Morgan Stanley Technology, Media & Telecom Conference

Company Participants

- Chris Evenden, Director, IR

Other Participants

- Joe Moore, Analyst, Morgan Stanley

Presentation

Joe Moore {BIO 17644779 <GO>}

Welcome, everyone. I am Joe Moore. Welcome to day four of the Morgan Stanley TMT conference. With me is Chris Evenden from Investor Relations. Thanks, Chris.

Chris Evenden {BIO 18934997 <GO>}

Thanks. Glad to be here. You have the best chairs of any conference I've been to.

Joe Moore {BIO 17644779 <GO>}

Oh yes? Well we had -- they put these pillows here after a while because it was like you were lying back. So I thought maybe we could just kind of walk through the revenue stream a little bit and then maybe go through some of the expense stuff. Then I went to give you a chance to address kind of a concern we have raised around the Intel royalty. And we will give -- we will leave plenty of time for questions.

So I guess just starting with just revenue, you guys had a really good quarter in GPU. And I feel like that is kind of something we have heard other places, too. I mean Intel had a record quarter in i7 for desktop. The desktop enthusiast market, which has really been pretty strong throughout this week or period for (inaudible)--

Chris Evenden {BIO 18934997 <GO>}

Yes. It's been great.

Joe Moore {BIO 17644779 <GO>}

-- had a nice uptick. What do you think drove that uptick. And what does it tell us about 2014?

Chris Evenden {BIO 18934997 <GO>}

Well we've been fairly consistent in the way we've talked about this for a while. When we talk about the GeForce business, which is our consumer graphics business, we talk about two segments within that. We talk about the gaming segment and the OEM segment. And those two segments have very different dynamics.

The OEM segment is weak and is probably in decline. The gaming segment, however, is very strong and continues to grow. And clearly, that's currently outweighing any decline in the OEM segment. So what drove particular strength in Q4 is one, seasonally that is the strongest quarter. And it is seasonally the strongest quarter because that is when the good games come out, because people don't tend to buy graphics cards because they want a new graphics card.

They buy a new graphics card because Batman Arkham Origins has just been released and they have to go and be the Caped Crusader for 40 hours. So that drove a lot of strength in Q4.

There is a game -- one of the interesting things that we hope will be the tip of a trend is a game came out in China called Blazing Soul, which is a much more graphically-intensive game than is typical for that market. China is our biggest GeForce market by far. But they tend to be lower ASPs because the games tend to be just lower fidelity. This is changing that. And if that is a harbinger of things to come, then that is a great thing for us because that, hopefully, will presage an increase in ASPs in China. So broad-based strength in the GPU market through Q4 was good.

Joe Moore {BIO 17644779 <GO>}

Yes. Okay. Great. And what do you think about desktop share at this point? I feel like there was a lot of noise two quarters ago. But it seems like it has sorted itself out. And actually both companies are doing pretty well in GPUs.

Chris Evenden {BIO 18934997 <GO>}

Yes, I mean the GPU market is strong for both of us, I think. We have had between 58% and 66% marketshare for three years or so. And that is consumer graphics as a whole. That is not just gaming; that's OEM as well. And I would -- I don't see that changing very much. One of the things about the share numbers is that they are unit share numbers. And so they are dominated by high-volume, low ASP and low gross margin percentage OEM numbers.

So while they are a data point and we all like data points, I do caution people when they look at them. Because there have been quarters where our share has gone down and our revenue has gone up. Our revenue share has gone up. And that is purely around the fact that someone has gained a load of $12, 25% gross margin notebook chips at the low end.

Joe Moore {BIO 17644779 <GO>}

Yes, okay. And what about notebook at this point? I mean, I think there has always been a fairly healthy gaming notebook market. I kind of -- I think I am more bullish than most in terms of whether you characterize it in attach rates or just the growth of discretes in notebooks. But what's your sense long-term in that market?

