Keynote Address, September 11, 2012

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203 Columbus Avenue · San Francisco 94133
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Recorded Voice: Today, more than ever, the magic of technology connects us to the people and things that matter most. Soon, it will be woven into the very fabric of our lives, bringing us new experiences we can only dream of, on devices and screens yet imagined. That's why we're building a secure computing platform that delivers amazing performance for every experience. That connects everyone to everything across an entire spectrum of devices. From the largest data center to the smallest digital heartbeat. So you can create the magic of tomorrow. Intel. Sponsors of tomorrow.

Male Voice: Ladies and gentlemen, please welcome Dadi Perlmutter.

Dadi Perlmutter: Good morning, everyone, and welcome to the Intel Developer Forum. One cannot start anything on September 11th without reflecting on the date. This is an event that I think everyone in this room remembers exactly where they [were] when this event occurred, and everybody [I bet] was surprised, shocked, in disbelief until it started sinking in. And I remember it was 6am in California. I was sitting, one on one, with one of my colleagues who is in the audience. And at that time, 2011, we were strategizing the best industrial design and the best battery life for what later became Centrino mobile technology. That was how I remember this day, and this is what's still in my brain.

So reflecting on such a day, such an event, when a company like Intel constructs its vision, it has to do with something not just for creating great business for its stockholder. This is obvious. That's part of being a business. But creating vision, this is about creating things for humanity. Things that will touch everything, everyone. And our vision is that by the end of the decade we'll be able to touch not just the few billion that we touch today but the whole population of the world. [That population is] going to be way north of ten billion people at the time [and we want to do] great things for these people. It is about the lives of the people. It's about humanity. It's about human beings walking with and for each other. And this is what IDF is all about.

Today is a celebration of 15 years for Intel Developer Forum. It was kicked off in '97 by Gordon Moore, then the Chairman of Intel. And at that time, Intel was about changing the computer world, but it was very much focused on CPUs. That was the time that Intel had its Pentium II processor, and it was just getting into the data center, the server, with a product that was designed for servers. We have been evolving since then, and we have launched a lot of great technologies. And we have shifted away to look at things from CPUs to platforms with Centrino, all the way to smart [devices] and smart platforms. Last year, Paul was talking about Android on Intel, and had Google's Android chief here to talk about the Intel collaboration with Google. And today, this discussion is about experience, and how we deliver not just great technology, but working and collaborating with the industry – with you – about the

great experiences that are going to be delivered.

So a little bit about what you're about to see in the next three days. I'm going to talk about reinventing computing, once again. [It's] not the first time, [and] definitely not the last time. Renee is going to follow up on what is needed to create this reinvention, from security, services, software development perspective. And Justin will tie it up on the third day of envisioning great technologies. Because computing is not just about computing, it's about creating communications, and what the breakthroughs are with respect to wireless technologies that will lead us into an even more exciting future.

So first, about what I am to talk about. It's about reinventing computing. It's not just about Intel. It's about Intel collaborating with you, the developers here in Moscone Center, and the developers around the world. There are tens of thousands of engineers, thousands of companies. And it's all about working together, [on anything] from the cloud to mobility to intelligent systems, to really deliver on the vision to touch everyone on Mother Earth.

And Intel's breadth and technology is a very broad one. On my right hand is Medfield. This is the SOC that delivers and powers our phones and Android tablets. On my left hand, this is the Xeon Phi, which is the Intel supercomputing device. It's performing one teraflop and consumes many watts. [Medfield] is working on

milliwatts. There are about 10x more transistors on the left one [Xeon Phi] compared with the right one [Medfield]. [Xeon Phi] has billions of transistors into it.

And it's all about delivering solutions, creating capabilities for the industry to innovate on top of it. And on your right side, you could see the Intel great technology and manufacturing, which is second to none. The best transistors, the best factories, great logistics, all around the world, to make sure we can deliver our products.

On the left hand, you have the great architecture dispensed across this broad set of applications, all delivered with a consistent architecture to deliver a consistent set of software. And it's all about the software at the end of the day to deliver on top of it. Delivering the microprocessor, delivering an SOC, delivering a platform is not enough. It's all about, at the end of the day, delivering the software. About the best compiler, the best capabilities to run Java moving to HTML5, running whatever runs on the Internet, the best video capability, security, applications, application development. This is where Intel is about to deliver the best experiences in a consistent, compatible manner, in the most secure way. And the Intel contribution is working with you, the developers, to get it all done. These are the benefits of being an integrated design and manufacturing company. We are able to do that, and to [tune] everything, and move ahead on the technology.

