Q3 2018 Earnings Call

Company Participants

- Mark H. Henninger, Vice President, Finance and Director, Investor Relations
- Robert Holmes Swan, Interim Chief Executive Officer, Chief Financial Officer and Executive Vice President
- Venkata S. M. Renduchintala, Group President, Technology, Systems Architecture & Client Group; Chief Engineering Officer

Other Participants

- Ambrish Srivastava, Analyst
- Harlan Sur, Analyst
- John William Pitzer, Analyst
- Joseph Moore, Analyst
- Romit Jitendra Shah, Analyst
- Ross C. Seymore, Analyst
- Timothy Arcuri, Analyst
- Toshiya Hari, Analyst
- Vivek Arya, Analyst
- Weston David Twigg, Analyst

MANAGEMENT DISCUSSION SECTION

Operator

Good day ladies and gentlemen, and welcome to Intel Corporation's third quarter 2018 earnings conference call. As a reminder, today's program is being recorded. And now I'd like to introduce your host for today's program, Mark Henninger, Head of Investor Relations. Please go ahead.

Mark H. Henninger {BIO 17653227 <GO>}

Thank you, operator, and welcome, everyone, to Intel's third quarter 2018 earnings conference call. By now you should have received a copy of our earnings release and the CFO earnings presentation that goes along with it. If you've not received both documents, they're available on our investor website, intc.com. The CFO earnings presentation is also available in the webcast window for those joining us online.

I'm joined by Bob Swan, our Interim CEO and Chief Financial Officer, and Murthy Renduchintala, Group President of the Technology, Systems Architecture, and Client Group and Chief Engineering Officer. Navin Shenoy and his wife are welcoming a new baby, and as a result he won't be joining us today. In a moment, we'll hear brief remarks from Bob, followed by Q&A.

Before we begin, let me remind everyone that today's discussion contains forward-looking statements based on the environment as we currently see it, and as such, does include risks and uncertainties. Please refer to our press release for more information on the specific risk factors that could cause actual results to differ materially.

A brief reminder that this quarter we have provided both GAAP and non-GAAP financial measures. Today we will be speaking to the non-GAAP financial measures when describing our consolidated results. The CFO commentary and earnings releases, available on intc.com, include the full GAAP and non-GAAP reconciliations.

With that, let me hand it over to Bob.

Robert Holmes Swan {BIO 1972621 <GO>}

Thanks, Mark. This summer we celebrated our 50th anniversary, and this quarter was the best quarter in our 50-year history. Record quarterly revenue of $19.2 billion was up 19%. Our operating margins expanded 5 points, and earnings per share of $1.40 was up 39%. Our results were driven by incredibly strong demand and customer preference for the performance of our leadership products across the business. Our Data Center, Client Computing, Internet of Things, Memory, and Mobileye businesses all achieved record revenue. We expect 2018 to be the best year ever and our third record year in a row.

Before we get deeper into the financials, I'll take a few minutes to talk about our strategy, our products, and our people, first our strategy. We are growing share in a larger TAM, driving operating leverage while increasing our R&D investments, and delivering attractive capital returns. Our thesis is that the massive growth of data worldwide will increase demand for the analysis, storage, and sharing of data. We are one of the few companies that touches every part of the data revolution, and we've invested both organically and acquisitively to capitalize on these trends to accelerate the growth of the company, while at the same time delivering significant operating leverage and exiting non-core businesses.

Our disciplined focus is delivering outstanding results. Demand and growth this year continued to exceed our expectations. Collectively, our data-centric businesses are up 22% year to date, led by growth in the cloud and communication service provider segments.

In both our data-centric and PC businesses, our CPU leadership puts us in a great position to capitalize on this massive data opportunity by delivering more value to a broader set of customers. We've expanded beyond CPUs with memory, modems, FPGAs, and silicon for emerging high-growth workloads like ADAS, artificial intelligence, and 5G communications.

We acquired Mobileye, which has integrated Intel architecture to produce the industry's leading ADAS and autonomous driving platforms. Mobileye also just announced the ability to fully retrofit existing vehicles to deliver full autonomy, moving Mobileye further up the value chain.