Chris Evenden {BIO 18934997 <GO>}

That's a pretty interesting market, actually, because we are now at the point -- I have got a gaming notebook in my bag which I could show people, which would be pointless for anyone listening on the Internet. I will bring it out, actually, because why not for the people in the room. So just so we can see what a modern gaming notebook looks like. And this is why they are taking off. It's tiny. What is it, about three-quarters of an inch thick?

Joe Moore {BIO 17644779 <GO>}

Yes.

Chris Evenden {BIO 18934997 <GO>}

I don't understand your strange ancient measurements that you have in this country. But I mean that is a pretty attractive device, right? And that explains, I think, the growth of notebooks, is that we can get powerful GPUs that are sufficiently power efficient to fit into these new form factors. And it is a much more attractive device. This is the first device that I have really coveted. It is a great notebook.

And we are seeing that again with Maxwell. Maxwell is about twice as power efficient as the previous generation. And Fermi was already pretty power efficient. But Maxwell has doubled that. And you will see that take us into new markets. So you are right, gaming notebooks has grown very strongly. It used to be a tiny part of the business. Now I'd say it is material for sure. And it grew like 60% year on year. So it is a pretty interesting market for us.

Joe Moore {BIO 17644779 <GO>}

Okay. Great. Then on the professional side you guys had the one sort of high profile loss with the Mac Pro, the workstation (multiple speakers).

Chris Evenden {BIO 18934997 <GO>}

Yes. Which wasn't a workstation.

Joe Moore {BIO 17644779 <GO>}

It was a GeForce.

Chris Evenden {BIO 18934997 <GO>}

Thank you.

Joe Moore {BIO 17644779 <GO>}

So that got categorized as sort of a desktop part for you guys, right?

Chris Evenden {BIO 18934997 <GO>}

Yes. So when we had the Mac Pro, we were selling GeForce into it. So it was desktop. And now they are selling FirePro into it. So now it is a workstation, apparently. So you can drive yourself insane looking at -- trying to look at OEMs and trying to analyze their decisions in retrospect. You win some, you lose some.

Overall, share has been fairly constant. I would expect this to move -- in fact, it didn't seem to move the marketshare numbers at all.

Joe Moore {BIO 17644779 <GO>}

Right.

Chris Evenden {BIO 18934997 <GO>}

I would've thought --.

Joe Moore {BIO 17644779 <GO>}

Well you guys did fine, obviously.

Chris Evenden {BIO 18934997 <GO>}

Yes. So I would have expected it to move the marketshare number pretty significantly. Obviously, not because we lost any workstation business but because the workstation market just got larger, because this new platform was being added into it. It is reasonably significant volumes by the standard of workstations.

Joe Moore {BIO 17644779 <GO>}

I guess that is how --.

Chris Evenden {BIO 18934997 <GO>}

But the marketshare doesn't seem to have changed nearly as much as we expected.

Joe Moore {BIO 17644779 <GO>}

Yes. But you guys had this sort of dominant position in Quadro. Do the lines blur between what is a desktop and what is a Quadro at this point?

Chris Evenden {BIO 18934997 <GO>}

Well that is the first time I've seen anything like that in 10 years of being in this market. The first time I've seen a major platform be recategorized in that way.

Joe Moore {BIO 17644779 <GO>}

Okay. But that sort of -- the price point and the margins and the profile of that Quadro business is sort of the same as it has been for you?

Chris Evenden {BIO 18934997 <GO>}

Yes. I mean Quadro is still -- has got great margins. Yes. The margins haven't changed at all appreciably, I think, in many years.

Joe Moore {BIO 17644779 <GO>}

Right.

Chris Evenden {BIO 18934997 <GO>}

So I don't see any major impact -- yes, many years. At least as long as I have been doing it, which I don't even want to think about too much. But yes, the margins are changing.

Joe Moore {BIO 17644779 <GO>}

Okay. Great. Then the other part of professional, the Tesla business. You guys had commented when Xeon Phi first came out that this was going to create a lift in the business. And I think I was not negative on that business. But a little skeptical about that claim. I think a lot of people were. And I think you were spot-on that the growth has been really good. And it does seem like Intel has kind of made that category a lot bigger by their presence.

