



For Cloud Professionals, part of the On Cloud Podcast

David Linthicum, Managing Director, Chief Cloud Strategy Officer, Deloitte Consulting LLP

Title: What helps manage cloud complexity? A sound strategy and security

Description: It's becoming a multi-cloud world, but many companies still struggle with operational complexity and consistently delivering high-performing, secure application environments. Legacy applications that are core to the business, but hard to migrate, only exacerbate the problems. In this episode of the podcast, David Linthicum and guest, F5 Networks' Kara Sprague, discuss how F5 is helping companies navigate cloud complexity and deliver high-performing, secure apps that have tremendous synergy—whether they're on-prem or in the cloud. Kara's advice: understand your app portfolio and environment, migrate thoughtfully, put effective application development guardrails in place, and focus squarely on security.

Duration: 00:20:52

Operator:

The views, thoughts, and opinions expressed by speakers or guests on this podcast belong solely to them and do not necessarily reflect those of the hosts, the moderators, or Deloitte. Welcome to On Cloud, the podcast for cloud professionals, where we break down the state of cloud computing today and how you can unleash the power of cloud for your enterprise. Now, here is your host, David Linthicum.

David Linthicum:

Welcome back to the On Cloud Podcast, your one place 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 Kara Sprague. Kara is an executive vice president and general manager at F5's Application Services business unit responsible for the company's ADC and security product portfolio management, products and solutions – lots of stuff, lots of responsibility. Kara, welcome to the show.

Kara Sprague:

Thanks, David, happy to be here.

David Linthicum:

So, tell us the Kara Sprague story. How did you get to F5, what you did before, you know, what do you do for fun? Our listeners love to hear about that. What's the inside scoop?

Kara Sprague:

Sure, no problem. I found F5 a couple years ago, so I just passed my two-year anniversary. Before that I was a partner at McKinsey and Company, and towards the end of my 13 years there I was leading the West Coast tech media and telecom practice. I'd always been focusing on high tech clients, predominantly around technology and product strategy, and about business building. You know, when I came to F5 what I saw here was just like a really exciting story of a company that had just tremendous opportunity in front of them, massively misunderstood in the market, both by customers and analysts in terms of what their potential was, and just a tremendous opportunity to transform a company towards the future, so I jumped at that. Before McKinsey I was pursuing a graduate degree at MIT in technology and public policy, and before that a five-year master's program also at MIT in electric engineering and computer science.

David Linthicum:

Wow, overachiever.

Kara Sprague:

[Laughter] Perhaps I just didn't know what to jump out of from academia.

David Linthicum:

You know, it's funny. You and I kind of have an opposite career because I went from becoming CTO of several small cap, publicly-traded companies to working at Deloitte, and you seem to come from a large consulting firm to working for a technology company. How's the transition been?

Kara Sprague:

The transition's been great. The learning curve has just been amazing. It's a very, very different mindset required to be a general manager in a business versus being a consultant. And for me, I was extra lucky just because, you know, I had got to come in to F5 with a running start, having deep insight to them from my time at McKinsey.

David Linthicum:

So, what seems to be your favorite part of the job? Is it working with the technology or working with the people, a bit of both?

Kara Sprague:

My favorite part of the job so far is, you know, we're turning a sizable ship here at F5, and I really just like celebrating the impact that we're seeing and the wins that we're logging along the way. You know, just to talk about the most important one that we're focused on right, now, we're doing a large transition from monetizing our intellectual property through a hardware-based model, you know, where companies bought our hardware solutions and installed those in datacenters, to migrating that value and that business model more to a software-driven model. And, you know, that's been a work in progress for the last two and a half years, and I'm happy to say we're making great progress on it.

David Linthicum:

So, would you say it's a transformation to a multi-cloud application service layer, or is it an evolution to a multi-cloud services layer from your existing business?

Kara Sprague:

Certainly from within the business it's transformational, a very different business model and lots of change required across our sales, marketing, engineering, and services organizations. But in terms of the value propositions that customers have come to recognize and love from F5, it's very evolutionary.

David Linthicum:

So, where do you see the market going? You guys have moved into a multi-cloud applications services business. I've seen a demo of your products, you know, looked at your technology – pretty impressive stuff. So, what do you see in the market as kind of the niche opportunity for F5, or the larger general services opportunities to get into this space?

