CENTER FOR
STRATEGIC AND INTERNATIONAL STUDIES (CSIS)

TECHNOLOGY, INNOVATION, AND DEFICIT REDUCTION: LESSONS FROM THE IT INDUSTRY

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JOHN J. HAMRE: Good morning. Hello, everybody. Welcome, I'm John Hamre, president of CSIS, and we're delighted to have you here today. I'm sorry that we're running just a little short because both of these gents had important meetings in town up on the Hill and then they are going to have to leave fairly quickly at 2:00, so we're going to really dive into this very quickly.

And I'm going to therefore not waste our time with introducing them to you. I mean, well, that's why you're here – Jesus, you know who they are. (Laughter.) So I don't need to do that. I do want to say – (chuckles) – I am so glad to see a little gray on Michael Dell's hair. (Laughter.) For somebody – that's a good thing for a guy like me. I can't believe that –

MICHAEL DELL: I painted it on to look a little more distinguished. (Laughter.)

MR. HAMRE: To help with me. Okay, well, I do appreciate that.

So let me start, if I could. You guys, you – I know that yesterday you spent a fair amount of time with the president. He gave his State of the Union speech and emphasized the need for a more efficient government, more effective government. Now, I know that these are private conversations but what can you share with us about this conversation you had? What is it that he told you?

SAMUEL J. PALMISANO: (Off mic.)

MR. HAMRE: We need to get your mic made. He usually has people to do this, okay? It's a technology –

MR. PALMISANO: Where are my handlers when I need them? (Laughter.) Don't leave me out here alone.

But seriously, so we're part of a group called the TCC – Tech CEO group, that we kind of meet with the government a couple times a year. Roughly eight CEOs of large tech companies – they just frame it, John, because I think that sort of sets the tone for the meeting and as well as – the president was phenomenally gracious with his time; his key staff members were there – OMB, Treasury, Valerie and all the other folks, so it was a big group.

We basically, if you – if I could frame it at the highest level, we talked about competitiveness, so it was much like what you heard in the State of the Union, and then, what are the elements of competitiveness? What's necessary from a competitiveness perspective?

We found that it was a very good dialogue. There was a lot of interaction. We had a lot of different points of view; we expressed ours. He and his staff were very responsive; I think Mike will agree – I'll let Michael comment as well.

We had three big clients, as you might expect: tax, competitive corporate tax structure; trade, which is, you know, in our industry – more than 70 percent of our industry is outside the United States and most of the growth is outside the United States so we really need to be able to participate in global economies that continue to be successful..

And then we got into ways of, you say, okay, the president was very supportive of addressing the corporate tax rate as long as it was deficit neutral – again, a lot of this was in the State of the Union – and then Michael articulated a proposal whereby they could address $1 trillion of productivity or inefficiency that exist within the government, which is just basically using what we've all done for the past, really like 10 years and just applying it to government.

So it wasn't any invention or rocket science; it was just basic business practice that we've all kind of now done to improve the competitiveness of our own company – just apply it to government.

I just think if I could leave you, John, in a room with a little bit of a comment or a thought, most of us have been at it a lot for the past couple years and there was, I think, a sincere and keen interest in addressing why the U.S. is not more competitive. And now we might disagree on the details but at least from the importance of the country's agenda, at least my observation, it's moved way up from where it was two years ago. But Michael, please.

MR. DELL: Yeah, I agree with that. I mean, it was great to see competitiveness on the agenda and, as Sam said, a genuine interest in addressing some of the short-term and long-term issues that have been standing in the way and we had a kind of a frank discussion about what that really means in terms of the other countries out there, what it means for tax, what it means for trade, what it means for government efficiency and productivity and certainly education.

There's a lot to be done – the world's changing very quickly and partisan activities, while other nations are advancing rapidly, doesn't really help our cause as Americans. So while we're global companies, we do things all over the world, we're still Americans and we want our country to succeed and so we're interested in seeing real action taken against how does America stay competitive and stay relevant and maintain or grow the standard of living that we have here in this country?

MR. HAMRE: I was in government and several times was called over to meetings with big guys like you in the White House and we'd have a wonderful meeting – there's a warm glow and it's just, the world is different now and all that – (laughter) – and two days later, you don't remember the meeting.

Why is this going to be different and what are you prepared to do to make this different? Michael, let's start with you.

MR. DELL: Well, I think, you know, what I see is different is I think the magnitude of the challenge – it's sort of made it onto the agenda. I mean, you have this enormous debt that

we've accumulated as a country. I think the competitive pressures that are all showing up relative to competing nations are much more obvious.

I think there is a real crisis in a number of states and various geographies where there are particular challenges. And so we can't afford to ignore these issues. We also don't believe that it's too late. We think if we take decisive action, that a lot of progress can be made. But, boy, we've got to jump into action here pretty quickly.

MR. PALMISANO: But to follow up on that point, I think that – and you're right, we've all been to a lot of these, John, for many, many years. I think what came out of the meeting different than others was not that two groups talked to each other. We actually agreed, in certain areas, to go do work together.

