, in terms of administration, but they have availability of more resources at a lower price, right. So they're actually getting to work with a lot more with less upfront, it's an overtime payment, which gives them freedom to actually innovate, a lot of innovations constrained by the size of the infrastructure. And so because there's a cost associated, right, and there's a process of getting hardware and building infrastructure, and management. So from that aspect, they have freedom to be able to innovate, and create additional services that may have not have been realized if they were just in a silo of data center. So Cloud gives you that accessibility and agility to be able to do that. Another expectation that I've met with is being able to manage your data. So having access to more monitoring of things.

As I said, they had accessibility to different monitoring tools, different tools in general, that are based on services rather than you having to consume product. So data management is huge when it comes to cloud. Because now you're not only managing cloud services and cloud resources, but you're also managing your on prem data center. And so how do you now manage two data centers essentially, is what it comes out to be. Or maybe you're consuming some SaaS based applications, or in some consuming some cloud services. You have some on prem data center, you now have a three data center architecture, essentially, and you have to manage all three. So from a cloud perspective, there are management tools that you can now pull all this information into a single location where you're able to manage that from your compute side of things, to your storage, to your virtualization platforms, all these things sort of come in combined into one.

So having the access to that information. And on top of it, having the additional services from a secondary data center that you consume at a lower cost, again, provides the IT teams a much more agile way of managing all this. That's really what it comes down to. Because I always said, you know, when I'm talking solutions for clients, I feel like a lot of times I bring, although I'm solving a problem, I'm also introducing something else that they have to learn, I have to find, and see who is going to take this new solution on and take ownership of it, it now becomes another process in your IT teams solution, right? So I have to also keep that in mind.

So when I'm, I'm having a cloud strategy conversation, or we're talking about moving services to cloud, or building compute storage databases in the cloud, there is another layer that I need to have a conversation with the IT teams because they're going to have to manage all this. So they expect, you know, the, this is, you know, when you talk cloud to a lot of people, it's the easy button. And it's not the easy button, you know, I'm going to be upfront, it's not an easy button. But the benefits that you gain from it are huge, but there's a learning process that has to happen. But once you get through that learning process, and you have this accessibility to infrastructure, and all the data that's actually traversing between the infrastructures, you're going to see it in a whole different light. When it comes to that. One more thing I do want to touch upon is I was talking about the innovation piece. Because as you're bringing more services on, you know, we're in a world where, you know, we want to keep innovating, keep bringing new services, new ways of doing things. And innovation is key when you have infrastructure available to you.

And the benefit of the call, you know, so back in the day, right? When people were looking at moving to cloud, there's this term called Shadow IT, which essentially was rogue, IT administrators who were consuming services on a background and they were being paid for nobody really understood what the payment was for, but it was labeled under it. And all these, your billing just kind of started creeping up and there was no management of that. And that could still exist today. But when looking to move to cloud, those are the things that you build in because now, even though you have available resources in a cloud environment, you still build parameters around that they give you the ability to build parameters, where your IT teams can only consume so much. But the nice thing about is eight, they can consume it as a service.

So if they need to spin up some compute, or some storage, or whatever it may be for a innovation piece, it's much easier for them to consume, and billing sees that it's tagged. So there's a lot of processes that happen, that actually is able to try to track the cost benefits, but it still keeps your IT teams innovative, right? What's the next thing that we can provide as a service to our students or faculty, and to our teachers, because we want to empower them to actually, you know, get into additional either learning, or the teachers have additional abilities for them to provide educational components to students. So there's a lot of things. I mean, I could sit here and probably try to innovate a lot of things, but being constrained by a single data center is really what can stifle innovation, whereas if I was able to consume an environment, quickly, bring it up online and tested, and make sure it's a viable solution. It's much easier to push out it. There's a lot of cost benefits there.

AG: Yeah, that that's great. And, you know, you mentioned a little bit earlier that you know, people want to hit that Easy button. I suspect that you don't have a Get it Done Yesterday button either. So maybe you can talk a little bit about as you migrate to the cloud, what kind of timetable can a school or school district you know, anticipate?

CC: It's funny you should say that because I have the Get it Done Yesterday buttons in my closet here from 2020 Because everyone wanted it done yesterday when this all unraveled right. So yeah, I mean, there's different ways to migrate. Again, it's going to be dependent on a lot of things are dependent on what we just got done talking about between now with the teams, the applications in our previous podcast, as well as what benefits are in cloud All those will drive the migration component at the very end, right. So if we're talking migration, we're at the very end, a school is decided to consume some cloud services, there is some applications that have been tagged as great solutions to move to cloud, we can get some cost benefits, be agile, be resilient, the uptime is going to be great. And so those are the things that we have to determine what's going to migrate. So on a, just a general level of migration. It's, it can be quick. And what I said earlier in our last podcast was, if you're building cloud on top of VMware services, it's essentially okay, I'm just going to move a virtual machine. So my application is available in somebody's cloud, I'm still consuming it the way I did on prem, I'm still realizing some costs. Um, but I'm not dealing at the application level, right. So this is just an infrastructure move.

There's two ways to move to cloud, or there's two kind of drivers that move to cloud one is, I'm looking to get out of the datacenter business or I don't want to, you know, the costs of running a data centers are great, and I need to lower that cost. That's one driver for any organization, whether they're commercial or education or anything like that, is that's one of the main drivers,

right is we want to get out of the data center space, where we just don't want to keep building these data centers and consuming hardware every three or five years, or whatever it may be. So we want to move it off. So VMware, infrastructure based cloud, providers are great for that, because now I can just move my VMware instance over to another VMware environment, and consume those services as a pay as you go type environment, right, I still have the flexibility because they still can stay there. They have all the resources that I want.