Kara Sprague:

Yeah, this is a market that's super fascinating. I've always been attracted to the enterprise tech space, and one of the things that stands out to me for enterprise technology is how layered it is. If you talk to any organization, they're going to have technology somehow running some core business process that's probably about as old as the organization itself, at least those that came into being after the first technology or IT services were available. So that's exactly why so many companies today are still running critical parts of their business on mainframe infrastructure, for example. And what's interesting is that the rate and pace of change and the new kind of abilities that people have in terms of technology and infrastructure environments, that is moving faster than the ability for companies to transition their portfolios of digital services.

A case in point, you know, a large financial services company decided to go all-in on a greenfield public cloud initiative back in 2012, you know, and six to seven years later, they've not managed to migrate more than about a third of their application portfolio to that new cloud environment and were recognizing that the technology selections they had made in 2012 were now woefully outdated, relative to what they wanted to do in 2018 and 2019. In particular, they'd made a big bet on virtual machine technology at that point, and then later in 2019 they were now looking at microservices and container-based technologies. And so what that means is that over time the challenge of enterprise IT is becoming how do you manage applications and services and deliver them with high quality performance and security on top of a very heterogeneous mixture of infrastructure environments?

And then to get back to the question you asked, which is where does F5 fit in to all of this, at F5 what we're looking to do is help our customers deliver their applications all the way from the development, the coding of the application itself, to the end user or customer of those applications, and do so in a way that's consistent, secure, and performant across all of the environments in which they want to operate.

David Linthicum:

So, I had another podcast I had recorded with kind of a key analyst of a big analyst firm. We were talking about some of the multi-cloud stuff that's starting to emerge. We kind of agreed on the fact that the biggest challenge in getting into multi-cloud is the ability to deal with operational complexity, your ability to kind of make use of various services and, you know, different core services such as the resource services, storage compute, you know, AI technology, things like that, as well as the application services and the microservices that are being spun out of the application services, the ability to kind of leverage different technologies like the growth of federated Kubernetes, which is starting to appear. How do you guys attack the complexity challenge of multi-cloud and what kind of technology are you applying to it?

Kara Sprague:

Yeah, so we tackle that by offering a solution, or a set of application services, that ultimately abstract applications from the underlying infrastructure, the idea being that if you can use a consistent set of application services and those application services themselves can run on public cloud, they can run in virtual infrastructures, they can run in Kubernetes, or container-native environments, they can run on COTS hardware as well as purpose-build hardware, and they offer an abstraction layer then for the applications that need to run on top. And so that's the value proposition, or that is precisely the proposition of F5 multi-cloud application services. And then on top of that, you know, if you have that common substrate, the additional piece is then collecting visibility and telemetry and information about what's going on with the applications so that you can offer customers much more end-to-end insight into their application level SLAs.

David Linthicum:

So, going forward we have kind of the choice, and I think have kind of made the choice. It's kind of a multi-cloud world at this time. But there's lots of enterprises out there that are pushing back on multi-cloud and trying to move into homogenous-based public cloud environments, in essence single-cloud environments versus, you know, dealing with plural clouds, two or three different public clouds going forward. What would be the tradeoff of doing one versus the other, and how would you advise an enterprise that's looking for your advice in terms of moving from something that's fairly simplistic to something that's fairly complex, but something that's going to have more best-of-breed technology, something that's going to have a very proprietary approach?

Kara Sprague:

Yeah, so I'll use a customer I spoke with a couple weeks ago as a good example of this. This was a customer that decided to embark on a public cloud journey about three years ago, and at that time they said they were going 100 percent to Microsoft Azure. And about three years ago they had an application portfolio – let's call it roughly around 4,000 applications. Now in the subsequent three years what's happened is they've managed to either stand up new, or migrate about 1,500 applications into Azure, leaving about 4,500 applications that are still sitting in their on-prem, or legacy environment. And the challenge they have today is they now have two different operational siloes. They have the operational silo around managing the applications that sit on Azure, and they have another one which is managing all of their legacy stuff, which by the way, happens to be their most critical applications because those were the hardest to migrate.

An additional complication is that they've been starving that on-prem infrastructure for three years now, because they thought they were leaving it behind and were surprised at how difficult that transition is. And then the third complicating factor is now their businesses are looking around and saying, "Hey, we don't want to go only to Azure; we want to be able to take advantage of the capabilities we see also in the other public clouds like AWS and Google – Google Cloud." And so, you know, they're in an interesting spot, but not unlike the customer scenario that you were asking me about.