In tax, we agreed to work with Secretary Geithner on establishing a set of principles. He's met with our CFOS – beyond just tech, but other CFOs. They're back again; the tax guys are coming in so there's a schedule. There's a work plan in place. When we met with some of the people on the Hill, again, they agreed that we should get the principles established and of course, it's going to be a negotiation but you have to start someplace.

And so this is the first time, at least in the past two years, when it comes to tax – corporate taxes – being competitive on a worldwide basis, there is, I would argue, real work underway; I mean, teams at the table negotiating and trying to put something together. So to me, that's a sign of progress versus your way – we give a report and we go. We have lots of statistics on why we're not competitive, but we had the statistics two years ago as well.

I think the other thing that came up on trade – and this was, I think, a fair ask of the administration. They asked us to help them make the case. I mean, they get it. I mean, every time you look at where we have an existing FTA, our business is better, service is better, manufacturing's better, agriculture's better. That's the data – (chuckles) – you know, right, these are the facts. Nobody understands the facts. And so we're just saying – we make the argument, just open them up and let us compete. We're fine. We can compete. And the data says that the U.S. is better off based on these facts.

Now, we have to sell the case. I mean clearly, that is not the perception of the average American, especially if it's very, very in a high-unemployment environment. So it's a complicated task.

On the ways to save money or make governments smarter, to use the president's term at the State of the Union, fundamentally, he told us that in the Cabinet meeting that morning – as Michael knows – he instructed – I don't think this is confidential – he instructed the Cabinet to go work on these elements to drive a smarter government.

And Aneesh was there, you know, the government's CTO, and he got a whole long list of to-dos – a very long list of to-dos. In fact, there was – he pushed a little bit about why he wasn't moving faster, which is appropriate, I think, for all of us. Everybody's smiling in the audience, but that's okay. You know, that's the nature of getting things done.

And so you know, and I'm kind of where you are. I mean you know, we both have a little more gray hair than Michael. In fact, we both got out of the same school about a year apart – (chuckles) – so we're probably close in age. But nonetheless, having been through these things so many times, there is real work underway. I mean, people doing work, making recommendations, negotiating, give or take.

Now, I mean, that doesn't deal with the political environment. And so it's hard for us, I think, as businesspeople, to underestimate what's necessary politically to get anything done and that would be an area in which we don't have a lot of expertise in. We could only – help people with the analysis, the facts, the case, you know, the things that we do for a living.

MR. DELL: But you know, what we do know is that, you know, here in Washington, people talk about things being scored, you know, and it has to be scored. And you know, what I know is return on investment. And you know, return on investment in our businesses and our customers see a return on investment and the kinds of things that when we talk about this $1 trillion of savings, these are things that have 30, 40 percent return on investment.

And so you know, scoring, I'll be the first to admit I don't understand it, okay? But I do understand very ROI and you know, those are things that whether it's a company or a government, ought to be done.

And the way you drive it is you say, okay, this is going to save $100 million, $150 million. We're going to take the $150 million out of your budget in the future period and we're going to go get the savings and we're going to have accountability to go make it happen.

MR. HAMRE: Well, of course, that's part of the dilemma. I used to be the comptroller at DOD and of course, everybody knows that Judas Iscariot is the patron saint of all comptrollers, you know – (laughter) – and so, you know, so it makes it really hard because you say: I'm going to take money away from you as long as you do the right thing now. But you're right.

Now, let's get into this report. You guys were instrumental in pulling together this report, "One Trillion Reasons." And by the way folks, you really ought to read it. It's really quite a good piece.

Let me just take you to a few things because I think the audience needs to get a little bit of familiarity. Now, what it is, is you're concretely saying can be done, for example, consolidating information technology. Now, you've each had experiences with this. Maybe you want to share what you've done with your companies, a few things like that. Sam, I'm going to start with you.

MR. PALMISANO: I mean, I'll start. I mean, fundamentally, I mean, if you think about all we're talking about, I know a lot of times, people think, well, these are very complicated technical projects, right? And we got into this discussion yesterday. All we're talking about is thinking about it, putting things together and sharing them.

So this isn't – we're not working on another – this isn't IBM working on Apollo 13 or the space shuttle. This is just taking what exists, putting it together and share it. At IBM, we had 84 data centers; it went down to 14. We saved $3 billion. I mean, you virtualize the environment. You get a 40 – in our case, a 40-percent return. Plus, you reduce energy consumption. So this is just – it's months of work, it's not years of work. It's just planning and literally just putting things together.

And so it's extremely straightforward. The report says the government has 2,000 data centers. Since Michael and I are in all the data centers, we might think there's more, but we'll go with the public data. (Laughter.) Since we're in all of them, we might have a different view of the 2,000.

And so, but if you would just take that – and that's the – that's the thing about this. Does the government need 2,000 data centers? There's 50 states. How about two per state? Let's go to a hundred. You know, I mean everybody got their fair share. You know, everybody got two. I mean that's, as you can see – (chuckles) – I mean, that's, you know, and just share them.

