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Darren Thomas, Dell VP and GM, Enterprise Storage

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CHRIS WHITMORE, Deutsche Bank: Good morning, everyone. My name is Chris Whitmore, I'm the IT hardware analyst at Deutsche Bank.

I'm very pleased to have Darren Thomas who runs Dell's storage efforts here with me this morning. Before we begin, they asked me to read a Safe Harbor Disclosure, and so while I'm doing that you can all think of your questions for the Q&A session in a moment. So, here we go.

I would like to remind you that all statements made during this meeting that relate to future results and events are forward-looking statements that are based on current expectations. Actual results and events could differ materially from those projected in the forward-looking statements because of a number of risks and uncertainties, which are discussed in Dell's annual and quarterly SEC filings, and in the cautionary statement in Dell's press release and web deck. Dell assumes no obligation to update forward-looking statements.

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So, with that out of the way, Darren, maybe we can start with a brief overview of your storage acquisition, kind of background and history. Help us understand how the various components of the acquisition fit together in a more holistic product line, the EqualLogic, Compellent, Ocarina, how do they all fit together into the cohesive strategy?

DARREN THOMAS, Dell: I appreciate it. And, by the way, I didn't understand a word of that, so you can't ask me any financial questions if I can't understand that document. So, first of all, Dell started -- if you want to look at this as a journey, Dell started as a reseller. When I joined Dell in '03, we basically resold somebody else's stuff on 100 percent of our technology pretty much. There were a few things we did, but they were pretty much at the low end.

And so we got an enormous education looking at what customers wanted, and what they liked, and what they didn't like. And we did that for about 11 years. And there was a good opportunity for us to pick up a lot of information. We're a direct company. Customers talk to us. They like the Dell approach of democratizing technology and stuff, but that's not what our reseller was doing.

So, we pretty much came to a point where we said, look, we want to do what the customer wants, and that was to democratize the technology. And by that I mean take the technology from the highest end solutions and bring it down, change the economics of it, and you might have heard us

talk about changing the economics of storage, and then take those technologies back up. So, that was the big picture, that's what Dell does. And now take that to a storage world.

I had a clean sheet of paper. I wasn't a reseller, you know, where I came from. I ran a startup company, and I worked at Compaq. So, I kind of understood owning IP, and the benefits of it. And so we started looking around. But, before we did that, we sat down and said, what does this thing look like? Well, we were in this 21 Century, and what it looked like was a heavy degree of software and automation, that's what storage looks like today, as opposed to in the olden days it was a heavy degree of hardware and a little bit of software.

So, we started with that clean sheet. We wrote down about 10 things we thought customers really wanted, things like extraordinary scale, ease of use. They want it optimized. They want the data to be in the right place at the right time. These were all things that weren't easy to do, but that's kind of what we were hearing. Then we started looking at companies. And every time we found a company we looked at two things. One is we wanted it to be best in class in something. It had to be best in class in something we cared about. And the second thing, it had to fit in this model of democratizing technology and then in this common theme set. So, we had that criteria, if you will, this litmus test.

The first company we bought was EqualLogic, so to see how they fit. They were number one in virtual storage. They ran on a very basic set of hardware. The hardware wasn't the value. The value was all in software. They had massive scale through pure scaling, something nobody else did. And they were the easiest to use technology in the industry. So, they met like three out of the five of the pillars, and so it was a really good thing.

The other thing we did was with this clean sheet of paper is we had like 16 billion in the bank. Well, I didn't, but the board did. So, I thought this was like the best startup I'd ever seen. It was the best-funded startup I'd ever found. And so we started spending money and buying -- my goal was I didn't want to buy anything at a discount. I didn't want to buy the second best thing, or the third best thing. I'd done that in my past, and you usually stay with the second best thing. If you buy the fourth best, or something that's about in the trashcan, you end up usually putting it in the trashcan the rest of the way.

And so I said, if it's not going to be the best, if it's not going meet this thing I'd just rather not own it. That's how we started. So, Ocarina was best at compression. Compression is all about optimization. Compellent was best at optimization, this tiering. We knew tiering was going to become huge. If you look at storage today the fastest tier at the time was a 15k RPM drive, and the slowest tier was a 7200-RPM drive. But, fast forward now a few years, fastest tier is millions of I-OPs, and the slowest tier is the cloud. So, tiering is even more important when the delta between them is that big and customers can go from I need it fast to I don't need it so fast, I want it cheap and do that very quickly. So, that's kind of been the journey and that's what we're on.

