BRENDAN TRAW

Female Voice: Ladies and gentlemen, please welcome Brendan Traw.

[Applause]

Brendan Traw: Good morning. I see that we have a fair number of hardcore attendees left for the final tech insight this morning. I want to spend a little bit of time sharing with you our digital home vision around Intel Viiv technology. And then I want to look forward at three key areas.

Unlike some other technology efforts, in the digital home group we're really starting with the consumer and trying to understand what the consumer wants in the way of technology in their home, as opposed to perhaps the more traditional technology-driven approach where you start out with some technologies and then try to figure out what they might do for consumer or other customers.

And so we've really been thinking about the digital home from a very customer-centric perspective. And one thing we know the consumers really enjoy doing, and that is being entertained. It's one thing to work or have personal productivity and the like. It's another thing to come home from a busy day, kick back with your family, and relax, and let the equipment in your home entertain you and satisfy you in those ways.

So, we focused on five experiences with Intel Viiv technology. Over on the right-hand side there, there are two experiences in the home, enjoying your entertainment content from your couch. So this is basically ensuring you have a set of user interfaces and the like to facilitate an experience where you're sitting on the couch, remote control in hand, watching your personal photos or perhaps a movie, or some other content. And this would be with a PC actually sitting in the living room next to the TV.

And then similarly, you can remote that experience. Your PC might actually be in your den because you perhaps do some personal productivity applications, your taxes, email, surf the Web, or whatever, in your den, but you still want to be able to take the content that you have stored on your PC and still enjoy it in other rooms of your house, such as your living room. And so the second experience there is streaming that content using that same 10-foot experience to the other rooms of the house where you wish to enjoy that content, not just where the PC is actually located.

There are some other experiences that we're interested in enabling as well that enable you to take your content with you. There's an experience we call synch-and-go. And basically that experience involves taking content that you already have on your Intel Viiv technology PC and transferring it to another portable device. Perhaps this is a Centrino notebook. It might be a portable media player. It might be, you know, some other device that you have where you actually want to take that content experience with you.

You can also download content directly to a device, like a Centrino mobile laptop, and then take that content with you as well without actually having the Viiv technology PC, sort of in the path of delivering the content. And that's basically the fourth scenario there.

And the final one is perhaps, I don't know, infamously referred to as a sneaker net. And that is there may be places where you only have the ability to play back optical media. You may be going to a family member's house and want to be able to take a photo album with you so that you can all sit around and look at the photos from the trip you took together. And so you can actually take your photos or other content, burn it to a DVD, take that DVD with you. And then basically anywhere you have a DVD player, you can enjoy that content.

So to actually enable those user experiences, those compelling user experiences, a number of very important technologies need to be in place. The Core 2 Duo Processors offer a lot of advantages when it comes to actually delivering these experiences. You've probably heard a lot this week about the performance of Core 2 Duo in terms of both its raw processing capability as well as its power efficiency.

Another really important aspect of Core 2 Duo for the digital home is the fact that it's actually two processors. And if you've looked at those usage models that I just described a couple of minutes ago, you could readily imagine situations where you might want to be doing more than one of those things at a time. You might want to be watching a movie playing back locally on your PC while you're wanting to do a synch-and-go to your laptop, or to another device, so that you can take some content with you, perhaps content you have DVRed on your PC. You might want to take that content with you on your upcoming business trip. And so while you or your family are watching a movie in the foreground, you can use the other processor in a Core 2 Duo system to actually do the transcoding and prepare the content, the television content you recorded previously to actually take on the road with you.

Connectivity is also really critical enabler of these usage models. There are really sort of two forms of connectivity. There is connectivity to services. So this is actually enabling the flow of content from the Internet or from other sources onto the PC. And then there is also the need to connect the PC to other devices. Obviously, the streaming experiences that I talked about earlier, Sync and Go, these other experiences involve the interaction of multiple devices. And I suspect we all envision a future where your cell phone, your portal medic player, your notebook, your desktop system, your digital, all of these devices are sharing content back and forth. And that's clearly part of our vision with Intel Viiv technology.

Finally, it's important to add technology to actually make the consumer's experience better and simpler. In many cases people, you know, have this intuitive feel that if there's more technology involved, somehow it's going to be harder. And our philosophy with Intel Viiv technology is just the opposite. And that is, we want to add

technology to actually make the experience better and simpler.