I mean, I know it's incredible, the concept of how to use them together and share them. They share electricity. They share water and all that kind of stuff. They share the phone systems. Well, share this too. And you saw the report, you know, it's a couple hundred million dollars of savings.

But the real life, which we've all done – in our case, the first wave, which is, we took 84 to 14 was 3 billion. I was the guy at IBM that happened to do it. And then the waves now, as we virtualize these environments as Michael – in our case, it's 40-percent return and the paybacks are 15 months. I mean you could almost get it in a budget cycle. So it's very real and doable. Michael?

MR. DELL: So you know, in about the size of this stage, you know, something about the size of half a container, we can put 2500 compute nodes. Each compute node can have, let's say, you know, 30 to 40 virtual servers. And in that same space, we can put about 14 petabytes of storage.

You know, this is an enormous level of efficiency, seven, eight, 10 times better than exists in kind of, you know, historical, commercial environments. And you know, we've already seen the kind of – you've heard about cloud computing. Right, the cloud computing companies have already done this and they use this and we supply the infrastructure for 21 of the top 25.

Large commercial organizations are doing this as well. The government can do it as well. And there's enormous savings in this kind of consolidation and you know, really, you know, holding onto the stuff that's four, five, six years old when the rate of improvement is so fast is actually incredibly expensive. Not to mention enormous power savings.

So when you these consolidations and virtualization and using the new power-efficient technologies, you actually reduce power consumption by like 95 percent. So it's incredible

savings and productivity and efficiency and scale so you don't need all these, you know, small outposts.

MR. HAMRE: I remember during Y2K, we actually moved card-punch readers in the Defense Department.

MR. PALMISANO: Well, I thank you for being such a loyal customer. (Laughter.)

MR. HAMRE (?): We're very loyal, let me tell you that.

MR. PALMISANO: Tom Watson, Sr., would be proud of you.

MR. DELL: I'm proud to say that when I learned computer science, they didn't have those.

MR. HAMRE (?): They didn't even – (inaudible, laughter.)

MR. PALMISANO: That's right, Michael.

MR. DELL: That's why I got – (inaudible) – early. I'll tell you that.

MR. PALMISANO: Okay, at IBM centennial, which is this year, that product was introduced, I believe, like 1916 or something like that.

MR. HAMRE (?): Yep.

MR. PALMISANO: So anyway –

MR. HAMRE: Well, I think we're still using them. (Laughter.) One of the other major recommendations was on supply-chain management. And you know, you guys have written the book on this. Michael, why don't you just – what are your thoughts about what can be done with supply chains?

MR. DELL: You know, I think what we see is that there are an enormous number of different supply chains and collapsing, consolidating those, using pull technology, using information to replace physical assets. They're all the things that you know, have occurred in you know, the world's best company. So applying best practices to that and saying hey, do we really need hundreds or thousands of supply chains, you know, that can be simplified and streamlined tremendously.

MR. PALMISANO: But I'm pretty sure – I'm going from memory, John, but the report says that the government spends about 550 billion (dollars) a year through these kinds of supply chains and procurement. This is only a 10 percent improvement. All the numbers are a 10-year case, right? So it's a 10-percent improvement.

When we went to one supply chain and globalized it at IBM, we saved $25 billion on a lot smaller spend base. So I mean, 10 percent is very, very conservative, is our only point. And again, you know, why you need these hundreds of supply chains, you know, to procure for the government when you could, you know, you could pick 10 again.

I mean we get the one, you know. Ours is probably a little simpler, running in 170 countries around the world. But you know, there's real savings. I just make the point of the 25 billion to say that the estimates in this report are quite conservative when you look at a 10 percent improvement.

MR. HAMRE: Well, you know, but the problem, Washington is a town of 15 goalies and no puck. You know, and so how do you get – (laughter) – you know –

(Cross talk.)

MR. PALMISANO: Yeah, yeah, yeah.

MR. HAMRE: – give up something, you know.

MR. PALMISANO: I think there's –

MR. HAMRE: You've had to deal with this. I mean you've had to deal with it. You take a big bureaucracy and you've had to – but you have tools that the government doesn't have.

MR. PALMISANO: Well, we have management. And I mean that – (laughter) – no, I'm not – I don't mean that in – I'm not being flippant. I mean, and Michael would have the same thing. We actually can assign somebody – and I have a person dedicated to driving productivity and globalization at IBM, full-time senior executive that used to work for me but now she reports to our CFO. It's Linda Sanford.

And Linda, you know, we say to Linda, between 2006 and 2010, we won 5 billion (dollars) of productivity. Go share – I mean sharing and you know, right? And we said by 2015, we want 8 billion. And she goes to work. She's an engineer and she goes to work. But there is somebody. But oh, by the way, you say well, that can't happen in government; there are states. And if you look at what states are doing today, they're actually assigning somebody that we would call an operations person. They don't give him a title, I'm sure, of chief operating officer, but it's that type of a person. They are – or they have these huge issues, deficits and pensions and tax receipts.

