Goldman Sachs Technology & Internet Conference

Company Participants

- Julia White, Former Corporate VP of Azure Marketing

Other Participants

- Heather Anne Bellini, MD & Analyst, Goldman Sachs Group Inc., Research Division
- Unidentified Participant, Analyst, Unknown

Presentation

Heather Anne Bellini {BIO 2268229 <GO>}

All right. Yes, exactly, we're ready to go. Thank you, everybody, for -- thank you for coming today. I really want to thank the Microsoft team for coming because for those of you who may not be watching the weather in Seattle, they've gotten hit with a ton of snow over the last week. And I know this was a herculean effort to get here. So I want to thank Julia White for coming. She's the Corporate Vice President of Azure Marketing. She's been with us before. It's always a great session. We really appreciate you taking the time to be here.

Julia White {BIO 20496259 <GO>}

Absolutely, yes.

Questions And Answers

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So I guess the thing we get asked a lot is just kind of, where are we in the transition? If you go back a few years ago, five years ago, people would have thought by now, 100% of workloads -- well, everyone's always more optimistic -- would be in public cloud. And depending on what stats you look at, we're far from that. But the market's been growing very aggressively. How do you think about where we are in the transition?

A - Julia White {BIO 20496259 <GO>}

Yes. There's a couple of different angles -- the mic, yes, can you hear me? A couple of different angles on, I would say, we -- well, it is -- in general, the cloud adoption is great. And it's definitely growing. And we're moving into even kind of late-stage adopter. The percentage of the IP and the applications being built and migrated, go into cloud is still pretty small. And we still have a lot more to go. So while most companies today have some workloads that they're migrating to the cloud, they're

building new in the cloud, it's still not the majority of what they're running. So -- but I do think a couple of things have changed. We definitely have moved from seeing kind of the mid-tier and early adopters moving into cloud and getting kind of the first workloads into the cloud into even the very late-stage adopters. So I think we have -- from a kind of a cycle of a customer type, we've definitely pushed even farther. And interestingly, in the past year, we've had some conversations, the very really basic cloud conversations all over again because this next wave of adopters have started to come in on that front.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right. So -- and when you think about workloads on Azure, what moved to there first? And I guess you have to think of it from -- by cohort, like you just mentioned, right? So early adopters, what are they putting in Azure today that they weren't a few years ago? And do you see the uptake of the technology -- kind of the migration changing now that people have been able to learn from the cohorts before them?

A - Julia White {BIO 20496259 <GO>}

Yes. So they -- so there's the type of adopter.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Yes.

A - Julia White {BIO 20496259 <GO>}

But then I see the -- for the overall TAM for Azure in the public cloud, right, it's 2 things. One is applications that exist today that can migrate to the cloud or net new applications being built. So you can have migration or we have innovation, 2 basic ways. And if you go back, the early, early cloud adopters was innovation, like net new things, didn't have a lot. And actually some of the early Azure workloads that came -- a new mobile app, a new system being built. Then we moved to the wave of like, "Actually, now I get it, the cloud. I'm really going to start migrating my existing set, my mission-critical, my business area." And I'd say, if you went back three years, the migration workloads looked like backup, disaster recovery, non-mission-critical line-of-business systems. Now the migration pipe is as good as the innovation pipe. So we've kind of normalized on that because you kind of have the types of tranches on the workloads. Then within the migration, you're seeing things like SAP, huge pipeline, like mission-critical systems running on Azure. Obviously, Microsoft's running our own SAP system on Azure as a proof point. So we definitely moved out of kind of lower-tier, Tier 2 type of workloads into migration into the Tier 1s. So I think on both fronts, the balance between innovation kind of workloads and applications and migration, that's normalized, which tells you things are kind of shaping to the whole market. And then the level of sophistication of what's migrated has also increased. But it's still early.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So how do you -- I mean, I don't know to the extent you guys kind of talk about this. But if you can give us a way to think about, you were just kind of going down this path, like IaaS versus PaaS penetration in Azure. So meaning, of Azure workloads,

right, what percentage of them would be -- or revenue, how much would be PaaS versus IaaS? Like how do you think about that like moving higher up?