So whether it's insuring that the platform is capable of supporting high-definition content, both video as well as audio, or providing better ease of use by being able to instantaneously turn the system on and off, or the ability to use a remote control with the PC as opposed to have bring a mouse and a keyboard into your living room. Intel Viiv technology delivers a number of key technologies, again, to make that experience better and make it easier for the consumer.

So let's actually talk some numbers here. And again, you know, I had the generalities there on the first slide in terms of a 40 percent improvement in performance and a 40 percent improvement in power efficiency. Let's actually look at some of the workloads that are going to matter to consumers in the digital home.

So if you look at home videography, basically preparing your home videos to enjoy on your Viiv PC or, ultimately, to write out to a DVD. As you go from generation to generation here, you see very significant increases in performance. And, you know, in fact going from Pentium 4 to a Core 2 Duo, you see almost a doubling of performance, or halving the amount of elapsed time it takes to actually perform the operation. Similarly, for preparing your library of digital music, you see similar increases in performance, there again almost doubling -- or actually, more than doubling performance. Same thing with digital photos or transcoding content so that you can take it with you. Again, dramatic increases in performance across the board with Core 2 Duo. And if you then see how those map back onto the usages, you can see that this performance really does translate to an improved user experience. It's not just numbers; it's really directly translatable into what the consumer is actually going to see.

So obviously, having a compelling product is more than just having a powerful processor. You also need to have stylish solutions. People are going to be including these products, actually, out in the living space of their home -- in their living room and in other visible places in the home. People are going to want something better than just a beige box.

And you've probably all heard Paul Otellini introduce the million-dollar Intel Core challenge earlier this week. I'd like just to quickly refresh everyone's memory about this and hopefully stimulate some of you to actually go and enter into this contest. And so what we're actually looking for here are innovative form factors for Intel Viiv technology PCs using Core 2 Duo processors. We are looking for form factors that are smaller, quieter, and more stylish than what is done today. And we hope we can get a number of submissions from ODMs and OEMs across the industry and from around the world. And we'd like those entries to be submitted by January 15th, and then there'll be a judging panel of distinguished experts, not only from the technology space but also from the sort of the style space, who will be looking at those submissions and will be making a decision in Q1 as to who the winners are. And there are some fairly significant financial rewards for the couple of companies that win this contest.

So again, I hope everyone can put their thinking caps on, and let's really come up with some new form factors and some new ways of packaging PC technology so that people are -- consumers are going to feel proud to have this everywhere in their home. Not just in the office, not just in the kids' bedroom, but really everywhere in the home.

With that, let me actually move now to giving you some insights into three critical areas of digital home infrastructure that we're going to need to deliver over the next several years in order to continue enhancing the consumer experience around digital entertainment.

The first is with content delivery. And, again, I mentioned earlier that Intel Viiv technology is about providing connectivity with services and with devices. And the services that I think immediately come to people's mind are content-delivery services. And I'll talk about a second type of service later in this presentation around manageability, but let me start with content here.

And specifically, you know, one of the great, exciting things about PC technology and the Internet is the opportunity to gain access to the entire world of content. It's about connecting content creators with the consumers of content, the customers around the world. And, you know, as we've all probably found with Internet content to-date, there's a little bit of something out there for everybody. And you can actually target content at a fairly small niche of people. And, you know, this is something that your traditional cable operator or satellite broadcast operator or even over-the-air broadcast operator really can't deliver, they can't deliver that customized content for each and every person that subscribes or receives their service. However, with the Internet, you can actually create those connections between individual content creators and individual content consumers because there is no sort of incremental cost associated with actually providing that additional connectivity.

However, for a content provider to actually get their content on the Internet and be able to deliver it to consumers, and particularly be able to do that in a way that works well with a 10-foot user interface and able to take advantage of the remote control and all of the other aspects of Intel Viiv technology that really make that a great consumer experience, that actually takes some work on the content owner's part. And some of the initial folks that we've worked with have had to spend several million dollars, in some cases, actually building the infrastructure and the user interfaces and the other pieces necessary to actually get the content, whether it's sports, movies, music, television, games, whatever, to the end user. And there's a number of different pieces that have to be in place in order to get this, and one of the things that we've been working with the ecosystem on is actually putting together turnkey solutions, so instead of basically reengineering the solution each time for a given content owner, content owners should be able to go to basically a middleware or service providers who can then help facilitate them getting their content onto the Internet in as efficient and time-effective way possible.

