



For Cloud Professionals, part of the On Cloud Podcast

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Title: Overcoming barriers to cloud success with new disciplines like FinOps

Description: Cloud adoption rates differ across geographies and industries, but one thing is certain—even the most reluctant companies are starting to migrate to cloud, though hurdles remain. In this podcast, David Linthicum and Hystax's Edwin Kuss discuss cloud migration strategies and how cloud providers are overcoming migration barriers. Edwin also explains how the emerging discipline of FinOps has the potential to mitigate one of the most worrisome issues—rising cloud costs and wasted spend.

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Operator:

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David Linthicum:

Welcome back to the On Cloud Podcast, your one place how to find out how to make cloud computing work for your enterprise. This is an objective discussion with industry thought leaders who provide their own unique perspective around the pragmatic use of cloud-based technology. Today on the show we have Edwin Kuss. He is Director of Global Sales at Hystax. Is that the way you pronounce it, Edwin?

Edwin Kuss:

Yes, Hystax, like hybrid, like hybrid clouds, and stacks, like, for example, OpenStack, Hystax.

David Linthicum:

Nice, an independent software vendor with 15 years of experience in cloud, offering solutions like backup, disaster recovery, cloud cost control, and live cloud migration. Welcome, Edwin. How are you doing?

Edwin Kuss:

Thanks, David. I'm doing fine. You?

David Linthicum:

I'm doing great. Where are you physically located today?

Edwin Kuss:

I am physically located today in Germany, in Frankfurt, Germany.

David Linthicum:

Oh, that's one of my favorite places. I used to spend a ton of time in Darmstadt.

Edwin Kuss:

Oh, okay? It's very close, yeah. Technical—very technical city, Darmstadt, technical university, nice, nice. So, I'm stuck due to corona, yeah. Our headquarters is in California. I'm German, but nevertheless I'm more often in—I should be more often in California. But due to Corona, I'm more or less stuck here, but let's see. Now it's getting better and I will return soon to the States.

David Linthicum:

Yeah, I think we've all been sheltering in place for the last year. I think we're kind of peeking out now and things are starting to move, which is a step in the right direction. So, what's a day in the life of Edwin like? What do you do typically for your company?

Edwin Kuss:

For my company? Well, I get up in the morning and then I switch on my computer, check like 50, 60 e-mails, answer the most important ones immediately, and then I try to help everyone to increase our sales, because we are in a market, in the cloud business for almost 15 years, and with other companies as well. Our founder is a serious entrepreneur, as you would say. It's his third company. The last one was purely about disaster recovery as a service, and then we developed—invented Hystax in 2016 with a focus on migration, because if you know how to do disaster recovery, so replicate data from one platform to another, you also know how to move workloads from one platform to another.

It's a similar flow. Also, about reputation, the whole migration stuff, and—but 2016, then first we developed a software as we are an ISV, independent software vendor, and then in May 2018 we started selling it. So, we are still closer to a startup, let's say, than to a big corporation like Microsoft, and this is why lead generation and finding partners our—we work with indirect sales partner business as well as directly with end customers both. It's still one of my main jobs to find new partners, to please the existing ones and pamper them, and to lead the small in-house sales team for—and some sales reps.

David Linthicum:

Now one thing I found interesting—your title is Director of Global Sales, and you're a pretty technical guy. So, you're kind of a hybrid guy?

Edwin Kuss:

Hmm, let's say—I became technical because of the business itself. So, by nature I'm not too technical. My brother was always the tech guy who would fix everything in the house, and now he's always making jokes when he sees that I sell all these technical devices, and he remembers in the past how he always had to help me out. But, you know, I'm a learning human being, so if you are 20 years in an industry, and I worked before Hystax for other companies in the ICT field, let's say with corporate communications—I sold IP Transit, so the big upstream providers for the bandwidth communications, the sub-sea cables and stuff.

