MoffettNathanson Software Forum

Company Participants

- Takeshi Numoto, Corporate VP of Cloud & Enterprise Marketing

Other Participants

- Adam Hathaway Holt, Partner & Senior Research Analyst, MoffettNathanson LLC
- Unidentified Participant, Analyst, Unknown

Presentation

Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. We'll go ahead and get everyone seated so we can keep going. I know it's starting to get late in the afternoon. So I -- okay, I feel like I'm in my house. This is like talking to my kids.

Okay. So we're going to go ahead and get started if everyone wants to get seated. And welcome, Takeshi Numoto, up to the stage. Very happy to have Takeshi with us from Microsoft. He is in charge of one of the -- well, he's the Corporate Vice President for Cloud & Enterprise, which has obviously really transformed the entire story at Microsoft.

I picked up coverage of Microsoft, I think it was in 2002 when I was at Hambrecht & Quist/JPMorgan right at the beginning of covering the software group. And it was just such a completely different story. We were still talking about NT. And we were prepping for the Office 2003 cycle and all of these different things. And that still, to some extent, informs bits and pieces of the story. But what Takeshi and his team have done on the Cloud & Enterprise side is transform the entire technology industry. And so we're very lucky to have him today to go through the story.

I'm going to read some safe harbor comments which is, before we begin, Microsoft may make some forward-looking statements during this presentation. And you should refer to their SEC filings to the risk factors relating to their business. That's true whether you're here in person or listening on the Web. And those of you that are on the Web, thank you as well for joining us.

So with that, I'll welcome Takeshi up. And thanks so much for coming.

Questions And Answers

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

So I guess, where I'd like to start. And we've got some detailed questions. But -- is to maybe talk about where you're spending your time. And very specifically, you've got a wide purview, you've got one of the most exciting businesses at Microsoft, cuts across a lot of different product areas. What are you focused on right now? What are your top priorities? And how does that inform how you're thinking about the strategy of the business in general?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well first of all, it's great to be here. Thanks for having me. And from a focus priority standpoint, we're very, very committed to growing our server and cloud revenue by double digits. We saw 17% growth in Q1 and led by a lot of cloud growth through Azure. But it's something we want to continue to go drive. You mentioned NT back in the days. I've been at the company 20 years now. And it's been an amazing privilege to be part of this amazing journey. Started as an engineer on Windows NT, I've been in my current role as a Corporate Vice President of Cloud & Enterprise Marketing that basically is responsible for sort of Azure, Windows Servers, SQL Servers and all the products that go into your server and cloud bucket, for those of you that are here, as well as the Dynamics business application that gets reported as part of the productivity space from an external reporting segment standpoint. But -- and I've been in this role for about six years now. And prior to that, I worked on Office and Office 365. And so for at least the last 10 years or so, I feel like I've been working on cloud, cloud, cloud and driving cloud growth on a long journey. It's amazing.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

So I want to -- I'll start with Azure. And then I'll move to Servers and then to Dynamics. But as you're thinking about your day to day right now, you're spending most of your time with -- excuse me, I'm sorry, I've been sneezing a little bit. But you've been spending most of your time with customers, at this point trying to still proselytize the Azure story, or are you more inward-facing in terms of what you've been spending your time on recently?

A - Takeshi Numoto {BIO 21693553 <GO>}

I think it's -- I feel like I sort of do a lot of running back and forth. What I mean by that is running to the front lines of our customer and partner engagements. Last week, I spent a week on the road, probably met with 30, 40 partners and customers in a series of weeks. So still continuing to really get a sense of what's really happening on the front lines of our customer and partner engagements. And at the same time, I come back to the corporate and spending a lot of time with the development team, thinking about road map and our business strategy. So my role really does sort of cause me to go back and forth a lot.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Right. We were just -- just thinking about sort of how the partner ecosystem evolved before I get specifically in the Azure questions. But it's a very different partner model. I mean I remember back in the day when you should think about your 600,000