They're assigning individuals to go work these cases. And oh, by the way, guess where they start? Sharing things – (chuckles). And what are they sharing? Like data centers and procurement and all those kinds of things is where they begin.

So I know it's – and you know, and you think about the private-sector analogy so it can't apply. My only point is it can apply. I mean, at a state level it can apply, you know, right? So if it can apply at the state level, why can't it apply at the federal level?

MR. DELL: Yeah. I mean, Sam raised a very interesting point. We're seeing this with the large university systems in the United States where the budget pressures have forced them to do things that they previously would not have done, like the consolidation of the data-center infrastructures. We're seeing it at the state level.

And a company like ours, you know, we will – we will sit down and say, okay, we're going to drive a 10-percent productivity improvement every single year. Well, how are we going to do that? We're going to do it with collaboration, with tools, technology. We're going to invest. We're going to put those tools in. And then we're going to take the money out of the budget. And that – you know, that's going to allow us to invest and grow and continue to, you know, provide value for our customers so they can grow and thrive with the technologies that we provide.

MR. HAMRE: Let me – you earlier raised the issue of cloud computing. And let me tell you what every CIO in Washington is going to say to their secretary: Well, that cloud thing, you know, that's a little dangerous. It's a – lot of cybersecurity things there. What – tell us what it is that we should be telling Washington about cloud computing and its safety?

MR. PALMISANO: Yeah. I think there's – I mean, look, to be clear about it, there are – there are multiple ways to implement a loud, right? And there are secure ways to do it. But they are different than, what I'll say, just going out and use a consumer cloud.

And so if I was running national defense or I'm on the – as you know, I'm on the taskforce with NSA with kind of – it's, you know, it's all that good stuff if you would have to look at it differently than if you're just sharing office work in a civilian agency. So not all clouds are the same.

But let me give you a kind of a definition. All a – what really a cloud is, is a virtualized environment that Michael was describing. So everybody says, well, it's cloud, okay, fine. When I was trained at IBM 38 years ago, it was called virtual machine. Now – (chuckles) – it's called VM – (inaudible) – VMC. So 35 – 38 years ago that's how I was trained, not on a key punch – but we still had key punches too – but on virtual machines. (Laughter.)

So you know, it hasn't changed all that much. It's just been moved from mainframes and large servers down to the Intel infrastructure. But fundamentally, it's sharing of resources. Now, there's multiple ways to do it. And the way you have to do it is based upon your environment.

And if you're DOD or if you're NSA, these are very, very real issues – very real issues, yes – but they can be architected and designed. And, oh by the way, if they won't, we have software that will secure the environment if they would like, if they can write it themselves.

On the other side of the house, I mean, I'm going to argue that a lot of the civilian work that lends itself naturally to the cloud, which is the office environment – very, very productive

environment in the civilian agencies. I mean, I don't think there's that same level. So if you have some security and some protection of passwords, well, it's not the same level of concern.

I'll give you another one. It's very, very simple. Where we're getting like 50-percent improvement in productivity is a thing in every IT shop called development and test. And so, and the way it works in development and test, you have to take capacity and you set it aside so when they write new applications, it can run in this environment, which you can do if you use this virtualized architecture – cloud. You can just share of your production environments to do it.

And instead of taking two weeks to provision these things, set these systems up, we do it now, and we do it in four hours. And it's 50-percent less expensive. So the developers get it done faster.

There is no security risk in the government to do those kinds of things because it's behind the firewall; it's in their secure environment. So I think what I would tell them, really, is if they stand back from it, not all things are the same. So to make everything sort of national security or huge privacy concerns is not appropriate. It is – there is in certain areas, and we need to be extremely sensitive – given.

And that we did all this analysis at IBM, and it's very, very true not all that lends itself to the cloud. That's probably about 40 percent of what we do. But 60 percent of what we do is very much legitimate work that could run in that environment. And there's true productivity.

So I guess where I think, you know, John, what I would say is that, you know, I just think things can't go unchallenged. And the reason I say they can't go unchallenged is we are in a very difficult situation. If it was normal times and life was moving on and things were great, you'd say, fine – (inaudible) – business as usual. But we're not in that kind of a set of circumstances.

We are at great risk on productivity. We have a financial-debt structure that if it wasn't the government, it was non-sustainable. None of us could run those levels of debts and keep our jobs. You know, only in a political environment can that be the case. So to sit there and not ask ourselves honest, detailed, factual questions about solving the problem, I think, is not appropriate for any organization.

I'll say that about my own. And then, I don't want to pontificate too much about others. It's just not appropriate. We are in a financial crisis. So let's wake up and act like it.

MR. DELL: Yeah. So you know, we're often talking about secure private clouds, just to be clear and draw the distinction from the public cloud. That's quite different. I think the other collective experience in our industry is that if you, you know, stand in the way of the enormous improvements in technology that continue to come, you do it at your own peril. And you know, you just lose relevance and you fall behind.