Now, what I'd like to suggest to you, if you look at my architecture a lot of companies have bought other companies. What you're starting to see come out of my company today is a Dell personality. It's no longer EqualLogic just making what EqualLogic, the personality where they never made anything if it wasn't easy, and they only operated in this one little space, that's not the way anymore. They now have the fluid file system component inside of EqualLogic.

We have the same fluid file system inside of Compellent, and that exact same fluid file system inside the PowerVault. So, you're starting to see the Dell personality. It's not 100 percent out there, but the press and the media have really recognized this. We've gotten great quotes where Dell is now at the forefront, not fast follower. When somebody says fast follower to me I just pop up a different article and say, you haven't been reading the whole news. We're now at the forefront of this integration technology. So, that's kind of what we've been doing in our strategic intent.

CHRIS WHITMORE: So, how do you manage the cultural kind of conflicts that go with building a storage platform and common architecture across these products, when you have these competing development centers and various locations throughout the country? So, you have guys in Minneapolis, Minnesota, for example, Silicon Valley, Austin, et cetera. How do you bring them all together and align your resources to meet that goal?

DARREN THOMAS: That's actually the most deep insightful question that I usually get asked and I rarely get asked it. That is the secret sauce. I mean anybody with a billion and a half bucks can buy a good storage company. That's intended to be a little funny, because there aren't that many left, and a billion and a half is a lot. But, actually integrating them and bringing them together so that -- the two hardest ones, I'll tell you right now, is like Israel and California. The folks in California, if I can think about it I can do it and I'd probably do it by lunch. And if I've got a ponytail I can get it done earlier than that. You know how fast we can do stuff.

You go to Israel if you ask them a question the answer is no. How about if we did this? No. How about that? No. Can we think about it? No. And it's funny, because the engineers in Israel are very smart. No in Israel I've learned, the English "no" in Israel is "let me think about it." That's what they're really saying. And the California "no" is "I'm insane and I think I can do it, but I might not be able to." So, that's their yes. And so there are these huge cultural gaps.

What I've found we have to do is I personally have to sit in these architectural meetings, because there's only one place all these groups work for and that's me. And so you have to be a bit of an architectural judge and jury to do this, because you've kind of got to say, no, we've looked at all the ways you have to change and you don't. And everybody wants to do it their way and not change. So, that is a huge piece. I think we do this very well.

If you look at -- we've got the deep boot technology being dropped into the fluid file system, which then is being dropped into the EqualLogic and Compellent solution set. So, I've got -- this is like those Russian nested eggs. I've got this going in this, going in this, going in this. And it all has to work. And it doesn't all work the first time. Sometimes you put that stuff together and then the finger pointing and all. But, it requires adult leadership is kind of my goal.

I've seen many, many companies fail at this. It is the single hardest thing. Culturally we also, because we're kind of a startup company, I end up keeping these employees. I don't think I have any magic pixie dust, but I end up keeping like 98 percent of my employees, the engineers, the architects and all. We do some very smart things about how we retain the people. But, we also listen to them and we also make their life important.

A lot of companies will bring a new company into the bigger company and they'll say, here's the book on how we do it. And at Dell we don't have that book. We say, look, you came in here, we paid a lot

of money for you, tell us how you do it. And we want to listen and we want to see if you're doing it better than us.

As an example, my number one outbound guy, the guy that runs my entire outbound, came from Compellent. The guy that runs my strategy came from Ocarina. The guy that runs my engineering at Nashua came from the Austin team. The guy that runs engineering at Compellent came from Compellent. So, we tend to keep the people in the positions, and sometimes even promote them if they are the best talent in the room.

CHRIS WHITMORE: So, that's on the development side, how about on the go to market side? How do you drive consistency in go to market? How has the channel responded, particularly these store startups are generally channel-led, and the channel and Dell have many a storied relationship.

DARREN THOMAS: Checkered past?

CHRIS WHITMORE: Checkered past, yes, so how do you manage that channel conflict, if there is a channel conflict, for the go to market and the delivery of the message to the customer around the Dell product versus old products?

DARREN THOMAS: I think we've kind of changed our strategy. I think the Dell that didn't need or want the channel is the Dell of the '80s and '90s. The Dell of at least 2006 or '07, when we acquired EqualLogic, we tried really hard to keep all those channel partners. There are some channel partners that just aren't ready to partner with Dell. Their business model is a direct competition with us, and if that's the case I don't think we lose much. If they really are a great competitor our direct sales force can stand against the channel pretty easily.

