

# JP Morgan Global Technology, Media & Communications Conference

## Company Participants

- Dave O'Hara, Executive Vice President, Commercial Chief Executive Officer

## Other Participants

- Mark Murphy, JPMorgan

## Presentation

### Mark Murphy {BIO 1542399 <GO>}

Okay. Good afternoon, everyone, and welcome. I'm Mark Murphy, Software Analyst with JP Morgan, and it is a great pleasure to be here again with Dave O'Hara, who is EVP and CFO of the Commercial Division of Microsoft. So Dave, first off, welcome and thank you so much for taking the time.

### Dave O'Hara

Thank you, Mark. Happy to. Anytime anybody offers me a trip to Boston, I'm here.

### Mark Murphy {BIO 1542399 <GO>}

Yes. I know you recently ran the Boston Marathon.

### Dave O'Hara

I did. One of the crazier things I've done, but yes.

## Questions And Answers

### Q - Mark Murphy {BIO 1542399 <GO>}

(Question And Answer)

Great to have you back here. Maybe you could just briefly introduce yourself and describe some of the teams and some of the products that you oversee within your role and maybe size that business for us.

### A - Dave O'Hara

Sure. So I'm the CFO for the Commercial business, and sometimes people ask me, what's the Commercial business in Microsoft? And I say everything is not consumer, which is sort of the easiest way to define it. But it's all the names everyone is familiar with. It's Office, Windows and Azure and SQL and biz apps, all from a commercial perspective. So give or take, it's sort of \$150 billion a year.

**Q - Mark Murphy {BIO 1542399 <GO>}**

Okay. Around \$150 billion. So let's begin with the topic of generative AI and the co-pilots. We have, since last year, been very outspoken bulls on this topic. And we've been bulls on Microsoft's leadership within this category of generative AI. We actually referred to your OpenAI investment as potentially some of the best money ever spent. And so we've noticed that we have Amy and Satya, saying that they're committed to leading the AI platform wave. Having been with the company for 22 years, what I'm interested in is, how would you describe the level of internal excitement and the magnitude of this opportunity for Microsoft to try to go out and lead the AI era.

**A - Dave O'Hara**

Sure. That's certainly the hot topic with customers with partners and investors. And so I think the urgency and the passion around the topic are very high. A lot of people come and ask us, what do you think about AI? And they're not even sure what they're asking yet. They just want to know what's going on and where is the world going and what do we as a company. These are customers talking -- what do we as a company need to do to get in front of it? So I would say, high sense of excitement with customers and partners, high sense of urgency inside Microsoft. It's been a bit of an expanding circle. When we first made the investment in 2019, it was a relatively small group of people involved, and now it just permeates everything that Microsoft is doing and everything that we're working on. So it's a big focus for us, big focus for customers, and I think it's really early but really, really good signs of interest and demand.

**Q - Mark Murphy {BIO 1542399 <GO>}**

So we have been impressed on this topic, Dave, with the product known as the GitHub Copilot. And we started noticing about 18 months ago, we would speak with developers. And they would say, well, I wrote code all day long, but 40% to 50% of the code was generated by this GitHub Copilot. And the math on that is pretty staggering when you think about the bottleneck out there, in terms of there just aren't enough developers in the world. So soon, we're going to have Copilot for security, we're going to have it for dynamics, we're going to have it for Teams and Word and Excel and PowerPoint. We have been told that the previews for these products are going to blow people's minds, by some of the people that have been in the private previews. Where do you think we're going to see the greatest AI value creation among all of these products?

**A - Dave O'Hara**

Yes. I mean, blow their minds is always an interpretive thing, but I do think they're very impressive. And to me, having been there watching them be developed to --

amazing thing to me is the speed with which they were developed. So when we started out with OpenAI, the logical place to start was with being, for all the reasons that make sense. And so once the Office team got to building some of the Copilot products, just how quickly they came together and how quickly they surface in the product and how much direct value add, all was very impressive and I think certainly from my expectations, exceeded the expectations that we had.