And so, you know, there have been enormous advances in our industry. And this is where if you sort of add up what are the basic opportunities that are kind of pretty easily accessible, that's your trillion dollars.

MR. HAMRE: Both of you have remarkable experiences as business leaders. Michael, you invented a new model. Obviously, you had to convince an industry of something profoundly different. But you did that; you led the way.

Sam, you've re-engineered IBM, took it from an old, stodgy company into a very dynamic new company now. So both of you have been very proven leaders. Now let me ask you to step back with some detachment. Look at Washington, where the average political appointee is in office for 26 months. And you know, when you have to change an organization, you got to – people got to think that you're going to be there a long time, and you're going to be on them like ugly on an ape, you know?

And yet, we got political appointees that disappear. I mean, how do we get that sense of leadership mandate and direction and urgency in a government environment that has this turbulence with senior leaders? You undoubtedly have thought about this. And I realize you haven't been in this environment – (inaudible, cross talk).

MR. DELL: You know, I would say, one is – you know, we're actually elected every year by our shareholders. But, you know, I think –

MR. PALMISANO: We've made that point a lot the past two days. (Laughter.) Some have four-year cycles and some have six. We have a 12-month cycle, so you know? (Chuckles).

MR. DELL: You know, I think we're sort of reaching the point where this is a national crisis where the planning horizon of the competitive landscape is much, much longer and proving itself it to be far more effective. So China is in its 12th fifth-year plan – 12th five-year plan. And they have it for each industry sector.

And you know, meanwhile we have the partisan discussions, et cetera. You know, how do we deal with this? How do we deal with that? That's a formula for disaster. And so we need to get real serious about addressing the systemic issues in productivity and education and competitiveness and, you know, how we as a nation – let's remember we have 4 percent of the world's population. We have, you know, roughly half the wealth.

And that's a great thing, but, you know, the world is changing out there pretty quickly. And we have to kind of get in gear. The things that worked, you know, two, three decades ago don't nearly work as well with this competitive landscape really shifted.

MR. PALMISANO: John, let me come out in a different way. And so I was thinking, as Michael was giving me the benefit of some time, you know, to think about it a little bit. So thank you, Michael. And by that what I mean is, what we would do in a business which I – and I – just is we would actually go establish the process that is, you know, I mean, we're talking about 2015 for the next 8 billion – a process and the metrics for the next five years, right?

And that is now hardwired into the business. And on every year, every quarter, every month –

MR. DELL: 10-percent productivity improvement a year.

MR. PALMISANO: You know, whatever it is, right, it adds up to 8 billion. So all the projects are identified. Some have short-term yield, some have long-term yield. I do believe that if you actually would look at the things that we're talking – let's say the trillion dollars, you know, just take that and just basically establish the process, put the metrics in place, put somebody in charge, make them a civil servant, maybe not necessarily a political appointee, you know. Give it some permanence, right?

And then, we would have a reward system so you reward people for doing well, you know. But I guess there's more risk in the private sector. Because if you don't do well, the system also adjusts to the negative.

But fundamentally, you know, I mean, I would think about a way that – how do you establish the metrics, define the process and have someone responsible to kind of drive this initiative over a multiyear period of a time?

MR. DELL: John, I'd like to nominate Sam.

MR. PALMISANO: No, no, no. I am – us Baltimore guys, you know, we got to – we've got to get back to Baltimore at some point in time – (chuckles).

MR. HAMRE: Let me – let me ask. Both of you have referred to the competitive landscape. I think most Americans don't realize how far behind we're falling. You know, if you leave Beijing International Airport and you fly into LAX, it's embarrassing. It's like going back 30 years in time when you get here.

And yet, we have this vision that we are ahead. Share with us a little bit more. You're international businessmen. You've got operations globally. You interact with people on a global basis. I mean, how do we make this tangible and real to Americans to understand what's happening?

MR. PALMISANO: Well, I think the thing that's tangible and real – I think the thing that comes to mind to me that people can relate to in what's happening is – measure the emergence of the middle class, John. This is what I don't think people get in the United States. They assume that China or India or Brazil is – everything is correlated because they're exports-oriented, and natural resources in some countries, manufacturing in others. You know, there's a mix of these things.

But fundamentally, so therefore it's all tied to the U.S. and maybe Germany. Right? That's the – go around this room, you poll people (who'd ?) say, that is the model. You've lost

track of – a little statistic I'll share with you, like 500 million people entering the middle class in the next few years.

Those 500 million people want cars, houses, cell phones, banking accounts, air conditioners, all those things. They expect transportation to work. They expect secure, safe cities. They want quality health care. Guess what? All those things. So the point of it is that – and we say, well, okay, so how do those countries that are emerging – so therefore, they're like the third world, right? The third world – how do they address it?

They skip everything that we've done.

MR. DELL: Just go right to the future.

MR. PALMISANO: Everything's – there's no landline; it's all wireless. We're talking about 3G, 4G, forget it. They've been doing music and entertainment in India for like 10 cents for – we wrote the software three or four years ago, you know, right? So a simple thing, you know.