The acquisitions of Altera and Movidius are enabling us to partner with customers to expand the markets that they serve. They are developing new AI capabilities by combining our Core products with our FPGAs and VPUs. This is most evident in computer vision applications, which cut across all of our IoT verticals.

As a result, our opportunity has never been bigger. We are competing and winning share in a $300 billion TAM, transforming from a PC-centric company to a data-centric company in the process. We now expect full-year revenue to grow more than $8.4 billion over 2017. And in the first nine months of the year, we have returned $12.6 billion to shareholders in the form of buybacks and dividends, or 112% of free cash flow.

We've also achieved outstanding growth in our PC-centric business. After seven years of decline, we expect modest growth in the PC TAM this year, and we continue to gain share in modems. We focused our investments in the PC sector on the areas where we see growth and where our performance leadership and differentiation matters most, the commercial, gaming, and 2-in-1 segments.

Second, our products, our strategy is delivering results because we have products that are solving our customers' problems. We're making the products we have even better and expanding our portfolio to deliver more value to customers. One of the most important things we do is collaborate with our customers and ecosystem partners to deliver exciting new computing experiences. We do that broadly with our OEMs. An example in our PC business was the launch of the stunning new HP Spectre Folio, a 2-in-1 we worked closely with HP to develop.

We leveraged our expertise in thermal tuning and motherboard miniaturization while achieving up to 19 hours battery life through power tuning and the use of Intel's low-power display technology. This sort of innovation isn't possible without Intel's exceptionally broad range of IP and the scale and expertise to partner deeply with our customers on design. We also launched the new 9th gen Intel Core desktop processors, including the world's best gaming processor.

In our data-centric businesses, we announced 95 new performance world records for Xeon Scalable and continue to see strong adoption while we work with customers to get ready for the transition to Cascade Lake. Cascade Lake introduces hardware-based side channel mitigation, Intel DL Boost with 11x inference speed-up, and a revolutionary new technology, Optane DC Persistent Memory. And we're deepening our engagement with customers on custom SKUs. In fact, we'll have 60% more custom SKUs in the Cascade Lake family than the prior generation.

We shipped our first revenue units of Optane DC Persistent Memory to Google, Microsoft, and Alibaba, and we're already receiving great feedback. Microsoft reported a new performance record of 13.7 million IOPS using Xeon Scalable and Optane, a level they said they've never seen with any other platform approach.

Customers also continue to choose Intel as a partner as they use artificial intelligence to transform their businesses. Taboola chose Intel Xeon over GPUs for a massive inference speedup and scale-out across seven data centers, delivering 360 billion content recommendations monthly. Rolls-Royce will design autonomous ships running inference on Xeon and are evaluating more of our portfolio in a multiyear engagement.

Mobileye customer momentum continued, with eight new design wins at major U.S. and global automakers, bringing our 2018 design win total to 20. Mobileye also shipped 3.3 million EyeQ SOCs in the third quarter, bringing the lifetime total to more than 33 million units.

While our current product lineup is compelling, our roadmap is even more exciting. We continue to make good progress on 10-nanometer. Yields are improving, and we're on track for 10-nanometer-based systems on shelves during the holiday 2019 selling season. The breadth of IP we've assembled combined with Intel's design, software, packaging, and manufacturing capability, gives us an unmatched ability to invent the industry's future.

Third and most importantly, our people, Intel has amazing talent, including world-class scientists and engineers, and we are making excellent progress toward our commitment to a fully representative workforce. Intel employees are at their best when they're working together to address challenges. And faced with explosive and unexpected demand this year, they've exhibited incredible problem-solving skills to deliver this quarter's results.

The PC TAM has returned to growth, and our Data Center business is growing at more than twice the rate we expected in January. Our full-year revenue outlook is now more than $6 billion higher than our January forecast, and we have supply to support this revised guidance thanks to outstanding responsiveness from our factory teams.

We are focused on doing everything possible not to constrain our customers' growth. We've increased our CapEx by $1.5 billion since January to a record $15.5 billion. We've repositioned some 10-nanometer capacity to 14-nanometer, and we're making progress with our 10-nanometer process technology.