This is the era of the digital transformation. And many of you in the

room probably understand that, many people outside the room may not. Data moves from being analog. [In the past] we took pictures. We put them in some kind of a chemical format. Video was on [kind of] magnetic format. This was how to create, how to store, how to generate. The moment all this data transformed to be digital, all of a sudden the ease of creation became so easy that everyone that used to think twice before taking a picture [and using one of the 36 photos on their role of film), can [now] click and click and click [without worrying about how much film they have left]. By the way, I'm still looking for the person to tell me that they erased the pictures that they took [in a digital format]. These are never erased, but posted on Twitter, on Facebook, whatever, Google+, [Pick Your Five]. And these are in the hundreds of millions of bits of data. But the great thing about digital data is not about the creation. It's about analysis. Because bits of data [can] be analyzed. No one could analyze a video done on magnetic tape. This could be shown, this could be transferred. So you see the [importance] of digital smart cities with all kinds of video data, sensors to really control and get ahead with respect to forecasting weather, traffic, transportation, security capabilities. These all require a huge amount of computing.

So this is the Spiral. We used to talk about in the past the spiral of SW and HW as part of the silicon that still exists. But the real spiral, the real tornado is the mobile computing in intelligent systems, the big data, the internet of things feeding into the data centers and the big data center feeds more and more capabilities that people want on their edge computers. So it's about cloud and

mobility and devices. And this changes the way people use things. So let's start and talk about the datacenter.

The datacenter is not one thing. It's a very, very broad set of capabilities that have to be run..And people [who] run mission critical computing are very different than people that need a micro server and they need a different solution than high performance computing, supercomputing or – than an enterprise. So we have to create a broad set of microarchitectures, broad sets of capabilities that are still consistent from the creation of the datacenter, which is a complex thing to do. So Intel is about creating the broad set of microarchitectures, still running first and foremost, a consistent software and applications.

But datacenter is not just about processing. It's about interconnect and fabric. We've done a lot of work and acquisitions in the past year or so to complement our capabilities. It's about creating the building blocks to [enable] the industry to [do] whatever level of integration they want and last but not least creating the tools and the capabilities and working with the operating systems and the applications to tune the right applications to the right usage model, to the right capabilities, delivering a broad innovation and the best performance capabilities across the datacenter.

But the new revolution, the new big change that's happening in front of our eyes is about mobile personal computing but predominantly about mobile personal computing. Computing used

to be, back in the '70s, the backroom. [That was] transformed by the personal computer, moving to the desktop. Now, we laugh about it, the beige desktop. But it was a revolution. It brought computers from somewhere in the backroom [and] onto the desk of almost every person. [Then computing] t moved to mobility by really the big push for notebooks back in – about a decade ago. And today we see a large variety of mobile computing [everywhere] from smartphones to tablets to ultra books. But this is just the beginning.

It's about mobile computing at the end of the day. People are used to and want to use computers and they want [them] with them as much as they can, they want to move around, want to be able to experience what they would like to experience, using the data, seeing videos, running their enterprise, generating applications. So we came – last year we introduced the first generation of ultra books powered by second generation Intel core processor. Just few months ago we introduce our third generation core using our 22 nanometer 3D transistors.

But innovation doesn't stop here. Innovation moves on. And with the great capabilities of our 22 nanometer process technology, which gives us great power, and in tandem with Windows 8, which is about to be launched later this year, and next year with the 4th generation Intel core processor – [with all of this] great new capabilities could be created. And we don't have to be confined to a specific form factor. [People] would like to use multiple [devices]..

So I'm going to show several of the developments that have been [created] by some of our partners [which can] really create great [usage] models. So this has the Lenovo Yoga. Hold it like that. It looks just like a clamshell. It's called Yoga because it gives you lots of flexibility and you could do all kinds of things and use it as a tablet. Compal has a different innovation. They want to do what we call detachable. A detachable could be detached from the keyboard. Great touch experience, great capabilities.

