

Intel CEO Paul Otellini CES Keynote

[Start of recorded material]

Male Voice: Good afternoon and welcome to the 2010 International CES. Our speaker today is a very familiar face at CES. He's also the CEO of a corporation that is always pushing the boundaries of innovation. I'm talking about the kind of innovation that makes our lives more exciting and fulfilling, and spans nearly every sector in technology from personal computers to consumer electronics, and from healthcare to cars.

Paul Otellini is president and chief executive officer of Intel Corporation. Paul joined Intel in 1974 as a finance analyst, and he worked his way all the way up to the top. He became Intel's president, COO, and the director on Intel's board in 2002, and then he shifted to the CEO role in 2005. He also serves on the board of directors of Google, and he's chairman of the Task Force on American Innovation.

Since becoming Intel's CEO, Paul has been an agent of change within the company and the industry. In his last two years, since he last keynoted at CES, Paul has been one of the few CEOs who's been forward-looking and conveyed cautious optimism during the global recession that affected all of us. In fact, just last year at a dinner here, while everyone was talking about the recession, Paul was telling me about how this is the time to invest in the future and keep the good people that you need in the company.

I also had the privilege of being with Paul just last month in Washington D.C. where he chaired a two-day conference on innovation. And he got the top speakers from the administration and from the private world to talk about what it takes to move us forward.

Now some examples of Paul's gusty bets on the future for Intel and the industry include the introduction of the Intel Atom Processor in 2008. This new low-cost microprocessor helped create a growth driver for the industry in many segments, most notably notebooks, which have shipped tens of millions in units.

Also, a \$7 billion commitment in early 2009 to upgrade Intel's chip factories in New Mexico, Arizona and Oregon, to produce the most advanced computer technology in the world. This [unintelligible] will create the capacity for everyone who's exhibiting at CES or attending to continue building world-changing technology.

In the boldest marketing effort in years, Paul is the one who green-lit the marketing campaign that spotlights the people who make Intel's products, and it shows the world that the company doesn't take itself that seriously. In fact, the punch line of the campaign [unintelligible], which was, "Our rock stars are not like your rock stars," could well be our motto for the CES as well as, frankly, the entire industry. With that, let's take a look at this video.

[Video plays]

Male Voice: Deep in the heart of Intel Lab, scientists are hard at work on a product that will change the way totals are calculated, pushing the limits of theoretical computation models. Hard-working employees are revolutionizing the math game. One plus one equals seven? Not anymore it doesn't, thanks to the new programmable chip from Intel powering the Busicom 141-PF calculator, ensuring it will soon become a household name worldwide and beyond.

Paul Otellini: Listen, gentlemen. That was Intel almost 40 years ago. That calculator chip ended up being the world's first microprocessor, a nice little surprise that ushered in the Information Age. But that was the past. Right now, we need to take this company to the next level. If we're going to truly sponsor tomorrow, we need to have a better idea of what it's going to look like. Surprises may have turned out well for us in the past, but we can't rely on that. We need to know.

This is your mission. You need to go out into the future to find out how people are using technology. Luckily, the guys at Intel Labs have built these suits that allow you to travel out into the future.

Male Voice: What?

Paul Otellini: [Laughs]

Male Voice: [No!]

Paul Otellini: I need you to go out right now and report back on what you find. I've got to go to Vegas to give a keynote at CES. I'll check in with you from there. Go out there and make me proud.

Male Voice: Yes, sir. By the way, those are very nice [unintelligible].

[Video ends]

Female Voice: Ladies and gentlemen, please welcome the president and CEO of Intel Corporation, Paul Otellini.

[Music and applause]

Paul Otellini: Good afternoon and welcome. That filmstrip depicted a crucial moment in our company's history: the birth of the microprocessor. We had no idea of the dramatic impact it would have on us, our business, or the world. Sometimes funny things happen on the way to the future. What I enjoy most about technology are the surprises that lurk around every corner. At Intel, our engineers innovate by expecting the unexpected. That's been critical to our success as a company.

As you know, Intel is a company built on Moore's Law, a law that postulates we can double the number of transistors on a chip every 24 months. The first microprocessor that was in that film clip was the 4004. It had a grand total of 2,251 transistors. The new

processors that we're introducing at CES today have over a billion transistors in them.

What I find interesting about Moore's Law, though, is that it's not a law of nature. It's a law that reflects human inventiveness. We've been able to advance technology with consistent predictability by embracing the unpredictability of the discovery process. Every two years, we schedule a breakthrough. Each step along the way takes six years to build and costs \$12 billion a step. That's an expensive proposition, but it's one that has enabled the products that have fueled the computer industry for over 30 years.

Today we have the industry's first-shipping 32-nanometer process technology. A 32-nanometer microprocessor is 5,000 times faster; its transistors are 100,000 times cheaper than that 4004 processor that we began with. With all respect to our friends in the auto industry, if their products had produced the same kind of innovation, cars today would go 470,000 miles per hour, they'd get 100,000 miles per gallon, and they'd cost 3 cents.

[Laughter and applause]

Now we believe that these advances in technology are bringing us into a new era of computing. Of course, the first era was the mainframe. The second era was the PC. Today with these new technologies, the kinds of products we can build on 32 nanometers and below, I believe that we're on the cusp of a new era in

computing, an era of personal computing essentially where we have many devices for every person; where computing is increasingly integrated into every aspect of our lives.

These changes are transforming the industry, and they're transforming Intel. What we hope to deliver is a seamless personalized experience on any device anywhere. We're focused on making all computing personal.