Supply is tightest at the entry level of the PC market and in our IOTG business. Within our CPU product lines, we're prioritizing the production of our Xeon and Core processors so that we and our customers can serve the high-performance segments of the market. Our biggest challenge in Q4 will be meeting any additional PC and IOTG demand beyond our guidance, and we do expect fourth quarter upside from here will be limited.

Summing it up, our strategy, leadership products, and amazing people combined to produce the best quarter in the company's history. We're well on track to another record year.

With that, let's turn to the details. Third quarter revenue of $19.2 billion was up 19% year over year. Our data-centric businesses were collectively up 22% and our PC-centric business was up 16%. Outstanding business performance, continued operating leverage, and a lower tax rate resulted in non-GAAP net income of $6.5 billion, up 34% year over year. EPS of $1.40 was up 39% year over year.

Year to date, we have generated $11.2 billion of free cash flow and returned $12.6 billion to shareholders, including $4.2 billion in dividends and $8.5 billion in buybacks, repurchasing 167 million shares.

We continue to see strong momentum in our business and are raising our full-year revenue guide by $1.7 billion to $71.2 billion. We are also raising our EPS guide by $0.38 versus July to $4.53 and our free cash flow guide by $500 million to $15.5 billion. Our revenue guidance for 2018 is up greater than $6 billion versus our January expectations, as we focus on a strong finish to a record year.

Our leadership products continue to win share in our expanded TAM, as both our data-centric and PC-centric businesses grew at double-digit rates this quarter. Our data-centric businesses were up 22%, as customers choose our performance products to move, store, and process more data faster from the cloud to the edge. And our PC-centric business was up 16%, as we saw continued strength in the commercial and gaming PC segments and grew modem share.

Operating income increased by more than $2 billion, with margin up 5.1 points year over year in the third quarter, marking our highest operating margin percentage since 2011.

EPS climbed to $1.40, up 39% year on year. Our EPS improvement was driven by growing demand for high-performance products in the Data Center and Client businesses, leading to higher volumes and ASPs, continued growth in our adjacent businesses, a lower tax rate, and lower share count as a result of buybacks.

Our focus on operational efficiency continues to produce strong results. We now expect full-year spending as a percentage of revenue to be approximately 29%, down about 7 points since 2015, while R&D is up $1.4 billion over the same period. We continue to improve our leverage while increasing investment in our key priorities, such as product leadership, artificial intelligence, and autonomous driving.

Disciplined spending with a focus on prioritizing the most important investment opportunities is a key lever in magnifying our revenue opportunities, and it's apparent in our results. Over the last three years, we've grown annual revenue by nearly $16 billion while adding less than $600 million in spending, resulting in a more than 25% increase in revenue per employee.

Now some Q3 performance highlights by segment, the Data Center Group delivered its first $6 billion revenue quarter, as it shipped more than 8 million CPUs into an annual server, storage, and network and CPU TAM that is greater than 30 million units. Revenue of $6.1 billion was up 26% year over year, and operating income of $3.1 billion was up 37% year over year.

Q3 operating margin was 50%, and we continued to see strong acceleration in both the cloud and comm service providers segments, which make up more than two-thirds of DCG revenue. Platform unit volume was up 15% and ASPs were up 10%. Non-CPU adjacencies grew 14% over last year.

The cloud business grew 50% year over year, with strong growth trends across our diversified customer base. Our comm service provider segment grew 30% year over year, as customers continued to transform their networks with Intel architecture as they prepare for 5G. And our enterprise segment was up 1% year over year, as the strong IT spending environment continued, with CIOs prioritizing investment in private and hybrid cloud implementations.

Our other data-centric businesses, IOTG, NSG, and PSG, achieved solid growth in the third quarter, and together were up 13% year over year or 17% excluding Wind River.

Our Internet of Things business achieved record revenue of $919 million on broad business strength, up 8% or 19% excluding Wind River. Operating profit was $321 million, up 120% year over year, on growing demand and revenue scale. Mobileye had record revenue of $191 million, up approximately 50% over last year, as ADAS adoption continues to accelerate.