So use it as a tablet if you want it, use it as a laptop if you want to use it [with] a keyboard and [as a] laptop. Another innovation comes from Sony. This is a very slick design. It's called a slider. It goes that way [to] become a tablet [or] you pull it out and it becomes a clamshell. These are all great capabilities that could be used so the user is not necessarily confined to a specific usage because people want variety of usages with the computers, the mobile computers they have. They want to carry them around and if they want to use it as a tablet they use it as a tablet.

You see more and more people using a tablet and buying an inexpensive keyboard to be able to type in their email. Not too many people love to type long emails on glass. So the form factor innovation is really great. And different people would want different capabilities on their stuff. And everybody wants it available with light [weight], great battery life, great performance, great capabilities and doing everything that needs to be done.

But form factor is a basic. It's necessary but not sufficient. Modern mobile computing requires huge amount of features and capabilities on the platform to really make the great experiences, the great usage model to really happen. It moves anywhere from a touch screen to sensors to full-edge displays, cameras. Of course everybody wants everything to be instant on. And I could go on and on.

And you'll hear from Intel speakers, a lot of leaders, about these platforms and I'm going to show some demos using these capabilities as part of the experiences that we are driving into these form factors. It's an opportunity for you to participate and make sure that when you develop this platform you have these capabilities well built in and Intel works together with the industry. It's all about specification, getting the right solutions, getting the right things done.

People kind of love the way they interact with their machines. Some of us old enough in the room remember the good [old constructs]. That was great experience. But that was the only way you could talk to a computer. We have all been very happy where keyboards came in with text interface.

A lot of us would have to have the DOS or UNIX interface, which is copied from one place to the other. It was nice. Some of us loved VI – who remembers VI? That was a very useful experience. Then [computers] came with mouse and keyboard. Great inventions. Moved everything what I call from one dimensional to two

dimensional. Touch is a great innovation. And it doesn't stop here because innovation is continuing to move. Human beings are very rich in the way they interface and interact with each other.

They don't just use voice, they don't just use handwriting, they don't just use kind of touch. They use gestures – facial gestures, hand gestures, finger gestures [come to a device]. Of course in the future you'd like to interface with the machine in a better way. I call it my wife's dream -- that I'll figure out and guess what she wants and be ready to go when she wants it. I think we'll be able to design computers faster to do that and to get me retrained but we'll see.

So this is true intuitive computing. And I believe that almost all – for sure tablets; definitely all convertibles and detachables, but very many of the – even clamshells will come with touch with Windows 8. This is the way people love it. People love to also use voice. And I would like to show you how our voice command-and-control that we're going to have soon on our platforms is going to work. Welcome, Craig.

Craig: Hey. Thank you, Dadi. Yeah. Let's take a couple of new examples about how we're changing the paradigm as far as the ways you're going to be able to interact with your ultrabooks. And we're talking about touch and all the great new ways, and my favorite is voice.

So paired up with Intel and Nuance, we're actually coming out with a brand new product that's going to be able to be a way for you to

interact with your ultrabook that you've never had before. So let's give a couple of quick examples about using voice on the ultrabook, Dadi.

Dadi Perlmutter: Sure.

Craig: Let's just give this a quick try. Hello, Dragon. Search Google for pictures of San Francisco.

Female Voice: Here are the Google results for pictures of San Francisco.

Craig: Not bad, right? If we wanted to just do a general search, we're able to go ahead and navigate pretty effortlessly. But what about a deeper search than that, if we wanted to do something more contextual like searching on Hulu or Netflix or some of these other services, as well? Here's a quick example. Let's go ahead and try this one.

Hello, Dragon. Search Amazon for sunglasses.

Female Voice: Here are the Amazon results for sunglasses.

Craig: Not bad. So I need a pair of sunglasses, and I'm here in San Francisco, but obviously I'm not the most stylish person in the world, so maybe we want to go ahead and ask our social networks. And also Nuance, paired with Intel, offers an incredibly deep level

of social networking integration. So let's just go ahead and share out this link. Share this link on Twitter.

Female Voice: What would you like to say about this link?

Craig: I need me some new sunglasses.

Female Voice: Ready to tweet it.

Craig: Post it.

Female Voice: Updating Twitter.

Craig: Check Twitter.

Female Voice: Checking Twitter. Here's what's happening on Twitter.