A - Julia White {BIO 20496259 <GO>}

The way I think about it is more what -- and I would encourage others to think about it is think about it by the workload, the applications customers are using, right? And if it's just a straight migration, you're going to use core infrastructure, right? Then even like a couple of years ago, people would just say, "I'm just going to migrate and then leave it alone." I don't actually meet a customer who talks like that anymore. Walmart is a great example. They started just migrating. And then they're like, "We don't do that anymore. We modernize everything that we're bringing over because we see the efficiencies we get." And when you say modernization, what does that mean? It means I'm using more than just core infrastructure. I'm using things like your developer services, your data services, managed services to get the greater efficiencies of the cloud as well as you're now taking advantage of what we talk about, cloud-native services that were built from the beginning to have this incredible scale, superefficient, great user experiences. So I'd say most -- so from the overall pipeline, we still have a lot of people just migrating infrastructure. But then almost immediately after that, the modernization work happens. And that's when these platform services and data services start getting consumed.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So I mean, you've been involved in this business for quite some time. If you take a look at kind of the marketing message that you would help the team create from when you're looking at your competitors and kind of going through the pros and cons or the competitive differentiation, what does it look like today? How do you feel you're competing? And what are the strengths and weaknesses that you talk about?

A - Julia White {BIO 20496259 <GO>}

Yes. The things that we both talk about. But also we hear back from customers because it'd just be us talking about it. First, I think hybrid has been, for a long time, a huge differentiator and our belief that compute will be distributed, not just all in public cloud but distributed on-premises as well. And that's true in what we talk about as hybrid with data center and cloud but even as we move into more of the intelligent edge and more distributed compute. And so building consistency around that area. So we can certainly talk more about that. Then the next one would be overall just talk about productivity. And this is again a point of view that we came -- we, because of our heritage, know that customers have a varied range of technology skill sets and technology teams. And so we built in the management tools, built in the developer tools, built in policies such that as people were moving to the cloud, they didn't have to learn all this tooling again. We just built-in. So all the systems are there. So the productivity message certainly resonates. And the last one is actually -- really increasing is around trust. And that's trust of our security, our compliance, our privacy. We have more accreditations and attestations. I mean, in the public cloud, certainly important. But it's pivoted even farther now to a trusted vendor in that we are very transparent about what our core competencies are, what businesses we're in, we're not going to turn around and compete with our customers. And that's

obviously a big theme that we hear about from the market as well in terms of overall trusting Microsoft as a partner.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right. And Amy has talked a lot on the earnings calls about Enterprise Mobility being included obviously in the Azure line and just the strength of that business. And we kind of think of that as maybe more of a SaaS application that's running on top of that. How do you think about the other types of SaaS applications? And the reason why we care about it is, typically those have higher gross margins, right? So how do we think about kind of the -- how you can expand those other touch points within Azure -- SaaS touch points within Azure?

A - Julia White {BIO 20496259 <GO>}

Yes. So our -- so Enterprise Mobility or EMS is a set of Azure services that we then sell sapplications, right. But to protect the user on their device from their apps. And so kind of that package, that is really -- actually goes to the market with our Microsoft 365. So a great opportunity there. But other areas, I mean, honestly, all of our data services, really, I think, follow in that class of kind of higher-level services. And that part of the Azure business is incredibly healthy. And so we see a ton of opportunity in that class of services. And again, it's about customers moving into the cloud. And one of the biggest problems we're trying to solve is around their data estate with operational data but also analytical data. Particularly, everyone has an AI strategy, everybody. And what they do, they're like, "I got to use AI, I got to create AI in all my applications, my systems." Then, "I get always, like, dreams about AI." Then they go, "Look, I have no data, my analytics systems are old and rigid and...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

How do you AI without the data?

