Dell Technologies World Financial Analyst Q&A
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Rob Williams: Good day and welcome to Dell Technologies World. This is day three of Dell Technologies World with 7,000 of our customers and closest friends. I'm Rob Williams, I head the Investor Relations functions here at Dell. And with me today are Michael Dell, our Chairman and Chief Executive Officer; Jeff Clarke, Vice Chairman and Co-Chief Operating Officer; Chuck Whitten, Co-Chief Operating Officer; Sam Burd, President of the CSG Group; and Jeff Boudreau, President of ISG.

So, before we get started, let me jump in with just a couple of housekeeping items. I want to just remind you that all statements made during this call that relate to future events are forward-looking statements, and are based on Dell Technologies current expectations. Actual results and events could differ materially from those expressed or implied by us and Dell Technologies.

Those forward-looking statements, because of a number of risks and uncertainties and other factors, including those discussed in Dell Technologies periodic reports filed with the Securities and Exchange Commission, Dell Technologies assumes no obligation to update our forward-looking statements.

I'd also like to remind you that we are in quiet period. This call is focused on our innovation, our software, the announcements that we made today at Dell Technologies, and of course, yesterday and the day before. And so we would ask you to keep those questions that are directed towards those topics.

And again, one question, if you'd like to drop back into the queue for a follow up, that would be great. And we'd be happy to take your follow up question. So with that, let me turn it over to Chuck to introduce things.

Chuck Whitten: Well, thanks, Rob and thanks, everyone, for joining us today. It's been a great few days here at Dell Technologies World catching up with customers and partners and getting a chance to

showcase our innovation, which is the topic of today. So I'm going to set the stage today. Jeff and I are going to set the stage a bit by maybe connecting some dots.

And I'd like to go back to our September securities analyst meeting is maybe the starting point. At that meeting, Michael laid out a vision of Dell Technologies as the logical center of the multi-cloud world. And then Jeff and I laid out a long-term strategy that had really two strategic thrusts. The first is our objective to consolidate and modernize our core businesses, which sit in large, stable growing markets where we are leaders from a market position standpoint, and where we have enormous headroom to grow.

And then second is to grow into adjacent markets where we have the ability to leverage the advantages that we built in our core business, our advantages like our services layer, our go-to-market, our supply chain, and importantly, our innovation engine, including growing in places like delivering true multi-cloud. And so Dell Technologies World is our opportunity to highlight innovations on both of those dimensions.

So maybe I'll start with what we talked about on day one, and then I'll hand to Jeff to talk about day two. Day one was focused on multi-cloud. And so, I think the conversation we had with customers was the debate is over. Customers are not solely in the public clouds. They're not solely on premise.

75 percent of customers are operating three or more clouds today, and that is a strategic decision. They are saying I want to access all of the innovation of the hyperscale public clouds. I see real value for the right workloads on premise, the security, the control, the efficiency, private clouds aren't going away. And increasingly as data explodes at the edge, and customers recognize that, in order to deliver the real-time autonomous experiences that are part and parcel of this era of digital transformation, you can't afford to send data back to, you know, back to a private cloud or public cloud.

And so edge clouds are prevailing and it means multi-cloud is the reality in the future that we live in. And so on Monday, we made a number of multi-cloud announcements, reinforcing both that strategic intent but also our position as a natural partner in the ecosystem and solving the challenges of multi-cloud. And so we first announced a new partnership with Snowflake that had two really exciting use cases.

The first is enabling our storage arrays to easily bidirectionally copy data between a private cloud and Snowflake's data cloud. And then, you know, second and this was generated a lot of excitement with customers, the ability to leverage Snowflake data services, on premise with our

ECS storage as the underlying primary storage environment. That's the first time that Snowflake has partnered and integrated with an on-premise storage infrastructure player. So really exciting set of announcements.

We also announced a series of ongoing collaborations with the public clouds to extend our cyber recovery solutions. So we announced CyberSense for AWS, which adds adaptive analytics to our existing Cyber Recovery solution in AWS. We announced Power Protect Cyber Recovery for Microsoft Azure. So an isolated data center environment in Azure delivered via our isolated Cyber Recovery vault.

And then we continued a steady drip of APEX innovation. Notably, our cyber recovery solution, a full stack service now managed by us in Cyber Recovery. And we highlighted there's many more of those services to come this year, including high performance computing, AI/ML as a service and VDI.

And Jeff is going to talk more about it. We also highlighted project Alpine, as you know, one of the key thrusts in our multi-cloud agendas. Jeff is going to talk more about that. So look, taken together day one was, I think, an exciting set of proof points on that strategy that we described last September and importantly, our role as a partner in this multi-cloud ecosystem.

So with that, maybe I'll hand to Jeff for day two.