Craig: So pretty good as far as recognizing what I used as completely improper grammar as we get into this, as well as the whole social networking angle we can put on there. But let's also search – we want to do some fun, as well. Let's go ahead and search some music. So why don't we give that a run here? Hello, Dragon. Play song "Gangnam Style."

Female Voice: Playing "Gangnam Style."

Craig: You guys know that. This one's pretty famous, right? I mean, that's a pretty big song.

Dadi Perlmutter: Give me something more [difficult].

Craig: That was pretty easy, right? But why don't we take it a step – a little bit further and maybe something a little bit harder to pronounce. Let's give this a run. Hello, Dragon. Play song "Sooraj ki baahon mein"

Female Voice: "Sooraj ki baahon mein"

Craig: Now, not only was that really, really impressive that my Ultrabook was able to understand me, but probably a better feat that I was actually able to pronounce that correctly. But if we don't want to get so incredibly fancy, we can just do something much simpler like – play some rock.

Female Voice: Play rock.

Craig: So something like that, as you can see, I'm just able to really naturally interact with my ultrabook in the same way that you and I are interacting right now, Dadi. So some really cool stuff. I'm here using it on a Dell 13 XPS. And you're actually going to see Nuance paired with our newest Ultrabooks coming out in this Q4. So pretty cool stuff, Dadi. Thank you very much.

Dadi Perlmutter: Thank you very much, Craig. [Applause]

This was done with a great collaboration with Dragon, which is a Nuance product. And together with them with work with us, we're going to have beta available in the fourth quarter of this year, and production is going to be available in the first quarter of next year.

And I promise that in about a year there's going to be a voice capability that will understand my accent. [Laughter] I realize that my accent is probably the hardest. That shows the ingenuity of the human brain, because you understand me without being trained that much. At least I hope. [Laughter]

So let's move to something which is more exciting than voice. It's about gestures. And we have been working with Creative and SoftKinetic to make several things which are really different. First is the 3D camera. It is first going to be on top of the machine, the device. But it was shrunk significantly compared to other 3D cameras, you know? And it was brought down by cost and by power, because this one is powered by the USB device.

And you know that in the future – it will take a year or two. And like the old cameras we used to have on top of our computers and wer integrated into the platform, this will be integrated too. And this is also a near-term gesture, and it has the capability to recognize not just the hand gesture but also the hand and finger movements. So we'll see my capability of being able to hit. [Applause] That shows

that [I was not that bad at] my first profession.

Okay so let's create something. Well, there's the world. I could rotate the world. I have a lot of power with computing. And I have the power I wish I won't have to do that. So it's all gone. [Applause]

This is just the very beginning of bringing in new capabilities. So for whomever thinks that touch is the end of the innovation, this is just the beginning. And you'll imagine what kind of capability is going to be there, because we're playing in our lab with an ability to catch up all kind of objects.

And I thought about what will happen if I'll have all these virtual objects, and I have a discussion on Skype or whatever other video conferencing capability with my granddaughter, and I'll be able to play with her. This is a great capability. You bet the innovation is huge. Just opens up to all kinds of capabilities. And I'm going to talk about how we enable the market with these kinds of capabilities later on.

But people confuse user experience with user interface. User experience is about how easy it is to do whatever function you'd like to do. And [increasingly] the most popular but also the most cumbersome and frightening activities are e-commerce.

Today, you have to fill in a lot of personal information, you put in

your credit card, you have to remember the password that's used for Amazon, which hopefully is different than the password that you use for your other accounts, and who remembers all that? So some people write it down on a small piece of paper or in their computers to remember that. Some people have it very simple, the name of their dog. How easy for any hacker to do.

We have to solve these problems because people would love to use their devices, their computers, either mobile or stationary, to solve these problems. And who is better to talk about that than MasterCard? So I'd like to invite Gary Flood, who is the President of Global Products and Services of MasterCard to talk to me about a collaboration of a solution that we have. Good morning, Gary. [Applause]

Gary Flood: Good to see you.

Dadi Perlmutter: Good to see you. Intel and MasterCard don't look like the classical match. Nevertheless, we have a big problem to solve. So what is the problem that we are about to solve?

Gary Flood: The first one is my dress code, so I can connect with you and Craig. I didn't get the memo, so I'll work on that next time, all right?

Dadi Perlmutter: I was trying to be very nice to you, you know?