You go through these things. You look at the highway systems of Shanghai. I mean, you know, you got all these places, right? You know, they built a loop around Shanghai in a year. A year. The entire city, in a year. Incredible. At one point in time they were – the entire – the largest share of the crane capacity in the world was in Shanghai. All the cranes – 70 percent of the crane capacity was in Shanghai.

You know, one other example: rail. We're talking about rail and innovation for the country. China has decided they're going to build the largest high-speed rail network in the world, appropriates $2 billion, and off you go. So I mean, I think to Michael's point – and you could take the education statistics, which you know, the engineers, scientists, in math – China is here, we're here. Number of graduates, et cetera, et cetera.

So a lot of these fields – but I think the thing is that I think the first thing that needs to be understood is these are not developing countries. These countries have a huge amount of well-educated, middle-class people that are entering into their societies, right, that are going to drive massive economic transformation.

Now, that sounds a little bit intimidating, and I understand. But it makes the point. Go to the other side. So what are our inherent advantages? (Inaudible) – you thought, oh my gosh, you know, right?

And they don't have a lot of debt. No, there's no 15 trillion (dollars) they're trying to get an authorization for, they're just writing checks – 2 billion here, billion for a smart grid, couple billion there. So you stand –

MR. DELL: They're the lender.

MR. PALMISANO: They're the lender of last resort.

MR. DELL: Fortunately, the lender has a long-term horizon.

MR. PALMISANO: For the time being. But no – (chuckles) – what if they pulled their line of credit? Not to make it too negative. But I think the other way to look at it, and you say, okay, so what are the inherent advantages? What are – what are the inherent advantages?

If you did this in the old, traditional, competitive advantage, the Schumpeter economics point of view, right, like you would have studied, basically, you would say, what are the inherent advantages of the United States that we have?

Well, guess what we have. We have an incredible university system. Right? Incredible university system. We have the ability to innovate and create research, intellectual property, more than any other country in the world. We have rule of law. Therefore, there is a right for the individual to create and invent and be protected, which drives innovation in the future.

We have – we had had, and will have again, a very transparent capital-market system so you can become a Michael Dell, right? It's total transparency. We've have had, and we will have again – this period will pass, right?

So basically, you say, okay, look, we have this inherent advantage, right? We have this – yes, we have education problems. And yes, we would like our railroad systems to work, and they don't. And I'd like to get to the airport on time, but I can't.

Put all that aside. We have all these other things, you know, right? And you have all those other things, and then what is – so what is missing? What is missing is somebody saying, you know what? Just like they do elsewhere, these places in Brazil and India and China, Mike and I sit in the meetings.

You know what we started saying? We're going to take this country from here to there. I'm not talking about Sputnik, you know, right? We're going to go from here to there. And we're going to set up an innovation agenda, we're going to drive innovation. These are the elements to create that kind of a society. Here's our inherent advantage, and go out and sell the case. Go out and sell the case. And if you can't sell it and people say that's not what they want, then we have what we have today.

MR. DELL: And it has to be a national priority. You know, if you take things that people are familiar with as a proxy for this, there are about 5 billion people in the world with cellphones out of, let's say, 7 billion. About a billion-and-a-half people connected on the Internet. So much, much larger, obviously, than U.S. population, and the fastest growth is in these emerging nations.

So you got – 1.3 billion of those cellphone users are in China, adding roughly – sorry, China and India together, adding about 15 million new subscribers a month between the two of them. So enormous industrialization, modernization, and, as Sam said, sort of skipping past all

the legacy kinds of problems and saying, okay, what should this thing look like in five years, 10 years, and let's leap ahead to that.

MR. HAMRE: Okay, let me ask a Washington question. You know, we're snotty people here – (laughter) – so we're going to ask a snotty question. You guys say that we need to increase productivity and of course, that's getting the tax code down, yet industry is sitting on the biggest pile of cash in history. So why would we think this is a problem? This is a Washington question, okay? I happen to agree with you. But what do we say to the broader public about this? What is the problem?

MR. PALMISANO: What is the problem? The problem is, I don't think it's the fact that business has, over the past couple of years, shored up their balance sheets because of the economic uncertainty. I mean, most households have tried to do the same thing.

So they sit there and say that that's an appropriate behavior in a very difficult environment is sort of silly, because at the end of the day, IBM has been around 100 years. I don't want to be the guy who took it down because I got a little drunk. (Laughter.) You know, I got it, but think, 100 years and Sam crashed it because he got drunk one night at a party and spent the 10 billion (dollars) he's got in-house. But it was a wonderful event, you should have been there – (laughter) – it was unbelievable.

So you know, I mean, it's just a little bit of, sober up, guys, let's go on a diet, let's act like adults here. The question really is, why aren't you investing more? That's the question. It's not the balance sheets, it's why aren't you investing more?

That gets back to competitiveness, because we do invest where there is opportunity for growth. Every case gets invested where there's opportunity for growth. And we spent two days – and Mike will laugh when I do this – trying to explain to people who have never worked in the private sector that the only thing we have to invest is what's left over.