The ones that are really value add, the ones that are like in healthcare and the ones that are very specified in high performance computing, the ones that sell storage with other services and things like that, the ones that really add value are the ones that we tend to keep the best, and those are the ones that we want the most. And so we have a great relationship with them, we make enough margin to pay them, and so it's not an issue of programs. I tested the channel. Are we treating you right, are we paying you right? Do we run the programs? They go, yes, yes, yes.

We have this Dell Storage Forum, we just had one in Boston in June, and we have like 300 channel partners came, mixed with about 500 customers, mixed with about 200 press analysts and let's see, industry analysts, financial analysts and press. And so there was like 1,200 people there and we had them all together. So, the press guy can talk to a customer in front of the channel partner. It's kind of a strange deal, but we've got nothing to hide, this relationship is working really well.

The channel partners tell us what they really like is that our products are different. If you're a regular channel partner there's like three companies that everybody has, everybody carries those three. If you're a channel partner and you carry Dell you've got something very different.

And EqualLogic and Compellent were the two most popular channel partner products out there, and so they're saying, like, Dell you've got great products, we've got the 12G Server that's way ahead of anybody else's. So, now you add that in. And we just brought Force 10 with some really cool switches. A channel partner can come in and have, bada-bing, bada-boom, he's got it all. And they like that a lot.

And channel partners in general, they run a business, if it's a good product and they can sell it, they're on your side.

CHRIS WHITMORE: So, how much attrition, if any attrition, have you seen in terms of account reps in the channel, or channel partners reselling the Dell storage product post-acquisition?

DARREN THOMAS: You know, I don't keep the attrition numbers, but obviously we do see some. We are actually in a net positive increase in channel partners. So, I know we've seen some go away, but generally speaking, I think we're doing pretty good. I mean, I'm not on the sales side. I don't know what normal salesman attrition is, but I know sales team attrition is pretty high. I don't think we're above industry norms. I think it's kind of the business as usual putting in new teams.

We have an added complexity that every time we acquire a company, it comes with its own sales force complete, and every one of those sales guys has a region that, guess what, Dell already had that region. It's not like somebody just discovered the State of New York. And so we do have to kind of map people, and when you map people, there's always like an extra account manager. And so I don't know what the numbers are, but that's not what I think our problem is. I don't think we're stumbling over sales team attrition.

CHRIS WHITMORE: So, the results, you brought up the issue of problem, because there does seem to be a problem in your growth rate in the most recent results. Perhaps we can flesh out the drivers of the pretty sharp slow down in the Dell-owned IP storage product line. Was that EqualLogic, was it Compellent, what's the underlying issue there? Is it a win rate issue? Is it a demand, short-term demand issue? Have you diagnosed the problems last quarter?

DARREN THOMAS: Yes. I just spent a week getting ready for our internal reviews, and just flew here from that meeting. So, yes, I did a pretty good dive. Here's the bottom line, we're in a market right now where storage industry, if you were flat, you gained share. That's the market we're in right now. If you were flat, you gained market share. The numbers just came out. Anybody who was flat, I'll just pick somebody, HP was flat, and they gained market share, gained half a point market share. And so flat, I hate to say this, but flat is good in today's economy, these headwinds.

Now, I don't know, I'm not going to predict the headwinds, that's not my job, and the disclaimer said you can't listen to me anyway. But what I will tell you is, it's a tough market out there. Dell IP grew 6 percent. The market leader only, market leader only grew 3. So, I'm not ashamed of the growth rate of my IP business. Yes, it has slowed down, but I think we came into a pretty strong headwind in the economic conditions.

Now, in terms of which one it was, we don't usually break them out. But I will tell you, EqualLogic and Compellent are about the same. They're both really good products. They're both growing. And they're both growing in small numbers now. Not as small, because that number, that plus 6 percent IP actually includes my PowerVault business, which includes some other technologies that actually I don't own the IP on. When we say Dell IP, what we're really doing is excluding EMC.

And that has been, the reason why you see Dell financial numbers in storage down is just because we're replacing literally more than a billion dollars of EMC revenue with two startups that were at $130 million a piece when we bought them. That's what you're seeing here. And we're doing a

pretty good job. I mean, we're almost done. We're almost through those windy days, and those bad times.

CHRIS WHITMORE: I think there's a question here.

QUESTION: Thanks, Chris. Vijay Bhagwat, Deutsche Bank. My question for you is, we all read the same news. You saw the VMware acquisition from Nicira, and at VMWorld recently, you know, kind of had a sense of their strategy in terms of software-defined networking, software-defined storage, cloud orchestration. I would like to get kind of a Dell point of view on all of this, which is network virtualization, SDN, virtualized storage, what's Dell's point of view?