Gary Flood: I know, I know, I know. When you think about it, I think you hit on it in your introductory comments. I mean, when we take a step back and think about what we need to do at MasterCard, we need to enable commerce. So that means we need to make the experience better for consumers and merchants.

On the consumer side, all those credentials can really be cumbersome, right? So you want to create an environment where it's easy for them to buy. At the same time, though, you really have to think hard about merchants. You can't get too intrusive on the merchant side. They're there to sell stuff and make money. So the idea is making it easy and frictionless.

But one important element added to that is ubiquitous. Think about what MasterCard is. Worldwide, 33 million merchant locations, it works the same way. That's the big challenge for us. That's what we have to get at.

Dadi Perlmutter: So can you tell us about the PayPass Wallet Services that you're about to launch?

Gary Flood: Sure. We spent a lot of time assessing and figuring out what might make the most sense. And in May, we announced PayPass Wallet Services, which combines a couple different attributes. Number one, it’s open, right? Historically, MasterCard has been one that’s flexible as an organization and network. We work hard at that. Sometimes of course there’s rubs with different partners, but it’s an

open environment, right? So, from a [wild] perspective, all brands, it's agnostic, you can put in what you need to put in.

Second aspect of PayPass Wallet Services is that it is capable of being white-labeled. So, it doesn't have to be done our way. We're open and flexible to what other people may want to do. There are different components they may want to use, and others they may not want to. So, we have to retain that flexibility, which is extremely important.

And the third aspect is accessibility. When we think about it, we want ubiquitous acceptance. So, there's going to be a ton of wallets out there. Those wallets are going to need acceptance. So, through our open API, we'll enable partners and their solutions to work their way into our processes.

Dadi Perlmutter: So, what does Intel bring to this party? What does Intel, how is the important of Intel?

Gary Flood: We can work hard at making it easy, but you've got to make it secure. So, when you think about Intel's identity protection technology, that's one great way of making sure we're connecting a consumer to a device. As you conduct these sales around the world, this is just not domestic, it's worldwide. There's a tremendous opportunity with cross-border e-commerce that still isn't being realized, and this technology puts you in a situation where you can make better decisions, all right?

The second part is actually enabling Ultrabooks with NFC PayPass, the convenience of tapping a card or a phone on a device and completing a sale. So, I think it's fundamentally got two wonderful things that are going to help us advance forward.

Dadi Perlmutter: So, let's see how it works. It's better seeing than talking, so Craig.

Craig: Perfect, let's go ahead and walk through just exactly how this process would work when making just your average purchase. So, I'm going to need a couple things to get started. Now, obviously I have all my passwords, or I can go ahead and store information on separate clouds from retailers, but I don't want to do that. I want to make sure that all my information is secure as well as easy to buy.

So, here is the first part, where I have a MasterCard PayPass NFC-enabled credit card. So, NFC is a great technology for easy use. It allows us to pair up multiple devices in concert or be able to do a tap and pay just like we said, but NFC in itself is not security. So, what we've done is gone ahead and partnered and put an individual cypher in this car as well as paired up with MasterCard PayPass cloud in order to authenticate those two items together. And once they complete their cypher, then they can go ahead and give you that extra level of security.

But, we go one step further. With Intel identity protection technology, we're now able to add a device level authentication that

we have coming out of this machine to make sure that this is my card, this is my laptop, and this is the cloud that I'm authenticating with, with all my credentials. So, let's actually go ahead and make a purchase and see how easy it is, right?

So, we're going up to Tiger Direct. Here I have, it looks like I have one of these brand-new Toshibas that I'm using some payments with, and I'm so attracted by how easy it is to pay, I'm going to go ahead and buy one myself. So, why don't we go ahead, and I'm going to click on the PayPass here, and that's going to take us to our order page. It says hello, Gary – thanks for letting me borrow your credit card, I appreciate that.

Gary Flood: You're welcome. [Laughter]

Craig: And while I have that, I'm going to make a real short purchase. And I can see here that immediately on this page, it has detected that my laptop has tap and go capabilities by having NFC built-in. So, let's just go ahead and pay by that way. Take my card, and just like that, all of my information has been authenticated from the cloud, has gone ahead and filled in all the forms. No need to hassle with those pesky passwords and a bunch of other stuff that I keep rattling around in my head. We have gone through multi-step authentication to make sure that this purchase happens, looks good there, and that order's on the way for me. So, just that simple, completely transparent to the user for an ease of use, and all that security on

top. And that's what this partnership is going to mean for our Ultrabook users. So, thank you, gentlemen.