Jeff Clark: Sure. Day two was fun. We got a chance to showcase the technology that Jeff and Sam have built for us, I sort of set up the day bridging from day one to day two, talking about a number of technology trends that really lead into the technology that we showcase. But fundamentally, our world now is one where there's no doubt we have a hybrid worker that's trying to change the way they work and the way we respond to enable them and empower them in this new normal that we've created.

Then I walk through how fast the world's digitizing, how fast data is growing, talked about where the data is being created is very different tomorrow than it where it's been for the previous decades, specifically out on the edge, out into the real world, and how that will be a force of gravity pulling the compute resources and storage resources with it. I talked about under construction, there's a new digital highway, fifth generation cellular, we talked about that being then a lead into software development and software defined, leading hardware innovation, then we talked about many clouds.

And then this many clouds forcing a new operating model that ultimately will be connected by – for lack of a better way of describing it, a data fabric that drives intelligent and automated systems, ultimately, empowering developers. And that was the setup we had fun talking about, that's going to drive a new wave of innovation, buckle up for a heck of a ride because it's going to be a lot of fun. We pivoted over to Sam's area, and we talked about the PC, how it's become more essential coming out of the pandemic.

Always a great productivity device. Now it's the central device of this new hybrid work, play, learn and buy, play. So it's a lot of fun when you think about the PC. Then we actually talked about some of the innovation that we built around collaboration, connectivity and helping engage people. We showcased some embedded software, particularly around the AI engine that we put in it that's allowed us to now use the touchpad differently, do connectivity differently, collaboration differently.

Then we moved into a discussion around a future concept, around low carbon footprint and changing product lifecycle or lifecycle management with Project Luna. So a new concept aligned to our 2030 goals. And then I got a chance to pivot that into Mr. Boudreau's area. And we spent a lot of time talking about the innovation; we call it the trifecta of software-driven innovation in the organization of the new software features that we put into PowerMax, PowerStore and PowerFlex.

And really trying to illustrate the level of innovation and the industry first and the differentiations in each of those stacks. In no particular order, I'll highlight a few of them. We started with PowerMax, and we took the world's most mission critical and made it the most secure mission critical storage on the planet. We talked about how we put in multifactor authentication and isolated vault. We had a lot of fun talking about 65 million immutable snapshots, 30 times more than our next nearest competitor.

We talked about the industry's first and only mainframe compression, how we guarantee four to one. We talked about advancements in the underlying architecture, which actually doubles the performance and improves response time by 50 percent. That led our way into PowerStore which we talked about similar sorts of things, how we've done ease of integration with VMware, how we've done ecosystem advancements, how we've improved response time, boosted mixed level, mixed workload performance.

And then my personal favorite, we landed in the trifecta around PowerFlex, which in our words is the only software defined infrastructure that knows no bounds, scales almost limitlessly to help

customers consolidate, automate, scales compute and storage independently, all software. And today, my favorite thing that we talked about was the only platform on the planet that does bare metal, all hypervisors, file block, all on a single platform. Pretty exciting.

And then we turn that into reality. We talked about what that means. We took a practitioner, our own CIO, Jen Felch. And we actually took Project Alpine that Chuck referenced earlier, which is really taking our enterprise class data services, and making it available in the public cloud. So you can do cloud burstings, so you can do test & dev, so you can do cloud-based analytics, so you can do data and container mobility. And Jen showcased it.

It was so wonderful to have someone that's like the audience, encountering the same problems that all of them do, get on the stage and talk about how this works. And what it really, I think, captured was multi-cloud is real. And the types of things we're trying to build around this orchestrated distributed platform, multi-cloud, we're actually building the underlying capabilities to do it. So that's what we had fun doing. Michael?

Michael Dell: Yes. So I'd say, you know, it's been a great event, the customer reaction to all the announcements that Chuck and Jeff just talked about has been terrific. The multi-cloud message absolutely resonates. I mean, we've been hearing this for a long time. So, you know, we don't create any of these things in a vacuum, all these are created with customer input.

And the capabilities that we're rolling out that had been super well received, the cyber vault, you know, we've had tremendous traction in the market with that. Chuck talked about over 2,000 implementations. And, you know, it's sort of become a must have for mission critical business in today's world.

We also talked about making all of our infrastructure programmable, and the pivot to developers. And, you know, there's sort of this arc in the industry where the IT organizations want to spend much more time on apps and data and creating competitive advantage, and less time managing and running infrastructure.

And so the path we've been on for some time with, you know, appliances and converged infrastructure, hyper converged, and now, the shift to consumption based models with flex on demand, and APEX is all super consistent with, you know, automating all that infrastructure and making it fully programmable.

And, you know, customer reaction has been super positive. So turnout at the event has been, you know, quite strong. We weren't really sure what to expect coming back from a pandemic, but

it was more than we anticipated. We had standing room only in all the keynotes and, you know, customer partner reception has been super positive.

Rob Williams: All right, appreciate it. Thanks, Michael. It's pretty amazing actually to think about, you know, the buzz out on the floor has been really good. And obviously, the evolution of our solutions portfolio and multi-cloud portfolio over the last few years is, you know, really phenomenal, really phenomenal stuff, so.