So I think the ability to not only tap into OpenAI and all the benefit it brings, but to make it so usable and drive productivity increases. It's been impressive with the speed at which that moves. So I think everything is just accelerating and that's why our goal as the company is to not only stay -- is not only be a leader but to stay a leader and we -- to do that, we need to just keep moving really, really quickly. And I think you would see that urgency and everything that we do and everything that we build.

But I think in terms of where do we see the value most, I think it has a lot of value for something like Bing that's a search engine, but it really has a lot of value for something like Office or Windows or any of the modern work products where you can see big productivity increases.

**Q - Mark Murphy {BIO 1542399 <GO>}**

So we definitely see the speed. We're impressed by it. Everyone out here is also wondering how is Microsoft planning to monetize it. I know you had mentioned -- you'd talk about Microsoft 365 Copilot monetization in the coming months. But just generally speaking, how do you think about pricing and packaging AI kind of up and down the stack?

**A - Dave O'Hara**

Sure. At a general level, there's really a few ways to think about it. One is we have many of our products that are sold on a per-seat basis, and so if that works in some instances where you have certain functionality that people use all day, every day, companies would prefer to pay for that as a per-seat. There are other products that are more consumption-driven, data being an example, where maybe a per-user construct makes more sense, but maybe a consumption model makes sense.

And there are others where you might just point AI services for people just go out and use it, pay as they go, and they use it for a while, disappear, come back a month later, they use it again. And so I think all of those are opportunities for us as a company. So per-user will see that show up in some places, consumption will show up in others and others will just be services on demand.

**Q - Mark Murphy {BIO 1542399 <GO>}**

Okay. So it's a pretty broad range. The other question we tend to get very frequently from the investors is what is this upfront investment profile going to look like? First you have to train these large language models, right? And then you're going to bear the cost of actually operating them as you embed them into all these products. How

should we think about in the short-term and then in the longer-term, the margin impact for Microsoft as you make those investments?

**A - Dave O'Hara**

Yes . It's a good question. I think it's important for folks to just remember to be successful in building a large language model and to operate a large language model, you need a lot of data center capacity. And so you need a footprint. And I don't know that -- I'd say you have to be a hyperscaler, but it helps to be a hyperscaler to already have all that footprint and we have that. And then after that, it's a matter of making sure that all the machine capacity is available to do all the inferencing and training. And so there's obviously incremental cost to that. And it's not cheap, but -- and then we have to come up with the right monetization model, but I think the important thing is that in the cloud business, you had to build out that data center footprint first. It took a long time. It was super expensive. What we're doing now is we're adding capacity to those data centers that allows us to serve the LLMs. So I think that is a -- I think it means that the margin opportunity probably comes a little quicker than it would have otherwise in a cloud model.

**Q - Mark Murphy** {BIO 1542399 <GO>}

It comes in quicker.

**A - Dave O'Hara**

Probably a little quicker, just because you already have the data center footprint there and you're just taking advantage of what exists.

**Q - Mark Murphy** {BIO 1542399 <GO>}

Okay. That's very encouraging to hear. So Dave, a moment ago, you mentioned this great speed at which Microsoft is moving in all these directions. How do you think about weighing the -- you have this benefit of being first to market by moving quickly with ChatGPT and the Copilots. You have this opportunity to gain a leadership position, you also have a risk of moving very quickly and putting these things out there in the wild. There could be risk around bias, there could be risk around hallucinations. You have to try to protect a customer's own proprietary data as well, right? How do you think about weighing all of this?

**A - Dave O'Hara**

Yes. I mean, it's obviously a very important question, Mark. We've been thought leaders since the very beginning on how irresponsible AI and how we think about managing AI. I mean, Sam Altman has been -- has gone on record several times saying, hey, we need to be regulated, you should come in and regulate us. And so I think everybody is going in with an open mind that we need to make sure that we have some guardrails on how we think about growing the business.

With regard to hallucinations, et cetera, we're all very aware, we want to eliminate that to the degree possible at all. And so we're very focused on that. And then from an responsible AI perspective, making sure we're managing people's data, making

sure we're abiding by our privacy regulations, making sure that we're doing things compliantly. All of that is super important. It's been a focus of ours for years. It's one of those things where this seems like it popped up overnight, but again, we started investing back in 2019. I think came out with our responsible AI principles a few years ago and so we've been at it for a while, and we've been trying to drive some thought leadership on how to do this in a responsible way, and we'll keep doing that.

