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Day Two Opening Keynote Presentation

Continual Innovation Through Continual Reinvention

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Tom Burns

Good morning, how's everybody doing? Good sessions so far? That's great to hear, fantastic to hear. Listen today I have a little area called Digital Transformation that I'm going to talk to you about and our position in Dell Technologies. But still I think something that will resonate with all of you. Over the course of the next few minutes we're going to talk about a study that we undertook called realising 2030. We're going to talk about embracing what is this Digital Transformation mean and also how really how the Digital Transformation is impacting particular areas. We'll give a couple of examples and we'll close with a customer example which is always quite fun to see. But before I get started I'd like to ask maybe the audience a couple of questions. The first one maybe just through a raise of hands. The second one maybe I'll apply a little pressure on someone.

But how many of you, through the raise of your hands, on average, on a daily basis, use two or more smart devices? PCs, cell phone, tablets? Yes, about 100 per cent of you. That's not surprising when you hear that actually last year the number of smart devices surpassed the world wide human population of 7.2 billion and growing. I must say, myself I carry an average of four. I don't know if that's smart or just plain stupidity and I'm going to have to figure out how to reduce that. But it is pretty spectacular. Now the

next question maybe I'll ask someone to raise their hand and I may ask them a question. Anyone in here own a Tesla? That's a joke?

Audience member

We wish.

Tom Burns

We wish. Over here, we got someone raising their hand. You own a Tesla? Okay is that Tesla in anyway connected to the internet or connected to other applications? How do you use it? Where your car is? Exactly. So the number of connections to the automobile and the whole [thought] of a car that drives by itself. It's no doubt that the number of devices including in our cars is exploding. In fact, by the year 2020 some estimates say there will be over 30 billion connected devices. What I mean this is not just smart phones, and tablets and PCs. It's also sensors, gateways, CPE products. Other types of devices. The expectation after 2525 is actually an excess of 75 billion connected devices. Intel actually believes it's going to be even more than that. It doesn't take a scientist to figure out why Intel would want it to be more than that because obviously they're going to participate in that in a great way.

So there's no doubt there's a humongous explosion of these connected devices and these devices are connecting and collecting data. Data that can be useful in businesses, data that can be useful in our personal lives. Data that we can use in a different way. There is no doubt that this Digital Transformation is changing and impacting the way that we live every minute, every hour, every day, every week. We believe so much in this in Dell Technologies that we undertook a study called *Realising 2030*. In this particular study we used a firm called Vanson Bourne, a research firm that actually asked about 4000 companies, globally, small, medium and large, in 16 different countries. What did they believe the potential implications of a Digital Transformation or the changes in technology meant to them? The first finding is that about 45 per cent believe there's a possibility that their business will become obsolete. Wow.

Almost half of the companies surveyed thought that they would be out of business in the next three to five years. How many people believe this? Well let's think of the impact of Netflix on video and does anyone remember - what was it called? Gee I can't even remember, Blockbuster video? Gone. 48 per cent do not know what the industry is going to look like in three years. Think of the auto transportation that we just talked about. Think about Ford introducing the Model T, the F150, and now thinking about having a car that drives by itself. Healthcare industry, continuing to transform, electronic medical records, remote healthcare. Things that are happening very rapidly. 52 per cent have experienced significant disruption in their industries over the last three years. Again think of the Blockbuster and Netflix impact. It's interesting to see Amazon that over took bookstores and took away that brick and mortar. But what's happening now? They're actually opening bookstores again.

The one in [San unclear] I can tell you has a line going out of it on the weekends. So industry is changing constantly and is being shaped in different ways. What's some other things that we found in this survey? Well one is that the disruption is inevitable.

It's happening very quickly. The second thing is the emerging technologies is continuing to evolve. If we think back 10 years ago and you go back to that question of the two or three devices many of us probably didn't have those two or three devices. I can remember when I started my career I had a land line phone and maybe a PC at my desk, but that was about it. I didn't take work home with me. Things were evolving very quickly. They're going to continue to be disrupted at even a faster pace. This is giving the rise also of what we call ultimate human machine learning. I'd like to spend a minute on what we mean by that.