Essentially, computing is all about you, about your interests, your social network, your life. The changes that we're bringing tomorrow are coming very quickly, sometimes in predictable serious ways, sometimes in unexpected and funny ways. Today I'm going to talk about how personal computing is evolving in the home, in the devices you carry around with you, and in the world around you. But before we do that, let's check in with those time travelers that I sent off and see what they're up to.

[Video plays]

Male Voice: Hey, Paul. Hi from the future. We're here in 2025 at the house of the Booker family. Paul, the houses of the future are crazy. Computers have made their way into everything. There are robots everywhere, and everything that isn't a robot has a brain. The blender has a brain; the toaster has a brain; the bathtub has a brain, and they all talk to each other in attempt to help you get through your day. It's crazy. You think of something, and it'll be done.

Mark: I'm thinking of something right now.

Male Voice: Paul, check this out. Mark just thought of bacon, and the robot is cooking bacon for him. It smells delicious. I wish you could smell it.

Mark: Bacon, bacon.

Male Voice: Get this, Paul. It turns out in the future, bacon becomes a cure for cancer. It's pretty awesome.

Mark: We got to go, Paul. Tell you what -- the Bookers are ready to eat. We'll talk to you in a bit.

Male Voice: I'm going to eat all this bacon now, Paul. That's a very nice suit.

[Laughter]

[Video ends]

Paul Otellini: Thanks guys. I'm really glad to see that bacon is still part of our lives in the future. But let's first talk about the trends that are happening in the future home where they've been. Let me begin by starting out with how computing is affecting and being shaped by the content of the world today.

HD has been the driver of the industry for the last few years. In 2007 to 2009, HDTV sales have grown 2x worldwide. In the United States, HD camcorder sales have grown 4x. Today, many of us are viewing HD at home. I think that 3D, if you walk around the show, is the next thing that's poised to explode in the home, 3D television.

In 2010, there will be 50 3D movies released, versus 20 in 2009. Increasingly, sports and videogames and concerts are all being filmed and generated in 3D. The 2010 World Cup will be recorded and broadcasted in 3D. This week, ESPN and Discovery networks announced 3D networks and their plans to deploy them over the next couple of years.

The good news for us in the hardware side of the industry is that creating and managing 3D content requires a ton of computing. Let me give you an example. In general, increasing the richness and quality delivered to the screen requires more and more compute cycles. Behind me is the chart that shows the historical trend in terms of compute hours to create the various versions of my favorite franchise from DreamWorks Animation, "Shrek."

"Shrek's" third adventure took 4x the computing time as his first one, even with increasingly powerful processors. "Shrek" number four, "Shrek Forever After," which comes out later this spring, is the first 3D movie in that franchise. That movie takes 9x the compute cycles of the first one. Every time we increase the quality

and the realism of imagery, we take another great leap forward, and that happens this time with three-dimensional content.

What I find interesting, though, as a technologist is that what starts at the high-end typically trickles down and very often ends up in the mainstream in our homes. I think that'll happen this time, as well.

In the past, the only thing that broad audiences saw was professional content. Increasingly, we're all seeing user-generated content that is reaching anyone via the Internet. In 2006, there were 100 million downloads per day on YouTube. In 2009, that number was over a billion a day. The content that is being shared on the Internet is increasingly richer. For example, there are now 150,000 HD clips available on YouTube.

We see 3D moving from the studios to the home, and we're providing the compute horsepower to make that happen. What I find amusing, though, is that 15 years ago we were struggling at Intel to get video running on the first Pentium PC. Fast-forward to today, we find ourselves in the middle of a situation where the computer is now the center of viewing and creating videos in HD, and increasingly in 3D.

Let me take a second and ask you all to put on the 3D glasses that you were given on the way in. You can imagine what this looks like from here. [Laughter]

We're going to take a look at how 3D content is spreading out the different genres in the industry. We've compiled a series of clips from movies, from concerts, from sports, and from videogames to show you how 3D will transform each of these.

[Video]

[Applause]

Paul Otellini: I find that 3D content to be pretty amazing. I think it would be even cooler if we could make 3D content on our own in our own home. Don't take your glasses off. Let's have David tell us a little bit about how to do your own 3D.

David: Of course, certainly. I'm going to give you a quick 3D tutorial right now. I've done a little research around this. What I found is to have good quality stereographic 3D content, you're going to need two high-definition videos, and you're going to bring that together. Each one of those represents a view of the eye. But to work with this content, you're going to need a lot of PC performance. Luckily, I have the tools here to do the job.

Right now I have here an Alienware system. It has an Intel Core i7 Extreme Processor in it. It gives me the performance I need to really work with that content in real-time. Also, I have here a 3D television that I'm sure you're going to see a lot on the floors of CES, as well as 3D glasses. Another thing that we're going to need,

of course, is a stereo camera. And a stereo camera is two high-definition camcorders that get put together [to make that].

I [took that rig], and I went over to my friend's house. Of course, you see on the [outer] screens, I just set the camera up, you know, [for] the kids. You know, kids, cameras, a little chocolate -- it's going to be magic, right? It's even more amazing in 3D. And I'm going to take that video. I put it into my application here. It's an application for CineForm called [First Life] 3D.

What I'm going to do is do a little bit of color correction really quickly. Actually I'm going to do some contrast, raise that up a little bit. Maybe [unintelligible]. Drop the gamma a little bit. Let's see. Maybe that'll look a little bit better to the audience here now. I'm going to put in some text here. Let's see. "Way too much sugar." All right. Move that into place down here, wherever.