DARREN THOMAS: Yes, that's actually a great question. There are so many moving parts going on here, I'm sure that the storage industry must look like a hornet's nest to you guys trying to track a single bee. So, in that particular issue, here's what's going on. You have companies, to some great degree application companies, saying, hey I can just put storage directly on the server, direct attach. That's pretty fast. Direct attach storage is pretty fast. And I'll manage all the reliability and stuff like that up above it.

And now with virtualization you say, okay, so now I want to do all that virtually. So, I just want to snap my fingers, install a server, all that storage is under there, and I want to have it virtually managed with a software tool. So, this concept of software, just software only, so it's like storage is out of thin air. It's just whatever is on the disk.

First of all, all our storage, all almost everybody's storage is about 98 percent software, only about 2 -- I have 1,300 engineers, I think like five of them are hardware engineers. And they help me build my hardware in some offshore design team, to be honest. All my IP is in software.

Also, if you notice, Compellent runs on a Dell Server. Let's back what that means. Compellent runs on an Intel standard architecture. Compellent will run in a VM. EqualLogic, while it runs on a different architecture, will run in a VM. We can run it in a VM. And that's exactly that software.

So, what you have is all these companies saying, hey, I can make a piece of storage out of thin air, and I'll do it like either at the Microsoft level or I'll do it at the VMware level. I'll do in one of those. But what you get is, you basically get reads and writes, and if it fails we'll copy it somewhere else and do it. Well, what about snapshots, replication, what about all of this stuff you got used to using? What about that stuff that protects you? What about thin provisioning? What about all that? Well, we haven't gotten there yet. We haven't even talked about it yet.

Well, our virtual solutions, the ones I'm talking about running on VMs, come with snapshots, replication, thin provisioning, all that feature set. So, right now I'm saying bring it on, I would love to see that world where I can eliminate the hardware. I would like to see, if I do that, will you guys represent me as being a software-only company?

Yes, that would be pretty cool, because at that point in time I've extrapolated myself from the hardware. I have no hardware at all. My value is pure software, and we all know the software companies have great multiples. So, I'm looking forward to that.

But, to be quite honest, we can run our software on a server with no assist from any kind of storage hardware. And that's coming, that's actually coming. What I don't think is every customer out there is going to go to that, because there's a few little minor flaws with that. Number one is direct attach, if the server goes down, all those disks go down. Yes, you can copy that data somewhere else, but now you've got to pay twice the cost if you're copying the entire content to another location. So, RAID 5,RAID 6, that's out the window. All the cost savings of using six plus one or seven plus one are gone. Now every piece of data is mirrored to another piece of data.

Those things have their value when you want to do it quick, set it up, run it in a virtual world, and then shut it back down again. But if you're going to run it and set it for a long period of time, you're going to pay about twice as much for the disk, roughly. So, they had their limitations.

So, I think we're headed to a world where that just is one more bee in the beehive, to be quite honest. Does that make sense?

CHRIS WHITMORE: Just a follow-up on that, I wanted to ask about your views on the PCI-e market. How is Dell going to participate there? How are you coordinating and partnering with players like Fusion IO, and to what extent does that create opportunities or threats to your core strategy?

DARREN THOMAS: Boy, I'll tell you what, you just keep throwing those softballs at me. I love this one. So, let's see what's happening. What he's talking about is flash in the server. So, if you think about just raw speed, how fast can you do a write or a read? The best way to do it is put the flash in the server, write it on the memory bus. You're now talking about microseconds or nanoseconds, not milliseconds to write. You're talking thousands to tens of thousands of times faster. So, that's cool. So, that's what makes Fusion IO and flash inside the server interesting.

The PCI bus does get in the way a little bit. It's not on the memory bus. But it's PCI bus. It's still faster than iSCSI bus or fiber channel bus, or any FAS bus, it's still way faster. And so, you literally, you put flash in a server, and you're talking about things that can get 250,000 IOPs. One flash card, 250,000. Four of those, you've got a million IOPs. There's not a machine in the world today that runs at a million IOPs. But you can do that with a single server. So, that's fast.

Now, the problem is, if the server goes down, you've just lost a million IOPs worth of writes. So, the server, not that servers aren't inherently reliably, but as an architect would speak, it's an unreliable element, because there's only one of it. And that's why. So, if you do that, you get that speed, you take that risk. And Fusion IO gives us that. We sell Fusion IO today. We're great partners with them.