Jeff Clarke: I think it's one consistent theme I've heard from partners, and most importantly, customers – multi cloud is more real than I thought. I think they're leaving this – oh, my gosh, this is closer to reality than I thought. Chuck used this the other day in his keynote, where they've kind of got to multi-cloud by default. And now they see it path multi-cloud by design. And I love that phrasing of it.

Jeff Clarke: Because I think it really tells you that the hodgepodge that we got into, there's now an architectural answer long term that can actually simplify this for our customers.

Michael Dell: And the edge is real. I mean, we've been seeing this in manufacturing and retail and transportation, logistics and, you know, hospitality. And, you know, we're seeing the demand, and customers are putting intelligence out there in the field and that's requiring new kinds of infrastructure. And, of course, the development of 5G and private 5G is just going to reinforce that cycle of data being created at the edge. A lot of it's going to stay at the edge.

Rob Williams: For sure, for sure. Let's jump into Q&A.

OK, so first question is from Samik Chatterjee, JPMorgan. So Samik, you've got the floor. Take it away.

Samik Chatterjee: Yes. So the question was really on the announcement with Snowflake, and it's a very interesting announcement, particularly being able to leverage their analytics on on-prem applications here. I mean, maybe talk a bit about the opportunity you see there, is there something that you are hearing from customers that they really want you to sort of increasingly look at, that there were customers asking for it? Or is this more about, you know, try trying to go and create a new sort of market in itself?

And how much further can you take this sort of down the road? I mean, we all know, the multi-cloud opportunity, but enabling cloud services, in some cases, on-prem could be an opportunity in the long run, how do you see that market evolving? Thank you.

Michael Dell:	Sure. So, you know, let me start with that.

Rob Williams: All right, sure.

Michael Dell: Maybe Jeff, can you get some thoughts on this. So, you know, first of all, this came from customers. You know, customers, were asking us for a way to be able to use the Snowflake analytical capabilities with their on premise data. Plenty of customers have, you know, unique data, secure environments, you know, data that can't leave their premise or a colo.

And, you know, we've done some unique things with special customers, but now kind of rolling this out at scale. And, look, I think, if you take any of these born in the cloud companies, another big theme here at Dell Technologies World has been the edge.

And, you know, if you think about, you know, there are 600 data centers in all the public clouds combined. There are 7 million cellular base stations which are all becoming, you know, multi-access edge compute data centers with our equipment, in many cases, inside those many data centers.

And, you know, I think I think a lot of these born in the cloud companies are coming to us now to say, we need a multi-cloud architecture, customers don't want to be locked into one environment, they want their workloads to be able to move. And, you know, compute is going to follow the data.

Jeff Boudreau: Yes, and for me, I'm super excited about the innovation, I'm super excited about the opportunity and the partnership with Snowflake. I will be very clear, it was customer-driven. We talked a lot about the show, it's been about data, it's about the multi-cloud, which basically means data is going to be everywhere and we need to embrace that.

And if that's an, you know, the edge, the core or the cloud, it doesn't matter. And that's what this is all about, really delivering that for our customers. And that's the joint innovation. And where Michael was going, as you think about – and what Jeff said just a few minutes ago, where data is going to be created, you know, 80 percent of the data in the next two to three is going to be created out of a core data center or the cloud, right? It's going to be out of the edge as what Michael was referring to.

And that data has to be processed and stored and analyzed in real time if you want real time insights. So I think it's a huge opportunity. It's a great partnership. It also shows as part of the

multi-cloud, we've talked about having a modern, open architecture, but it's also important to talk about the open ecosystem. And this is just another example of that.

And then going back to the edge where Michael was, and I know we didn't talk about in the keynote, we had some amazing announcements around edge, right, one was around a validated design for the retail edge. We did that in partnership with VMware and Deep North going back to the open ecosystem.

And then we also announced the design – validated designs for our manufacturing edge, as well at the show here today. And that was what PTC and also Litmus. So again, creating a broad open ecosystem, helping our customers solve real problems, so.

Jeff Clarke: And Jeff, I think you'd agree – since it's an innovation discussion, customers asking for persistent on prem storage is a key attribute.

Jeff Boudreau: Key.

Jeff Clarke: And you enable that with direct access or the bidirectional copy capability that we've worked with Snowflake to achieve. So when you look at the technology that we've built between the two companies to solve the problems that both Michael and Jeff talked about, this is pretty advanced and sophisticated and it leads to perhaps more opportunity. And then probably the last point I'd make is, we talked about the multi-cloud ecosystem, another example.

Rob Williams: For sure, for sure. Great. Thanks, guys. Great. So our next question is from Wamsi Mohan, Bank of America. Wamsi, go ahead.