Now, you all know this at home because you take home your paychecks, some portion goes to the governments, depending on where you are, somewhere between 30 and 50 percent, and you spend what you have left over. We do the same thing. Numbers are bigger – right John? I mean, numbers are bigger, but we take whatever's left over and we reinvest it into growth opportunities.

And so very simple, straightforward approach. So if you take more from us, there is less to invest. And oh, by the way, you say, well, that's okay, but if you compare the U.S. to the rest of the world, we're taking dramatically more on effective tax rate, 10 percent above the average, than the rest of the world. This is the OECD nation. So we are taking off 10 percent more so there's 10 percent less to invest.

Now, on the other side of it, you go back and – not to turn this into an IBM commercial, but you know, last year we opened centers all across the United States. We invested all across the United States. So we spent 6 billion (dollars) on R&D, we spent another – gosh, I think 6

(billion dollars) or 7 billion (dollars) on acquisition, gave, what, $15 billion back to the shareholders, something like that.

I could be off by 500 million (dollars) or so, in round numbers. And oh, by the way, we opened centers in D.C., in New York, data centers in Charlotte and Boulder, Columbus, East Lansing, Dubuque, and probably there are some more. Throw a couple on the West Coast too. You know, right?

So it's not a question of that. I think the question becomes, what you need to do if you're in Washington and you're the people that make these statements – and obviously you know. You went to Johns Hopkins. You never would say things like this. (Laughter.)

But you have to ask yourself this – and I turn it around and I'd say, look: People can go anywhere in the world. They can. People can go to any city in the world. Businesses can go anywhere in the world. Work flows anywhere in the world and so does capital.

So the question is, why would they come here? That's the question, not, you're not spending enough. Why would they come here? Why would you come and invest in the United States of America when you can invest elsewhere, instead of giving 30 percent to the government, 10 (percent)?

Why would you invest here when you can – instead of competing for 100,000 graduates in math and science, you can compete for 600,000 in that same equivalent country? Why would you come here when you could go to environments that are very green-oriented but don't have requirements that force us to close facilities because I have a plant that has the emissions as a church, as a church? So my manufacturing facility, the benchmark is a church. Are you going to close your churches, too?

So ask – seriously, John – ask this question of ourselves. And I think if you asked yourself the question, when people have ultimate choice – many can flow, people will invest, they all need fair returns – we're not acting like greedy business guys. Why would they come to IBM? We have to answer that question every day. Why would they go to Dell?

If you're a government that – a state, city, or federal government, you need to have a value proposition that attracts the smartest people in the world and the best flow of capital so that you can continue to be competitive. And if you do not do that, if you do not do that, there's too much choice today – Michael's point – and it moves too fast and it doesn't have a happy ending.

MR. DELL: It just goes right back to competitiveness, and so we have to address the competitiveness issues or else the capital doesn't get invested. Whether it's foreign companies or domestic companies or new businesses forming, they'll go where the talent is, they'll go where the infrastructure is and where the environment is a friendly one towards growth and business formation.

MR. HAMRE: Let me ask you – I'll admit, this is a pet rock of mine, but I can't figure out why the most prosperous and successful country in the world wants to limit the number of

talented people that want to come here. We have half as many H1B visas today that we had 10, 15 years ago. It doesn't make any sense. I mean we would – I would think we'd be craving to get talent. Tell me how you look at this talent issue, international, American. Michael?

MR. DELL: I mean I think – I think you know, both of us have a lot of open positions in the United States that we're trying to hire for.

MR. : Thousands.

MR. DELL: Exactly. Unfortunately, we can't find all those folks for the pretty highly-skilled jobs, often, you know, software programmers, engineers and you know, I totally agree with you, John. I mean we ought to be you know, stamping green cards to the Ph.D. certificates and we want those folks to come here and stay here.

And you know, certainly, if you look at the history in the tech sector, that very talented, you know, group of immigrants have continued to contribute for many, many years to the – not only to the growth of many great companies, but the creation of many great companies.

MR. PALMISANO: I would – I mean Michael Bloomberg, in another plug for Johns Hopkins University, thank you very much, Michael Bloomberg has a proposal –

MR. : (Off mic.)

MR. PALMISANO: No, no, no. No, no, no – Ron Daniels is doing a great job. (Chuckles.) But I heard all this yesterday because I was over there giving our centennial speech, but Mike – Mayor Mike has a proposal which basically is give more green cards and let them come to New York because they're all taxpayers.

(Cross talk.)

MR. DELL: Well, see this is the point – I mean imagine – imagine if you were a mayor of any city in America and you said, hey, you know, how'd you like to have a bunch of smart, well-educated, reasonably well-financed people come to your city and develop businesses. I don't think you'd find a lot of mayors that would say, well, that's a really bad idea – (chuckles) – we don't want that. You know, these are job creators. You know, to have people employed, you need employers.