But we bought a company called RNA, and what RNA does is the minute you write to one server, it immediately maps that right to another server, and it does it in an algorithm where it keeps track of which is the fastest, nearest server to me. So, it doesn't have to stay consistent. You can make it a different server. And they don't have to be mapped equally. So, one server can have all the hard drives in it, the other server can have all the flash in it. And the system will take care of itself.

Now, what's the benefit of that? Now, you write that million IOPs, and you're making copies as fast as you can. And it doesn't post the write, it doesn't tell the application it has written until it gets the data to the next server. It's a very small tax, if you will, to do that, but now you're running reliable. Dell owns that IP. That IP is going to be shipping here in about six months. We actually demoed that

at Dell Storage Forum. I'm sure if you come to Dell World, we'll demo it again. It's the hottest thing. Michael has talked about it a couple times. This technology is really fast.

Now, that's wonderful, but now you just filled up the most expensive storage in the world and written as fast as you can. What that does is it tells you the next most important technology you'd better own is tiering, because now you want to get that stuff out of that server when it gets cold, and you want to move it somewhere else where it's not so expensive, and then start that whole process of moving it out to the cloud. And tiering becomes the killer app in this. So, flash is cool, but you have to have consistency, write consistency, RNA, the company we bought.

And now tiering. Oops, who is number one in tiering? You're looking at him. We bought Compellent. Compellent was number one in tiering. We had the best tiering in the industry, not by accident. We asked ourselves this same question two years, three years ago. And so, tiering is the killer app. We've got the tiering. It's really critical. And flash then, you start putting flash everywhere, because even when you go to write out of that million IOP machine, you've got to write really fast. So, the Compellent device has to receive it into flash, and then slowly move it off. So, you end up making these flash tiers.

Flash disks are changing the architectures of storage. That's what's happening.

CHRIS WHITMORE: Where does that intelligence reside over time, over the long haul? That tiering intelligence, does it reside in a separate box, or does it reside on the server?

DARREN THOMAS: It's interesting, because I hope I said architectures. I probably didn't. But what happens is, you need architecture like RNA that worries about consistency at the server level. That's a different architecture than what's happening in Compellent, where it's already been moved to a device that understands RAID type of reliability. And so what happens is, there has to be intelligence in both places.

Now, that's fine, except when you go to do like snapshots and replication. When you have snapshot, you don't want o snap a device and then only have it snap within the Compellent device. You want to snap a volume and say, this is an entire volume. And, oh, by the way, some of the data is still up in the flash server, or that one, or that one, or that one. And some of them are down here, because remember we're moving the data automatically. So now everything -- literally it's Rubik's Cube, everything is everywhere. And so you have to have a set of intelligence in each device, but there has to be master. There has to be something that knows what a snapshot and replication looks like, otherwise no snapshot and replication will ever be a complete one. You know, you'd never get a complete one again.

And today, you know how we do that? When you're running a server, and you've got memory up in the flash, we real simple, we tell the application to stop, stop talking. We flush it to the Compellent device. It takes about a third of a second, and then we say, okay, you can start talking again. This is called Freeze and Thaw commands, and we all execute them, everybody does it. But when you have flash-based memory up there that's in the maybe gigabytes or terabyte size, you say stop, an hour could go by and you're still flushing. No one is going to let you shut their database down for an hour. So, we have to do it real-time active.

Once again, the speed of flash is changing the way everything works.

CHRIS WHITMORE: Let's follow-up on that. Do you need a new architecture to address the old flash array or all flash appliance sub segment of the marketplace, or do you think you can shoehorn in your existing architectures into that underlying medium?

DARREN THOMAS: Shoehorn in, okay. Actually, we do need new architectures, and we're looking all the time. I think our architecture for the server, we've got it. It's the RNA. The architecture for -- and, by the way, we can do this Compellent or EqualLogic. EqualLogic is intended to be more of a mid-range price, so I would imagine most of this would be Compellent, which is why I used that as the example.

But there could be a reason for another tier in there, and it could be that in order to do this handoff and maybe even have more than one or change sites, or things like that. So, I think we're in like maybe the bottom of the first inning of this technology. So, absolutely. I think there are additional technologies. We have our eyes open.

My strategy, I have many strategies. My acquisition strategy is to acquire, integrate, and innovate. And I try to acquire the best technology. I innovate that technology by integrating it. And hopefully you don't see anything gin the press that says I'm done, because I don't think I'm done. I'm still looking. I'm still trying to be best friends with Michael and his big checkbook. We have a chance to rewrite the IT systems of today.