A - Julia White {BIO 20496259 <GO>}

Right. And so quickly they pivot to, like, "Oh, gosh, we got to work on our analytics, our data warehousing, our data lake." And so that part of our cloud growth is phenomenal because if you're going to go do -- if you're going to build AI, you're not going to build a data estate and analytics systems on-premises. It just doesn't make sense. So that part is, I think, from the more higher level services.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right. So we probably don't hear as much about that one on the earnings calls. But it would seem like that would be one that's on the come then in terms of what we should be.

(technical difficulty)

a little less EMS maybe just given how well you guys have done there and a bit more in this area.

A - Julia White {BIO 20496259 <GO>}

Yes. I mean, if you think about from the overall growth, EMS with, what, 94 million paid users, it's like huge business. Phenomenal, we love it. But it does at some point slow at that scale where the data services and other areas of Azure just -- we're still putting up triple-digit numbers on really big businesses.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right. And that's the other question that comes up a lot. I'm interested, from your perspective. So the investors, the consternation every quarter about whether Azure growth is -- whether it's 74% or 76%, like a lot of market cap trades on very small difference in percentages.

A - Julia White {BIO 20496259 <GO>}

I know. Amy reminds me about that all the time.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

I'm sure she does. What do you say to people who fixate on that specific number?

A - Julia White {BIO 20496259 <GO>}

Well it is an important number. So not a bad one to pay attention to -- if you're going to pay attention to it. But you have to keep it in perspective, right? I mean, Azure is a massive business. And the way we report it is also inclusive of the EMS part of the business as well. So in the per user, that will have a graduating growth aspect to it as well. Then -- but if you unpack behind that number, there is incredible growth within it. We've seen about the data services like a triple-digit growth. And those are huge -- huge new industries that we're going into. So yes, a business of our size, you're going to see growth moderate. And I always feel bad -- internal reviews. We have very high expectations. Amy has very high expectations on us. And I say, beatings for these businesses that are multimillion-dollar businesses. And they're only growing at 100%. And I'm like, "God, where does this happen?"

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So try and keep it a high-class problem.

A - Julia White {BIO 20496259 <GO>}

It is, it is. Yes, I'm like, when I went to business school, no one taught me how to grow a multibillion-dollar business at 100%, yet here we are. So -- but so within the dynamics of it. So feel good about a couple of things. One, the new businesses we're entering into, whether it be analytics, you're going to see over the next quarter additional places we're investing, new businesses we're crashing into. I mean, we've effectively got an unlimited TAM that we're playing with for the majority of Azure, all right? EMS has a per-user cap to it. But from an IaaS and PaaS perspective...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Very unlimited.

A - Julia White {BIO 20496259 <GO>}

It's more about operationalizing it well, capitalizing on it well. So yes, you'll see the growth continue to stabilize but in really high numbers though.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

How do you internal benchmarking on your Azure performance? Like how do you -- what do you -- how do you know -- like how do you determine, okay -- how do you make Amy happy? Is there a certain benchmark she looks at? Is it AWS' growth rate? Is it -- how do you -- how are you kind of grading yourself on that segment?

A - Julia White {BIO 20496259 <GO>}

Yes. Obviously, it's a triangulation of a few different areas. Certainly, looking at what other vendors have been growing and where rates have been at the same in time in their life cycle is certainly one way to look at it. Looking at what the size and shape of the existing on-premises equivalency would be and then how fast is that moving. Then we see just early signals in terms of if AI is going to be true, then this type of data adoption needs to be happening. And so working back from what we see from a market signal perspective. So it's looking at those 3. It's a little bit of an arc obviously when you're in kind of an unlimited TAM type of business. But we do -- and every time we think we put up aggressive numbers, Amy kind of pushes us a little harder, which is her job. And we keep trying to do it.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So one question that started to come up over the last few months was there was this, I guess, idea that salespeople were getting paid to presell capacity. So getting paid quota to presell capacity. How -- and this might not be kind of your area of expertise. But just kind of how do you think about how the go-to-market has changed? And we were always told that the process of getting paid pre-usage, right, changed a few years ago and now with more like the salespeople are focused on consumption. How do we -- what can you share with us about kind of how the go-to-market has changed and potentially the -- how compensation strategies have changed?