Wamsi Mohan: Yes, thank you so much. Thanks for doing this. Can you guys talk a little bit about how investors should think about the pricing and economics of as a service solutions relative to on prem? And how different will the go-to-market be? It sounds like there's a lot of pull from customers. How different will this go-to-market be and any CAPEX impact as well as you build this out?

Chuck Whitten: Maybe I'll jump in and then Jeff and Jeff, you guys should jump. Look it is – it's one dialogue with customers right now about their consumption models, right? We have customers that say, I want to continue to consume, as I always have as CAPEX. We have ones that say, look, I would like to see all of your portfolio as a subscription.

The natural sort of continuation of our leasing business has existed for a long time, but a much more modern instantiation of it in APEX. And some that say, no, I want you to do it for me. I

want to manage service on top of that, and often it's the same customer consuming three different ways.

And so, you know, from a go-to-market standpoint, Wamsi, obviously, there are changes, whenever you end up in a fully managed service standpoint, right, the software companies out there, talk a lot about their customer success motions, you got to have that as part of getting the most out of the technology that we're going to put in front of customers.

But I would just start by saying it's one dialogue and it's often with the same customer. And what we're trying to provide through APEX is choice across our portfolio, that choice to be able to consume it as a subscription, as a service with real outcome-driven, you know, metrics behind it, or in a traditional CAPEX model.

Jeff Boudreau: Yes. I guess for me talking to customers, they're all in different spots in their journey in regards to where they offer subscription one-size-fits-all. They're looking for different models both on financing, consumption, deployment, manage servers, configurability, depending on what markets you serve. So that's something we're very focused on.

You know, APEX for us is that consistent experience for our customers that they come to, and have that regardless of the offer of the service that we're going to provide. So right now, the feedback has been fantastic. Customers are really bullish about the opportunity. And they're, you know, they're looking forward to the services we just announced but even more to come as we pick up our renovation.

Michael Dell: Yes, and I would say the sales motion, we're evolving to an outcome-based approach. And, you know, not all of our 35,000 sellers are there but, you know, that's clearly the direction we're heading in. And, you know, reception has been positive.

Rob Williams: Great. All right. Thanks, guys.

Wamsi Mohan: Thank you.

Rob Williams: All right, next question from Toni Sacconaghi with Sanford Bernstein.

Toni Sacconaghi: Hi, everyone. Thanks for taking the question. You know a lot of your announcements at Dell Technologies World have been software-related. And I would imagine the vast majority of your R&D and engineers are working on software rather than hardware. I'm wondering if maybe you

can zoom out a little and talk about sort of softwares as a business within Dell. Do you view it more as enabling technology?

Or maybe you can characterize. I know there are, you know, there are very defined software products that you sell within the storage group. Obviously, PowerFlex is an emerging software product. But maybe you can zoom out and just talk about the side software being an enabler for a project APEX and other things. You know, is it, you know, 20 percent, 30 percent of kind of storage revenue? I know some of that's kind of deferred over time.

How does an investor think about the importance of software beyond just being an enabler for some of your partnerships, project APEX. But where do we see it as a line item in the income statement? And how should investors think about that either growing faster or slower and as a revenue recognition associated with it? Thanks.

Jeff Clarke: Toni, maybe a couple of thoughts, and then the rest of the team can jump in. How you describe it is the very discussion that's underway primarily with Jeff's business of how do we take what is historically been embedded software into our products to ultimately build software-based only products. And this maturation that we're going through, I think is going to be pretty profound over the next several years.

You're going to see us offer, in fact we just had an architectural discussion and ultimately a pricing discussion, most recently, on the inherent value of PowerFlex as a software product. Not part of a server, not part of an appliance, what's the inherent value of that piece of software.

If I think about the software assets that we just now made available, will make available in the public cloud Project Alpine, the same conversation, what are our – what's our file, what's our block, what's our object, what's our data protection software worth as customers use it?

I'm not going to sit here and say we know the answer today, we are in a discovery phase. But the very question you asked we are beginning to think about how we extract what has been an enabler or inherently embedded into our products, as specifically built, packaged software offers offered as a service. And continuing to build out that portfolio, Jeff mentioned the edge, when we look at our long-term edge plans, it really is about adding the software for edge on top of the platform not integrated in it.

And I think that's what you'll see from us. I'm not going to get into when will you see it in the bottom line, what's our forecast for software revenue, but I'd like everybody to walk away with the

thought, we are absolutely moving to a model where our most valuable assets are software, and we are going to package them as traditional software products and extract value for that.

Jeff, am I missing anything?

Jeff Boudreau: I think you nailed that. Project Alpine is all about enabling exactly what you just said. So people, you know, that's a key component here. It's taking our, you know, industry leading software storage and appliance assets, and then abstracting them from the underlying hardware and be able to deploy those anywhere we want.

The only thing I'd add besides file, block, object, data protection is there will be more advanced data services layers that will bring it as well that we'll be able to monetize.