So let me move forward here and actually overlay some of the specific pieces of

infrastructure that are needed here. And, again, you need to be able to take the content in its original source form, you need to be able to encode it and encrypt it so you can apply DRM and attach the business rules to it. You need to be able to add metadata to the content. Metadata is absolutely essential, because that's actually how consumers will be able to find the content by searching on the metadata using a search engine or other capability to actually identify the content that they want. And, you know, one of the things I think people undervalue is this metadata, and from my perspective, it's really sort of garbage in, garbage out. If you don't have good metadata associated with the content, then you're going to have a very difficult time actually having the consumer figure out which content they want. And if the consumer doesn't have a satisfying search experience, then they're unlikely to actually continue the experience. So I very much encourage people to really put a lot of effort into the metadata. It's, in many ways, from my perspective, as important as the content itself, because without good metadata, you're never going to hook up the right consumers with a given piece of content.

So once you've got all that done, you need to then be able to actually get the content hosted on the Internet and be able then to push that out to the consumers. There's, of course, a number of other ancillary capabilities that are needed, depending again, on the specific business model and the specific type of content you're distributing. This includes everything from financial transaction clearing systems to actually take the payments, you know, some content, however, consumers won't pay for, and instead is perhaps supported with advertisement and other things, so you need technology to insert advertisements and basically to fulfill the business models. And so basically you end up with a situation where there are quite a range of components that are needed, and content owners, in conjunction with their service provider, need to be able to draw on these turnkey solutions in order to, again, reach the market in a very effective and efficient way.

So with that, I'd actually like to turn and do the first demo here, which is going to be showing a new content service that was actually just announced today, and if we can run the video here. This is from NBC Universal, it was just announced this morning. This is part of the Viiv Entertainment Pass. And basically what they've made available here is a very compelling set of television content, including TV shows that they're showing this fall, and in many cases, letting people preview those television shows.

One of the exciting things about this is this is actually delivered for free to the consumer. It's ad supported here, and so there's actually a pre-roll where a couple of advertisements play, and then it moves directly into the television show. Actually, there's a preview here as well, but then it will move to the television show. This is actually live on the Internet today. If you have a Viiv technology PC at home, you can go home after IDF and enjoy this content just as we're doing here.

One of the other things that really excites me about this is the quality of the visual experience. This isn't your typical, you know, sort of sub-VHS VCR quality content. This is very high-quality video that looks good even on a large screen, even a screen that's many feet across.

So with that, let me -- actually, kill the video, and let me move on here to the next of the three areas that I would like to focus on. And that is home storage. And I suspect that everyone in the audience here is in the process of taking basically their entire lives digital. And to the extent you're taking your life digital, you're entrusting basically very important elements of your life to the digital technology that you carry with you, you have in your office, and you have in your home. And I'd like today to spend a little bit of time talking about some of the challenges with the current digital storage environment in the home and some approaches for dealing with these problems going forward.

The first problem that I'd like to identify is the fact that there are many disjointed islands of data around the home. I look at my house, and I have seven different hard drives that are in use on a daily basis. A couple PCs, a DVR, an iPod. I suspect actually many of you probably even have more than seven in your home. And right now I'm very hard pressed to be able to basically enjoy the data or the content that's on any one of those arbitrary storage places anywhere else in the home because basically all of the devices are not connected together, they're not interoperable, and you're not able to basically get access to the data you want when you want it.

The scary thing is, is as bad as it is today, it's only going to get worse here. The number of devices is going to continue to increase. Again, if I look at my own personal home as an example, the number of hard drives I have has basically doubled in the last 18 months. I know that's starting to sound like a Moore's-Law-style trajectory, and I think that's a pretty scary proposition. Hopefully I don't have another doubling in another 18 months, but nevertheless, I would suspect that by the time I come back to IDF next year, I'll have 10 or 12, you know, hard drives, major storage places in my home. I suspect, again, all of you are seeing those trends, and we're certainly seeing it from the analyst data, you know, looking at the deployment of digital technologies around the world.