Our Memory business delivered record revenue of $1.1 billion, up 21% year over year, as we continued to redefine the storage paradigm with industry-leading, low-cost, high-density NAND SSDs and the revolutionary performance of Optane drives. We have now reached a crossover point, with 50% of our data center and client SSDs shifted to cost-effective 64-layer 3D NAND, leading to rapidly improving cost per gigabyte. At the same time, as a result of pursuing 3D XPoint development independently and a tougher NAND pricing environment, we now expect NSG to be approximately breakeven for the full year.

Micron recently announced their intent to call the IMFT factory. Our agreements with Micron ensure a reliable and cost-effective supply of 3D XPoint through at least 2020. And we have developed internal manufacturing options which can be executed well within that timeframe.

PSG's revenue came in at $496 million, up 6% on strength in data center and comm segments. PSG's data center segment was up 45% over last year. In the advanced products category, our 28-nanometer, 20-nanometer, and 14-nanometer solutions grew 55%. Operating profit was $106 million, down 6% year over year.

Finally, the Client Computing Group delivered exceptional results with its first $10 billion quarter, up 16% year over year. Commercial and gaming demand continued to be very strong. The notebook segment grew 13% year over year. The desktop segment grew 9% year over year. And client adjacencies grew 66% year over year, led by the 131% growth in our modem business. Operating profit grew $932 million year over year, while operating margin up 3.7 points. Leadership product performance and segmentation contributed to strong mix and higher ASPs.

The investments we have made in the business organically and through acquisition are delivering excellent cash flow generation. Year to date, we have generated $22.5 billion in cash from operations. We have invested $11.3 billion in capital expenditures and delivered $11.2 billion in free cash flow, up 57% over the first three quarters of last year. During this period, we returned 112% of our free cash flow to our shareholders. Buybacks totaled $8.5 billion and dividends totaled $4.2 billion. In addition, settlements of our convertible debt reduced fully diluted shares by 22 million.

Now turning to our full-year outlook, we started the year in January expecting to generate $65 billion in revenue, 30% operating margin, and $3.55 in EPS. Nine months later, the growth that we and the industry have seen has been remarkable. We couldn't be more pleased that in an increasingly competitive market, our customers are choosing Intel. Our leadership products are winning across our data-centric businesses, and we're seeing strong demand upside in the client business that not long ago many thought was in perpetual decline.

We are now forecasting revenue of approximately $71.2 billion, up $1.7 billion versus our expectations in July. This represents a $6.2 billion increase versus the expectations we set just nine months ago. We now expect data-centric growth to be approximately 20% year over year and PC-centric growth to be around 9% year over year.

Our outlook for operating margin is approximately 34.5%, up 2.5 points from July, as we now expect to deliver 29% spending to revenue, not only hitting our original goal two years early but beating it. We expect a full-year tax rate of around 12%, down slightly from our prior estimate.

Overall, we expect strong top line growth and improving operating leverage will drive EPS to $4.53, up $0.38 from our estimate in July. As a result of increased demand, we are raising our forecast for gross CapEx to $15.5 billion, or approximately $14 billion net of memory prepayments. We are now expecting free cash flow of $15.5 billion, up $500 million from July.

For Q4, we are forecasting revenue of approximately $19 billion, up 11% year over year. We expect operating margin of approximately 34.5% and gross margin of approximately 62%. We also expect EPS at $1.22, up 38% excluding equity adjustments from business growth, spending leverage, and a lower tax rate. We expect DCG to set another revenue record of approximately $6.3 billion in the fourth quarter. Due to supply constraints, we anticipate IOTG revenue will be down approximately 15% sequentially.

As we look forward to 2019, we expect to deliver another record year for the company. We'll have more to say about 2019 in January, but we're expecting that our operating margin percentage will be approximately flat next year. We expect gross margins to remain in the upper half of our historical 55% to 65% range.

While we expect 2019 gross margin percentage to be down slightly from Q4 2018 levels as we continue to gain share in our adjacent businesses and we ramp our 10-nanometer process, that will be offset by increasing OpEx leverage as we continue to make thoughtful trade-offs and invest in R&D that will accelerate our growth and profitability. And we expect the full-year tax rate to be up a couple points following several beneficial discrete events in 2018.