reseller channels, one of Microsoft's core strengths. But now with the Azure story and the cloud story, what partners are doing are very -- it's a very different story. And Red Hat was just here talking about embedding cloud services into OpenShift. And you have a whole different set of possibilities with respect to your partner ecosystem. What are some of the stories or use cases that are evolving that are really getting the most traction, the most mind share in the ecosystem?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well I think every customer's journey to the cloud is very unique. And so we have a lot of effort spanning a broad range of areas to sort of meet them where they're at. Sometimes, customers want to basically sort of think of it as appending cloud capabilities to what they already have on-prem. So it might just be around adding monitoring and management or backup or doing disaster recovery using Azure as a secondary site. That might be the most sort of basic first step. So there may be customers who -- there are customers who are really thinking about much more cloud-centric and rearchitecting their applications and deploying them to Azure or Azure Stack if they want more deployment flexibility. And so we're seeing that on the other extreme. Then there's a large portion in the middle where customers are really thinking about migrating their workload to Azure. And there, we try to meet them by essentially making that kind of a migration of workload (maybe) by both in technology. So we have Azure Migrate, which is a service that helps customers migrate their virtual machines and also working with partner solutions as well as database migration service that again that enables customers to migrate their database to Azure. So those are all technology investments we're making. Then we're also making sort of what I think of as a business model investment to help customers in that transition, for example, Azure Hybrid Benefit is a benefit we offer to customers who have Software Assurance on their software license estate. So that if you have Software Assurance on your -- and if you're an annuity customer on your Windows Server, for example, we give you a substantial discount, actually savings of up to 40%, to basically run your Windows Server virtual machines in Azure. And so combined with the migration benefits in terms of technology we deliver but also the business benefit. And so whether it's sort of appending Azure to your sort of on-prem estate to full-on rearchitecting your application to sort of migration of your existing workloads, we want to have a solution that we work really hard to and to meet customers where they're at.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

How do you think about the mix of those use cases? And the reason I ask is that I do think that people still perceive what's happening with Azure as a lot of new workload development. Maybe there is some lift and shift but maybe not that much at this point. But is that true? And are you starting to see more of that migration work?

A - Takeshi Numoto {BIO 21693553 <GO>}

Yes. Like of the 3 patterns I mentioned, all 3 are growing. When you think about the overall customer's journey to the cloud, like the overall journey of the market, I think we're still in early innings. And so all of the 3 types of use cases are all growing in its own right. And we want to continue to address that. And we're also seeing even in sort of the -- what you would refer to as sort of a migration kind of workload, bigger

workloads to come to Azure, it might be that if you ask me, let's say, two years ago, you may have had many customer engagements around, let's say, dev test of their ERP estate, as an example. Today, we're seeing some of our largest customers move their production and safety workloads to Azure. And so what's getting migrated is becoming bigger and more substantial and more mission-critical. And that's also driving growth as well.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

You say you're seeing production workloads of SAP move to Azure?

A - Takeshi Numoto {BIO 21693553 <GO>}

Yes, really.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

So there really is a...

A - Takeshi Numoto {BIO 21693553 <GO>}

It's not just SAP, like it's just an example of more mission-critical big workloads that have a lot of consumption associated with it.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

As you said, I can't really think about it. And maybe there's some trading applications but there aren't that many examples of applications that would be more complex, more processing-intensive or data-intensive than an SAP ERP application. That's interesting. And why do you think that is? Is that just -- is that about customer references? Is it about scalability? Is it about location and proximity? What's really driving that?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well I do think it's sort of hard to attribute to one factor, it's a confluence of many things. I do think there is an increasing openness and confidence that customers have in their use of the cloud. They've been on their cloud journey for a while. And they are becoming more familiarized and comfortable with the vectors. Both there the -- maturity side, both on the customer side and on the vendor side. There's also, like I think, increasing recognition in the cloud as a place where you can really realize very high agility and sort of dynamic changes that you need. And so as people think about some technologies that this cloud becomes much more of a mainstream conversation in the dialogue.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

So in your view then, I mean, if you have SAP, large SAP workloads on Azure, there really is no limitation on what you can migrate from on-premise into the Azure environment?

A - Takeshi Numoto {BIO 21693553 <GO>}

We certainly would have the conversation with the customer, "Hi. we really can take on your big workloads and things like ERP or SAP," is a good example of that.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

I know you just used SAP as the example. But are you seeing -- are there any technical limitations of doing the same thing with Oracle or the same thing with some of the big industry applications?