The second part of this that's a really significant challenge is the actual number of data objects that you're trying to store in your home is dramatically increasing. You know, as you go from, for instance, film cameras to digital cameras, the number of pictures you may take in a year may be thousands of pictures. Being able to find the ones you want can be a real challenge. You add that with all the content you're DVRing, your home movies, all the other digital stuff in your life that's important to you and you can very rapidly have just a phenomenal amount of data, not just in terms of the number of bytes of data, which I think is going to rapidly approach the multiple terabytes for most consumers, but also the sheer number of actual individual data files that you need to be able to somehow navigate through to get to what you want. And, again, that very much goes back to my earlier comments about metadata and the importance of having good metadata. And I know that's been a personal failing of mine with digital photos is that I don't go and put the metadata in with the photo, and instead, you know, basically have to rely on the date stamp or whatever metadata the camera inserts automatically for you. Wouldn't it be great if you were actually able to, if you wanted to see pictures of your children with their grandparents, be able to just enter that in and get the photos you're looking for, as opposed to trying to figure out while, gee, my grandparents were last

visiting on the third of August, and I've got to go back there and try to poke around and find the photos I'm looking for that way.

Basically, the bottom line here, you know, users aren't going to be able to find what they want going forward here. It's going to be looking for a needle in basically a number of very, very large haystacks. And so I think there are some really very fundamental things that we need to be doing in this phase around metadata creation, around the ability to search metadata, and again, making sure that all of these disparate islands of storage in the home are connected and accessible.

Another piece of this is the permanence of the data. And if you look at the diagram on the left, if you look at the different types of contact you have in the home, they vary quite a bit in terms of how important they are to you and how hard they are to replace. And if you look at, for instance, your personal photos, in the upper corner there, this is data that is basically irreplaceable. If you lose it, it's gone. You can't get it back, no matter how much money you want to pay. And, you know, its data that you're going to want to last for your lifetime, or maybe even multiple lifetimes as you inherit, or you pass down your digital photos from generation to generation. That is an incredibly profound sort of thought that you actually have this data that is so important to you and this is something that you may want to have persist for, for decades or even longer as physical photographs have done.

Obviously not all content rises to sort of that level of importance to consumers. And if you look at commercial content you've downloaded, you know, for instance the content you've downloaded off of iTunes or whatever you've done, I mean, this is content that you could replace. It would be pretty annoying to have to replace it if you lost it. It might be expensive to replace, but nevertheless, you could do it. All the way down to sort of temporary files and all, where they're really only important for sort of right now and if you had to replace them or sort of roll back to a previous version, it wouldn't probably be the end of the world. So again, though, you have this incredible range of, sort of the importance and the difficulty of replacing content. And we really need to, with the home storage, be able to address that full range.

Now, of course, the primary device that people store content on in their homes is a hard drive. And if you look at the chart on the right there, this is looking at the cumulative probability of having a hard drive in your home fail in any given year by the number of hard drives you have. And as you can see here, as your number of hard drives increases, your probability of having a hard drive in your home fail in a given year increases pretty dramatically. And so, in my case, I have about seven hard drives in my home, and that's, what, a 35 percent chance in any given year of having one of those hard drives fail. As people move forward here and have more and more, it's going to be more and more likely to have those fail. And unless these devices are connected and mutually backed up and have the ability to rely on each other to actually deliver the permanence for your data, I think consumers are going to start to have some backlash here. I know personally, if I were to lose our family's digital photos because the hard drive they were stored on was to become corrupted, this could be a very significant event in the

relationship between myself and my wife. And I suspect a number of you would be in a similar state if those important items were to be lost.

The choices that consumers have today frankly aren't very satisfying. Again, if you have a terabyte of storage in your home, which I suspect actually many of you probably do, you're talking about hundreds of DVD's to back that up and thousands of CD's. This isn't a very feasible thing to do. Yes, you may back up a subset of your data onto optical media. I know that's personally what I do. But I think what consumers are really looking for is the ability to actually have the home infrastructure step in on their behalf and actually deliver transparent solutions to protect that data, because, again, there are many hard drives in the home, many different devices. Wouldn't it be great if they could work together to actually deliver the sort of data permanence that consumers are going to require?

So, I hope I've made a case here for the ecosystem to work together with Intel, and, obviously, with the other key players to actually deliver a comprehensive solution for the home. There's some great work already started in the standard space with the digital living network alliance and the guidelines that are being created there in terms of file formats and interconnectivity standards between devices. That's obviously great infrastructure, a great place to start. But we need to do more. And we need to layer additional capabilities on top of it, like the mutual backup capabilities that I was describing earlier.