Chris Evenden {BIO 18934997 <GO>}

Yes, I think it is a combination of things. I love the Tesla business. Tesla is very attractive. And we have got 21 minutes and 29 seconds left and I could use all of it talking about Tesla. I think -- so just for the benefit of everybody else here, the reason why Intel entering this market is actually a positive for us is because the biggest obstacle to our selling Tesla was (inaudible) around using existing Xeon CPUs. So what we are competing against with Tesla is Xeon CPUs and supercomputing.

And so the argument for using Tesla is you are going to have to do a little bit -- you are going to have to port your code because it is massively parallel architecture. But

you are going to get much faster code and it is going to be much more power efficient, which matters to data centers because they are all limited by the amount of power they can get in and the amount of heat they can wick out.

And the argument against it was inertia. It was like, well, Intel is going to come out with a faster CPU soon enough and then my code will automatically get faster. And I won't have to do anything about it. And so that is an argument that we had to have with them.

And now Intel has come into the market and said, well, actually, you are going to run up against this power wall and you should move to a parallel architecture. We have got this thing called Xeon Phi. You should use it. So now in a way, our main competitor is agreeing with us.

And so then it becomes a question of do you want Xeon Phi or do you want Tesla. And we are the incumbent in that space. We support far more code; many more programmers know how to use us. We have a much richer, deeper, broader ecosystem. So we feel pretty good about that space.

Now Intel is clearly a powerful competitor and they will invest a lot to get into this market. So they will win business. But overall, the market is growing. But I think the other important element, probably the key driver of growth this year, is that we support a sort of critical mass, if you like, of code of numerical algorithms that now run on Tesla. And we have a broad-based distribution channel now, effectively.

So a year and a half ago, our Tesla team would have to go -- to make a sale, they would have to go into a potential customer; they would have to evangelize the whole concept of GPU computing; they would have to help the customer port their code; and then they would finally make the sale. Now, just choosing a hypothetical example, you could have a drug researcher somewhere that is looking at protein interaction, knows that his numerical dynamics code is accelerated by Tesla, knows the IBM carries a Tesla server. And so he phones up his IBM salesman and gets the machine delivered on Friday.

So we don't even have to be involved at all. It used to be a really high-touch business. And now it can be zero touch in these cases. And that is why we have been able to break out of the level that we were at and start growing seriously.

Joe Moore {BIO 17644779 <GO>}

And is there a another step function where it becomes a lot bigger at some point, or is this kind of holding steady?

Chris Evenden {BIO 18934997 <GO>}

Well I think it is growing very strongly. I think it grew 37% year on year last year. So I don't see any reason why that wouldn't continue. Having said that, the consumer

Internet companies are a pretty interesting new market for us now, with big data analytics. So we talked a bit about that at our last Analyst Day. And I think there will be more to say in the future.

Netflix actually posted on their technical blog how they are using GPUs to affinity marketing, if you like, find other movies that you might like based on your choices.

Joe Moore {BIO 17644779 <GO>}

Oh, okay.

Chris Evenden {BIO 18934997 <GO>}

The machine learning. And that is looking like it could be an increasingly large application area. But there are also other applications amongst these consumer Internet companies that are higher, much higher volume applications as well.

Talking about Analyst Days, by the way, March 25. This month is our next Analyst Day in San Jose.

Joe Moore {BIO 17644779 <GO>}

Looking forward to it. Then GRID GRID is sort of an interesting concept that I still -- it's hard for me to kind of figure out where the dollars come from. It is clearly 00 there is an interesting value proposition. Can you just tell us what GRID is and how that is going to turn to revenue over time?

Chris Evenden {BIO 18934997 <GO>}

Sure. So GRID is graphics. But you are serving up that graphics power over the network. And so there are a number of ways that we are looking at monetizing this. For example, we actually have a gaming beta running in Northern California. But the main one we are looking at right now is improving the user experience on Citrix and VMware.