A - Julia White {BIO 20496259 <GO>}

Yes. It was a 3-year journey where we took our sales force from being paid on billed revenues. So it's selling Microsoft expired licenses or Azure commits to being purely paid on consumption. So we kind of graduated each of three years, we were 100% based on consumption now for -- so any Microsoft salesperson who is paid on Azure, it's about consumed revenue. So if they -- if a customer chooses to say, "Hi. I want to give you $1 million upfront. And I'll use it over the next year," that salesperson doesn't see $1 million in their quota. They see it as it gets consumed through the year. So 100% true on that. The company will still obviously financially recognize if a customer chooses to bill upfront. And we had -- it's interesting, we had pulled and done so much field retrainings, they go out of this build motion, get rid of that muscle memory and go to consumption. Then we actually found customers are like,

"No, no, I actually kind of like to buy and lock up my dollars." Yes. So there's actually a customer

(technical difficulty)

(and feeling) that. So of course, we'll take the money that way. But that's not -- so we don't -- but that's not how the salespeople on the front lines are actually being recognized. And that's not how we also incentivize or compensate our partner channel either. That's also on consumed revenue.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right, okay. And I wanted to spend a little bit of time on Azure Hybrid Benefit, which seems like, I mean, you guys are uniquely positioned to offer this Bring-Your-Own-License movement. Can you talk to us about when this really started to make its way into the market and what the feedback has been? When did you start to see customers have that moment where they said, "Okay, this is great"?

A - Julia White {BIO 20496259 <GO>}

Yes. So this is the context. So we have Azure Hybrid Benefit. So if you're a Windows Server or a SQL Server customer, you can, with your Hybrid Benefit -- with Microsoft Azure, Hybrid Benefits allows you to basically run your Windows, SQL -- Windows Server, SQL Server in Azure. And you don't have to repurchase the IP when you do that. So it's a fantastic advantage for -- kind of gives on-premises customers and the buyers of Windows and SQL kind of insurance plans because most people know they want to go to the cloud in the next generation. And then obviously, it gives Azure a wonderful price advantage in terms of being able to run it with the same IP that you've already bought. So -- and so like...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

And when did that go into effect?

A - Julia White {BIO 20496259 <GO>}

I was going to say I think we're now in our second year officially when that program landed. But the -- it took off in a couple of -- mostly about 18, 12 months ago where we really saw adoption (craze). There's just awareness, we have to get out. And people buy. Then also, we just -- we operationalized it in the product itself. So when you're in Azure, when you go to deploy a virtual machine, it says, "Hi. do you have Azure Hybrid Benefit?" So it also just made it really frictionless for a customer to take advantage of that. But we're seeing a huge benefit in both our on-premises licensing because of the benefit it adds to those customers. But also, our pipeline of Windows and SQL applications migrating to Azure is fantastic. And I mean, on -- the other aspect of this, too, we have the Azure Hybrid Benefits. But we also have our Windows and SQL Server 2008 product that's going into extended support. That's 10 years old. That means it's going out of mainstream support. So customers are faced with 2 options. One, they can buy extended security updates for about 75% of the cost of license or they can move and run it on Azure and get that for free. So it's a secondary

benefit for the 2008 installed base, which is the largest installed base we have (in that space).

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right, right. And is that -- do they have to pay that per year if they stay -- if they stay just saying they want to do it on-premise and paying the updates?

A - Julia White {BIO 20496259 <GO>}

It's 75% (inaudible) for three years.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

For three years. And after that, you have to do something?

A - Julia White {BIO 20496259 <GO>}

Then you get customer agreements after that, yes.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Okay, okay.

A - Julia White {BIO 20496259 <GO>}

So yes, it's not a pretty road. And in general, like that's -- it's a good -- it's just a good catalyst anytime -- it's not actually that different than what's happening on SAP, right, where everyone on SAP has to move to HANA by 2025. That is a huge catalyst of people saying, "Okay, I got to (touch) my SAP system. Am I going to move to HANA? Or am I going to move to the cloud?" Again, that's -- we see a phenomenal pipeline around SAP systems moving to Azure and I think with that catalyst. And the 2008 extended support and the support into security updates is another one of those. So 2 big, big growth opportunities for the business.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

And how do you feel -- like we didn't talk specifically about AWS before. But how do you feel you've closed the functionality gap relative to them over the years? Or do you not think about it that way?