Additionally, there are some other opportunities here to improve the home storage situation. And you've probably heard about Robson Technology from the mobility keynote earlier this week where you add non-volatile memory to the platform. There's a number of exciting opportunities in the home to accelerate performance. During the spring IDF we showed, during the digital home keynote, a really exciting gaming demo that took advantage of those sorts of capabilities. And so I think we can not only improve the connectivity and accessibility of content and your important digital stuff by looking at the home storage from a broader perspective, but also improve performance and responsiveness of the systems as well.

Beyond the home itself, obviously the home is not an island in and of itself. Going out into the broader world, it would be great to be able to take advantage of resources that are out in the network, whether it's to provide backup capabilities for your essential digital stuff, or to enable you to access your content when you're away from home. When you're on a trip or visiting family, to be able to get back into your digital storage in your home and be able to access those items without having to explicitly take that content or take that digital material with you whenever you pack up for the trip.

So with that, let me turn to the final of three focus areas here, which is remote management. One of the things that I think many of us benefit from, just as sort of tech-savvy individuals, is the ability to solve many of our own technical problems in the home. Unfortunately, the vast majority of consumers don't have that expertise. They're not able to, you know, look at the, you know, they don't necessarily have a technology

industry family member who can sort of step in and be their home system administrator to fix all their problems. And one of the things we're looking at is actually developing technology to enable service providers and others to add value to the consumer's experience by actually stepping in and taking over that responsibility in the home, and helping people manage their increasingly complicated information infrastructure.

And, you know, this has some additional benefits, as well, for OEMs and retailers in terms of reducing the number of returns on products. I mean, it's not only frustrating to the consumer to bring a product home and not be able to make it work or have it do what the consumer thought they could have it do, but it's also bad business for the retailers and the manufacturers because that product comes back. And, you know, you've got to do something with it; you've got to refurbish it, or whatever, to actually get it back out. And in many cases, the product wasn't even broken. It maybe just hadn't been configured correctly, or the user wasn't able to actually get it working. And so, wouldn't it be great if you could come in down the wire and help the consumer with the installation of that product once they obviously got past the sort of fundamental piece of providing some connectivity to it.

Similarly, for the service providers, you know the bane of the cable industry is doing a truck roll, or the TelCo industry is doing a truck roll to install new capabilities or to fix a problem within the home. Again, wouldn't it be great if you could come in over the wire and fix a lot of those problems and not actually have to, you know, have the consumer be inconvenienced by having to meet a repair person. And then furthermore, the obvious expense of having to actually send someone out onsite to do the repair.

So, not surprisingly, there are some really good technologies to bring to bear in this space. And this is a place where, from a digital home perspective, we've looked at our colleagues in the enterprise space to look at the sorts of technology solutions that are being delivered for the enterprise that may be applicable in the home. And Intel's active management technology, or AMT, provides actually a really exciting baseline for delivering a home manageability solution. And the really nice thing about AMT is it provides and out-of-band path for actually interacting with this manageability engine. So, even if your OS can't boot because something's been corrupted or you've got a configuration problem, the manageability engine can actually create a connection on the Internet, on the network, and actually communicate with that external service provider and provide a view into the home PC to actually remedy these sorts of problems.

And I'd actually now like to turn to a demo showing a couple of capabilities in this space. I'd like to welcome Don to come out here and join us for a demonstration.

Don MacDonald: Yup, I'll do that for you Brendan.

Brendan Traw: Thank you. One of the things I sort of like to point to is our progress from sort of PowerPoint to actually product. Last fall at IDF, I joined Don MacDonald, who was the general manager of Digital Home Group during his keynote and talked conceptually about this sort of capability. And we showed a little bit of a

smoke and mirrors demo of how it could look. Today I'm actually really excited to be able to show a product that we're developing with a Chinese ISV. This is [Star Soft Com]. And Don, can you sort of walk us through the capabilities?

Don MacDonald: Sure. Let's start off by talking about our home system here. Now what we've done on our home system is we've developed some policies to monitor some of the activities on the system -- things like our firewall, our antivirus software, and what we're going to focus on particularly today is an application called NetNanny. Now, what we've done is we've gone into NetNanny, and with, you know, keeping our kids safe in mind, I've gone in and blocked a lot of the undesirable sites that are out there on the Web. So that's what we've done here. But my kids are pretty inventive, and so my son is thinking to himself -- and believe me, I know how he thinks -- he's going, you know, if I go in, I could just stop the NetNanny service and I'm going to be able to go anywhere I want.

Brendan Traw: Pretty clever.