Dadi Perlmutter: Thank you very much, thank you.

So, this is where a lot of features, a lot of capabilities we've talked in multiple IDFs come together into delivering a service and an experience which is extremely useful, easy to do, yet way more secure than it used to be before. I talked about the experiences, I talked about some aspect of security, but the Intel solution, and it becomes much more so when you come in with the Windows 8, is about the other capabilities, the other experiences that you could get, which is about compatibility, about the safety of your application that users are running that would've cost way more enabled by the new capabilities of the platform, and of course the manageability of the system.

Creating tablets based off Intel technology is something which just works. We have been working very hard to make it happen, but this is the Intel promise about the compatibility, about the consistency, about being on the application, whether it is an Atom-based or a Core-based. We already have more than 20 design wins using our Clover Trail, Atom design wins that are going to be in tandem or coming after the Windows 8 launch. And of course, we have many designs starting doing tablets and convertibles based on our core technology. It delivers great performance, great battery life, and great [unintelligible] security, as we showed up.

So, let me show you what could be done, and why someone would be happy to use an Intel system. So, this is an Intel-based Atom tablet. So, if I am a CEO of a healthcare, and I would like, and my doctors and nurses like to have a tablet – not a notebook, not a PC – they could use this one. So, assume that I'm now Dadi Perlmutter, MD, and I was now getting this stuff, and I have a lady wanted to talk to me about the ultrasound that she had made to see her new baby. This should come up. It works very well when – I'll try the other one. Maybe this one works better. Oh, here we go.

So, this is the great picture of the ultrasound. I could make it to be, to work, so you see the real movement. You want to do an EKG, just click on this one. I'm not affirmative enough. For some reason it doesn't show up, so let me move to the other capabilities, like Skype, because I want to consult with my fellow doctors. So, you just get the applications run on whatever [phone] factor one could create, and these are the great uses of an Intel-based platform.

But using a platform for enterprise, anyway, it is a healthcare, it just runs the application. The application has been easy to be transferred for a Windows 8 environment, or a Windows 7 environment to Windows 8, and you could apply all the manageability and all the features that applies to an Intel platform.

I'd like to show something about the consumer, and what can you

show me about consumer applications running on Intel architecture?

David: Sure, I'm going to show you an example, because there's going to be many, many consumer applications out when Windows 8 store-launches. And I have one example right here, and it's running on this Clover Trail tablet. It's DS2 AVIVO tab. I'm just going to dock and show you. And it's running the Windows 8 UI. I know a lot of you probably still call it Metro, but don't do that, because Microsoft won't like that. And we can run many things on here, such as this one from CyberLink. It's called PowerDirector Mobile. With a few quick clicks, I can actually go ahead and create a video, and it's very simple, basic example that I want to do here. Let's see, I'm just going to just go to install now, choose this theme which automatically puts in the transitions, and I can see that I have a semi-professional video that I can actually go out and produce onto the web, Facebook, whatnot. So, it's a very simple, easy interface.

Dadi Perlmutter: Great. What happens if I want to use the same application and run – will it run on an Intel Core tablet or convertible?

David: Well, actually, there's a lot of things which – well, first I want to show you actually what it would look like if we run the Windows 7 app on the Clover Trail, because it is, after all. I would go ahead and go to the desktop, and here, you know, it's our desktop we all know and love. I'd take out one of my Windows 7 apps, and there it is, right there. But now, since you asked about Core, let's go ahead

and show you that. Here, I know that you had converting Ultrabooks over there. Well, I'm going to show you one of my favorites here. This is the Dell XPS Duo, and wham, now a tablet. This is third generation Intel core processor inside. And the beauty about Core is that you have access to a lot more features inherent with Intel architecture, like Quick Sync Video. I can render videos faster if I wanted to. But I'm not going to show you that because that would be a long demo here. But here we can see that I'm doing something new with the next generation PowerDirector suite. And this is motion tracking. This is something new to consumers. And what it's doing is actually going through and tracking the object throughout the video so that it creates a mask. And with that mask, maybe I'm not a big fan of yellow parachutes. But no problem. I can just go ahead and maybe choose let's say this yellow color right here, and then I'm going to say, "I want that to be purple." So now if I play that, I now have a purple parachute. Awesome, right? So that's really the value proposition of the innovation we're bringing to the platform, as well as the next generation applications, as well as touch.