Now what we would advise for customers like that is, first of all, even moving from an on-prem environment into public cloud introduces a new infrastructure, and even in that case that already is effectively a hybrid environment, or in some cases it could be called a multi-cloud environment. And even if you're only picking a single public cloud to rest on, it's helpful still to have some sort of commonality in your operations and in your application services between on-prem and public cloud. So, even in that simplified case, we'd still advise a consistent set of application services.

David Linthicum:

So, one of the things we're wrestling with is ultimately as enterprises are moving into cloud, there's about 20 to 30 percent of the applications that are just not cost-effective to move to a public cloud or a private cloud right now and in essence trying to find a host or a home for those things. And of course we're recommending managed service providers, co-lo providers, or even keeping the existing enterprise datacenter. You guys have your feet firmly planted in the datacenter, as well as looking at some of the modern technologies in the cloud. So, what do you have that would facilitate the ability to in essence manage applications between the two environments?

Kara Sprague:

Yeah, I'd say, you know, F5, actually we have one foot planted in the datacenter and another foot firmly planted in a very software, or cloud-first, world. And so we find ourselves with many customers bridging between those worlds, and the solutions that we offer for customers in terms of how do they think about application modernization, what apps they leave where, is really about advising them on what's the right operating model to live between those two worlds. And eventually where we want to go is be able to provide insights and analytics in terms of across an application portfolio, how do you think about which apps should be moving first based on those dependencies between them, because you can think about doing that in a way that minimizes the amount of transport cost between, for example, a public cloud and an on-prem datacenter.

David Linthicum:

Yeah, and I think one of the challenges that enterprises are facing right now, that's the environment they're going to be working in, the ability to in essence have kind of what I call a pragmatic hybrid cloud environment, where they're dealing with their existing legacy stuff, which is typically going to be 20 to 30, sometimes 40, percent of their existing application portfolios and workload portfolios, and they just can't relocate those things to the public cloud, not because you can't do it – with enough money and time I can do everything. But the fact of the matter is it's un-economically viable to move them into the cloud, so they have to kind of face core tradeoffs and decisions.

So, we may end up with a world, you know, within five years, ten years, where many of the enterprises are 60 percent in the public cloud, which is a lot and which is a long way from now – they're at 10 percent, 15 percent depending on who you listen now, and ultimately you can't move a series of various infrastructures. And the game to be won is your ability to have synergy between these applications and datasets that exist on-premises or in a co-lo, or managed service providers, and those that exist in a public cloud, and typically going to be multi-cloud. So, that world coming, you know, what are we to do? What should we be thinking about right now to prepare for a world where we're going to have – what we just talked about earlier, feet firmly planted on the datacenter side and firmly planted on the public cloud side?

Kara Sprague:

Well, my strong perspective on what companies need to start thinking about this is combined with also my strong perspective that the source of value within a company is going to be increasingly tied to their digital services and their applications. And so an ability for an organization to manage those things, those applications and digital services, is going to be a critical competitive differentiator. And so much like you can see, for example, industrial giants like maybe the auto companies or large railroad companies know, for example, precisely how many physical assets they have, like the number of train cars, or the numbers of factories and equipment, or much like the large human resource companies like, for example, DHL or IBM, know precisely how many people they have.

Companies are going to need to have a lot more visibility and insight into what are their digital services and applications, where are those things running, and are those things performing in the way they need to be. And they're going to need to be able to have those answers despite the fact that those digital services and applications are running in these different environments, which is why, you know, I think it's critically important that people start thinking about these as end to end applications and manage against a much more application-centric perspective in order to get that kind of visibility and rigor behind those assets.

David Linthicum:

So, switching gears a bit, security in a multi-cloud world, which is a fairly scary thought because we have to have synergy and common directory services and really kind of integration of fairly various security systems to get to kind of a level of sophistication where we're able to do security in a distributive way, in an efficient way. So, what's your thoughts around where that's going, and what are you guys working on at F5 to kind of facilitate the transition to a multi-cloud security model?

Kara Sprague:

So, we've got a lot going on in the security space, and all the way from a number of offerings out there and products that help companies think about application security and infrastructure security, as well as thought leadership. What we find in our research is that about 85 to 86 percent of cyberattacks are either targeting the applications or the identity associated with an application, and so applications fundamentally are under attack. And the offerings that we have to help companies think through that is a whole range of capabilities, because security is always going to have to be something that gets built in along the entire pathway between the application itself, the application code, and end customer. Where we're seeing this going is more sophistication and more analytics needed to facilitate threat detection and threat remediation, and so migrating from very simple models of rules-based application, web application, firewalls into more sophisticated web app firewalls that require behavioral information, and also detection of automated attacks. And so that's a space that we have a number of solutions available in, and also a space that's changing very, very rapidly. It's quite exciting.