A - Julia White {BIO 20496259 <GO>}

No. I mean, customer -- it's -- I'd say what's reflected in customer and partner conversations are, it's -- for the most part now I think people say we're equal, right, if it's analysts, if it's customers. And the interesting thing is most customers I go to, like, "Oh, you're missing this feature. But I know you're going to have it soon enough." And -- or, "AWS is missing that feature. But they'll probably get it, too." So it's pretty normalized from a pure technology perspective. There's places that are materially different that come up. Hybrid, that category of things, we have a bunch of stuff they can't touch. So a few aspects like that. But other than that, it's pretty normalized from that perspective. Then it's more into -- AWS, obviously, they were out first, they're the

leader. They get the benefit of that doubt. When I was leading the Office 365 business, I had that luxury. So I know what it's like, where we have to hunt a little harder on the Azure side. But I see the trust factor comes up a lot. And I think that it's one of those intangibles. But if your partner -- the partner meetings I had this morning were like, "Hi. I used to work with AWS. But now I don't. I worry they're competing with me." That's just a very...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

That comes up a lot.

A - Julia White {BIO 20496259 <GO>}

This is a very real concern, right? And I think I'm proud of the work we've done to be very transparent about our plans, our core competency, what we're doing, what we're not doing, such that we know what it's -- we've had 40 years of having to build trust. I know what that looks like.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So there used to be a good bit of Windows revenue run -- or Windows workloads running on AWS. Should that -- like what happens to those going forward? I mean, that was before maybe you became as strong as you guys are. Do you -- what's the trend in Windows workloads running on AWS? And do you find -- is there a way for you to kind of shift those workloads back to Azure?

A - Julia White {BIO 20496259 <GO>}

I'd say -- I don't have their numbers obviously. But I can see mine. And the pipeline...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

But they must send you a check, right?

A - Julia White {BIO 20496259 <GO>}

Well yes, we -- there are certain boundaries we have to...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Yes, yes, okay. Amy knows this.

A - Julia White {BIO 20496259 <GO>}

But we -- I would say that I would be shocked if their pipeline of Windows SQL is better than ours. Despite them being bigger obviously, I think we have phenomenal growth there. And we have these very, very differentiated opportunities on that front. When -- taking applications off of a cloud to another one, honestly, is a place where we could spend a lot of time. And our competitive nature would want us to. But I'm like, the white space and the TAM of this business is so big, I don't actually encourage our salespeople to focus a lot of energy on that. If a customer's like, "Hi. I can't trust AWS," or "I can find better (business) with you," we'll say switch. But it's

not necessarily the place I'm actively hunting down and trying to go pull off of it. And I mean, the other aspect, too, which is up in AWS is it's a multi-cloud world. And I think we've expected that. If you look at on-premises today, it's very heterogeneous. And I don't think the cloud will be any different. And I see people making different decisions or are, "Hi. I'm going to do new innovation on this type cloud. And I'm going to do migration on this cloud." Or -- it's really -- the customer's mindset for the most part is departments or application by application. And so they can do best of breed, they can want to have -- kind of spread their estate across different vendors for vendor control, vendor lock-in concerns, a lot of different things. So even though there's -- a customer might have a Windows SQL application on AWS doesn't mean they're not going to put their next one on Azure. And it'll be blended. I expect that to continue to be true.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

What is your take on AWS Outposts?