The beauty of this is that every change that I'm making on this requires CPU performance. More and more, everything I'm doing is being applied to every frame of the HD video that I'm doing. There's two of them, so it's going to take a lot of performance. That's really the beauty of the Core i7. It does allow for high-definition, full-frame rate preview, and you don't really need to wait for the rendering to happen first. You get what you get [unintelligible].

This has been available at studios for many years now, because they have the performance they need. Now with Core i7, we really bring it home to the consumer. CineForm's Render application also can take advantage of the new instruction sets for media, and the multiple cores that you find on the Core i7. Once I'm finished with my tweaking, I [just wrap it up]. I could upload it to YouTube 3D. I can burn a Blu-ray disk with it to send to grandma. And you're on your way to becoming the next James Cameron.

Paul Otellini: That's great. Thank you very much, David.

David: You're welcome, Paul.

[Applause]

Paul Otellini: Since you have your glasses still, we have one more 3D treat for you. We've got a sneak preview from the upcoming movie "How to Train Your Dragon," compliments of our friends at DreamWorks Animation. In this clip, you're going to see the main character, whose name is Hiccup, as he takes his first ride on his new friend.

[Video]

[Applause]

Paul Otellini: That's pretty incredible. There are a lot of people in companies that contributed to that 3D demo. I'd like to thank them and their companies for their help on doing that.

Content is only one part of the equation. Increasingly, I think we're going to need ways to access and share that content with each other and across multiple devices. The good news is that a half a billion homes worldwide now have access to broadband Internet. But we see increasingly inside each household the need to interconnect devices in the home.

On the wired side, there's a new technology called SuperSpeed USB, or USB 3.0, that's hitting the industry now. It's 10 times the performance of USB 2.0. We're also working on a new technology that goes even faster than that called Light Peak.

The last demo that you saw from David was where Light Peak was the connection between the PC and the 3D television there. Light Peak has the ability to transfer data at 10 gigabits per second. So what? Ten gigabits per second means that you can download an entire Blu-ray movie in less than 30 seconds. Light Peak has the potential to replace all the cables that are connecting your systems today -- VGA, Ethernet, and DBI.

There's growing support for this across the industry. Sony and Nokia have announced their support. Others are working on systems around it. It is the I/O performance and connection for the

next generation. You can expect PCs to have this technology about a year from now.

On the wireless side, we see Wi-Fi moving into everything -- cameras, TVs, appliances. At CES today, we're introducing a new technology called Intel Wireless Display, or Wi-Di. What Wi-Di does is it leverages your Wi-Fi network to connect your PC to your high-def television. With that technology, you can easily stream your videos, your photos, your personal content, or any other Internet content over the Wi-Fi network with any compatible new 2010 Core laptop from Intel direct to your HDTV.

In fact, next week at Best Buy, you're going to be able to choose from three different Core i5 laptops with the Intel Wireless Display technology built into it. Additionally, all you need to do is buy a little \$100 adapter box to be able to connect your television to that adapter box, and that talks directly to your laptop, essentially eliminating the wires, one button connection.

Speaking of new products, today at CES we also launched 25 new members of our Core Processor family, the Core i3 and Core i5 products. These are the latest 32-nanometer technology-based products. They're delivering platforms not just for the high-end, but for all desktops and laptops in the mainstream of the market.

With two versions of this technology, the Core i5 and the Core i7, we have something new, something we call Turbo Boost. Turbo

Boost very simply gives you better performance when you need it, and lower power when you don't. For you overclockers out there, yesterday one of you was able to post that on the new Core i5 you've managed to run in an overclocked mode the processor at 7 gigahertz, setting a new record, new land-record for processors.

The platform, though, isn't just about CPU performance. It's about balanced performance around media and graphics, as well. Our integrated graphics technology, which is HD capable, is now powerful enough to run the most taxing games like World of Warcraft in a native mode out of the box without a discrete card, without having to put the budget in your box for a discrete card.

These platforms also convert video three times faster on the new Core i5 than they did on a three-year-old platform that they're likely to replace. So the technology that was in the studios only a few short years ago is now in the hands of everyday consumers in your notebooks.

Looking forward, we see computing extending beyond the PC and next into the television. Just like phones are becoming smartphones, TVs are becoming smart TVs. Smart TVs enable you to be able to show content, [and predict] content from any source and put it up on your television. To help you navigate with this, there will be technologies like advanced search and gesture recognition to be able to walk through the myriad of content alternatives that are out there.

This will, I think, bring on a new class of applications that will also complement and enhance the TV experience. But at the end of the day, we have to keep it simple. We have to make it easy to use. The way to do that is to develop new user-friendly user interfaces for this myriad of content.

We also need to deliver significantly more processing power to be able to handle all that content. Intel is building a series of chips that we call system-on-chip or single-chip computers around our Atom Core. In the case of the products for the smart TV, we've put around the Atom Core all of the circuitry that the CE industry needs for its video and audio encoding and display.

As I look forward, just like we've seen in the world of computing, I believe the world of entertainment will also be driven by Moore's Law. But computing in the home is not just about entertainment. Security, personal finance, video conferencing, home business, health are all ways that computing is changing the way we live.

For example, many people are increasingly concerned about energy. Technology, I think, has the potential to save money and save the environment. In the United States, the demand for electricity will grow 19 percent in the next decade. On the other side of it, capacity will only grow 6 percent. The only way to solve this mismatch is to put efficiency into the system. Intelligent systems have the potential

to reduce the household energy cost and consumption by 31 percent.