A - Takeshi Numoto {BIO 21693553 <GO>}

Whether it be ISV applications, we work with ISVs like Temenos to have their banking applications run on Azure. Like I said, we have increasing repertoire of examples of highly big mission-critical workloads coming to Azure.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. And in those environments, maybe walk me through a typical example, are they going to be using typically infrastructure services? Are they going to be typically migrating a database? Are they going to be typically using some of your adjunct platform services to be building connectivity to other on-premise applications or data services? How would you -- walk us through maybe an example of what that would look like in practice from a usage perspective.

A - Takeshi Numoto {BIO 21693553 <GO>}

Again, like I said, the cloud journey is unique for every customer. But when you move a major workload, you definitely have lots of adjacencies that gets pulled through with it. You don't move just your core workload, well, because your core workload now has a lot of data now that sits in the cloud. So it's natural as a next step for most customers to think about essentially applying a lot of the data technologies to do analytics against the data that now resides in the cloud. So data is an adjacency that we often see. Also these kind of core applications bring a lot of adjacent systems. So you should have -- whether it's expense report or other systems that surround the core application, then you actually have often new applications that get built, whether it's mobile applications that hands off of it and stuff like that. So it's not just about the core workload. The adjacencies and the pull-through effect is something that we're seeing.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

If I were to take a step back and look at the Azure growth trajectory in general, again, it's sort of a -- it's a tough question because there's so many different inputs to it. But you're on pace to outgrow AWS in a similar scale. Some of the biggest differences appear to be, one, your positioning around hybrid; and two, your positioning around premium services just as we were discussing the ability to move an SAP or an Oracle workload ongoing workload into the cloud. Are those principal factors in your view that are driving that higher growth?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well I certainly think that they are -- leadership in the enterprise space, it's certainly a key factor in helping us. And we developed our products really with enterprises in mind all the way to the way we deploy regions in Azure. So we have 42 regions announced for Azure, which is more than any other cloud vendor, in part because we want to address the enterprise customer need as being able to deploy their applications and data close to the place of consumption that they need and also to deal with the regulatory environment and the data residencies requirements that they often have. So certainly, the enterprise focus that we have and the leadership position we have with enterprises is a key factor. And you mentioned hybrid, which is