I used to sell CDN, content delivery network for streaming companies, together with security features, because in the CDN business you have to also nowadays offer security features like replication, firewalls, antivirus protection, in other words encoding and decoding stuff which is needed for media. So—and now with Hystax, cloud migration, backup, DR. So, if you do this on a daily basis eight hours per day year by year, of course even if you are the most untalented technical person, you'll learn something, of course. So, this is now why I became a little bit technical as well. Yeah, that's true.

David Linthicum:

Well, I think it's a matter of survival these days. So, how does Hystax approach cloud migration?

Edwin Kuss:

Well, as I said, we were always doing disaster recovery, so we know how to replicate data from one source to another, and there are different ways on how to migrate. They are called like rebuilding, refactoring, replatforming. Most of them demand—it's very labor-intensive, that you have to decode, or at least adjust the whole application so that it suits better to the cloud—to the target cloud platform. And what we are doing is called lift and shift or rehosting, so we put the whole machine, as such, and move it from platform to another. Lift and shift means all the data, which is running on or attached to the machine, by doing complementary replication—this again means that you first take a full copy of the machine, and then only the incremental data between the snapshots. So, this is another technology behind snapshotting. So, you take snapshots. On Windows we take application consistent snapshots, on the (Inaudible) system snapshots, and as I said, this is called lift and shift, migrating the whole infrastructure, or part of the infrastructure, the whole system from on-premise environment to the cloud without changing the architecture at all, or between two clouds. So, what we do is migrating from on-prem to the cloud, or between the clouds, and this lift and shift is actually the fastest, the least expensive, and the least risky approach to migrate.

David Linthicum:

So, you're not moving the code or you're moving the native data. You're in essence moving a virtual machine? Or am I oversimplifying that?

Edwin Kuss:

Yes, yes, a virtual machine but also a physical machine. So, we can migrate physical service as well, and this is done—yeah, not just the applications. So, sometimes people are asking me, "Edwin, do you also migrate SAP, SAP HANA or open databases, or Kubernetes?" And the answer is always yes, yes, yes, because we migrate the whole machine, so if it's running on this machine, then we migrate it. Simple as that. The only precondition, the only limitation, is the operation system actually. So, there are always two sides on a migration, a source and a target side obviously. And the source side is always a given, because we work with different agents, external or internal agents, and as long as we can deploy an internal agent, which is either (Inaudible) machine, then we can work on all sources, even physical servers, Hyper-V, OpenStack, doesn't matter.

The source is always a given. Just the target cloud is a little bit more tricky because in order to do the migration, our software needs to call some APIs. We work with in excess of 12 public APIs like creating snapshots, for creating volumes, and this demands that we are integrated into the target cloud and we are integrated in AWS, Azure, GCP, the big hyperscalers plus Alibaba, and VMware-based, OpenStack-based, and (Inaudible) based platforms. This makes us any-to-any, because our competitors, mostly they focus on the big hyperscalers, because obviously they have the biggest share on the cloud business, AWS, Google, and Microsoft.

But there are still a lot of companies, using VMWare-based or even OpenStack clouds. Think of Canonical, Red Hat, and there are so many distributions. We support them all, and this makes us any-to-any. So, we can move the customer from any source, any type of platform. The only limitation can be the operation system, so if he wants to move Windows 2008, then it's possible; 2003 would not be possible, because it's just too old. And we ask them to maybe not migrate those machines, or first upgrade their operation systems from 2003 to 2008.

David Linthicum:

So,—interesting, lift and shift for you guys includes actually moving the physical server. Walk me through that.

Edwin Kuss:

Yes. Well, it's the same flow. We support this with internal agents. So, with physical servers we have to use internal agents, which are agents which deploy inside of each server, so we need access to the server. That's the difference to what is called external or agentless migration where we only—we don't deploy an agent inside the server, but, let's say, close to the server, for example on the hypervisor (Inaudible). With VMWare, it will be on the VMWare host. But if there is physical servers we need to use those internal agents, and then it's the same replication flow. So, for us, it really doesn't matter if it's a bare metal or server or virtual machine. And then of course it depends also on the data size. So, we can work no matter how the size is, because there are some companies who migrate only, let's say, servers with maximum four terabyte of disk size.