**Q - Mark Murphy** {BIO 1542399 <GO>}

So Satya had recently discussed how he believes AI is going to reshape pretty much every single software category. We -- in our work, we came across a comment saying that this would be the next big battleground in IT. Can you maybe help us, as you look out into the future, and you think about all the existing AI-enabled products that you've announced, where do you think you're going to see the largest growth opportunity? And then even beyond that, how are you going to evaluate all the future opportunities for building AI into your products?

**A - Dave O'Hara**

Well, I think the very first -- to sort of answer that in reverse order, the very first area where we'll go is where our customers can see value. And so we work -- I spend a lot of my time, as part of the Commercial business, talking directly with customers and partners and you get a sense for what really matters. And so we'll go build in areas that really matter. I also think from a company perspective, one of the very first things we do is we look at the total addressable market and say, how big could this market get? And so if we have permission to play, like if it makes sense for us to be there and it's a really big market and we think we can deliver that customer value, that's where we're going to go.

I think in terms of how do we think about the most immediate ability to monetize? I'll go back again to I think the work that we're doing on our productivity tools in Office and in Modern Work more broadly, I think that's going to have some immediate value. And I also think, just to sort of add on to that, there's a lot of talk about how AI is going to eliminate jobs. I think what it'll do is automate a lot of functions, but it does free up time for those workers to go do other things, even within our own finance team. When we automate functions, it frees up time for our finance team to go work with customers directly and help them understand what they can do. And I honestly would rather have my finance team out working with customers than doing manual reporting or something on the back end. And so I think there will be productivity gains. It frees up people to go work on other things. To your point about GitHub, there's a shortage of developers. I think it expands our capacity to build better products. So there's a lot of goodness that comes with it.

**Q - Mark Murphy** {BIO 1542399 <GO>}

Yes. Yes. And especially in Office, you have the potential to get this out there in front of we could dream the dream of putting this in front of 1 billion people pretty rapidly, right?

**A - Dave O'Hara**

Yes . I'm a bit hard to impress, but the day that the Office team came in and did the demos. It's like, hey, that's good stuff and it happened fast.

**Q - Mark Murphy** {BIO 1542399 <GO>}

It really did. All right. Let's shift gears and talk a bit about getting to Azure and talk about this trend we've seen around optimizations. And I'll frame it this way, in our last Microsoft partner survey, we were asking them for how long do they expect to see an elevated level of cloud optimization activity to continue. They came back and said on average something like four to five quarters. And they're basically saying that customers are trying to do more with less, right, in this environment. How does that time frame strike you? Is it a bit pessimistic? Because if you already have a chunk of customers that have kind of done all the optimization that they can do, right, then some of them would be nearing the end of that.

**A - Dave O'Hara**

Yes. I think it's natural to say after four quarters, you sort of -- the optimization starts to lap itself. But I do think that from an optimization perspective, first of all, we see optimization as a good thing because we -- I've never had a customer come in and say, I need to cut my budget and have. They're like, hey, I would like to do more, but I'm kind of running up against my budget. Is there a way you can optimize some of this so we can spend more over there? And so generally, if we do it right, the optimization is a growth opportunity even if it causes a little bit of short-term compression. So we see optimization as a good thing. And we do think they're going to reprioritize and keep spending their budgets on cloud. It's just going to be in new areas of the cloud. But I do think to say after a year, you start to lap, I think on a per-customer basis, that's true. Some customers have been optimizing faster than others. And so there will always be some of it going on.

**Q - Mark Murphy** {BIO 1542399 <GO>}

Okay. So compression, but also it's kind of -- it sets the table for growth opportunity later.

**A - Dave O'Hara**

Compression and expansion at the same time.

**Q - Mark Murphy** {BIO 1542399 <GO>}

So on the expansion part of that, Amy had this comment in the most recent earnings call that AI services would contribute one point of Azure's growth in the current quarter, in this June quarter. And so of course, we run the math on that. It equates to something like a \$500 million run rate. But as people pointed out to us, the number of Azure OpenAI customers increased 10x sequentially last quarter. So can we do some combining here and extrapolate that a bit? Is it logical to conclude that AI services are going to become a pretty meaningful boost to Azure growth if we're looking out, let's say, 12 to 24 months? So in other words, could this where it's actually contributing 2, 3, 4, 5 points of growth and is truly moving the needle for Azure?