Dadi Perlmutter: Great. So you could definitely run the same application, whether it is an Atom based platform or a core-based platform, and essentially get much better performance, and therefore much better experience using a Core-based [unintelligible]. Thank you very much, David.

So in exactly the same manner, when I was talking about the data center and about the breadth of the different usage model, different

needs for different power performance and different capabilities, yet a consistent, compatible view of the application and the software, this is what Intel is all about. So you could use anywhere from an Atom – which has great capabilities, wonderful battery life, extremely sleek, very light form factor – all the way to use a core-based convertible in a tablet, and this is all going to be way better when our fourth generation core architecture is going to come about. So I went through describing experiences, capabilities, and form factors. But at the end of the day, I have yet to see a great platform and a great software that runs without silicon underneath. This is why people say that all that matters is the software. Based on bits of silicon that have to be there, and have to be done extremely well to be able to enable all these great features and great capabilities of that platform.

So I'm extremely proud to show to you and expose to you the next generation of Intel core technology, code name Haswell, which is going to be coming to the world next year. It's based on our 22 nanometer. But the great thing about this one, it was designed with mobility in mind. This is very much to span across the power performance scale anywhere from a sleek tablet to an Ultrabook to eventually a high performing desktop and work station. We have taken the architecture extremely seriously, so we've been able to cut 20x of the item power off the platform level, not just the CPU level, comparing to a Sandy Bridge, which is the second generation core technology. And of course, we have done a lot of work from architecture to design, using the power management framework,

some of it related to Windows 8. And using our great process technology, they have a great ability to vary across multiple price performance and leakage in power. So I would like to show you these capabilities, comparing the fourth generation to the third generation.

So on my left, I have an Ultrabook based on Ivy Bridge, our third generation core technology. And on the right, I have a reference platform. Trust me, it's about exactly the same power as this one, so when we launch this product it will fit to a nice looking Ultrabook as this one. But I would like to show you the difference in performance between the two. And this is a real benchmark to really try it out to show off its performance. What you could really see, that we've been extremely proud about Ivy Bridge, which delivers almost double the performance of Sandy Bridge. But Haswell is going to be delivering yet another 2x the capability at the same power [unintelligible]. So this is something you probably may be expecting Intel, therefore you do not applaud. But delivering 2x, generation by generation, is not a small exercise. But this is not sufficient for us. As the world moved to more and more mobility, I've been challenging the team to go figure out and to fit to something – this is kind of yoga like. This is a concept platform, this is not a real platform. But this is how thin I would like it to be. And I would like to fit Haswell into it.

So the team came back and said, "Well, it's easier asked than done." That's why I have my job, which is about asking. And they would

like to compare the same core running at the same power – which is the third generation core technology – comparing to Haswell fourth generation technology running at less than half the power, and see whether you could see the performance difference. So we're running about half the power, and you could see it is about the same performance. This is a technology demo, but next year we're going to fit the best performing graphics, processing, media capabilities on Mother Earth that will fit into extremely thin, extremely nice, extremely sleek form factor. So mobile computing is not limited to tiny, low-performing devices. Mobile computing, it's about not just mobile, it's also about computing.

I kind of focused most of my talk about the cloud and mobility. But for Intel, this is not sufficient. Of course we continue to support with great products, great devices, anywhere from retail to intelligent systems to healthcare to manufacturing to energy to PC to phone and to desktop. I'm not going to announce anything new, but we are making a steady progress on our [phone] products. We have launched, as we promised earlier this year, with five partners, all to be launched in the marketplace. We are going to announce more partners when they come, and they are coming. And we have steady progress, and we have a very competitive roadmap we are about to continue to launch next year and the year after next. We love to talk about the innovation around mobility. But if you apply the same technology, the same experiences, the same platform to an all-in-one, all of a sudden your desktop has a completely different experience than the good old [beige] desktop that was on your desk.

It's not something that has touch, voice, other capabilities. You could fold it out, all kinds of new applications. Gaming will start appearing, and [Kirk] and his team are going to make much more about this one.