So Citrix and VMware, for those of you who aren't familiar with them, that is a software platform for virtual desktop infrastructures. So what that means is your PC isn't really running on your desk. It is actually running on a server somewhere. And all you are getting at your desk is actually a video stream from the server. So there is an instance of Windows running on the server; there is Office running on the server. And all your other applications.

And so then the CPU obviously running Windows is running the Office. And then it actually does the compositing as well of putting together the desktop, compresses it into a video stream, squirts it down the network; you get it. And so the CPU is good at some of those tasks. But it is poor at other of those tasks, the compositing and the compression.

So what that means is you get a user experience that is a little bit outdated by today's expectations. And it means that 3D applications aren't supported at all. So even very modest 3D applications like Autodesk. So Autodesk has an installed base of about 7 million seats worldwide. And most of those run Intel integrated because it is really, really lightweight 3D. But it is too much for a virtual desktop infrastructure.

So by putting some GPUs in the server, we increase the user experience for everyone. But we have also enabled support of these other applications. And video as well. Video is another thing that virtual desktop infrastructures have problems with. So it makes that experience better.

And this is important because I was at Citrix Synergy last July, actually. That was a while ago. And I was chatting to the VARs. And they were telling me that the biggest obstacle to adoption of virtual desktop infrastructures is user resistance actually, because the IT department loves it. In terms of security and manageability, you have got all that data in one place. They can keep an eye on it.

You lose your laptop on a plane, you have just lost your laptop. There is nothing proprietary, nothing at all. So IT departments love it. But when they try to roll it out to users, the user experience gets in the way and that is when the implementation stalls. So this should be a boon for us and it should help VMware and Citrix as well if they look towards there.

Joe Moore {BIO 17644779 <GO>}

I mean it is a really interesting business. Who do you sell to then, once you sort of -- once that works, once that's functional; who's the customer?

Chris Evenden {BIO 18934997 <GO>}

Well directly we would sell to the server manufacturer. So IBM say.

Joe Moore {BIO 17644779 <GO>}

Yes. And you sell subsystems, right?

Chris Evenden {BIO 18934997 <GO>}

But obviously, we are working with VARs as well to train them up on that. And obviously, we have been working with Citrix and VMware directly as well to ensure native support for the virtual GPU in the software environment.

And so where we are today as we have hundreds of trials worldwide. And that has been increasing quite rapidly; 40% Q-on-Q actually. But the purchase cycle in enterprise IT is two years or so. We have only been doing it for six months or so.

So I don't have any data yet to help you model it in terms of what is the conversion rate of those trials, what is the average deal size. That data just doesn't exist right now. It looks really promising, lots of trials, lots of excitement. But we will have to wait and see where that lands.

Joe Moore {BIO 17644779 <GO>}

Yes. Then on the gaming side for GRID, I mean you have a lot of streaming gaming services that are coming --

Chris Evenden {BIO 18934997 <GO>}

Yes.

Joe Moore {BIO 17644779 <GO>}

-- PlayStation 4 is streaming. It doesn't really work yet. But for me at least streaming PS3 games through it, the GaiKai infrastructures that they bought. Like when do you start to participate more meaningfully in online gaming through the GRID business?

Chris Evenden {BIO 18934997 <GO>}

I think that is a little bit further out. We have -- like I said, we have this 6, 7 person beta in Northern California. And so we are looking at it and working towards that. But right now, our focus is really on the virtual desktop infrastructures.

Joe Moore {BIO 17644779 <GO>}

Okay. Great. Then Tegra, you guys had a bit of a shift in Tegra where you are incorporating now Kepler class graphics, which is really interesting. It gives you -- it makes you to me much more differentiated in that space. It is also a little bit unclear how much revenue that drives in the near-term.

So can you talk about that decision and what it means for 2014? And if it is more of an evangelization process, what milestones should we look for to see that evangelization playing out?