Rob Williams: Yes. No, that's – those are all great points. I think it's so important when you think about multi-cloud and our ability to kind of sit at the center of that for our customers. That fabric, that management orchestration layer is going to be really important.

Jeff Clarke: Well that substrate that's going to connect clouds. That substrate that brings us together as an orchestrated distributed system, that is absolutely distinct value. And you got to think of us pricing it accordingly for the value that it provides our customers.

Rob Williams: Yes. Good. All right. More to come on that for sure. OK, great. This question is from Steven Fox in Fox Advisors. He was somewhere that was pretty noisy. We're in spot is pretty noisy too.

Male: Yes.

Rob Williams: So we can relate to Steve there. But let me ask you his question for you. So the company is arguing for a dramatic shift to data compute storage to the edge over the next three years; for example, the statistics we've used that says 75 percent of the data process outside of traditional data centers, in the next I think it is five years. So what does this transition – when does it truly start? When does it become apparent to us being us as investors or analyst?

And, you know, what are the use cases? You know, what can we see, you know, what – occurring, what's the impact on the enterprise hardware sales? And, you know, when will we start to see that manifest itself through the results of the company?

Jeff Clarke: Oh, maybe I'll start and then you jump in. Look, the edges evolving now…

Rob Williams: Now, right now. Yes, for sure.

Jeff Clarke: …has, and will continue to do so. Again, what our comments through the first keynote, the second keynote, some of Michael and Jeff's comments today, this notion of everything becoming digital in our world and these things, as a result, create data on the edge of the network is absolutely in front of us today.

Jeff Clarke: And what we're hearing from customers consistently, what do I do with all that data? And increasingly, what people want is to do with the data they're collecting in real time. Well, that absolutely draws a distributed architecture. And the architecture has to be distributed near where the darn data is collected.

So you can see compute resources and storage resources, moving to the edge. What are examples? Factories today.

Rob Williams: Yeah.

Jeff Clarke: Smart hospitals, smart cities, the transportation sector. There are a number of places where we see this. We just announced an edge retail.

Chuck Whitten: Retail, yes.

Jeff Clarke: Retail is a great example of where data is being collected in various stores, various retail formats, and wanting to do something with it. So this is going to evolve. And what I think is important to know is the new workloads, the applications that are going to take advantage of all of this are in their infancy.

Jeff Boudreau: Yes, to me, that's a key indicator, so if people want to look at it. If you think about the rise of the cloud a few years back, you'd see all the born in the cloud companies, so the applications and the software features that would be built or built for the cloud native. You're going to start seeing a major pickup of all the app developers and the new software being built at the edge. So to me, that's a leading indicator. As things shift, more and more people are going to come in and provide additional value. That's because the new app screen, it was going to be all around taking advantage of the edge.

Michael Dell: One of the fastest growing solutions we have is our VxRail satellite nodes. Which we announced I think about a year ago.

Jeff Clarke: Yes.

Michael Dell: And, you know, if you think about a multi-location retailer, we've got many of them whether they have 100 locations, 1,000 locations, a manufacturer with 150 locations around the world, they're put putting, you know, one, two, five, 10 VxRails in every location at the edge, and, you know, using that as part of their multi-cloud network that they're creating.

And so it's happening, those 7 million cellular base stations that I mentioned, all those are becoming data centers. 5G is not about connecting people, it's about connecting things. And that's going to move and require a lot of compute power, data analytics and storage.

Jeff Clarke: And a substrate to connect them all. You can't have all these isolated data centers, or edge clouds, as we like to call them. They have to be aggregated.

Rob Williams: I guess I'm gonna channel my Tom Sweet here and say it's up to us to make that real from a disclosure standpoint over time to find the right ways to help the investment community understand what's happening, and Jeff's business and Sam's business and across the company. So that's a to-do item for us over the next year or so.

Chuck Whitten: Yes, sure. I mean, look, it is driving, you know, the edge because it's real today, it's driving what you see in the infrastructure markets as they accelerated. So yes, how we counted and what is an edge, you know, incremental edge growth versus what's part of our core infrastructure growth, you know, hard to parse, but it's real today.

Jeff Boudreau: But it's not even just core infrastructure, like my friend here, Sam, the more devices he sells, that's more data being created. It's a good thing.

Chuck Whitten: Yes, that's right.

Rob Williams: Great. All right. Our next question is from Erik Woodring from Morgan Stanley. Erik?

Erik Woodring: Thank you guys for taking the question. I honestly appreciate it. Maybe I'll direct this question towards the CSG side of the business. You know, regardless of how you feel about the trajectories of PCs, over let's call it the next one, two years, it's clear that, you know, the PC is entering a new paradigm where it is a higher value to the user regardless of whether you're in the home, in the office or a gamer.

And so, I guess my question is, you know, what features of the PC do you believe are becoming higher value to the user? And really, how is that dictating not only your product launch cadence, but maybe where you're dedicating resources to R&D and development?