A - Julia White {BIO 20496259 <GO>}

Yes. I -- it's come a little -- (it's heartening). It was funny to watch. They wouldn't even say the word hybrid or if they're -- like they would literally not say the word. And you'd be like, "That's so weird." But I guess if you only have a cloud, you have a hammer that hits the nail. And we wouldn't talk about hybrid for five years. We've had Azure Stack in market for over two years, right. And they finally utter the word hybrid and then -- and now it's Outposts. And I even laugh a little bit, the name, like, Outposts. Like you're not serious about it. It sounds like something you have to do, the way they named it even, tells you how they really feel about it. But I think it's interesting, it's not Azure Stack, people are now doing -- trying to compare. First of all, it's not in market. I think it's a year out. It's definitely different than what Azure Stack is, which is a full kind of integrated cloud system that you can run locally. This, from what I can see, looks like their kind of platform layer services being able to run on existing infrastructure in kind of a managed way. But we'll see how that turns out. I think it's a kind of like welcome to the -- welcome to reality. Customers are hybrid, don't need hybrid. Interesting to see how they play on that. And again, it's different to try and do it after the fact and have a hybrid offering versus build from the beginning. We have identity, we have data, we have management, all hybrid. So...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

I want to see if there's any questions in the audience as we're -- oh, there's one. I think there's a mic runner. Hold on, he'll be right there.

Q - Unidentified Participant

I think there's a perception that you guys are very strong in large-scale enterprises for many of the things you've talked about: hybrid, your reliability, your long-scale trust. How are you positioning yourself with younger companies, with start-ups. So that you're relevant for that next generation of companies?

A - Julia White {BIO 20496259 <GO>}

Yes. If you looked at -- so starting from, let's say, a segmentation perspective, if you look at the Azure business, we're actually very equally distributed across small business, kind of midsize enterprise and large enterprise from a consumed revenue perspective. So it's maybe more balanced than people might think. We obviously are very strong in enterprise. But overall, very, very healthy in small business as well. So feel great about that, feel great about execution and the growth rate. And I actually think really strong in our SMB kind of our web direct business, superstrong. So -- but specific to your question on start-ups, we have a couple of different initiatives, very targeted at start-ups. And there, we have Reactors and kind of co-innovation centers around the world. We also have investment programs where we provide start-ups not just money. But resources. Then actually the thing that most start-ups (that reach) and work with us on is that we do go to market with them. So if you come and you work with us and you -- do your technology running on Azure, then you earn your right to be able to be co-sold by our sales force, which is a huge lever for start-ups. And so that's -- you obviously earn your way to that level. But the idea that you could be suddenly sold by 50,000 Microsoft salespeople across the globe, it's pretty impressive. So we're seeing a lot of strong demand from that specifically. And if you go back a couple of years ago, us, AWS, GCP, were all throwing out a bunch of credits for start-ups. And I think they're mostly burning money because they would just move from one program to the next program and use credits and then leave. Where now, we have a much more focused value-add -- 2-way value-add programs with start-ups specifically. So feel good about our pipeline there. And obviously, if they're a B2B start-up, they love us. If you're B2C, you don't have quite as much, just because our global sales force isn't necessarily focused on that. But it's okay.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Any other questions? There's one back there.

Q - Unidentified Participant

I just sort of detected a bit of a pickup from management whenever they would talk about the fact that Microsoft offers solutions where -- and you don't compete with customers. And when Heather asked that, you essentially said you don't go -- your salespeople don't go chase these kind of customers. Am I missing something here?

A - Julia White {BIO 20496259 <GO>}

I didn't hear that very well. So one more time.

Q - Unidentified Participant

I guess what I'm trying to ask is, I detected a pickup in the tone from management recently about Microsoft not competing with their customers. Just I can (see that throughout) Amazon competing with customers, whereas you said that you don't really chase customers per se, which Amazon may be competing with. There's a bit of mismatch between this. I'm just wondering where and what am I missing?

A - Julia White {BIO 20496259 <GO>}

I'll tell you what I'm seeing and see if that answers your question perhaps, is I would say things like retailers and financial services companies now and now into health

care, seeing Amazon go into those businesses and saying, "Gosh, am I going to give money to people who are now competing with me?" And more than money actually, the deeper issue is data, right? If you're running your systems on a cloud, they have a sense of the data, where information is coming from. And just it's information you probably don't want to share with someone who's competing in your same space. So there -- I think that's the thing that I see come up most often and why you're seeing like Kroger and Walgreens, Boots and Gap and lots of companies now moving actively to Azure to distance themselves from basically feeding the competition. So maybe that -- I don't know if that answers your question. But...