So I can still scale fast, they're resilient, they have the security aspects of things. Those are, again, drivers of being able to move your data center out the cloud. The second way that people are being driven to cloud is through applications. So innovation is really what's driving applications. And that innovation piece gets stifled when you're sort of in your own environment. I mean, you can scale out your data center. But that means more hardware, more processes, things like that. But when you're building like a monolith from a monolithic to a more container based application, or maybe you're just going to consume some services that are available to you in a non hype, or in a hyperscale. A non VMware I was trying to say. So if you move to like AWS, AWS provides you a ton of services that you can build around an application. And it gets you out to production much faster. In a sense, when looking at migrating to cloud, what's the driver, right?

So if I'm looking at my driver being infrastructure, and I'm not saying that everybody needs to move their things to a VMware infrastructure based cloud, I'm saying that if you're looking at just moving your infrastructure, from what I said earlier, okay, I'm going to take my virtual machine, which lives on top of VMware or Hyper V. And anything that's running on that I have to replatform. For it to be able to be consumed in let's just say AWS or Azure, or if it's a Microsoft server, I still have to take that Microsoft instance right in the applications that are in it and present it inside of Azure. So the migration really is going to be based on am I moving for infrastructure, and the applications are going to continue running on that virtual machine as they were in my data center, or am I driving because I have an application or a service that I'm innovating and moving to a Cloud, right, so now I'm either doing an application migration, or re platforming, or refactoring.

Or I'm just moving a virtual machine to another location where I can consume their services at a monthly cost. Now, if we can break that down, if you give me that, breaking that down, if I'm just doing a virtual machine migration, or, you know, let's just go the route of virtual machine migration, it's essentially me moving my VM to a VMware infrastructure that's cloud based. That's a simple migration as if I was going to move it from old servers to new servers, right? It's that simple. So if you understand that process, depending on the amount of VMs, it could just take you a week or so. If I need to replatform my virtual machine to move to a cloud provider like AWS, or Azure or Google. I now have to take my Microsoft instance because I'm no longer at the virtual machine level. I'm at the operating system level that I need to now present in AWS, but at the same time, I can't just pick up my operating system level and just move it to AWS.

There needs to be some background work that needs to happen for me to do that. So there's additional there. So that could be lengthy. Again, we're looking at the number of virtual machines, and what operating systems are running and how we're going to get to it. So it could be a much lengthier migration. So the two simple is going from one hypervisor to the same meaning VMware infrastructure, Hyper V, or moving to AWS, we're actually have to re platform my

operating system VM and just kind of make it AWS centric. Right? The secondary piece, I'll speak on tunes of migration of the application, if application is what's driving me to the cloud. Now I have to look at where are we at in the application development cycle, if it's a new, innovative application, it's an easy button. And I say that with tongue in cheek, because it's easy to get started. But there's processes that you have to put in place to help build that application inside of a cloud. If it's already in flux, and you want to change or refactor that application, what are we doing?

Are we moving it to containers? Are we just looking at services that we're going to provide and move it from a monolithic application to an actual distributed application, then that, again, is going to be determined on the size of, of the application and what services you're looking to consume? So there really is no true key for me to say, hey, what's the migration timeline? A lot of these things get factored into whatever way you're going to consume cloud. And those are the things that we can help determine and build timelines around that. But that's sort of the long story on migrating to cloud.

AG: I think that's great. And I think something you said earlier, is it it's not really simple, that there is there are a variety of complex things, the environment itself, what you want to achieve, that there needs to be a strategy to everything. It's not just the tactics that you jump into. But what's the strategy behind that migration to the cloud?

CC: Exactly. And so strategy is key. Early on in the cloud space, there were companies that had cloud initiatives that were moving to cloud and ultimately ended pulling back because the cost was greater than then then building their own data center. And the reason why is one, there was no strategy, it was no key strategy in leveraging the benefits of cloud, right, I talked about automation earlier on, where you know, your cost benefits are based on the automation that you put in place, the amount, you know, making your environment, the way cloud intends it to be, which is elastic, which means you move up when you need the resources and down when you don't, a lot of organizations were taking their current virtual machines, and whatever resources they were being utilized on that virtual machine, there was no translation to what Cloud is, right.

So they would take that exact same size, and try to fit it into let's just say, AWS, and what you end up doing is you're treating that virtual machine as if you would if it was on prem, where it runs 24/7. Right. And so when it ran 24/7, the cost of that virtual machine was greater than when it ran inside of your data center. So the strategy really is about, yes, we want to move to cloud, but how do we get the cost benefits out of cloud and ultimately, at the end of the day, that's what we're looking to do, right? Because all that elasticity, the scalability, they're great, I can build that in my own data center, but it's going to cost me a lot.

So at the end of the day, the cost benefit of cloud is really one of the main drivers of cloud in whichever way you consume it. So having that strategy in place is going to be key because ultimately, you want to understand what are my cost benefits? And how do I get them down? How do I get the cost down on my infrastructure, and that's where planning and strategy is going to be key. Because at the end day, you don't want to move everything and then move everything back. Because we saw a lot of that people running to the cloud, consuming the services. And they actually paying almost double, sometimes triple of what they would have if they ran it in their

own data center. And so they started pulling back. And then there was this notion that cloud is not cheaper. Well, it can be if you plan and strategize correctly.

AG: Well, that's great Christian. And I want to thank you for walking our audience through the what to expect during a deployment and talking about the migration timetable, moving to the cloud. And, and in part one, we had talked a little bit about the benefits of the cloud, and the applications you can bring in the cloud for an educational environment. So we're going to close here and thank everyone for joining us. This has been the digital aspirations in education podcast with our guests, Christian Chavez. And thank you so much for joining us and we hope that you join us again soon.

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