MR. PALMISANO: Now, John, let hit the other side of the argument. I think there's a statistic here that we really need to focus on a bit because you can understand – and I am sensitive to the fact that politically, you say, well, look, unemployment's 9.4 percent. Obviously, if you measure the real unemployment, we all know it's higher. But let's use the public data, right?

And then therefore, how can you encourage all these other people, right? But let's look at the unemployment. Again, let's peel it back a little bit. College graduates and advanced degrees, it's between, I think two months ago – and I did stuff with Bernanke, it was 4.8 to 5.2

percent unemployment, so you could argue close to full employment. People with high school educations, 15.6 percent.

So do we have an unemployment problem or do we have an education problem? What is it? Because if you have a college degree or you have an advanced degree, you know, 90 – statistically, 95 to 96 percent of the time, you're probably going to get a pretty good job and we all have openings. You know, so you probably will.

So what is the real problem? So when they talk about you can't bring in Ph.D.s or we can't bring in – master's in electrical engineering is called a double E, in my world, too, you know, right? I mean it's not – those people have plenty of jobs here. Right? And we need those skills to go build these businesses.

MR. DELL: And you know, the story that Sam and I could tell over and over again are you know, teams of engineers that we have. We bought a little company in New Hampshire a couple years ago, had 200 engineers. Now, it has 650 engineers. The fastest growth for the product and technology that that group of engineers is creating is in China and it's in India. It's in Brazil; it's all over the world.

And you know, fortunately, we're able to find enough talent there. But you know, if we want to go to a thousand engineers, we can't quite find them, what do you think we're – we'll go wherever they are.

MR. HAMRE: Well, and as you said, it's an education here, not an employment –

MR. PALMISANO: And I think the administration is doing a – doing, I think, a very, very good job with trying to tackle a very, very tough problem. But and that's at the federal level. So I mean Arne deserves a lot of credit. I mean he's really doing a terrific job.

MR. DELL: These are tough problems. There have been a lot of forward progress in the right direction. And I think back to the reception we got at the White House. It was a very constructive meeting and you know, I think –

MR. HAMRE: We're down to the wire here and your handlers have been giving me the, you know, we've got to get out of here.

(Cross talk.)

MR. : Questions from the audience.

MR. HAMBRE: We have here – we have assembled here the most influential and mighty audience you could possibly want. (Laughter.)

MR. PALMISANO: Yeah, I don't recognize many IBM employees out there so actually, it's a real audience. (Laughter.) I know, Michael, they might all be Dell people, I don't know. (Laughter.)

MR. HAMRE: (Inaudible) – leading something in? I don't know – but let me, so the thing here is we've got to – what is it that you need them to do with this mission? You came to town, you talked to the president, you talked – what do you need them to be doing here to help with this? And then we'll wrap up with that.

MR. DELL: You know, what I would say is you know, go take that report and take a good look at that and familiarize yourself with this whole competitiveness agenda. So I think it really has to get on the consciousness of the, you know, planners and the intelligentsia here in Washington because this is a national priority and it's got to be addressed, you know, a big, comprehensive way.

MR. PALMISANO: And I think I would just compliment what Michael was saying because it's – and it's the same thing we've said at all the meetings. I mean when everyone asks what are the two – I mean three – biggest inhibitors to competitiveness, it's tax, trade and education.

I mean it is and you know, you'd like to make it more complicated than that, but it really isn't because that – that is a bet on, if you have a level playing field, tax and trade and you create – invest in human intellectual capital, that we have great faith that the best system in the world, the best system in the world –

And look, we're invested in 170 countries, so I have a benchmark for those of you that haven't been to 170 countries. And you might follow me around this year, at least you get to 60 or so but anyway – because it's our centennial. But seriously, if you look at that, right? And you say you have this inherent strength, right, then why wouldn't we capitalize that and deal with these issues and move to the future?

Deal with the issues and move into the future. A business – and there is a correlation here. A business could never survive by dwelling on the past and people asked – Michael's done it for 26 years. IBM's done it for a hundred years and you say, how could IBM exist intact for a hundred years?

I mean Tom Watson, Jr., in 1962, gave a speech at a prestigious university, said of the people that were in the top 25 industrial companies of 900, there are only two left. And then if I look back to 1962 to now, when I gave the speech yesterday, there are four – four. That's it because you've got to go to the future. Whether you're a business or whether you're a society, you've got to go to the future.

And yes, we have a responsibility to transition from the past. That's very, very fair and balanced. But you can't trade off and dwell in the past. You've got to transition from the past and you don't solve the problem by creating a housing boom so you can give people hammers and nails and say that's a wonderful aspirational state. Thank you very much.

MR. HAMRE: You know, one of the real problems we've had in Washington in the last 30 years is most CEOs have stopped coming to Washington to help with systemic problems.

They come to town to deal, really, with transactional company issues. So it's rare to see two CEOs that are willing to devote their time and energy to broad, national purposes. So we – all of us here should thank these two gentlemen for this remarkable service. Thank you. (Applause.)

MR. : Thank you all for coming.

MR. : Thank you, John.

(Off-side conversation.)

(END)