Sam Burd: No, we're absolutely excited about the lessons of the last couple of years thinking about this work from home, do from anywhere environment and delivering the kind of experience on our PCs that allow people to be productive and get done what they need to do. So, you know, features we see. It's really the (marrying) we've been talking about a little bit here, but we're seeing really hardware and software be fused together in the devices we're putting together.

So cutting edge innovation, Jeff talked a little bit about our latitude products, collaboration, touchpad, super thin, mobile, long battery life, our XPS 13 Plus boldly reinventing a product, many consider to be the absolute best ultra-portable system out on the market. Zero-lattice touchpad, a zero-lattice keyboard, a seamless class touchpad, you put all that together then with software that let people get stuff done.

So Jeff talked about in the keynote on our day two here, you know, building an AI engine in our systems that allow intelligence around privacy, collaboration, connectivity, so think about things like onlooker detection, automatic lockdown on the screen. So when someone's looking at your screen, it blurs and you get privacy. You look away from the screen, it locks. We have the industry's first multi path connectivity. So for less latency, faster bandwidth, higher transfer rate.

So it's really putting together all those different pieces that fold into the usage models we're seeing today that make the commercial space. It was vibrant pre-COVID, vibrant during COVID, we see that demand for technology really important so people can get things done. Same thing in the higher ends of consumer space, we've gone from one PC per household to each household member having a PC and wanting it to be one, they can really get stuff done for productivity, for gaming, for the things they want to go do in life.

So it's that marrying of hardware and software, great features in each, deliver the experience our customers want. And it's in the spaces where we've really targeted with our engineering teams for some time. They're the ones that are stable, producing growth in the past, and we think we'll do that in the future.

Jeff Clarke: And you've done a really good job talking about the end user experience in the peripherals that go around that with the opportunity, particularly what we learned through the pandemic. Maybe a little bit on some of our peripherals and the engineering that goes with that to create a collaboration system, the ability to work in today's modern world?

Sam Burd: It's a great point, Jeff. And thank you for that. We see a great opportunity around the device. So the other thing we've learned over the last couple of years is people want to connect peripherals

and other devices. You think about keyboard, mouse, display, our studies show 42 percent more productive when you put all that together. It just lets you get more stuff done.

You think about cameras, microphones, do that in a seamless, easy way. We had a couple of great concepts. We were showing off here around how you can collaborate wirelessly, connected with intelligence using Wi-Fi 6 to just be seamless moving between workspaces. We looked at collaboration concepts we have that allow you to engage and be connected with people in hybrid worlds.

And then we're looking at the whole space in peripherals where we have the number one displays business. We have over 20 percent share in displays, gained nice share last year, have been a leader in that space for a long time. And there is a peripherals opportunity outside PCs. It's about half the size of the PC business, it's about twice the margin rates in the PC business, and our customers are asking us to go into that space, make it all seamlessly connect and deliver the kind of experience they want.

Again, hardware with software that is good for our customers and a great opportunity for our business.

Michael Dell: Yes. And I think, you know, organizations have figured out that the employee experience that is represented by a super capable, end user environment is unbelievably important in a period of a shortage of skilled knowledge workers. And employees in organizations, most associate the technology of a firm with the thing that's right in front of them.

And so, you know, it's been elevated to be a first class experience. And we continue to invest in that, you know, commercial productivity experience. And, you know, Sam and his team have led nine consecutive years of share gain in the client business. And you saw in the first quarter IDC data, certainly we're continuing to have that momentum.

Sam Burd: And, Michael, that's a great point. We started seeing that, you know, five, six years ago and started talking about it. And I go fast forward to today. Every CIO I talk about is saying the experience really matters. It used to be it was the, you know, the super enlightened companies, everyone sees that.

Michael Dell: That's right.

Sam Burd: If you look at an age today when you start up on the company, you know, social media, it's the picture the kit you got, and it's – you want your employees that, it's kind of a bragging thing that get me the right stuff so I can get my job done.

Michael Dell: And if a company is not investing in that, you know, people will leave the company because they don't have the right tools.

Rob Williams: Great. Thanks, Sam. Appreciate it. All right. Next question is from David Vogt at UBS.

David Vogt: Great. Thanks, guys. So thanks for taking the question and doing this event. It's incredibly helpful. Can you talk to the conversations you're having with customers around their technology roadmap, specifically around the new software offerings? I asked this because, for example, I think cyber recovery was available last year on AWS. Now you announced an Azure announcement.

                 So does that validation from AWS open new doors going forward? And has it increased customer interest? And also, is that opportunity or is this new opportunity already contemplated in the growth rate, put a framework that we're thinking about for ISG going forward? Or is this incremental and can potentially be margin accretive over the longer term? I know, it's nascent, but just trying to get a sense for what's been contemplated in sort of the expectations going forward. Thanks.