But enough talk. Let me invite you into the Intel home of the future and show you how all these technologies are bringing new personal computing experience in and around the home. Let me ask Craig to come out from Intel.

Craig: How you doing, Paul?

Paul Otellini: Hi, Craig.

Craig: You know, you were talking about some pretty good technologies over the last couple of minutes.

Paul Otellini: [unintelligible].

Craig: We'll get to that one in a minute. You were talking about some pretty good technologies, pretty futuristic stuff. So me and the demo guys decided to get together and put together a little bit of a futuristic Intel digital crib for us to take advantage of. Why don't we go ahead and kick it off?

Paul Otellini: Okay.

[Video]

Craig: You've got to love all this Vegas spades magic, right?

Paul Otellini: Absolutely.

Craig: Here we are, looking pretty digital cribby. Why don't we go ahead and check out the first spot? Here we are at the living room. Paul, I know you got an entourage. When you have all your bros over, definitely want to get in front of the TV, maybe watch a little game, check out some of your favorite shows and that type of stuff.

But this is the home of the future, right? So you just can't have your regular run-of-the-mill television. We're looking at what we have here, which is a box from Orange and France Telecom. It's a complete IPTV set box that uses that uses that product you were talking about, formally codenamed Sodaville. They're a brand new system on a chip, all the media components inside, to do some really incredible things.

As you can see here, I got all of the channels that I'm taking a look at, and I have live-stream previews. No more menu guides. No more fiddling around with time zones and those sorts of things. I can take an individual channel and even take a look at what's on before or later this evening. So it definitely has some pretty awesome stuff in it. But why don't we take a look at a few more?

I have about a billion channels. I don't know about, Paul.

Paul Otellini: [unintelligible].

[Laughter]

Craig: It's sometimes really hard to find what you want. But look at the performance that we have here. Literally everything in the frontline is taking a -- it's a front row seat, and I can see all that video directly coming in. And it gives me some options as far as moving around with that kind of time. But I want to go ahead and maybe we'll narrow it down a little bit.

So what's on later tonight? I'm in the mood for a little bit of a funny. If I go ahead and take a look at that type of content, only the channels that have that programming appear. I can go ahead and take a look on what's going to be great. Now the built-in Blu-ray player, as well as local storage in here, I can go ahead and record any of those streams immediately on the fly, and bring it down to my box here. IPTV is great that way.

But there's also another thing that you didn't know. Orange, which is putting together a service, actually keeps all their broadcast content inside the cloud for up to a week [when it passes]. So you want to talk about something futuristic? If I miss the game, all the bowl games that have gone on this week, I can go literally back in time and bring those down to my DVR. No worries. Never have to miss anything again.

So talk about a box that's so smart it actually time travels -- kind of nice. So I take a couple [unintelligible]. IPTV is great. As we bring it down here, I have literally tens of thousands of video on-demand movies that we can go ahead and play at any time. Also supporting open applications. I can go ahead [unintelligible] this box.

As you can see, I [have] some social media as well as do some gaming with my buddies. And we'll go ahead and kick it off with the *coup de grace*, a little bit of the Web action. So a complete SOC. And I can go ahead and navigate around as freely as I like.

Since it supports the complete Flash as well as all the other Internet protocols that are floating around there, I can go ahead and load it up immediately and see my YouTube videos and all that good stuff [going] down, and go ahead and navigate around with my gyroscope remote. Really some kind of cool stuff. I bet you want one of these, huh, Paul?

Paul Otellini: [Let's see] that game.

Craig: That is definitely going to be a good one. Why don't we go ahead, and we're going to [unchain] ourselves a little bit. You talked a lot about connectivity. So here's something that I have really, really been looking forward to.

In case you guys didn't know, Paul is CEO of the company. He kind of likes cracking the whip a little bit. A little bit of a slave-driver.

So I do spend a lot of my nights up in bed working on the laptop and trying to get all that good work done. However, a little 15-inch screen -- and if I'm in the bedroom, I have this beautiful 50-inch plasma that's just sitting on my wall. Wouldn't it be great if I could go ahead and use that display? That would be absolutely awesome.

So I'm going to take my Core 2010 laptop that I've just went ahead and bought at Best Buy, and I can go ahead and -- I'm watching a little Netflix here. So let me go ahead and just pop this guy up full-screen. And look at that experience that I can go ahead, just completely on the fly. And then again, I only need two things: this brand new Core laptop, and a little tiny box like this from our partners from Netgear. Around \$100 is all it's going to cost you. And look at that. Real-time streaming to any TV.

Paul, no more people huddling around your laptop trying to share pictures and videos. Wouldn't it be nice if you could go ahead right into the board room and send those [foils] up, all that [unintelligible] graphs we love to see all the time, right? But that's a lot of entertainment.

I've got one more thing to show you here in our digital crib, and it's not all about play here. What I want to show you is actually -- we're going to talk a little bit about energy, and a little bit in the green space. What I have up here is our Intel concept. It's a home energy management dashboard.

What that means is basically I can go ahead and manage the entire energy consumption of all the devices inside my house, and get real-time two-way communication back and forth from the utilities, so I can know how much I'm being charged, and really how much I'm drawing constantly. And really, the message behind that is once I know, then I can act. That relates in a lot of money.

So let's take a look at this. Pretty kind of a standard clock device here. But I see I have some notifications. And while this is located in a central dashboard position inside the house, it adds a lot of other functionality. There's Atom underneath the hood here, right? So it's a general PC. In addition to monitoring all those devices, I can actually leave a couple of videos for the kids, make sure that they take the dog out and all that good stuff.