So, if you have a Linux machine with 12, 9, or more terabytes of data it cannot be used. We don't have this limitation in theory, so even if there would be only one peta of data, we could replicate it, but would take a while to, to take the first copy obviously. So, this is why sometimes it's recommendable to use a solution, so-called preceding, where you take really physically the disk, put it in your bag, and drive (Inaudible) to the datacenter and plug it in there, like this snow mobile I think it's called, this truck from AWS which also goes to the datacenter. You put all the machine, the physical server inside, and it drives it to another city. You know, so sometimes this can be needed if this data is too high, but in general it's the same flow, no matter if it's a physical server or bare-metal server.

David Linthicum:

Yeah, sometimes people don't understand that you can't take a terabyte of information and transmit it over the open internet, at least without waiting a couple of years to make it happen. So, looking at the usage trends out there, such as hybrid, multicloud, complex cloud deployments that people are leveraging these days, how are these things being accepted differently in different global jurisdictions?

Edwin Kuss:

Well, that's a good point. So, the cloud is still trending, so cloud business is still growing. It's far from being something new, like, let's say, 5G or cryptocurrency or blockchain, but clouds have been there for a long time. But it's not spread evenly. You know the saying? The future is there; it's just not divided evenly. So, while we have already autonomous driving in Arizona, it will take a while until you find cars without people driving through Amsterdam where the streets are a lot smaller and stuff like this. And it's the same with the cloud. So, in the US, for example, it's not a question if you should use more than one cloud. The question is not if multi, but how many, if three clouds are enough, or better four or five? While in Germany, for example, where I am right now, also everyone is using cloud, but most of the time just one. So, they have hybrid cloud, which is—difference between hybrid cloud and multicloud is quite simple.

Multicloud is an arrangement of two or more public clouds, because you find some features in this cloud, and then for another customer who demands other features you find them in another cloud, and then all of a sudden you use two clouds or even more. Also, for disaster recovery that you want to have one cloud, and then another one for the failover. And hybrid cloud is always a mix between private and public clouds. Think of banks, financial institutions, which are also using cloud now, of course, but still prefer for data privacy or other stuff to have something which is very important, data privacy, in their private cloud. And in US, everyone is using multicloud. The question is how many. And here we have in Germany everyone using a cloud, but they just start thinking, "Hmm, should we? Should we do this multicloud as well?" while this is a given in the US. And in other regions there's no cloud at all, so it all depends actually on the penetration from the big hyperscalers.

David Linthicum:

So, it all depends on—is it more culture? Is it more budgetary? Is it—you know, what are some of the forces that you're running into?

Edwin Kuss:

It might be the culture, and in other countries it's the budget. It's a budget and it's the lack of the big hyperscalers being there. So, if you don't have the cloud provider in your own country, if you are in the middle of Africa and the next datacenter is in South Africa, you obviously have more latency, for example. You know, in their heads there's always the border. If I'm in the south of Germany and there would be a datacenter in Switzerland and it's just 20 kilometers away, it's just—it's another country. So, there's a border and then in their head they say, "Oh, we don't have a cloud provider here." It's there

just 20 kilometers, but it's another country, which doesn't matter at all. So, they would prefer to use the one in Berlin or Hamburg, which is 500 kilometers away, because it's in the same country. So, of course also the borders do something in the mind of people.

David Linthicum:

So, how is the human experience all factored into this?

Edwin Kuss:

Can you rephrase this—the human experience, what do you mean?

David Linthicum:

Yeah. What are the things that are keeping the human experience hard, and also vice-versa? You know –

Edwin Kuss:

You mean not using a cloud as much as they could? What holds them back?

David Linthicum:

Yeah, what's holding them back?