obviously another big factor. There are other vendors that are starting to talk about it that we've been at this very consistently from the start because we don't initially think of hybrid as an end state. You don't go through hybrid, end all up in the cloud. We don't think of this as a transitionary state. We actually think of hybrid as the state that will be the state for the long haul because, as you may have heard about Satya talk about intelligent cloud and Intelligent Edge, we believe that as computing becomes ever more ubiquitous, computing becomes powerful both in the cloud but also on the edge, too. And because of our assets both as a cloud provider -- but we're not only a cloud-only player, we also can deliver software that can essentially work harmoniously with the services we provide in the cloud to enable new scenarios. And so that's been a key differentiator. And also if you should think about products like Azure Stack, it's been getting a lot of customer interest. And we're feeling really sort of bullish about the approach that we're taking. And for us, hybrid isn't just about connectivity or colo, it's really providing a consistent platform for the customer, whether it be around the identity platform or the management plane or the data technologies. Really having an end-to-end consistent platform is, I think, a key requirement for customers as they move forward.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. If you were to -- this may be an unfair question but if you were to look at your cloud customers, what percentage would you say are leveraging some Microsoft on-premise technology?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well certainly in the enterprise space, I think you'll be hard-pressed to find enterprise customers that have no Microsoft technology. And so they will have some.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Maybe let me (scope) that differently, that are using the Microsoft data center technologies. So I'm not talking about somebody that might be using Office or Windows on the desktop side, I'm talking about somebody that is using Microsoft Server or Microsoft SQL or Microsoft BizTalk, something in the traditional data center stack that is now leveraging Azure services. Is that most of the customers?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well if you think about enterprise. So again, I think it will be hard-pressed to find enterprise customers that don't have any Windows Server. They have -- they may use -- as the mix of their estate, it might be high or low. But there are lots of customers with high mix and -- but I think (I often pretty feel) that gives us a good engagement point to talk to customers even if they use -- it's a small portion of their estate.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. And just thinking about the way that the Azure business changes your position for the application business, I mean, one question I get all the time or I see in some of the press is that most of the new applications that are being built aren't being built on C#. But they are being built on .NET. I don't know if that's true or not, I just -- you see that in the press a lot. But it seems like with Azure, there's the ability to kind of reintermediate Microsoft with some of the newer applications that are being developed because it's easier to run maybe nonnative applications in the Azure footprint than it is to run an application that isn't built specifically for a Windows Server. Is that true?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well we certainly are looking to meet developers where they are. So like we do that on many fronts. So from an Azure perspective, we're at a point where about 40% of virtual machines running in Azure data centers today are basically Linux virtual machines. And we -- I would certainly personally expect that number to go up as we move forward. And that -- it's not just about the operating system, we work really hard and have made a lot of progress in supporting not just a variety of open source operating systems but language framework, whether it be Node or Python or R or database services like we have a managed database service for PostGraph or MySQL. Today, we're announcing that we've joined Maria DB Foundation. And we will offer a Maria DB managed service as well. And so it's not just about the operating system but also language and frameworks and data technologies that we're supporting to essentially onboard as many developers as possible where -- and meet them where they are. Bring your skill. And you can use them as you -- that your favorite tech is available to use in Azure. Then we're also extending capabilities like .NET across platforms. So I hope you know that .NET is already available across platforms. We've open sourced it. And we have tremendous amount of community energy poured onto it. We've also extended the reach of our developer tools. So when you think about our developer tools, Visual Studio code is something that people are very -- giving us great feedback on as a development environment on top of Linux or Mac for developers. And that's actually helping us reach more and more developers. In fact, the number of active developers using Visual Studio have expanded significantly. So across all fronts, we're basically being much more embracing a broader set of developers with the goal of onboarding them more to Azure. And we're doing it at the service level, we're doing it at the language level like open sourcing .NET and then also extending our tools because our -- as far as (ground one) cloud is concerned, driving consumption is really our top (inaudible). And that does lead to -- from people in this room and maybe on the call standpoint, you might sort of characterize that as a patent expansion in the sense that we're now then saying, "Hi. if you had been a Linux customer or an OSS database or a MongoDB customer, or a Cassandra customer, we wouldn't have had anything to sell you on-prem. Now we support MongoDB or Cassandra APIs on Cosmos DB or all

sorts of language frameworks that we can now all harness on Azure. And you could characterize that as a TAM expansion.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Yes, I mean, that was kind of my point is that it seems like the positioning of the business has completely changed as you -- so in addition to it being a functional change in terms of what products you deliver and a delivery model change, it also puts you in different places in the technology development process. One of the deals I worked at when I was at Qatalyst was we sold you Xamarin. So we are quite into the sort of idea of reaching out to a broader base of mobile application developers. But just going back to something you said. So 40% of virtual machines are running in -- that are running in Azure are on Linux. And that number will go up. Why do you think that is? Does that just have to do with the development -- sorry, the adoption of open source? Or is there something that -- is there something specific that is driving that number -- that's actually a higher number than I thought. And it's actually -- it sounds like you think it will go even higher.

A - Takeshi Numoto {BIO 21693553 <GO>}

I would expect it to inch up over time, yes.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

And just why do you think that? Why do you think it's such a big use case for virtual machines?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well a lot of the OSS workloads are often also fundamentally scaleout-based in terms of the architecture. So it then tends to spawn more virtual machines as the consumption grows as opposed to scale-up and have -- use bigger and more profitable virtual machines.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

So if a customer is running on a -- I'm just trying to think about your revenue opportunity -- like I would much rather have you make $10 than no dollars. So being able to monetize, like you said, Cassandra, MongoDB, that may not be the first choice, the first choice would be Cosmos.

A - Takeshi Numoto {BIO 21693553 <GO>}

Well Cosmos supports those APIs...