David Linthicum:

So, what would your advice be to a company, a global 2000 company, that's heading down the cloud computing path? They may have five percent of existing applications in the cloud, including some of the SaaS stuff that they're doing, and they're hesitating because of the security barriers. They can't really figure out how to approach this thing from a secure way, to refactor the existing applications so they're going to be secure in the cloud. So, what would be step one through three that they should focus on as they start making the migration.

Kara Sprague:

Yeah, step one, the most basic one, set out an application policy across the organization that sets guardrails around what the development and DevOps teams should and should not be doing with regard to application, both around compliance and security. Many companies set out on this journey and they find months or years later that applications have popped up in all of these other infrastructures that had neither gone through any sort of security assessment, nor do those applications have any sort of protection attached to them, and that just leaves the companies vulnerable. So, the first step is just establish a set of guidelines and guardrails about what you need to do in order to stand up an application somewhere.

Second thing is then do an evaluation of the applications that you have and the kinds of data that those applications process to determine how strong the security measures need to be that you attach to each of those applications. And in many cases, those applications will warrant much stronger security protections than I think many customers currently put on them. I'm strongly of the perspective that a lot more applications if not all applications can benefit from sort of protection like a web application firewall with advanced capabilities or not. And then the third step then is then to identify the technologies, the specific security technologies and security services that then meet the requirements that you set in step number two.

David Linthicum:

So, looking forward, 2020, 2021, what do you think is going to be on our minds, now that kind of multi-cloud has taken off and the containers and Kubernetes and container orchestration's taken off and serverless has taken off, and we're looking at ways to migrate existing workloads into the cloud, and certainly AI is a sub-component of that, and IoT and edge-based computing? Any new technologies you think are going to be on the horizon in next year or the following year?

Kara Sprague:

I mean, nothing new that probably you hadn't listed before, right? You're going to continue seeing this evolution of the atomization of apps, further from containers into functions, and so that's just going to make this challenge of managing them even more challenging. You're going to continue to see enterprise technology proliferate into these new types of infrastructure stacks like the different public clouds or the different microservices environments. And so, the overall theme across all of this is it's only going to be a world of increasing operational complexity combined with increasing enterprise risk, because the threat landscape is only going to get wider.

David Linthicum:

Yeah, I agree with you wholeheartedly. I think the complexity issue is what we're going to have to solve over the next couple of years, and we certainly have been focusing on that from a research perspective in terms of trying to figure it out, in terms of what IP and processes and procedures and tool sets, like the ones you sell at F5, that we're going to need to solve those issues, and I think that's going to be key to us moving forward with cloud computing. So, where can we find F5 on the web, you on the web?

Kara Sprague:

Yeah, you can find F5 at F5.com. You can find me on LinkedIn or on Twitter at @KSprague08.

David Linthicum:

Awesome.

Kara Sprague:

That's generally how you get to me.

David Linthicum:

Yeah, check Kara out. She's extremely knowledgeable in this space, and F5 is lucky to have her. So, if you enjoyed this podcast, make sure to like and subscribe on iTunes or wherever you get your podcasts. Also check out our past podcasts, including On Cloud Podcast hosted by Mike Kavis on his show, Architecting the Cloud. Also, Mike has a book by the same name; check that out. And if you'd like to learn more about Deloitte's cloud capabilities, check out DeloitteCloudPodcast.com. Also look at our cloud complexity management page out there and different articles and papers we have on that topic. I think you'll find it helpful and germane to the discussion in terms of multi-cloud computing. If you'd like to contact me directly, you can reach me at DLinthicum@Deloitte.com. So, until next time, best of luck in building your cloud computing projects. We will talk in a couple of weeks. Take care, guys.

Operator:

Thank you for listening to On Cloud for Cloud Professionals with David Linthicum. Connect with David on Twitter and LinkedIn and visit the Deloitte On Cloud blog at www.deloitte.com/us/deloitte-on-cloud-blog. Be sure to rate and review the show on your favorite podcast app.

Visit the On Cloud library

www.deloitte.com/us/cloud-podcast

About Deloitte

As used in this podcast, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of our legal structure. Certain services may not be available to attest clients under the rules and regulations of public accounting.

Please see www.deloitte.com/about to learn more about our global network of member firms. Copyright © 2020 Deloitte Development LLC. All rights reserved.