Don MacDonald: He's clever. He really is. So he goes in, and he's stopping the NetNanny service. I want you to pay attention to the lower corner down here to see what happens.

Brendan Traw: And I bet your son's told all his friends how to do this too, so even if they're not as tech savvy, it spreads like wildfire.

Don MacDonald: Absolutely. So what's it's done is it's basically disconnected the system from the network. Once he stopped NetNanny, the policy goes on and says, wait a minute, NetNanny isn't running, I'm disconnecting the computer all together, so it's isolated now. So my kid's not going anywhere until he starts NetNanny back up again. So we'll go ahead and do that. And now once NetNanny starts back up, he'll be able to go out and surf the sites that I'm going to allow him to go to.

Brendan Traw: And, again, that's implemented using the manageability engine and AMT to actually monitor the system to make sure the necessary --

Don MacDonald: Absolutely, and it works along the same ways with the firewall and antivirus software, so if you were getting attacked from the outside and somebody tried to force your firewall to turn off or whatever, then the system would just disconnect or the software would disconnect the system all together from the network, and it would protect it.

Brendan Traw: Great. So can you also show us what this could do for service providers others?

Don MacDonald: Sure, let's go ahead and do that. So if we could bring our management console up on the screen over here. So what I'm going to do first of all is I'm

going to do something that's so foreign to a demo guy, that it really pains me to do this, but I'm going to blue screen this system intentionally.

Brendan Traw: Oh. That's ugly. We never like to see that on stage.

Don MacDonald: So I'm going to go ahead and start the management console and get things going, and while it's going in and repairing the system, I'll explain to you exactly what I've done here. So give me a couple seconds to get all this set up.

So what I've done is I've started a reboot on the system remotely. Now what happened, when this thing went blue screen, there was a policy running behind the scenes that basically said, "Oops, I have a problem here. I need to contact my service provider." So it opened up the secure, encrypted connection back to the service provider's computer, the service provider went in, looked up the customer information, and the first thing that we did is we went in and established a mount. We actually mounted the disk on our home PC to the system here in the service provider's office. And then we started running a diagnostic OS. Now what this is going to do is it's going to go through, step by step, and reboot the system, and as it reboots the system, it's going to find the problems that occurred here.

Now it can look for things like, you know, corrupted drivers, maybe somebody's introduced a virus onto your system somehow, and in this particular case what we did, when I blue screened the system, I actually overwrote a section of the boot sector, so I corrupted the boot sector. So that's what it's going to do. It's going to go in and find out where the problem is and you can see it's repairing now. Now on this side you can see that I have a hyperterminal screen, so I'm able to see, from my computer in the service provider's office, exactly what's happening on the home computer, so I don't have to be on the phone with the user saying, "Okay, now I need you to go here and click this, or go here and click that." It's all controlled directly from my console right here.

So now we see we've got the message up here that it's ready for reboot, so what I'm going to do is go in and unmount the disk. And I’m going to stop the OS software and just tell it to go through a normal boot. So now when I click reboot here, it's sending down the wire a signal to the home computer to go ahead and reboot. So the problem's been fixed, the system will reboot back up into its repaired state and we've done all this without having to roll a truck or send a technician out.

Brendan Traw: That's terrific. Just one question. Consumers might be concerned about their privacy here. Is the service provider able to arbitrarily come in and look at their system?

Don MacDonald: No. The connection has to be established from the home computer out to the service provider. There's no way that the service provider can say, "Yeah, I just want to go look at what this guy's doing today." No way that's going to happen. The connection has to be initiated from the home computer, and it has to be done with that policy that's set up under AMT.

Brendan Traw: Terrific. Thanks a lot Don.

Don MacDonald: You're welcome. Take it easy.

[Applause]

Brendan Traw: Thank you. So with that I'd like to wrap up here. And I hope I've shared with you both our consumer-focused approach that we're bringing to the digital home and in particular the, I think, very exciting content and media experience usage models that are driving everything we're doing with Intel Viiv technology.

I also hope that I've raised some awareness on three sort of critical areas of actually delivering the infrastructure that's needed to enable those experiences and continue to grow those experiences on a going-forward basis, from content delivery to home storage to remote management. And I hope I've inspired many of you to enter into the $1 million design challenge for the Intel Viiv technology PCs with the core processor. And I hope that I've inspired all of you to work on these challenges and help deliver an even more compelling digital home experience to consumers worldwide, working with us in the next few years. Thank you very much. And I can take a few questions.