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

But -- so I think that's a terrific strategy. But how does the economics change? So if you have somebody that's running Linux in a virtual environment, what does that mean in terms of your revenue opportunity set versus somebody that might be running Windows in a Hyper-V environment and running a Windows stack instead of a Linux stack? How does that change?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well in terms of the -- I just think of it as being additive. We didn't have an economic opportunity with the people that are OSS-based before. And now we can offer them a service. And service consumption is how that gets monetized in the cloud.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Right. I guess, I'm trying to quantify it. So if you were to spend -- if you're taking a customer that's spending $10 on a Microsoft stack, could you get $2 on somebody that's running a Linux stack in Azure?

A - Takeshi Numoto {BIO 21693553 <GO>}

Oh, I don't know that, that like -- I don't necessarily think of this as a conversion from right to left.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

No. I'm just saying it's additive. I'm just trying to quantify how additive it could be.

A - Takeshi Numoto {BIO 21693553 <GO>}

I don't think we can quote those numbers. I know you'll be interested in them. (Chris)?

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. I got to try. So well, you got to agree that it's additive.

A - Takeshi Numoto {BIO 21693553 <GO>}

It is really...

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Yes. No. That's why I said I would much rather see you get $10 than where you were getting no dollars. I think it's a much better play. And it's just -- it's a totally different positioning story within Azure than just about cloud workloads or moving Microsoft from point A to point B. It's about moving Microsoft from point A to point B but also putting Microsoft in front of point C to be able to move to point D. I mean, you're getting into Linux and all these other different things that you couldn't touch otherwise. Platform lock-in is no longer an issue for you to your point. And so it doesn't really matter what language you build in. And that's just a totally different -- so the whole argument that, hey, new applications are being built on C# is garbage.

A - Takeshi Numoto {BIO 21693553 <GO>}

We're seeing basically a growing community on .NET.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Yes. Okay, got it. And so that's terrific. Well then -- how important do you think it is to be getting these big referenceable application customers onto Azure? Specifically, the work you've done with Adobe has been very well publicized. Is it -- Google and Salesforce just did a deal. Google, as far as we understand, that's really the first referenceable big application, cloud application vendor to run on GCP. How important is it for you to get those kinds of companies onto Azure?

A - Takeshi Numoto {BIO 21693553 <GO>}

I think getting applications, particularly business -- large business applications onto Azure, is incredibly important because, again, there is a flywheel effect of business estate being deposited in the cloud that then essentially creates gravity for more data or more applications. And so that's certainly more important. And that's why some of the examples, like the SAP one I mentioned or Adobe is a great example. But we're continuing to work on enlisting more ISV partnerships to bring their applications to Azure.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

When you migrate either an ISV to run on Azure -- so you can use Adobe as an example, I know there are many others -- or when you have somebody move an SAP or -- I don't know if you have a lot of work or workloads on Azure or not. But would those fall into the category of premium services?

A - Takeshi Numoto {BIO 21693553 <GO>}

Well it depends on what resources. Basically, our definition of premium services is things that are beyond just basically raw compute and storage. So it could be management services or security services, or it could be database services that are managed in nature. So we have a managed database service for SQL or PostGraph or in a managed NoSQL service like Cosmos DB. And all of those -- or IoT or -- those are all -- fall into the premium bucket.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Right. So there's not really a classification then around premium that is defined by either the scale of the app and the required...

A - Takeshi Numoto {BIO 21693553 <GO>}

It's more the type -- resource type, I would say.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Got it. If you look at your portfolio of premium use cases, I think Satya gets asked this question if you look on every conference call and he tends to talk about AI, he tends to talk about Cosmos. But I guess, there are 2 questions. How should we think about this scale of the premium services relative to the whole? Is that 5% of the business? Is it 10% of the business? And secondarily...

A - Takeshi Numoto {BIO 21693553 <GO>}

You're asking me for a number that I can't give you, I think. (Chris), I should ask you to speak.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Sorry, phone's going off. That's reminding me to ask you questions you can't answer. But the -- okay, well, I'm just trying to get some -- a sense for the -- I mean, another way to ask the question, which you probably won't be able to give either. But just in terms of the magnitude of the growth, is there a way to talk about -- that wouldn't really help us with the size. But is it possible to sort of characterize, well, 20% of our growth is coming from premium services, something along those lines?