Also, it supports a great user interface where I can go back and see all the individual devices. It supports an open application framework, as well. Maybe I want to track a package. Maybe I want to go ahead and look up a phone number and hunt down the kids, all that good stuff. And finally, let's just go ahead and take a look at the actual inner workings of what we're looking at here.

Each individual device I can go ahead and see what we're talking about. And while devices are only going to get smarter, smarter, and smarter, right now today we can go ahead and retrofit them with an item like this that goes ahead and communicates wirelessly

directly to the system. So let's retrofit all those appliances until they can catch up to this amazing technology.

I'm taking a look at all the meters, and here is actually each individual device inside my home. The computer is looking pretty good. Not a lot spent on that one. However, I'm a little worried about my television usage, right under the refrigerator there. So what we can do with this device -- it's actually fully connect it to the Internet, and can go ahead and maybe make us some suggestions on how we can save a little bit of dough.

So I have my television here. I've gone out to the Internet. Maybe a couple of other TVs I want to think about picking up here, especially since we're at CES obviously this week. Save me a couple of bucks. But I like my TV. Maybe it's got some suggestions on how I could save another 6 percent. Watch less television.

[Laughter]

Craig: Not really the best CES message.

Paul Otellini: No.

Craig: Before we start a riot, we'll go ahead and move on one more down. Why don't we try and power off when we leave? So as I go ahead and try this, it's going to go ahead and now track basically how I want to control my television. Basically when I leave my house, I'm

all set up and ready to go. So if I want to go ahead and turn it off when we go ahead and leave the house -- and we're just about ready to exit the digital crib, Paul. So want to go ahead and do the honors?

Paul Otellini: I can turn it off? I'll be happy to do so.

Craig: [Hit this].

Paul Otellini: Absolutely. Craig, is this what caused the power outage last night?

[Laughter]

Craig: Funny thing, Paul. Funny thing. You know, you got to practice sometimes. So maybe a little bit of apologies. It's kind of funny that a device this small can have such a big impact. Thanks a lot, Paul.

Paul Otellini: Thanks very much.

Craig: I hope you enjoyed your digital crib.

Paul Otellini: Okay.

[Applause]

Paul Otellini: What we hoped to show you there was that computing in the home is going to be a lot more than just about the PC. But what happens when you step outside the door? Computing is becoming more and

more mobile. That's been the trend for the last few CES's. Laptops, netbooks, smartphones. Before we dig into those, let's take a look back forward our time travelers to see where they are now.

[Video plays]

Male Voice: Hi, Paul. How's everything going? God, that suit still looks so sharp. We're just waiting on our train to New Cleveland. It's supposed to be really pretty this time of the year. Check out these future clothes we got. They've got [unintelligible] circuit fibers woven into them. If I want to know something, the computer in my clothes goes out to the Internet, gets the information, and comes back with an answer. The shirt that Mark has on is really cool. If you're wearing it and you say a lie, the shirt can tell.

Mark: And all the clothes of the future fit so perfectly. I'm pretty sure that's why all the chicks here dig me so much.

Male Voice: I don't know if you can see that, Paul, but it's [unintelligible] because that is a lie. The women in the future, they are not interested in Mark at all. They find him really unattractive. We were at a future bar [crosstalk] --

Mark: Okay, okay.

Male Voice: -- drinking. Mark, [crosstalk] --

Mark: [Crosstalk].

Male Voice: -- "Get out of my face! Stop talking to me. You're very unattractive."

Mark: Okay.

Male Voice: They're just like, "Uh, this is such an unattractive guy. What happened?"

Mark: You got it.

Male Voice: "What's wrong with this guy? He's so unattractive? I can't look at his face and not cringe." You understand what I mean. Anyway, we got to get out of here. We'll check back with you later on. Thank you.

[Video ends]

Paul Otellini: See you in a bit. I guess there's truth to those liar shirts. In general, mobile devices are becoming much more integral to our lives. They often have the most context about us. They know where we are. They know what we're doing. And very often, they know what we're looking for.

About 18 months ago, we launched a new technology in terms of our microprocessor line called Atom, with a line of products that

was highly integrated microprocessors focused on very low-power and low-cost solutions.

Atom went on to spawn an entirely new PC category, the netbook. To date, over 40 million netbooks have been shipped in the last 18 months. This is a product that was originally designed for schools, but now has become a second and third machine in families, a travel companion, and increasingly the first PC that families are buying for themselves in emerging markets.

At CES this week, we're launching the next-generation netbook platform with a new version of the Atom microprocessor. This processor has better performance than the old generation, and 20 percent lower power than the previous generation. This more efficient microprocessor means we have a better platform. Our customers can build thinner netbooks, higher performance, and longer battery lives around them.

We integrated the graphics and the memory controller onto the microprocessor to be able to get the form factor and the power down to a level to be able to do this. Netbooks have clearly, I think, created a new usage model in computing. And that creates in itself an opportunity for a new wave of software applications.

About three months ago at our Intel Developer Forum, we launched something we called the Atom Developer Program. This program was all about delivering an exciting way for software developers to

be able to create new or adapt old applications to take advantage of the netbook explosion, essentially creating a new channel for software developers.

The next step in this is to give consumers access to these applications. Today at CES, we're launching the beta version of the first storefront called AppUp Center. The AppUp Center is a one-stop location where users can find applications that are tailor-made and validated for the netbooks that they own. These work, by the way, on both Windows and Linux.

Let's take a look at this in a little bit more detail and ask Peter to come out and show us. Hello, Peter.