Q - Unidentified Participant

You mentioned some of the difficulties of converting an AI strategy into reality. And I'm wondering, are you seeing that in any of your -- this takeup of some of your AI compute offerings, that actually everyone wanted to say that they were going to use all of this and, actually, the reality isn't quite as strong as you thought?

A - Julia White {BIO 20496259 <GO>}

Yes. They -- I mean, I think we're -- as in lots of other technologies are about a (height) cycles, right? And so everyone got very excited about AI. And they're still excited. If I look at our Executive Briefing Center, AI is the #1 conversation customers want to come have with us. So this tells you the index on that. And if people said, "Great, I want to do AI," they're like, "Okay, well, that -- there's 2 things in AI." There's models, AI models that have been prebuilt, like we prebuild them with all the data and resources we have. So like a computer vision, we can detect that this is a shoe versus a water bottle. And you can just use that AI model in your application and not to have to do a lot. We've seen a lot of adoption of those prebuilt models because if I'm building an application, I can just take advantage of that AI model. Then there's the more sophisticated, which is, "I'm going to build my own AI models to power my supply chain or to predict customer behavior." And that's where you need to get into data sciences, where you're going to be using very specialized compute to be able to process and run those kind of algorithms in high fidelity. And that's a much more complicated conversation. And it tends to start with they dream of doing it. But they don't have the data scientist, they don't quite know what they want to do yet. So that tends to be much more about analytics, getting into data science basics and then taking advantage of the compute that we have available for it. So there's kind of 2 classes of prebuilt AI models they can use and then building their own and the capability around that.

Q - Unidentified Participant

And how do you plan your end capacity for that? And a wider question, how do you plan capacity for, yes, you say you're seeing such strong growth?

A - Julia White {BIO 20496259 <GO>}

Yes. There's a lot of science in that. So it's a combination of, first of all, where globally we see the demand signal. We obviously have lots and lots of models around how to predict demand and where it's going to be coming from. But then we also do -- we have very good visibility into our sales pipeline, both from our direct field but also

from our partners, of the type of applications and the type of workloads people are coming on. Like SAP is a certain type of compute that we know we need and we can have a -- we have a pretty good sense of where it needs to be distributed. AI was one that's, because it's still early, it's a little harder to predict. So that one, we have probably not perfect capacity utilization on that one just because it's so early. It's not a big part of our fleet either. That's kind of specialized compute. So it's not like being wildly off makes a lot of difference in the margins. But that's the one that's a little bit harder.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

I wanted to ask about container adoption and interest in serverless. What are customers saying to you about both of those?

A - Julia White {BIO 20496259 <GO>}

Yes. So in the kind of higher-level services, I -- basically, my simple way is there's 2 classes. There's data services. And then there's the kind of developer platform services. So containers and serverless, as we talk about, is on more the developer system. Back to the applications that are on-premises, they migrate. Then once they migrate, the very first thing you do to modernize is move to containers. And like the world has chosen Kubernetes and containerization and then -- and using this technology called Kubernetes to do it. If you go to a Kubernetes conference, they're selling out. It is mainstream average companies, like it's gone from being elite tech to being everybody's choice. So that is absolutely the next wave, it is core to every modernization project I've seen. I expect it to continue to be because we're doing it internally. So I think that is a very real trend. And on serverless, there's a lot of confusion around what does serverless really mean. And people started talking about it as event-driven. It's kind of, this thing is like, hey, if an action happens, an outcome, you make another action. And (inaudible) serverless is basically how PaaS works, right? So we talk about serverless, we don't really say PaaS anymore. It's like anything that doesn't require you to manage the compute and now working in storage underneath. And that all comes into play when you're doing modernization or net new innovation applications. And I think that's a strong trend on that side of things.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

So does that become deflationary to an extent? Because you went to cloud 4 or five years ago, you were deploying PaaS and buying Reserved Instances, for example, for periods that you might not be using it for. But you wanted to make sure it was always available. And as you move to serverless, you only have to use it when you need it, right? And how do you think about the deflationary aspects that it could cause on someone's IaaS and PaaS infrastructure, right, versus kind of how much it could ignite even more spending, right, be additive and then create new use cases and new applications?