Chris Evenden {BIO 18934997 <GO>}

Yes. So we have aligned our roadmap. So when we say we have got PC-class graphics in a mobile chip, it is fitting within a mobile power envelope. So we are still more power efficient than A7, for example, or S800 at similar voltage levels. So we can outperform them at the same power level or we can be at the same performance and a lower power level by about a factor of 1.5. So it is pretty significantly better.

But obviously, it really shines when you start cranking it up and it supports all the PC features like OpenGL, 4.4, DirectX 11. And we have even demonstrated that we've ported Unreal Engine 4 across to it. And that is a big deal because that enables

game developers to fairly easily port games across. So all game -- one of the industry figures in game development -- I remember the last console cycle, I won't name him. But he was asked -- at the time when all the consoles were launching, he said, which is going to be the best console, Xbox 360 or PS3 or the Wii?

And he just looked the interviewer in the eye and said, well, whatever sells the most units. Because as a game developer, you only care about installed base to a certain extent. That is really your primary thing. So that has always been the challenge in getting games onto mobile is where is my installed base.

And the great thing about getting Unreal Engine 4 there is that now the incremental cost of transferring a game across to run on Unreal Engine 4 on Tegra, if it was already running on Unreal Engine 4 on PS4, that incremental cost is now tiny, very small. And so that changes the balance of the equation in terms of the installed base. And hopefully, we will start kickstarting gaming on Android.

Our vision is that Android is going to be this huge ecosystem. And there are going to be segments that will crystallize out of that ecosystem. And one of the segments will be gaming. And we would like to be the incumbent as it crystallizes out. So launching Tegra K1 is part of that.

Porting Unreal Engine 4 to Tegra K1 is part of that. Actually, SHIELD is part of that. And all the efforts that are -- we have several hundred people that just work with game developers. And a lot of those guys are now working on building this gaming ecosystem on Android as well. So this is all part of the same strategy.

So there is a lag right -- nothing like -- Rome wasn't built in a day. But that is what we are working towards.

Joe Moore {BIO 17644779 <GO>}

And what kinds of customers will you land for those products outside of automotive, which I will get to in a second? But who will be the first customers on the tablet side for that kind of capability?

Chris Evenden {BIO 18934997 <GO>}

Who would be?

Joe Moore {BIO 17644779 <GO>}

Yes, What types of --?

Chris Evenden {BIO 18934997 <GO>}

I can't be specific.

Joe Moore {BIO 17644779 <GO>}

I didn't think you could.

Chris Evenden {BIO 18934997 <GO>}

So really with Tegra K1, we'll be focused more on the topmost part of the phone market, the superphone if you like, the high, high-end smartphone. And tablets. A premium tablet doesn't have to be $499. You can do a premium tablet at $199 or perhaps even at $149 if you manage the bom appropriately. But think of it as being that premium market. I just want to decouple that a bit from being high-priced. So that is how I'd characterize them. Now, obviously, I can't name customers.

Joe Moore {BIO 17644779 <GO>}

Okay. Let me stop and see if we have any questions. I have a lot more questions if we don't. But let's see if we have any questions from the audience. I will keep going.

So autos, you guys. I think at the analyst meeting a year ago, just kind of buried in the presentation there was huge auto numbers. And it kind of piqued our curiosity. Nobody really talked about (multiple speakers) how big that could be.

Chris Evenden {BIO 18934997 <GO>}

Blah, blah, blah, about 2 billion.

Joe Moore {BIO 17644779 <GO>}

Exactly. Then since then, obviously, it has become a major focus and you had some pretty big wins last year. And then the Consumer Electronics Show. I mean can you talk about what's the function of Tegra in a car right now and where is it going to go?

Chris Evenden {BIO 18934997 <GO>}

So originally, we started in the automotive business many years ago, actually, with GPUs, notebook GPUs. And they would be running the Nav or the DVD player. But of course, the role of electronics in cars has become greater and greater every year. The navigation system is getting more sophisticated. We are doing 3D or we are doing Google maps. Audi is doing Google maps, for example. And now we are seeing digital cockpits as well.