Peter:

Hey. Thanks, Paul. When we look at netbooks, and we think about the software we use in them, there's a lot of tremendous innovation that's been happening at the Web programming level. The problem, that term you used earlier, is context. It's very hard for Web programmers to get to the context of the device. And that means that the Internet is the same on a netbook when it's in a coffee shop as it is on a workstation or even a server in a data center.

Here up on stage, we have the ingredients that we think are going to actually help solve that problem. The first thing I'd like to show is a Dell netbook. This is running Moblin. This is a preview of Dell's AppUp Center. You saw that we launched it from inside the Moblin

MyZone. And we can run an application that we've downloaded from here called [Fring].

Fring is the kind of application that we're thinking about when we think about what we want to do in netbooks. It's a neat little integrated voice and IM app.

The next thing I want to take a look at is the Asus Eee. So the Asus is running Windows 7. A very important note -- if you look at these later when we have them all up on the screen, you'll notice that the stores are similar, but they're not identical. We allow storefront providers to actually differentiate, so that they can make their centers consistent with the look and feel they like to have in their software that [faces our] users.

One of the apps that's in here that we'd like to take a look at is called UNO. UNO is a cool little client-based application that aggregates a bunch of different Internet feeds -- so Twitter, Facebook, et cetera. As a fan of social networking, I can certainly see that this will be something that I use on my netbook pretty frequently.

Someday AppUp will be installed [unintelligible] of course, right? And we look forward to that. But right now, that brings us to the install base. There's millions of netbooks out there. How can we get access to it? So if you go to www.IntelAppUp.com -- you can go there now; it should be live -- you can take a look at the beta -- very

important word -- the beta of Intel's AppUp Center store. You can see these applications and other applications that are available.

Keep coming back, because we will be updating that on an hour-by-hour basis.

Paul Otellini: I can imagine.

Peter: Thanks.

Paul Otellini: Great. Thank you, Peter.

[Applause]

Paul Otellini: Today's just the starting point for the AppUp Center. It will continue to evolve, as Peter said, on an ongoing basis. There's been a lot of enthusiasm from developers along the way. In just over three months, we have 3,000 members, and over 2,500 downloads of the software development kit.

The slide behind me shows the major netbook manufacturers that are committed now to build AppUp Center storefronts of their own, with their own branded front on those. You'll begin to see these stores rolling out between now and the end of this quarter.

Looking forward, though, our vision is not just to limit this to netbooks. The vision is to extend it to any Intel architecture device

in the computing spectrum. So up into the PC space, to be able to address the billion units of PCs that are out there as an install base on the Internet. Certainly the netbooks, where we start. But increasingly down into handheld and even smart TV space over time.

This gives the developer community a very, very broad template to be able to recoup their investment and sell applications. And for us as users, we're able to have the same applications experience across a very wide variety of devices over time. So look for more announcements to come in the next few months.

Let me shift to smartphones. Smartphones truly embody personal computing. They're context-aware. They're tailored user interfaces. And they're getting a whole lot smarter. There's a new Atom-based smartphone platform launching this year. Its codename is Moorestown. It's smaller, faster, and better than anything we've done before, all compliments of Moore's Law. We've announced partnerships around [the mobile space] with leaders like LG and Nokia.

Connectivity is as critical as performance in this area. And while 3G is good, it's just not fast enough for the kinds of applications and data transfers that are going to be required of smartphones in the future. For that increasingly we're going to need 4G. The first 4G technology is WiMAX. I'm happy to say that WiMAX is alive and

lit up here in Los Vegas. The whole city is now lit up on a commercial basis by the Clear network.

At CES in 2008, the last time I was on this stage, I showed a suite of compute-intensive applications. At the time, the computing had to be done behind the curtain on a very high-end desktop machine, because the handhelds of the day simply weren't performance-oriented enough to do the performance applications we were showing. They didn't have the capability.

Well, I said in the not-too-distant future, courtesy of Moore's Law, handhelds would have that capability. Two years later, the future is here. Let me bring out Diana to show us what's possible today with Moorestown.

Diana: Hi, Paul.

Paul Otellini: Hi, Diana.

Diana: How you doing?

Paul Otellini: Good. How are you?

Diana: I have some great Moorestown examples for you. I'd like to start out with a reference design from AVA. This is actually a smartphone example. Instead of talking about typical smartphone functions, I'd like to show you an application that's something that's

now possible with Moorestown. This is actually a multipoint video conference, three-way video conference made possible by software from [video]. These are a couple friends of mine who really wanted to be in the keynote, and they couldn't quite make it.

Hey, guys. Wave. Yep, you're at CES. Paul, wave to them. Make them feel like they're at home.

Paul Otellini: Hey, guys.

Diana: This is a great example of some of the applications that are now possible on smartphones. I think you've had your face time for the day, guys. Wave goodbye. Thank you. Multipoint video conferencing on a smartphone.

As I mentioned, that was a reference design. I'm sure naturally the question is always on people's minds, "Well, how about products?" So what I have here is a smartphone from LG. It's new. It'll be coming out the second half of this year. It's got the multi-touch touchscreen, accelerometer. It's got cameras front and back. It's got a very nice 3D user interface, as you can see. This is something that Wind River and LG worked on. It's running on Moblin. So that's very nice.

Of course, Moorestown is Intel architecture, so all of my favorite Web sites work great, even the really Flash-heavy ones. And now if you'll excuse me, Paul, I was actually in the middle of something

when your keynote interrupted. I was planning a movie date with my dad. I'm going to carry on with that, and you can just think about what you're going to say next after I leave, or whatever it is you do when demos are happening.