## **A - Dave O'Hara**

Yes. I would say this, Mark. I mean, in the early days of the cloud, we talked about, hey, maybe this market could be \$10 billion or \$20 billion, and it's obviously far exceeded that. So I've given up trying to predict where it's going to go. I would say a couple of things seem to make sense. One is the cloud still has a lot of growth left. And so I think we'll continue to see good, solid growth in our cloud business. Two is AI is pretty new, nascent. And so it would make sense that AI will grow faster than the cloud business. But I don't think -- I mean, they almost work in parallel. And so without getting into any numbers, I do think it's going to be a big growth opportunity for us. And I think it's -- given the size of the Azure business and the growth of AI, I think it makes sense to say AI will be a meaningful part of the number at some point.

## **Q - Mark Murphy {BIO 1542399 <GO>}**

Okay. So one other question here that relates directly to Azure. We have started to hear in our fieldwork that companies are going to fundamentally begin to evaluate across the hyperscaler platforms, really increasingly based on their generative AI capabilities. And so given that Microsoft has this very strong early leadership in that arena, do you see a type of a halo effect developing where maybe we start to see Azure actually gaining more share of workloads in the world because you may have companies out there saying, well, let's just start moving more data into Azure, right, so that we're ready when the time comes to use all your best-of-breed AI capabilities.

## **A - Dave O'Hara**

We certainly get interest from customers on that Mark. We get customers who maybe we weren't talking to before who call and say, hey, I would love to talk to you about AI. And it gives us an opportunity to open the door for Azure. And since our best AI services run best on Azure, I think it starts conversations that weren't being started before. So right now, I would say, it's reflected in the conversations we're having with customers and the conversations we're having with people who haven't necessarily been cloud customers or Azure customers that we're talking to now. How that manifests itself, in terms of share, time will tell, but I think it is a big door opener for us that we didn't have before.

## **Q - Mark Murphy {BIO 1542399 <GO>}**

That's a promising trend.

## **A - Dave O'Hara**

It's a good trend to have.

## **Q - Mark Murphy {BIO 1542399 <GO>}**

Yes. Okay. Let's switch gears a bit and talk about Office. So by our estimates, this is approaching \$50 billion in revenue. This is a massive business, even out of the \$150 billion that you're responsible for. The O365 Commercial is the bulk of that. And

when we drill in there, that recently grew 18% in constant currency. What do you view as the key ingredients or the broader phenomena here that is driving that scale of a business to that level of durable growth.

**A - Dave O'Hara**

Azure. You're talking about Azure growth?

**Q - Mark Murphy {BIO 1542399 <GO>}**

I'm sorry. No, I'm talking about -- I meant to say Office.

**A - Dave O'Hara**

Okay. Office. Yes. So the Office business, I mentioned this in one of the earlier meetings, but I remember sitting in a meeting a long time ago with Office when it was about a \$10 billion business and the person running it said, I don't know how we keep growing.

**Q - Mark Murphy {BIO 1542399 <GO>}**

At \$10 billion.

**A - Dave O'Hara**

At \$10 billion, and that was a while ago. So I think we've done a really good job of continuing to deliver a lot of value. So I think you've seen increased functionality in Office that people appreciate and are willing to pay for. But primarily, it has historically come from one of three ways. One is we have seat growth, and a lot of our seat growth has been in the small to medium business space, but that's an important space because small and medium businesses become big businesses. And so we've seen a lot of good seed growth there. We've seen really good ARPU growth, especially, most recently with our E5 SKU, with security, which has high demand around telephony in the analytics piece. And so people are willing to pay us to get the additional functionality. So we've seen seat growth, we've seen ARPU growth. And then we have seen us break into new markets. And I think -- so we've just continued to add value as we go.