Jeff Boudreau: So I'll start with the software in regards of what we did. So yes, we had – as Jeff and Chuck and Michael, we did Project Alpine, which is about having the right endpoints in the cloud. A lot of that goes back to data, it goes back to multi-cloud. We talked about how that is, for our customers, the issue that they're having is that drives a lot of complexity, right?

                 So, and what customers are looking for, if you think about infrastructure complexity, you think about, you know, operational complexity and their IT staff and the demand center where you guys talk about productivity of the teams, our customers are asking us for leveraging similar tools in the different ecosystem. So if they can have an on-prem experience and an off-perm experience, they don't have to continue to train their IT admins, they don't have to have different staffs and different training and all that stuff.

                 So that's really been the big lift. It's really going back to addressing a customer pain points specifically. Yes, we did have the offering last year, we did get some lift on that, in regards to that and that's why we're actually deploying across all the cloud players, the major cloud play as we go forward.

That's going to be a consistent theme because our customers have them… it's part of multi-cloud, we have the large hyper scalars. And then they have the private clouds as well. We want to make sure we enable that whole ecosystem as we go forward. I won't get into the financials, but…

Jeff Clarke: No, but Jeff, if you check what you said, and again tying what we've tried to message these two days, we've had our data protection assets in the public cloud for years with DDVE and had, I think, we quoted yesterday, Caitlin might have even said it, 10 zettabytes of data protections.

And we think about that as the foundation that we've been in the public cloud. Now cybersecurity. The announcements of file. We've been in for file with our one FS. We think about what we're doing in block. So it's really building out this – our enterprise data storage services in the public cloud is this ecosystem that we think is very important.

And then if you take the specific part of cyber, there should have been a – we should have delivered a consistent theme yesterday. Every announcement we made in the enterprise and on day one and day two, had cybernet.

We talked about cybersecurity, cyber resiliency, it's a conversation that none of us can have with any of our customers so that we have with our customers, where cybersecurity resiliency doesn't come up.

And whether they buy it as a fully packaged service, the first time we've ever done that in APEX, or extensions in the public cloud, our own cyber vault, or the technology we just put into the three arrays that we talked about yesterday and announced, it is absolutely top of mind and an opportunity. And what we put out yesterday, differentiates our storage assets over everybody's.

Michael Dell: And we already have customers that are doing it today. And when you see us introducing something, you know, on the stage here at Dell Technologies World, these are heavily customer-driven innovations where we already have some of our lead customers that have worked with us to make these things happen for their environments. And look, we're proud to be able to serve, you know, 99 percent of the Fortune 500 and some of the most complex environments out there.

Rob Williams: Yes, you know, talking about customers, Chuck was on the CUBE yesterday, and Dave Vellante asked him, you know, what's the most important asset that you have, what was your answer?

Chuck Whitten: It's our customer relationships. I mean, I'd…

Rob Williams: That's great.

Chuck Whitten: Michael, you hit it so well. I just think we talk a lot about our durable competitive advantages, and there are many of them. But I think the fact that we touch more customers than anyone in technology and have, as you said, for decades, what's your biggest problem, what's the unsolved problem you're working on? We're working on the next, next sort of Dell Technologies World today. But those customers, that's how we – that's how real stuff happens. So, yes.

Rob Williams: All right. Great. Next question is from Jim Suva at Citi. So Jim, go ahead.

Jim Suva: Thank you very much. You know, we've known your company and they've followed you for decades. When we think back about the security analyst meetings that you've given over the past several years, is multi-cloud going kind of the direction that you expected in the rate, or is it accelerating, or is it kind of keeping to change its character, and you're just agility adapting to it so much? We seem like it's always been part of the plan in just a natural fit? Thank you.

Michael Dell: You know, it sort of started as hybrid cloud, and you probably remember that, that terms from 10 or 12 years ago. But, you know, as the world has moved more towards software-defined, it's gotten a lot more real, certainly the move to containers and Kubernetes and sort of programmable infrastructure, you know, software defined, everything has accelerated all of that.

And, you know, as Jeff said, every customer is in sort of a different place in the journey. But there's a resounding signal around multi-cloud. And, you know, even the sort of public-cloud-only companies are coming to the multi-cloud conclusion, you know, as we saw with some of the announcements here. And, you know, it's not super surprising to us, but I'd say the pace of adoption for multi-cloud as the quick operating model is accelerating.

Jeff Boudreau: I agree with data growth and data. You know, we've talked about being decentralized in regards to that growth that allows for more clouds to be built if it's a private cloud or a public cloud or what have you, which drives more multi-cloud.

So I do see accelerating to that pace. And, you know, a lot of things we talked about as decentralization of IT, it's about distributing compute, it means, you know, I have to process data in real time, I got to store that data in real time, I got to recover that data in real time, I got to secure that data, and so, I like it.

Michael Dell: And, you know, IoT was a topic 10 years ago and that sort of morphed into the edge as sort of a broader conception of, you know, intelligence in the entire physical world. And that's becoming real.

Jeff Boudreau: Yeah.