[Laughter]

Diana: We really don't want to know all the details, though. All right. Anyway, we're going to go to a movie together. I'm going to take a look at the movie trailer that we are thinking about seeing, see if this seems like something I'm actually interested in. This is a great example of how wonderful this is, this nice big screen, about 5-inch screen here. It's wonderful for movie-watching, and it's a high-def, 720p video. So it's a really great experience, as you can see.

Yeah. I think I could be convinced to see that movie. Let's hang on a second here. Oops, it jumped ahead of me. Anyway, I was going to tell you, as you can see, you can have the movie playing at the same time as the calendar book is open. So it's a really great example of how you can not only do many things on this phone, but you can actually do them at the same time. So that's the LG, coming out the second half of this year. There you go.

Paul Otellini: Moorestown isn't just for smartphones, though. It's really powerful enough for a wide variety of devices. Is there something else that you might want to show us with it?

Diana: It's funny you should mention that, Paul. I happen to have something right here. This is from OpenPeak. It'll be coming out under a number of [brand] [unintelligible] later this year. As you can see, it's essentially a one-stop shop for all your different home services -- Internet, communications, entertainment, even energy care management and healthcare. So it's a great example -- when you put in a dock like this, it can be your home phone, as well.

So this is a great example, another different sort of form factor from Moorestown. Actually, wait. There's more. If I take it just like this and undock it -- touchscreen tablet, people. Very cool. Movies, [unintelligible] Internet.

[Applause]

Diana: You know, if you're so inclined, it could even be your color ebook reader, whatever you feel like doing. You've got mobility in your hand. Very nice, very clean. That's another example of the possibilities of Moorestown.

Paul Otellini: That's fabulous. Thank you, Diana.

[Applause]

Paul Otellini: As you can see, the devices we're going to carry around with us put a lot more power in our pockets and in our hands. Perhaps I think, though, the most revolutionary aspect of the era of personal

computing is going to be the emergence of computing everywhere we go in the world around us. What in the world is this?

[Laughter]

[Video plays]

Male Voice: Sorry, Paul. Bad [curl]. It's still really hard in the future.

Male Voice: Sorry about that, Paul. It's amazing. We're here in the year 2075 in future Canada. Get this. They still love Bryan Adams music here. That music is terrible. But what is also amazing is that in the future there's also wireless power. Everything is wireless. We can be out here practicing for 20 hours, five days. We don't have to worry about battery life or anything. No outlets, no cords, no batteries, nothing. Everything just charges through the air. Look, even these future brooms will never lose their power.

Male Voice: This broom is also connected to all of my other devices. It can alert me of a phone call -- [phone rings]. Hang on a second, Paul. It's my mom. I got to take this. Hey, I told you not to call me here.

Male Voice: Yeah. Computers are everywhere, Paul. In the future, they're really key. And the only thing not connected to a computer anymore are these stones. These are still just heavy rocks. But that's how Canadians like it. Anyhow, we have to go. Big match tomorrow. See you in a bit, Paul.

[Video ends]

[Laughter]

Paul Otellini: Thanks, travelers. Good luck in your match.

[Applause]

Paul Otellini: As the travelers said, computing is coming everywhere because of the lower costs and its ubiquitous connectivity. Thanks to the predictability of Moore's Law, we can find incredible possibilities in the most unpredictable places. Lower costs have continued to drive computing into more and more devices.

Last year there were 10 billion embedded processors shipped around the world into all kinds of devices. Half of these units, though, were very old architectures of 8- and 16-bit microcontrollers, very low-performance machines. Looking forward, we see an environment where all of these embedded machines increasingly need more performance, better interfaces, and increasingly will use the Internet as their connections.

More compute power is needed. This is what we designed Atom-embedded products to be able to do, to enable intelligent devices everywhere. Our goal is very simple here. We believe that every electronic device will eventually connect to the Internet. Many

devices are getting more and more compute and connectivity built into them.

I think smart and connected devices mean that we have better interactions with them in our world. Examples of this: billboards that are customized to you; cars that can self-navigate; shopping carts. And yes, here in Vegas, even slot machines.

Computing and connectivity are also going to transform retail. Retail has the ability to combine the data richness of online shopping with their classic historical product interaction in the brick and mortar world, happening with something called digital signage. Your experience in every store will soon be customized to you. To give you an example of that future, let me ask Katie to come out and show you the retail world.

Katie: Hi, Paul.

Paul Otellini: Hi, Katie. How are you?

Katie: Good to see you.

Paul Otellini: Yeah.

Katie: What we have here is a very cool digital sign that does far more than typical retail signage. It offers users an informative and interactive experience, and it offers retailers new opportunity to

enhance customer service and provide targeted advertising. Want to know how it works?

Paul Otellini: Absolutely.

Katie: Great. On the right-hand side, we have a large bright LCD screen playing advertisements and promotional content that draws users in from afar. As it is touch-enabled, they're able to come up and interact with it and engage with that content. On the left here, we have a holographic glass display showing dynamic promotional content and way-finding information. This large transparent touchscreen offers multiple users an interactive and extraordinary view of the store.

All of this is powered by Core i7 processors. We needed a lot of processing power so that up to three people can use it at the same time. Should we try it out?

Paul Otellini: Absolutely.

Katie: All right. Paul, you look great today, but perhaps we can kick up your style a little bit with a skinny tie and a blazer?

Paul Otellini: Great.

Katie: All right. Let's give it a go.