And while talking – and I spoke to my team, this is a good thing when you are talking for almost an hour and you become quite [healthy]. That was a big request. This is the new style of intelligent machines. These have a Core [seven], no less into it. And it's about a better experience. So you see the Coke moving very fast in [core seven]. Let's move to the Diet Coke. And you click on it, and here it comes. You want to purchase it? It does work, at least worked yesterday. Yeah, it does work. Now I'll put it here. I put my drink, which is fine. Now they want proof that I really drank this Coca-Cola. So we could take a picture. Yup, it does. I could even share it with my wife to prove to her that I was really working hard today in Moscone Center. So I could send it away. Well, maybe I did something wrong over here. Take another picture. This is [unintelligible] requires real intelligence to operate, so I may be missing something. Oh, I could send it. I don't want to type my wife's – you will type, try and write her too. So, but this is the fun part of it. The really important is that this machine has the manageability capabilities that exists on our desktop, on our notebooks, going to come into tablets. So, the supplier could really manage the staff of the new software, of the new capability, get the information about how much Coca-Cola was drinking.

The camera is giving a lot of information to the supplier as well. It could give them the information about the age groups, the gender, how many people really vote versus how many really played with the camera? A lot of information could be used for marketing purposes without interfering with the privacy of the people, and this is extremely important for people to really manage their inventories to come out with the right promotions, do the right things to people that want to buy Coca-Cola or any other things.

By the way, this machine is only in operation in South America, and it's being designed by SAA running a Core A7, and it has NFC [unintelligible] camera, all the great capabilities I was talking about beforehand.

But, it is all about collaboration. Intel cannot do it alone, no one can do it alone. It requires a well-aligned industry to be able to create something exciting to the consumer or to the small business or to the enterprise which is extremely well-tuned, well-done, and it's far more complex to deliver this level of experiences than it used to be to deliver a desktop just even five years ago. This requires a lot of collaboration. I can talk on and on for the next two days about, what are the things that we are doing together with the industry. I was happy to show the class of thing that we are doing on the data center. It's not just about creating great silicon, it's about creating a solution and helping our customers, which are the OEMs, the application writers, solution writers, service developers, to really deliver something to the market. It's about open [centers], so we

walk about the open data center. We talk about in many IDFs, about how important it is. It's about creating the multiple level of integration. It's about talking about security solutions, about application solutions, about software-writing capabilities that is going to talk to some of them. And I could go on and on.

The same applies delivering mobility. It's not easy to tune the sensors and the touch and the voice and the gesture, and all this work, this is tough work. It requires by far, tighter collaboration. This is not, here's the chip, here's the bios, here's the blueprint, go do something. We are working extremely tight together with our OEM and ODM partners to deliver the great mobility experience I was just talking about. And it's going to be more complex. It requires by far more collaboration going forward.

So, talking about collaboration, and I talked about the perception computing, about voice, it's about facial recognition, about gestures, about 2D, 3D object recognition, about doing things which are short-range and ability to be able to recognize not just the hand movement, but finger movement, how many fingers. It's very different for people to do. My granddaughter, she's 20 months old, she knows what's this and what's this. My computer has no clue yet.

So, we are not just developing the applications as I showed earlier as a way to ignite the industry. It's about creating an SDK for the industry to get ignited, to get excited, and to get to work on, and we

are going to deliver an SDK and start the contest, and the best winner is going to win $1 million, which is going to be in awards and promotions to make sure that they could get going to the most exciting conceptual computing application. And the contest will go live in Q4. You have the website written down on the bottom to get more information about to do that. And we would love to get more and more applications, more and more usages, more and more capabilities. Everything's going to get better and better and more exciting as time evolves. This is what working with the industry really means.

I'm proud to be an Intel employee, that having such a vision, which is not just about the business. It's about touching people, giving them useful tools, useful capabilities to do whatever they like to, anywhere from education to entertainment to solving economical problems to solving real issues. This is about creating a technology that touches and enriches and connects to everyone on mother earth. I'd like to roll the video, please.

[Video plays]

Dadi Perlmutter: I'd like to thank you very much for coming here today. I'd like to thank you very much for working very closely with us to delivering on this vision, on these capabilities. We are making a lot of progress, we are creating great technology, great products, great experiences toward this vision. And it's all about you. It's all about

you working together with us as an industry to go make it happen. Thank you very much.

Male Voice: Ladies and gentlemen . . .

[End of recorded material]