A - Takeshi Numoto {BIO 21693553 <GO>}

I think the only thing really I remember us externally talking about in the premium service is basically 13 consecutive quarters of triple-digit growth. So well, the Azure itself has been near triple-digit growth. So both have been growing at a rapid rate. But certainly, premium service has been outgrowing sort of overall Azure for a bit now.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

And with respect to services that are popular, AI, IoT, Cosmos are some of the ones, as I said, Satya talks about, is there a second generation that you think is going to become, over the next two years, as popular?

A - Takeshi Numoto {BIO 21693553 <GO>}

I think the ones you listed will continue to be a big driver of our premium growth. The only other one I might mention would be management and security services that are growing when you think about things like Enterprise Mobility Suite, Enterprise Mobility and Security. Those are all based on (ADFS)capabilities we offer in Active Directory and delivering premium capabilities or device management capabilities or application management capabilities. And this is where I think we also see a lot of synergies with companies and customers picking the vendor that they view as a strategic partner for their cloud journey. So it's not just an Azure discussion but it's really a Microsoft Cloud discussion. As they think about their journey, I think I see increasingly more and more customers are thinking about think holistically. And that's boding well for us because when you think about Fortune 500 companies, we talk about 90% of those customers using Microsoft Cloud. But perhaps the one that I really get excited about even more so than the 90% number is the fact that 60% of those companies are using more than 3 of our services. And so the notion of really picking a vendor that can support you in your journey to the cloud across SaaS, across PaaS, across IaaS, I think, is what customers want. And I think that puts us in a really nice place.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

On the management security side, you mentioned Enterprise Mobility, do you think you have everything you need on that identity front?

A - Takeshi Numoto {BIO 21693553 <GO>}

I mean, I have never worked on a product that don't have additional requests from customers. And so we'll always need to do more. But that's with any other product.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. And it's -- okay. So I'm going to shift. We've got a few minutes left here before I'll turn over to the audience. But I'm going to shift and talk a little bit about the on-premise business and then maybe finish up with a couple of questions on Dynamics if we have any time. The on-premise business continues to be very strong. And I love this idea, this symbiotic relationship between on-premise and cloud where, to some extent, by offering the cloud credits and the cloud discounts, you're helping perpetuate the strength of on-premise. Is that the sole factor that you think is driving that kind of steady single-digit growth there? Or do you think you're still gaining share? We've done some math that would suggest you're actually increasing average selling prices still. Maybe walk us through the elements of that growth story because I -- people tend to think it's just about cloud tie. I think it may be more than that.

A - Takeshi Numoto {BIO 21693553 <GO>}

I see. There's a variety of dynamics going on. Certainly, like the value proposition we have around hybrid is definitely helping us, whether it be on the technical side in terms of how the products work together or some of the business synergies that we're bringing to bear for our customers like the Azure Hybrid Benefit I mentioned. But also, I do think there are places where we feel like we're taking share on key workloads, whether we feel like SQL has a great value proposition for customers. When you think about all the value prop we bring in, we give you In-memory OLTP, In-memory BI, in-memory advanced analytics, machine learning. And they are all built in a single product. And so we feel like that has a tremendous market momentum. And now it's also available on Linux. And so if I just think about the amount of customers basically starting to try out the product based on number of like Docker hub pools that you can measure, we're just seeing tremendous amount of interest. And that bodes well for our aspiration to go grow that business on-prem even more. Then there's another aspect where the -- there is essentially sort of strength I think in -- what I think of as pinion mix. So as customers really think about their journey to the cloud, they want to basically have an environment in their own premises that's more compatible with their cloud. That leads to more virtualization, higher density use of their workloads even on-prem. So then that translates into more sales of -- and strength in things like Window Server data center addition, or SQL server enterprise addition, which is what we would call premium. So there's an aspect of a premium mix as a lever that's helping sustain the health of the on-premise business. Does that help?

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

It does. It certainly does. And just on that premium story, you all have been -- we had a chart in our initiation that looked at sort of the value you get from server has steadily increased. What is enabling you -- I mean, what are some of the things that people seem willing to pay more for? There's this debate about what should be

bundled versus what should actually increase the value. What do you see is the sort of the 1 or 2 pieces of functionality that are actually causing people to upgrade to those premium services?