[Laughter]

Katie: As I approach the screen, it recognizes my presence using anonymous video analytics. The sign is intelligent enough to identify my height and my gender. As you can see, the content on the screen is the appropriate height for me, and it's showing items that are likely relevant to females.

These tags on the screen -- really cool. Let's get a camera shot of this. These tags are pointing out items that are physically in the store beyond the glass. For example, Levi's Timeless Jeans, that tag is pointing at those jeans on that shelf back there. Really cool. Kind of [authentic] reality.

Right now, we're looking at mainly female items. But because we're shopping for you, not for me, let's change our view of the store. I've changed the filter to "Men's." Now we're looking at men's items only. And look, the skinny tie. This would be perfect.

Paul Otellini: Great.

Katie: And now we just need to get you a blazer. I don't see any on this floor. Let's check out upstairs. By pressing "Floor view," we're given a map view of the store. This lets us see more than what's right in front of us. Let's check out floor two. There are the blazers. Perfect. [unintelligible] blazer. This will look great.

I can have a map of directions and a coupon sent to my phone. All I have to do is press "Send to Mobile," and via Bluetooth connection all of that information is sent to my phone. I can take this with me to the cash register when we check out. Technology makes life easy, huh?

Paul Otellini: That's absolutely true.

Katie: Thank you, Paul.

Paul Otellini: Would you buy those and send them out to my house in San Francisco?

Katie: Sure, sure.

Paul Otellini: Great. Thanks very much.

Katie: Thank you.

[Applause]

Paul Otellini: Beyond retail, I think we're going to see hundreds of new applications and industries become smart and personalized. Intel is very excited about the opportunity for the industry and the impact we're going to have on a variety of lives. This is what we've targeted the Atom processor for. Over the last 18 months, we've

achieved over 2,500 design wins in many of these innovative areas.
We've announced some of them in the past.

In the automotive area, we announced a partnership with Harman
Kardon and BMW and Dimeler for in-vehicle entertainment.
There's many, many more beyond that.

Male Voice: Wow. What a crowd. Oh my God. I haven't seen so many
Blackberries in one place since I did a tour of [unintelligible].
LMAO. Oh my God. Hey, Paul.

Paul Otellini: Ladies and gentlemen, let me introduce my good friend from far, far
away, the magic mirror from "Shrek."

Male Voice: Paul, you forgot to mention Oscar-winner, Broadway legend, and
supporting actor in "Shrek Forever After," coming out May 21st in
3D.

Paul Otellini: Nice plug, but what the heck are you doing here?

Male Voice: I'm sorry to interrupt you, Paul. Since Intel has a special working
partnership, that enables DreamWorks Animation to produce films
with greater and greater visual richness. Thanks to Intel's processing
power, I have the ability to see into the past, the present, and the
future.

Paul Otellini: The future? I happen to have sent a couple of my guys out into the future just a little while ago.

Male Voice: Whoo, whoo!

Male Voice: We're back, Paul.

Male Voice: The future is awesome, Paul.

Male Voice: It was a great trip.

Male Voice: Wait, wait, wait, wait. Paul, Paul, listen. Since you know that I am all-knowing and I can see into the future, I have to tell you that these two never really traveled into the future.

Paul Otellini: What?

Male Voice: Shut up, Mirror!

Male Voice: You shut up!

[Laughter]

Male Voice: Why you got to bust our chops like that? It's not cool.

Male Voice: Bring it on!

Male Voice: Yeah, Paul, we didn't go to the future. Time travel doesn't exist. We were in the Intel Labs. And the stuff going on there is the future. It's crazy. There's [unintelligible] controls, interfaces, face-tracking, Autodesk motion capture, crazy stuff like that, Mirror.

Male Voice: Hey, there's nothing crazy about being on Broadway. It's a privilege.

[Laughter]

Male Voice: Anyway, the stuff there is so futuristic, it's [unintelligible] part of our lives in the next 50 years, it may as well be the future, you know?

Male Voice: True.

Paul Otellini: Okay, guys, I get it. I want to thank you for admitting the truth. I think the best thing for all of us is maybe for you guys to get back to work. And Mirror, don't you have a movie to make somewhere?

Male Voice: That is true, Paul. Goodbye, Paul. [unintelligible] "Shrek Forever After."

Male Voice: Yeah, yeah, yeah. No one wants to see that movie.

[Laughter]

Male Voice: Goodbye, Mirror.

Male Voice: See you later, Paul.

Male Voice: Take care, Paul.

Paul Otellini: See you guys. Goodbye, CES.

[Music and applause]

Male Voice: There was a lot of technology in that demo. I wanted to thank the companies that helped make this happen. It's true that many of the ideas you saw today are being developed in Intel Labs as we speak. What you saw today wasn't science fiction; it was science. We do have a robot, and you can see it in this video, that can plug itself in. It takes a few minutes. Our scientists are working at improving it by detecting the electrical field in the socket. Yeah, it takes a long time.

[Laughter]

Moore's Law isn't there yet. We have produced wearable sensors that personalize a smartphone for an individual based upon their mood. And today, we can transmit electrical power wirelessly over several inches. We're working on extending it even farther.

We're not sure what can happen and what will happen in the future. I can assure you that we are working hard behind the scenes to bring personal computing everywhere -- in the home, in the devices you carry around with you, and in the world around you.

For four decades, Intel has advanced Moore's Law and delivered the benefits of it to the world. We're not a company that rests on our laurels. Our goal very simply is to have our architecture provide the brains for anything with a power source. At Intel, we believe that our job is to invent the future. Thank you very much.

[End of recorded material]