Edwin Kuss:

All right. Well, it's—there are really—well, the adoption is—I remember those first stages: cloud never, cloud too, cloud first, cloud only. So, a couple of years ago, especially banks, they said, "Cloud? Never," because their data, financial stuff. Then from cloud never, they said, "Okay, cloud, too. Cloud as well. So, let's use the cloud as well, but only for those things which we can put in the public cloud, so some databases or whatsoever. Some storage we can use, but of course not the core stuff." Then from cloud never, cloud too, it changed to cloud first. So, now they say, "Put everything in the cloud what is possible. Just keep the most important stuff on-prem, in the private cloud, for example," and this is cloud first. And then the next evolution is cloud always, so everything always just cloud.

And so, there is nothing—not a lot which holds them back. It's maybe that they are afraid of the costs, and this is a true point because still, although most people think that CTOs and COOs, they move to a cloud because of the cost, number one reason is what they're looking for is agility and scalability. And this pay-as-you-go model that they can easily increase the CPU power as the business demands it. So, agility and scalability is number one.

But number three, which is still of course number three, is the cost. And this sometimes is the downside, because they underestimate the complexity of migrations. So, they want to go to the cloud, also to save on costs, and then what happens? It's more expensive. The migration, if you don't use the right tool, if you don't know what migration scenarios exist, and you find the—you don't find lift and shift and you need to pick the right solution, of course, which is fully automated and provides you with test migrations, so there are a lot of things you should take into consideration. So, migration is often underestimated, but it can be very complex. The devil sits in the detail.

But then once you are in the cloud, then you have another issue. What you know is that when you're on the cloud, automatically you're using it more and more, which is not bad because it tells you that you find it beneficial, that there's a lot of usage, and your company maybe is growing. That's the idea of the cloud. It should take away concerns, costs, frees people which were busy installing hardware in datacenters and maintaining it to really focus on the products which the company develops, so cloud is good. Then if the cloud costs are increasing organically, it could also be a good sign.

But the problem is this is another one of the trends, is the cloud cost control. Platforms which are on the market and the evolution to something which is called FinOps. It's a new buzzword, FinOps. It's cloud financial management, and in comparison to just a cloud control software where you check your cloud usage and then you get some recommendations how to save money, how to optimize by downsizing, rightsizing machines using spot instances, all these things, FinOps is a process where you have finance together with IT, like DevOps, FinOps, working together. Because the problem with the cloud is that the costs are not so predictable if you don't have such a cloud cost cloud financial management, or FinOps person, or team, which now you find it more and more in the companies, this position—if you don't have this, because what happens with hyperscalers, you get an invoice this month with dollar X. And next month it could be double or triple that amount.

And so, it's very hard to forecast, and—because it's just so many things which you can use then. They are billed per hour, with a 0.002 cents per hour, or something, and the invoice has one million of entries and really hard to find what you're looking for, get transparency, and so forth. This is why these cloud cost control solutions exist, and without this—there are so many examples of companies. They were really disappointed because the cloud costs more than they thought, and some even want to migrate back.

So, for us in any way it's good. We migrate them towards the cloud, or if they want to go back we can do this as well. But I find it sad because the problem was then always that the managed service provider or whoever raised the wrong expectations. You just have to have such a FinOps solution deployed, and then you can use the cloud in the proper way, because all this talk of financial management and FinOps is not about just what you have to get. It's not about saving money. It's about making money by understanding how the cloud works and getting the best of it. That's what FinOps is about.

David Linthicum:

So, where do you see the future of all this going? What are you guys talking about at Hystax in terms of where the market's going, where the company's going to follow the market?

Edwin Kuss:

They're very positive because we did like the natural flow. First we helped the companies to move to the cloud, so our company mission was some time ago to make the journey into, or between, the clouds a simple and straightforward process. Now we changed it to how to use the cloud in the most affordable way and effective way. So, our customers, first we moved them to the cloud. They landed there. They were happy for the moment. Then they thought, "Okay, maybe we can—you can provide us also disaster recovery. So, once we are in the cloud and—you never know—there is some downtime or whatever, it will be cool to be protected." So, okay, we offered them backup and DR, as well.