And in the future, we are going to start seeing driver automation systems as well, advanced driver automation systems, ADAS systems -- sorry, driver assistance. So where we are now is Volkswagen Audi Group is a big customer. BMW is a big customer. So we are in the A3, the A4, A6, A8, A7. We are in BMW i3 and i8 and the 357s as well. And probably in the even-numbered ones, though I haven't had that stated to me explicitly. We are in the Volkswagen Golf.

Because we are in some really very attractive -- not the Volkswagen Golf, because it isn't a very attractive car by the way. But like some marquee wins like Tesla. People sort of associated us with that, Tesla, the model S. People have associated with that. But it is in the Golf, it is in the A3, it is in -- I'm trying to think whether it is in MINI or not. It may be. It is in Skoda, which is a mainstream European make. The Europeans may be familiar with, probably less so in the US.

And it is very broad-based. And we are seeing the role of graphics increase. So for example, it drives that massive 17-inch screen in Tesla. And it drives all the pixels, the so-called digital cockpit. So increasingly, you are seeing dials, physical dials and needles, being replaced by pixels.

And one of the things that Audi was announcing at CES was the next-generation digital cockpit, which was going to be based on Tegra 3. And we have a strong differentiator in that market because the quality of those pixels really doesn't matter. I was in Barcelona last week. And all the cabs there are older Priuses. And so they have a digital cockpit as well. And actually the week before, I had been lucky enough to drive a friend's Tesla. And that has a digital cockpit. But it has a completely different user experience. And you would not mistake the quality of the Tesla experience for the quality of -- for a Prius experience.

And I think the quality of those pixels, the resolution, the materials, the effects, the look that you can give, now that says almost as much about the in-car -- the quality of the car as did handstitched leather and inlaid walnut fascias.

And another random story, a couple of years ago I was looking at a new car and I looked at the -- I probably shouldn't say since I'm actually on a mic. But I looked at a particular Japanese manufacturer of cars. And this was a nice car. It was a reasonably high-end car, great sound system, great leather chairs; probably not as nice as the leather chairs you have here today; but good engine, powerful, handled great.

But I couldn't get over the fact that the navigation system was badly translated from the Japanese. And that colored my whole -- that tainted my whole experience of the car. And that just brought home to me just how important the effect of the in-car electronics is on the user experience. And that is the crux of visual computing, which is our core differentiator, is the impact you have on the user experience.

Then I know I have been talking a bit on this topic. But I will just talk briefly about advanced driver automation systems, because that is where Tegra K1 comes in. Because Tegra K1 has all the programmability of its PC peers. So it has got 192 programmable processor cores on there. And it turns out that just as a GPU is good at taking data and turning it into an image, a GPU is also very good at taking an image and turning it into data.

So in this context, image recognition is tremendously important. So we have shown demos where the Tegra K1 is taking a video stream in real-time recorded from the front of a car, from a car parking camera, if you like. It knows where the white lines

are. It recognizes the white lines on the road. So it knows where the car is in the lane. And it sees a car in front of you and it can recognize how far away that car is. It can even read the speed limit signs by the side of the road.

So these are fundamental building blocks for any advanced driver automation systems as people work towards that. And Audi, again at CES, announced that the Tegra K1 was going to be the chip behind its (Facet) they call it, which is their -- what do they call it -- basically ADAS systems through the piloting, self-piloting cars.

Joe Moore {BIO 17644779 <GO>}

Yes. That's pretty cool. Good stuff. All right, just quickly on the expenses, you guys have I guess made comments at various times that R&D are kind of fully invested. And you have obviously been spending a fair amount on R&D. In the Tegra, from a segment profitability, has not been probably what you would like it to be.

So without stealing any thunder from the announcement in a couple weeks, how are you thinking about expenses going forward? And is there a different process for evaluating what projects you need to spend money on?

Chris Evenden {BIO 18934997 <GO>}

Well obviously, the Analyst Day is the place to talk about longer-term strategies, where we are going over the year, how we are thinking about portfolio management and how we are thinking about which areas to double down and which areas to cut. So let's just talk about this quarter. And this quarter we guided essentially flat.