And as long as we can convince customers that by spending this money on our productivity tools, they'll save money elsewhere in their P&L, I think we'll continue to be successful. So the onus is on us to make that pitch, make it convincingly, and show them clearly where they're going to save a bunch of money. And then I think they'll continue to spend with us. So I think all those growth opportunities, we have good runway in all those growth opportunities as we move forward.

**Q - Mark Murphy {BIO 1542399 <GO>}**

And I want to try to drill into, you're hinting at the algorithm there, right? The growth algorithm on the Office side. So as we drilled into that to that 18% growth for Office 365, seats grew 11%, and then ARPU would have driven something like six or seven points on top of that. And then you mentioned some of the ARPU drivers, right, E5 is



a big one. There were some pricing changes. Maybe you're going to have some Copilot uplift in the future as we learn about the pricing there. How do you see that growth algorithm evolving on Office 365? And I think we're wondering if we're going to get to a point where ARPU is driving a little more of that equation going forward.

**A - Dave O'Hara**

I think it depends on the value that we're adding. And I think that the new functionality that we're going to come out within Copilot, I think is probably some of the biggest value we've added in a long time. And so I wouldn't go as far as to say, yes, ARPU is going to make up a bigger chunk of that. But I could see where somebody could reach that conclusion based on the functionality we're going to ship. And so I do think that you'll see a good balance between seat growth and ARPU growth based on the new functionality we're bringing.

**Q - Mark Murphy {BIO 1542399 <GO>}**

Okay. Let's move on now and ask you for a moment on security. Again, when we look at our Microsoft partner survey that we run on a quarterly cadence, security is actually usually ranking as the number one product of all Microsoft products in terms of momentum. And partners have actually been reflecting to us that there's a very high level of inbound interest on the security side. We learned recently that it passed \$20 billion in revenue, grew 33%. I think it's the best-kept secret at Microsoft. Just -- what you think about the scale and the growth trajectory, and then you look around the world and so many companies want to they say they want to consolidate security providers. So how far do your ambitions reach and what do you think is differentiating the Microsoft security stack?

**A - Dave O'Hara**

Well, I think right now from a security perspective, it's both a growing business, but there's always new threats and new places for people to spend money on security products because they really want to protect the enterprise. And so I see that as a market that will just grow, honestly, forever, because I don't think security threat ever goes away. I think hackers are trying to do new things every day. And so I think it's important for us to stay ahead from a product perspective.

I think the thing that we do is we cover the breadth of the enterprise. So there are point solutions out there that competitors that provide point solutions that do a really good job, but they do a really good job in their area. And I think we have more breadth with our solutions, and we can cover more of the enterprise. And so that's the value prop. I do think that we offer our products in such a way that if they want a part of the product, they can get it. If they want the breadth of a security offering, they can get it. I think that flexibility adds a lot of value, too. But I do think that market above maybe all others will just continue to see growth as long as there's threats in the world, I think security will be a growing market.

**Q - Mark Murphy {BIO 1542399 <GO>}**

Above maybe all others.

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**A - Dave O'Hara**

Maybe. You never know. I mean, like I said, I've given up predicting.

**Q - Mark Murphy {BIO 1542399 <GO>}**

Yes. It's hard to predict the future when it hasn't even happened yet.

**A - Dave O'Hara**

Yes.

**Q - Mark Murphy {BIO 1542399 <GO>}**

That's what they say. Okay. So I want to come back to GitHub and sort of pointing out, I think Microsoft has been very shrewd in the acquisitions that it's made over the years. And this is a pretty good example of it. There was a comment recently that GitHub is home to over 100 million developers and that it had exceeded \$1 billion in ARR scale. I think back five years, and the estimates at the time were that there were 30 million to 35 million developers in the world. So can you bridge the gap on that for me, how did GitHub expand that market to a point that it has 100 million developers?

**A - Dave O'Hara**

Yes. I would remember the days when we were talking about 3 million developers, 5 million developers, and then 10 million then 30 million. I think part of what's happened is we've redefined what's a developer. And before, it used to be somebody who was known as sort of hardcore coder that wrote software. And now, I think, GitHub has sort of democratized what it means to be a developer because the product is so easy to use and because it has so much flexibility. The other thing I would say is sort of adjacent to that is our Power Apps strategy because we've seen good traction with Power Apps because it's, again, so easy to use and so easy to build an app. So people that previously weren't considered developers, I think now see themselves as developers. And so that's helped expand the category of developers. And then there's other -- there's sectors, financial services being a great example that have just decided that they need to not only be a financial services company, they need to be a tech company. And so they've grown their footprint on developers.