And if you think about it, no company can do that better than Dell, because I've got nothing to protect. I don't have a big UNIX world. I don't have a big mainframe storage solution. Everything I sell is this architecture we're talking about. And so, I'm fully vested in doing the best I can with what's out there, and usually what's out there is in the startup community.

CHRIS WHITMORE: And how tightly is Michael holding onto his checkbook?

DARREN THOMAS: Well, you have to ask Michael. I haven't been told no, go away. I haven't been told that. Michael is one of those entrepreneurial type CEOs. He's a wonderful person in that respect. He's got more curiosity. I'll tell you, he knows the startup community better than I do. And so, I think that Dell is obviously going to be very conscientious about spending money, but we're not -- we've made a commitment to this transformation and I don't think we've backed off the transformation.

CHRIS WHITMORE: Any questions from the audience?

QUESTION: You spoke a little bit about the RNA networks capability, but how do you think specifically about owning your own IP within the PCIE card, or within the software that would integrate in with applications that write to flash. Expand a little bit more on that please, thank you.

DARREN THOMAS: Yes, I think you're talking about a layer where would we care about the IP that is actually on the card, the card itself. And to be honest, it's certainly -- there's a server division involved in this, too, Forrest, and Rob, and his team, but I'm very close to those guys. I don't really think that would be as interesting to us. I think the closer you get to the hardware, the IP; it's probably going to come from established players today. And we're okay.

I think if you look there's a model that says the IP that touches the customer is the IP the customer cares the most about. The IP that's buried in the machine -- just take a hard drive. The IP buried in a hard drive is unbelievable. I mean, they're flying heads using aerodynamics and halo-effect transistors and stuff that most people don't know anything about. And these guys are brilliant scientists, but I'll guarantee you I make more profit off a hard drive than Seagate does. And the reason is because I'm closer to the customer and that has always been the case.

I'm not telling you guys anything you don't already know, the closer you are to the integrator that hands it to the customer the more profitability you're going to make. So, to answer your question, I use that as a model to say, I don't want to own technology just for technology's sake, I want to own technology that is innovative and makes a difference to the customer. And the technology, the closer it gets to the card, the more it's technology that matters to the engineer. Does that make sense?

CHRIS WHITMORE: Earlier you mentioned briefly in the channel discussion around go to market, with server networking, et cetera, can you talk a little bit about that, how do you go to market with a server, top of rack switch and storage, and what is the go to market strategy there? How much bundling are you guys going to do?

DARREN THOMAS: Yes, so that's actually -- that's an area where I'm the most excited about, because I think everything I've told you about what I'm trying to do as storage a lot of other companies can do it. I think we do it better. But, other people can copy, follow, but the minute I start taking my technology and putting it inside of a blade server and adding a network switch, there are not many companies that can do that. I mean there just aren't that many companies that own all three pieces. And so that's an enormous opportunity for Dell. Also, customers want that, customers want that fully configured. We refer to that as converged now, it's a new buzzword, but customers want that.

I would encourage you to look at the new Dell EqualLogic blade array. We took EqualLogic, shrunk it down to about a fourth its size, put it inside of a Dell server, a Dell blade server, and just to be clear what that does -- anybody can put a storage device inside of a blade server. I put a storage device that virtually will connect to every other storage device not in the blade server, right. So, you imagine this, you put in -- you put a 20-terabyte blade device into a blade that is storage and you outgrow the 20. You'd have to put another one in, and another one in. But, in my world that device will connect to a rack-mounted EqualLogic device and all the storage in the rack-mounted, well guess what, there's a whole lot more room.

So, I kind of think of this like, and I know probably not everybody, if you've got kids you watched the movie Harry Potter, you know Hermione's little purse, she sticks her whole arm in there and the purse is only about this big. It's bigger than it looks. That's what we have. We've got Hermione's purse, it's bigger than it looks. And so you put that device inside the server, and then you go over and look at the device and you say, I only put a 20-terabyte device in and it's showing me it's 60 terabytes. That's because it joined the group of the other device and that's pretty cool. That is a small thing compared to the fact that we've got this giant box stuck inside this little blade. If you haven't seen it we showed it at Dell storage forum, and people were panting over it. So, it's pretty cool technology, something really only Dell and maybe one other company can do.

CHRIS WHITMORE: Great. With that, we have to wrap.

DARREN THOMAS: Thank you.

CHRIS WHITMORE: Thank you.

END