Michael Dell: You know, if you take, for example – some of the examples we talked about manufacturing and retail, if you went to those companies, five or 10 years ago, you said, what are you doing with IT, they were taking it out of the factory floor and out of the retail location and putting it in the center somewhere. Now, they're going the other way because they need real time insights and real time action and, you know, it's the build out of the edge, which just reinforces the whole multi-cloud.

Rob Williams: Yes, and this goes back to this idea that, you know, we talked about this when we talk about strategy, which is that, you know, IT is really at the center of our customers, you know, digital transformation is really, it's – it is a part of the global and the fabric of the global economy. They are inseparable today.

I mean, it's just – it's not like IT was something different in the economy, you know, and GDP is something different, they're intertwined in a way that means that the importance is just going to continue to grow, in my humble opinion.

Jeff Boudreau: I – to that point, I actually think the persona is actually evolved a bit more, so we traditionally think about the ITOps, what is the ITOps, this DevOps going back to Michael's point of developers. There's the DataOps team, the data science teams, there's the business analytics teams, they all want access to this data in real time.

Right? And that's how we're going to try and drive through. So I think the persona is a growing which, again, creates opportunity for us.

Rob Williams: Yes, yes. For sure, for sure. All right. All right. We're going to take one final question from Amit Daryanani at Evercore.

Amit Daryanani: Perfect, thanks a lot for (speaking me) in there. You know, one of the topics that really struck me through some of the keynotes, especially of Michael's was this focus of Dell around making developers, the center of focus versus perhaps having used to be around infrastructure lines back in the day. What is driving that dynamic? How does Dell differentiate from the peers?

When you talk about, you know, Michael said, embracing the developer in your keynote, how is it different from what your peers are doing right now? And, you know, maybe to the extent you can

weave Project Alpine broadly in that discussion, will be really helpful to understand how is that different from what again, some of your peers are doing. Thank you.

Michael Dell: Right. Well, you know, when you make things programmable or you make things, you know, provide things as a service, it kind of matters what you're actually, you know, what the base layer of functionality and capability is. And when you think about storage and the unprecedented leadership that Dell Technologies has in file, block, object, and all kinds of storage technology, it's a clear leadership position.

And, you know, I'll say we've had lead customers that have been pulling on us for some time to make the infrastructure programmable and, you know, some of our newer team members have been pushing us along the way. But yes, I mean, it's a full embrace of developers. Jeff, you want to speak to…

Jeff Boudreau: Yes, it goes – kind of goes back to the – we just mentioned about the personas have evolved over time from the ITOps, and IT admins, the developer community, and for all them, it's about accessibility, right? They want access to the technology. And what we have to do if I think so, I have a large – obviously, I have a large development team so I understand the space.

You know, the first step is around configurability. So think about our partnerships with people like Ansible, or TerraForm, or Hashi, you know, what things we do there. The next big phase is all around containers, as you're going back to like containers, orchestration with Kubernetes and things to that effect, then we get into workflow and automation standpoints and observability.

But the key point of that whole thing is the developer community. And what they're looking for is access to the technology to make themselves and the teams more productive leveraging our technology. So Michael talked about making more programmable but that's exactly what we're doing, right?

Think of it like infrastructures as code, everything's solid Project Alpine, right? It's software so that we can be deployed anywhere. Depending on the SLA that you're trying to provide, you might get a better thing on a physical appliance versus a cloud endpoint but it allows you to have a consistent user experience, it provides more access, more flexibility to their teams to really innovate more. And it's really about how do we help them be more productive, how do we help them innovate better and faster.

Jeff Clarke: Right. What software developers want, we see in our own community, Jen describe it the day in our IT organization, Jeff and our product development organization. They want easy, accessible

infrastructure fast that they feel empowered by. So if you look at Project Alpine at the core of all of the words that we use, think of it as the first time we now have a pool of storage - file, block, object, data protection, enterprise class, all public clouds, developers across the world now have an easy access to a single pool of storage. As a developer, doesn't it make your life easier?

Jeff Clarke: It's super cool in regards to that, so you can extend to the cloud for an endpoint or cloud endpoint. As an example, if you have a power of scale, file system on-prem and you have a certain attribute, but you can't get access, you can spin something quickly, an endpoint up in the cloud, you can get development project going. And then when you need more of a predictable SLA, you come back to your on-prem use case and what have and so…

Jeff Clarke: Back in production, which is the exact example Jen described yesterday.

Michael Dell: All with the same environment, same tools..

Jeff Boudreau: …same tools, same workflow, same everything going back to productivity, we're saying was it.

Rob Williams: Well, hey, thanks for joining me. And thanks, you know, for being here and being here for our customers. I think it's been a great week to showcase the things that we're doing. Really with innovation and software, which was a big topic today and so I appreciate that.

And thanks, everyone for joining us today. We'll of course see for our earnings announcement on May the 26th, and look forward to catching up then. Take care.