And now they are there and they are safe, but now they have the issue of how to use the cloud in the most effective way, best practices, where to put their workloads and how to avoid wastage and save money, because that process that spend—this year I think the waste in cloud spend is expected to exceed like \$17.6 billion, and more than \$11 billion of this wastage is expected from idle resources, and the \$6.6 billion to oversized resources. So, this is now our mission, to help the companies to use the cloud in the most effective way and to not waste money. And there are so, so many ways to do so, by not deleting unused snapshots or images, often resources which are still there and you're paying for it, and you don't even know this.

And this is a really hot topic and people—there's a demand for this. FinOps, as I said, a new buzzword, and we have a very good FinOps solution which solves one of the big challenges, which is how to engage the engineers in this, because the engineers are those who create the costs. In the past—you know, that's the old—what you have to remember, that everything behind the issue with the cloud financial management is born, that it demands a switch in the mentality, because in the past there was a procurement department where the engineer requested a new hardware.

And it was reprocessed all right, from the vendor, then it shipped over, deployed in the datacenter, then having all those tax reductions, benefits, and whatsoever. But now an engineer with just some clicks can create crazy bills, and the engineers—they write code; they create software. They don't care about the finance. They don't know and they don't care, and the finance people don't understand how the cloud works and how you create costs there. And this is why FinOps wants to put finance and operations together, and IT together.

And we have—and there is a foundation which is called FinOps Foundation, and they found from their members, enterprise companies, that the biggest challenge is how to engage the engineers. And we have found a very simple, but working, way, by integrating our solution into Slack. So, an engineer is working on Slack anyhow on teams. Then they get the recommendation that their servers, which they're responsible for—of course all resources need to be tech first—that they are running out of the TTL. Time to Live is running out. If they need more or want to elongate the TTL or it's okay, they can downsize their machine and this way save the company \$10,000.00 or whatsoever. So, we have integrated this into Slack, and some other features help to educate, help to install or reprocess. This is what we've done quite well and we are selling this successful, our FinOps solution, which is called Upscale.

We also created a community which, slowly but surely, will become the biggest one in the market. So, where we allow our members, which are already more than 1,500, to talk—it should not be sales driven, so it's only giving, like a community does, the chance for peers to connect to each other, talk about the changes, problems. Maybe later maybe we will add also the possibility to get some certification or whatsoever, but for now it's for free and it's just a community. It's the fastest-growing one—also in LinkedIn we have a group which is the fastest growing FinOps group. And so, we are very confident that we will become one of the leaders in the FinOps market, and this is the future of the company. So, in the next two, three years, ride on this FinOps horse, establish and maintain our leadership, then let's see what's going to happen, how big we finally become, if we do an IPO or if someone wants to buy us. Let's see.

David Linthicum:

Yeah, we'll see. And it's great talking with you today, Edwin. So, where can we find more about Hystax on the web?

Edwin Kuss:

Under Hystax.com.

David Linthicum:

Hystax. And how do you spell that?

Edwin Kuss:

H-Y-S-T-A-X.com.

David Linthicum:

Hystax.com. Cool. Well, check them out. So, anyway, if you enjoyed this podcast make sure to like and subscribe on iTunes or wherever you get your podcasts. Also don't forget to rate us. Also check out our past episodes including the On Cloud Podcast hosted by my good friend Mike Kavis and his show Architecting the Cloud. If you'd like to learn more about Deloitte's cloud capabilities, check out DeloitteCloudPodcast.com, all one word. And if you'd like to contact me directly you can reach me at DLinthicum@Deloitte.com, L-I-N-T-H-I-C-U-M. So, until next time, best of luck with your cloud projects. We'll talk again real soon. You guys be safe.

Operator:

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