And that's -- historically, Q1 is an automatically up quarter because of the FICA tax. That takes effect again. So if you do nothing, OpEx goes up in Q1. So the fact that we are guiding approximately flat tells you that there are some pretty strong controls elsewhere in the business that have sort of reduced things, though we think we can hit approximately flat.

Joe Moore {BIO 17644779 <GO>}

Okay. And how much -- I think you have given numbers in the past for how much R&D expense just on Tegra. And Tegra, if you are willing to comment on Tegra, plus Icera; how much those R&D dollars are?

Chris Evenden {BIO 18934997 <GO>}

Yes. So what we said last Analyst Day was the incremental cost of Tegra development was about $300 million. And that was including Icera. So that is taking a strict look at what extra do we have to spend for Tegra. So for example, Kepler, the GPU, that is allocated. Some of that was allocated to Tegra and that is what you will see in the Ks and the Qs. But really and truly, we have to do Kepler anyway. We were going to do it anyway for the GeForce and Quadro businesses.

So what extra, what fraction of that was actually required for Tegra? So that is how you arrive at the $300 million number. And obviously, that is a year ago.

Joe Moore {BIO 17644779 <GO>}

But you are still pretty committed to Tegra, not necessarily in every facet and every device.

Chris Evenden {BIO 18934997 <GO>}

Yes. Absolutely. We still believe in level computing. We still believe in the power of visual computing, on Android particularly. And clearly, we have got a powerful franchise in automotive. And now the challenge is to build out similarly powerful, profitable, defensible segments within Android in tablets and other segments.

Joe Moore {BIO 17644779 <GO>}

And I did want to give you a chance to, again, we have been a little bit concerned that we are getting close to the end of the Intel royalty. It is close to 40% of your GAAP earnings, I guess. And you run it through 2017. So we sort of DCF that out and pay a multiple for the rest of the business. And it led us to make a very incorrect negative call on your stock a couple months ago. It was one of our worst calls.

But I still think there is kind of an ongoing issue that I wonder about, is like what is the proper treatment of the Intel royalty and how do you think about royalties beyond the end of that 2017 deal?

Chris Evenden {BIO 18934997 <GO>}

It is always very difficult to predict legal -- things that depend on legal outcomes. It's almost like FDA approval, if you are following that sort of stock. So the way I think of the Intel royalty is it covers all our patents up till the end of the agreement, which is March 2017. So it is correct to say that April 2017, we have got nothing to go after them with.

Now having said that, we are filing 500 to 1,000 patents a year. And so that situation starts to fix itself pretty much immediately. So then the question is, what are the negotiating postures of us and of Intel at that time. And that depends on a large number of factors. But I should say that a cross-licensing deal is not the same as giving someone a recipe book of clever GPU ideas. It is just an agreement not to sue each other.

So we have thousands of engineers working on clever processer technologies. They have thousands of engineers working on clever processer technologies. It is inevitable at some point we will develop the same thing. Not maliciously, not through copying; it is just we are working in the same spaces trying to do the similar things. So in that scenario, you don't want your engineers constantly looking over their shoulders worrying about what the other guys have done.

So you sign a cross-licensing deal and, in general, money is paid from the larger company to the smaller company because the larger company has more revenue at risk from patent litigation than the smaller company. So that is where it comes from.

So modeling it is hard because you want to do a net present value calculation. And the obvious thing to do is to put zero in as the terminal value. But we don't know that it is going to go to zero. It might stay or it might restart again a couple of years later.

Joe Moore {BIO 17644779 <GO>}

And there is other licensing opportunities.

Chris Evenden {BIO 18934997 <GO>}

That is what I say. And there are other licensing opportunities as well between now and March 2017 that come along. So I don't know what the terminal value is. I just suspect it is not zero.

Joe Moore {BIO 17644779 <GO>}

Yes. All right, very good. Thanks very much, Chris.

Chris Evenden {BIO 18934997 <GO>}

Thanks.