A - Takeshi Numoto {BIO 21693553 <GO>}

Like I said, it's basically more use of technologies that sort of make their environment more compatible in the cloud, like higher density of virtualization or bigger hardware that has more cores, that necessitates you to basically cover more cores. That then leads to more premium sales. So those factors.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay, got it. Azure Stack, you mentioned earlier, you said there's some good early demand for it. It's been in the market for just a few months now, right?

A - Takeshi Numoto {BIO 21693553 <GO>}

Yes. It's early days for sure.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Is that something that's going to show -- I mean, how should we be thinking about what that does to the business? Does that bolster the -- I mean, is that going to show up on the server side, on the on-premise side? Or does that show up on the cloud side?

A - Takeshi Numoto {BIO 21693553 <GO>}

I see. And I think this is a great question that sort of also illuminates how, for me, we're focused on really driving server and cloud all up double digits like, technically speaking, Azure Stack, I think of it as a feature of Azure. So when you buy an Azure Stack and deploy it, the way we charge for it is consumptive. So what I mean by that is customers spool up virtual machines or resources. There's PaaS services available on that, too. So you could use app service, you could use container services on your Azure Stack. And we will build a customer on your Azure build even though the hardware sits on-premise. And it's pay as you go essentially. For customers that really want -- and that basically gets reported as cloud revenue. There are some customers that really want to be able to use that technology but in a disconnected state. And so we have business models to address that. And when we sell in that kind of a disconnected state way, it will show up as a server revenue externally. But the product is the same product in terms of what we deliver but it's sort of -- depending on how the customers consume it.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

I mean, it's a new product. So we want to get overly enthusiastic about it. But it does seem to get a lot of airtime, particularly from (Ray), on my team, who absolutely loves it. But the -- should we be thinking about the ramp of that kind of a product being a fiscal '19 story? Really, it's going to take a couple of quarters to get into the channel? Are we getting to selling motion? Or is there something different about this release that could be faster with respect to the impact?

A - Takeshi Numoto {BIO 21693553 <GO>}

I kind of feel like it's a little too early to tell between customer buzz and the reaction both from customers and also our partners. If you were to ask our hardware partners, I think they are really pleased with the sort of the action they're seeing. So we're bullish. But I think it's a little too early days.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Awesome. Let me -- I'm just trying to think. I'll stop and take some questions from the floor. And then I'll hit my Dynamics question, if there aren't any questions. I think we're going to have a couple that we've got. Here's one here in the pink.

Q - Unidentified Participant

I have a question, why does Azure win versus an AWS? And do you see GCP in the mix right now? And when you think about how Google's trying to differentiate with AI and TensorFlow, how competitive are they? And what's the competitive response from Microsoft?

A - Takeshi Numoto {BIO 21693553 <GO>}

Okay. So in terms of why we win, I guess the one that we're seeing the sort of the biggest differentiation that resonates is resonating with customers is basically our enterprise focus and our leadership there, whether it be sort of the engagement we have with customers or sort of the trust that they can have in Microsoft as the cloud vendor that can help them deal with all the regulatory compliance and security requirements that enterprise customers have. And I think that's sort of one big one. Hybrid, we talked about, is another one. They are looking for ways sort of to synergistically use what they have on-prem and essentially use cloud in a synergistic way as opposed to -- that's sort of the second one. Then I would also say the notion of productivity is a big one. As customers are increasingly looking more and more to use the cloud like they'd really need not just a leading edge set of developers but a broader set of developers they have in their organization to be productive in using the cloud. So whether it be DevOps capabilities and services we offer with things like Visual Studio Team Services or all the things in Visual Studio to extend its reach. So that every developer, whatever their skill sets are, whatever their preferences for technologies are, can all apply their technology in a very, very productive way for Azure. I think that's really resonating. Those are the ones I'd call out. Then when you -- you asked about, do we see Google a lot? And I'll be lying if I say we don't see any. But if I were to, say, compare to a year ago, do we see them a lot more? We see -- run into them from time to time. But I'm not sure that has changed a whole lot. And in terms of AI and other sort of their technology, we have a lot of investments that we're bringing to bear from years of investments we made in Microsoft Azure that are showing up in places like cognitive services we offer in Azure. And we also support things like TensorFlow in Azure. And it runs really well. And so that's an area that we continue to compete furiously in. But also seeing some really interesting use cases in Azure that makes us pretty bullish.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

A question over here on my left.