And as you noted at the very beginning, there's a shortage of developers to the degree that Copilot can expand the productivity of a single developer, I think it's all goodness. We're not going to run out of -- we're not going to -- there will always be demand for developers, at least for the foreseeable future. And so anything we can do to increase productivity is going to help. And so I think GitHub just got at the forefront of that. Again, these things -- when you're not sort of in the middle of it, it seems like it just showed up and we've been working on GitHub Copilot for several years, and I feel like now it's just sort of manifesting itself.

**Q - Mark Murphy {BIO 1542399 <GO>}**

Yes. It was. Again, we were hearing about it 18 months ago and so I'm sure it was making a difference then. I'm sure you had been developing it for a while. Okay. So now, I think you said a moment ago that security may have kind of durable growth, perhaps above all else. What about Teams, because so that's a product that recently surpassed 300 million monthly actives. So that is still showing strength, even post-pandemic, and you're continuing to invest in features. Those are coming pretty quickly in Teams. There's Teams Phone, there's Teams Room, there's Teams Premium. How do you think about the evolution of this Teams product and the durability of growth there, especially now that we are in this post-pandemic hybrid type of a world?

### **A - Dave O'Hara**

Yes. I think it's -- I think it'll be good durable growth. I mean, essentially, we look at it as communication and so anything that goes along with communication is an opportunity for Teams. And so when we started out, we just wanted sort of a product that people could use to talk business-to-business, but there's a big consumer opportunity out there. There's lots of opportunities to expand the functionality within a business when you talk about Teams Rooms and meetings and all that. There's still a lot to be done there. And so I think there's good, durable growth.

I also think the product is just getting more functional and better every day. And so there's a lot of customers out there that probably even haven't been exposed to it yet. And so lots of good growth left I think in Teams and in the product. I hear lots of good comments from customers on the functionality, and so we have -- there's a lot of room to grow.

### **Q - Mark Murphy {BIO 1542399 <GO>}**

Power Platform. So you did mention Power Platform a moment ago in the context of the GitHub discussion. But that is a product that, in addition to security and Teams, the Power Platform, Power Apps, is the other category. It's always ranking in our top three to four in terms of Microsoft products with momentum when we run the partner survey. And I think back, Dave, probably 20 years ago we had software companies saying, we're going to create a product that's going to create citizen developers. And I never really believed it, right? I never really saw anything that was going to break through. It feels like this one has. So can you help us understand how did Microsoft crack the code on this ability to get a nontechnical user to get them over the hump, right, and to get them creating their own app, people like us in this room?

### **A - Dave O'Hara**

Yes. I think there's a few things that came together well there. One is apps are -- small apps are easier to build than say, a big app like CRM. And so one is the prevalence or the introduction of apps that were smaller and more functional and very pointed. Two is, we did focus a lot on ease-of-use there. We just really had to get it so that people felt comfortable using it. And that they felt like it's applicable. Then three is we just had to get the pricing and packaging right, which we worked hard on that too.

So it's sort of all three had to come together. Like if there wasn't -- we were still just writing big long software packages, Power Apps wouldn't have any applicability, but these micro apps make it applicable. And we made it easy to use. And I think we've priced it right. And we saw customers start out with give me 6, 10, 20 users and then pretty quickly they're like what would it cost to just license everybody in the company. And so it went viral sort of at a pretty good rate. I wouldn't -- I don't know, maybe probably faster than we expected. And so but I think it's all three of those things had to come together at once, or else it probably just wouldn't have taken off as much. But they're there, and so now we have it.

**Q - Mark Murphy** {BIO 1542399 <GO>}

Dave, I can't thank you enough for taking the time to be here with us today. It means the world to us, and it's just incredibly helpful to hear about all the great successes you're having.

**A - Dave O'Hara**

Thanks for having me.

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