As we talk about all these connected devices and these devices collecting data that we can use, the humans will be interacting with that data. Work processes and decisions will become more fluent and adaptive allowing for these processes and decisions to be changed on the fly. In fact, what used to be completely difficult to change, or decision to be had we can actually reimagine in a much faster way. If we think about this human and machine learning think about the fact of what we call the digital conductor. If we think of a large musical conductor, you can understand that every single one of those musicians probably memorised the notes of that particular music but are they looking at the notes. No, they're looking at the conductor. Why? Because it's not about the note themselves, but how the note is struck. This is what we mean by machine human learning.

In 2030 technology will be ingrained in everything we do as I stated before. The way we work, the way live, every minute, every hour, every day. Just think about the impact of those connected devices that you have today. So do you embrace, or do you walk away? When we look at some of the emerging technologies underpinning some of this change these are some of the things that came up during our survey. We talked already about artificial intelligence and machine learning. All the connections, all of the data. By the way just to give you a little hint, people thought that Michael Dell was crazy to spend 60 plus billion dollars on this company called EMC. All that data needs to be stored someplace. Now we are the largest storage company in the world by far and we are moving that technology in a very rapid pace. Robotics. Think about the old factories versus the new factories. The robotics and how they improve quality.

They improve processing, they increase time. They increase productivity. Virtual reality and augmented reality. This is one that is still a little bit beyond me. Until recently I heard about a little project called Bravemind that's being done by USC Institute of Creative Technology. Which is actually using virtual reality to help soldiers that are returning from Afghanistan and Iraq with post traumatic stress. Please look it up, Bravemind at USC. They're using virtual reality to help our soldiers. It's pretty cool. Cloud this is obvious. We had a brief discussion on the panel that's about to come up here. We met earlier this morning and everything is moving to the Cloud. We have a different opinion of that, but certainly all the services the applications, the access. Even on your mobile devices how much is backed up to the Cloud. We in Dell Technologies don't believe Cloud is a place.

We believe it's a practice or process, and how you run your infrastructure and your applications. It's inevitable. We think it's going to be a hybrid. It's not all going to be public. But obviously that continues to have a tremendous impact. We talked a little bit

about IoT, the Internet of Things. I actually think that this has been going on for some time. I was actually involved in my previous company in the connected highway in the UK. It's one of the largest connected highways in the world with the number of video cameras and so forth. But I was recently in a discussion with Microsoft about the Azure Stack. They actually said that actually 15 per cent of their current Azure Stack sales relate to the connection of the Internet of Things, and they used the New York Police Department as an example. The New York Police Department is now giving their policeman video cameras that's on their chest, so that they can watch particular traffic stops, activities and so forth.

That video streaming obviously has to go back and be processed and computed and stored. Azure Stack has made a big impact there. But we think about connected cities, travel, highways. Connected appliances. All of this explosion of connected devices. So the question is do you embrace this change, or do you fight it? We believe that if companies embrace this change they can actually see tremendous differentiation competitive advantage. In fact in a study by Accenture, 60 per cent of the global manufacturing will see artificial intelligence enter into their environment over the next several years which will increase productivity by 15 per cent. Tremendous opportunity to embrace the change, to embrace the Digital Transformation. Create competitive advantage. Make our employees, our teams, our partners and our customers, much more productive. Why does it matter today?

Well in Dell Technologies we believe that there's approximately, or there are four pillars to this transformation. The first is obviously recognising that this Digital Transformation is occurring. What is the impact to our services? What is the impact to our applications? Do we need to move our traditional applications to Cloud ready and Cloud native applications? This is completely important and obviously assets such as Pivotal Cloud Foundry and Pivotal in itself, helps companies such as GE and others change their traditional applications to more Cloud ready types of applications. The second is around the IT transformation. What do we mean by the IT transformation? I'll give a very specific example in a moment. But in essence what is the infrastructure that we're running these applications on? Are they an old outdated proprietary infrastructure?

Or are they compute focussed, disaggregated, commodity-based infrastructure that can run both traditional applications? But also help you run Cloud ready applications and help companies shift cost from the traditional to moving more to the future ready type of services and applications that they need to run. Obviously, there's the workforce transformation. We just talked about all of you having at a minimum two devices. Jeff Clarke, my boss who runs all of business operations and product operations within Dell EMC today, often says there is no longer an office to the traditional employee. The employee wants to be connected all the time on the device that he or she wants. The barriers or the office type of space, is no longer the same. The number of devices that they use and the type of devices and how you monitor them. How you keep track of them is very important.