Q - Unidentified Participant

At their conference this morning, UBS talked about being excited about Azure Stack. But they were talking about it in terms of the future, perhaps suggesting they were still waiting for a couple of features or some part of the development in order to accelerate spending. What kind of things are there that are roadblocks -- current roadblocks or things to be developed that will accelerate Azure Stack?

A - Takeshi Numoto {BIO 21693553 <GO>}

In terms of exploration of Azure Stack, I mean, first of all, there is an aspect of not all of our hardware partners' products are available yet. And so we have a few that are already available in market. That means that I think we already have Azure Stack basically purchasable in 47 countries. That really enables great coverage of hybrid. But we got to get all the other partners' products available. And we're working with them. Then there's the other aspect what are the Azure services that run in Azure Stack. And the portfolio can get richer over time. So we already have some PaaS services like container services or app services that are available so that you can write application in a common way in the public cloud Azure and in your Azure Stack. But we want to continue to add to that portfolio over time.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Any other questions? I've got a couple of questions about Dynamics, if that's okay. So one of the things that I think is sort of a dual-pronged set of drivers to the Dynamics business is, one, the fact that the applications business globally seems better. I mean, it's better at Oracle, it's better at SAP. It's good at Salesforce. That seems to be a bit of a tailwind, plus you've now got a 365 story to tell. Can you talk about, one, if you believe -- if you agree with the first premise that the application market feels a little bit better; and then two, how 365 has then been an accelerant for you and where that's actually showing up in the market.

A - Takeshi Numoto {BIO 21693553 <GO>}

I'm not sure like what you mean by like application market, it seems (to mean) like Azure is growing great. And instead of -- I don't want to say one or the other. But I do think our customers think about their journeys to the cloud. One of the increased appetite I'm seeing is customer's willingness to sort of say, "Hi. if there is an app that I can deploy rather than doing my own custom one, I will like that app, basically ready-made solutions." And that bodes well for sort of PaaS business applications. And we're certainly seeing that in Dynamics 365 that's growing -- that grew 68%, 69%, I forgot the exact number but basically around 70% in Q1. And that is certainly aided by customers' appetite that essentially have business applications served from the cloud.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Is most of the on-premise Dynamics business at this point just upgrading older versions? Or is there any real new business that's being done on-premise?

A - Takeshi Numoto {BIO 21693553 <GO>}

There is some new. There is some new. But it is true that, again, we are seeing a lot of appetite for the cloud. When you think about new Dynamics customers in Q1, I believe 3 out of 4 customers chose cloud.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

And if you -- I mean, there are lots of -- there are lots and lots of LinkedIn touchpoints with Dynamics. But a year in, where do you think you actually are in practice? And has that -- have the LinkedIn integrations, do you think, either impacted your win rates or the revenue trajectory of that business?

A - Takeshi Numoto {BIO 21693553 <GO>}

Yes, on the -- from a Dynamics standpoint, we've seen really good synergy with our essentially what we call relationship -- Microsoft Relationship sales solution offer that combines Dynamics 365 for sales and LinkedIn. And we've seen customers like Infosys realize really great benefit by essentially really adopting relationships selling into their selling process. Of course, if you integrate something like Sales Navigator from LinkedIn with Dynamics 365, you can do things like make sure you find people within the organization that can give you a warm intro to our lead as opposed to just trying to do a cold test. And they have customers who are seeing substantial reduction essentially in sales cycle or improvement in win rate. And the offering is quite new. But the customer interest is quite high. And we're feeling pretty bullish about that. And we're also increasing LinkedIn integration on essentially the HR front. So Dynamics 365 for Talent essentially integrates with LinkedIn Recruiter. And again, that's another area where we feel like we can deliver additional value to the customer.

Q - Adam Hathaway Holt {BIO 1814951 <GO>}

Okay. We are about out of time. Thank you. So much for coming. This is very useful.

A - Takeshi Numoto {BIO 21693553 <GO>}

Thank you very much. Thanks for having me.