A - Julia White {BIO 20496259 <GO>}

Yes. I think you would theoretically say, "Gosh, it's going to be deflationary because everything's going to shift over there. And then we're going to get superefficient in

how we use it." I don't see the reality moving quite like that. And if you look at -- again, if you classify both data and developer services in that, the data services are growing incredibly hot. And so any shift from the core infrastructure where they're running it -- it's going to make it up in data even if it's kind of more deflationary on the developer high level.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right. So on a collective basis, it's net increase in spending. It just depends on how you're allocating it. Is that the right way?

A - Julia White {BIO 20496259 <GO>}

Yes. And I do think there was -- as we've gotten more sophisticated in what serverless means and the technology, there's different types of it, right? And things like our event-driven is superefficient from a customer perspective, very low cost, awesome. Hard to run systems on event-driven technology, really hard, like if you really know what you're doing when you build a brand-new app, you can totally make it work with event-driven only. But there's not many people on the planet that can do that or really want to. So the theoretically possible versus what I think is actually going to happen looks a little differently. And there'll be much more of a balanced approach in people -- how people use the technology.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Was there a question -- I saw him standing there. Was there a question here? No, okay. I saw the mic runner. So sorry. The -- we had Thomas Kurian who is now CEO of Google Cloud here earlier this morning. I was wondering what -- when you're doing a competitive analysis or when you're hearing feedback from customers, how does GCP fit into the equation?

A - Julia White {BIO 20496259 <GO>}

Yes. More of like outside in what I see. I say almost every conversation customer partner is AWS, Azure. That's -- I expect that in every meeting and every discussion. The -- I see GCP occasionally. And they mostly show up -- like I was in France, the conversation there, they tend to come in -- and again, I'm just reflecting. But I think about anything else...

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Yes. Not Microsoft views, what customers are telling you?

A - Julia White {BIO 20496259 <GO>}

Yes. What I see, this reality is they come in with -- they could -- in a different way, maybe to the CMO from AdWords or G Suite and then kind of buy the GCP usage from that. And so it's more of kind of a roundabout way to get into those accounts and more by the business. And I think if you're early in trying to get enterprise wins, you're going to go by the business. So that's more of what I see come in. And it's not frequent, to be honest. It's geographies, I see a few places.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Okay. Last question I had was about GitHub and the role that you see GitHub playing and expanding your developer audience. How do you think about GitHub and how it fits in?

A - Julia White {BIO 20496259 <GO>}

Yes. And that's more at a Microsoft level, right, in terms of being an incredible developer resource, tens of millions of developers and hundred million repositories and a wonderful open-source ecosystem. And so in terms of Microsoft and developer relevancy, it's a wonderful asset. It'll continue to be run independently, like you've seen us do with LinkedIn or Minecraft. And so have very independent capabilities in decision-making and autonomy, which is really important. And we deeply understand and value that. And yet we also see opportunities to help customers. So as an example, we put an offer together that allows our enterprise customers to buy GitHub Enterprise on Microsoft licensing. And we didn't -- there's not a big promotion. We just kind of put it out there. And we just see an incredible adoption of it, like customers are begging because they're -- GitHub's enterprise offering wasn't really done in an enterprise way, the way Microsoft was, right. And so customers were hungry for that. And so when we just did a pretty simple thing for them, it got easier, like, "Great, now I can do all this as one thing." So where we see great customer benefit and have natural affinity, a wonderful opportunity together, we're not good to be heavy-handed or (jamming) hazard on them or anything of that nature.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Right, great. Thank you, Julia.

A - Julia White {BIO 20496259 <GO>}

Yes.

Q - Heather Anne Bellini {BIO 2268229 <GO>}

Appreciate it. Thanks, everybody. Thank you.