Then obviously that enters into the security transformation. With more devices, with more sensors, with more connectivity at the edge, with remote workers. With these PCs, with these cell phones, all these things. The usual wall of security that has been inside

the day centre, no longer exists. So companies need to look at cyber security, embedded security. All of the various capabilities in which they can be attacked. Because data is no longer protected inside of the four walls and that's not how you want to operate. You want data in the hands of those people that can make decisions as I said, on the fly for the right decision, and allow that machine learning to take place. Maybe to dig a little bit deeper let's look at the data centre before, and what we think it is in the future. First and foremost the data centre needs to be completely software defined everything.

More virtualisation, more software defined storage, more software defined networking. I'm sure the panel in a few minutes are going to talk more about this. I know I have a lot to say. Think of it as a platform rather than a set of boxes. Companies need to move away from saying I have server team, I have a storage team. I have a networking team. They need to go to a development operations player environment in which they have a platform, in which they can enable new services and applications. That automation and that configuration needs to be consistent so that companies can take advantage of consistent tools which gives them tremendous OPEX savings. Again turning that savings focussed on services, applications and the Digital Transformation. We believe that this allows companies to have more innovation and more speed, and the capability to execute what's best to create differentiated advantage.

The second thing is the data centre is no longer that big building that sits in your corporate headquarters. The data centre is moving to the edge. In fact it's no longer the data centre, it's the centre of data. We in Dell EMC and Dell Technologies believe that more and more the applications and the business is going to pushed out to the edge. If you use an example of an oil processing out in the ocean. What do you call it - I'm having a brain freeze all of a sudden? But basically there's an average of 30,000 connected devices. Now in some of these connected devices and the information that's being connected it's okay to have that information go back to the data centre for processing. Maybe about the level of fuel that's pumping et cetera. But what happens if you have a particular pump that's not working thoroughly and changes your productivity, your capability, your efficiency by 50 per cent.

Do you want data going all the way back to the main office? Or do you want the capability to understand that data locally on that particular bridge point to make the decisions, to make the corrective actions? So that you bring that efficiency back up right away? We believe that the data centre isn't just about the Cloud. Yes, a lot of it will be run over the Cloud. But we've seen tremendous growth and convergence, hyper convergence. Modular data centres to adopt to this change of how the data centre is going to evolve. Maybe quickly looking at a little bit about what we think is happening in the networking. I'm very proud of what we've done in Dell EMC first of all around disaggregation. Traditional networking in the Digital Transformation will not work. Proprietary protocols, proprietary hardware, isn't going to allow companies the agility, the flexibility and the capability that they need in order to operate and take advantage of this Digital Transformation.

Disaggregation is for sure. Every RFP that we receive today from service providers and Telco's mandate disaggregation. We were the first to do it in the industry four years ago, and it's quite interesting to see Cisco, Juniper and Arista all in the last year announcing

disaggregation. The second thing is the disaggregation of the protocols in the network proper in software itself. Why is it that you have 1100 protocols that you pay for in your data centre, when on average you use somewhere between 10 and 15 of those protocols? Disaggregate the stack. The last is the drive of open source. Again our contributions to the Open Compute Project. Our contributions to the Linux Foundation around the OPX, and the capability to allow companies to build their own Open Source Network Operating Software giving them more flexibility and capability than ever before. This whole world, the software-defined X and software- defined networking. Whether it's in the data centre, the campus or software defined WAN.

Is growing in an exponential rate in the next three or five years and is probably the most profitable area for the networking business. Lastly, it's not dominated by anyone. Because in fact there are many players that are going after this new space, that don't have that traditional proprietary space to protect, those large gross margins. Very transformative time with the networking industry. We're going to here more about this in the panel in a few minutes. Technology transformation is live and at work and every increasing. Hopefully I've come across that point. You've got to shift from the status quo. Remember almost 50 per cent of the companies believe that in three years they'll be obsolete. Maybe to just show this a little bit more I'd like to share with you one of our customer videos.

[Video].

Tom Burns

95 per cent less water. 390 per cent improvement in productivity. Tastes good. It's about how we feed the world over the next several years. Embrace the technology in the Digital Transformation or, as approximately 50 per cent of the companies say, go obsolete. Thanks very much, appreciate it.