Five years ago, we set out to transform Intel from a PC-centric company to a data-centric company. Today, our strategy, our products, and our people are delivering on that ambition, with strong growth, record results, and the largest TAM opportunity in the company's history, and we're just getting started.

With that, let me turn it back over to Mark, and we'll get to your questions. Thank you.

Mark H. Henninger {BIO 17653227 <GO>}

All right, thank you, Bob. Moving on now to the Q&A, continuing with the practice that we began last quarter, we'll ask each participant to ask just one question if you have one. Operator, please go ahead and introduce our first questioner.

Q&A

Operator

Certainly. Our first question comes from the line of Harlan Sur from JPMorgan, your question please.

Q - Harlan Sur {BIO 6539622 <GO>}

Good afternoon and congratulations on the solid quarterly execution. On the competitive front, with your nearest competitor rolling out its second-generation 7-nanometer server next product year, I guess the first question is, is the Intel team still on track to roll out its next-generation Xeon family, the Cascade Lake, at the end of this year? And if you could, just help us understand. What are some of the performance and portfolio differentiators that are going to help the team maintain relatively strong share in the service segment 2019 and beyond?

A - Venkata S. M. Renduchintala {BIO 17672754 <GO>}

Yeah, Harlan, this is Murthy. Let me take that one. Yes, you're correct. We still intend to be making first shipments of Cascade Lakes by Q4, and we're really excited with the stockpile of new features we have lined up for that platform, primarily the support of our Optane Persistent Memory that we will launch in conjunction with Cascade Lakes as we enter early 2019. We believe that will be a significant uplift in performance. We will also have dedicated instruction set extensions to support artificial intelligence workloads. And we'll have continued generation-over-generation CPU improvements.

So all in all, we think that Cascade Lake represents a power-packed addition to the data center roadmap. And of course, we have further excitement towards the end of next year as we launch our Cooper Lake platform as well. So we're really excited about the lineup we have in our DCG roadmap for next year and indeed, as you said, for the end of this quarter.

Q - Harlan Sur {BIO 6539622 <GO>}

Great, thank you.

Operator

Thank you. Our next question comes from the line of Toshiya Hari from Goldman Sachs, your question please.

Q - Toshiya Hari {BIO 6770302 <GO>}

Great, thank you so much for taking the question. Bob, you've done a great job in managing OpEx since coming on board. You talked about further leverage into 2019. Can you remind us which areas of the business you're deemphasizing from a spending perspective? And how should we think about the balance between R&D and SG&A in 2019 and beyond? Thank you.

A - Robert Holmes Swan {BIO 1972621 <GO>}

Yeah first, I think that the progress we made has been a team sport. And as I indicated in the prepared remarks, we're down 700 basis points from 2015. And during that timeframe, it's not been at the expense of R&D. It's on the contrary, R&D has grown $1.4 billion during that timeframe. So really the underlying dynamics is we've made trade-offs to invest in higher growth segments of the business. That growth is in fact accelerating. And from that accelerating growth, we've been extremely disciplined on getting leverage on our SG&A, and we've exited some what I'd characterize non-core businesses. During the course of this year, we exited Wind River. We reduced our investments in wearables products, and we exited the Saffron business as well.

So as we go forward, we're going to continue to increase R&D, and we're going to increase it in the areas that we think can generate differentiated growth for us. And from that growth, we expect to continue to get leverage as we go into 2019.

Q - Toshiya Hari {BIO 6770302 <GO>}

Thank you.

A - Robert Holmes Swan {BIO 1972621 <GO>}

Thank you.

Operator

Thank you. Our next question comes from the line of John Pitzer from Credit Suisse, your question please.

Q - John William Pitzer {BIO 1541792 <GO>}

Yeah, good afternoon, Bob. Congratulations on the strong results. Bob, I wonder if you could just comment a little bit on when do you think the supply constraints will be over relative to your capacity addition plans. And if I caught it right, it sounds like in the calendar fourth quarter, you're choosing to shortchange the IoT Group. Does that mean that you're already caught up in the PC market, or how should we think about that dynamic?

A - Robert Holmes Swan {BIO 1972621 <GO>}

First, John, as we mentioned earlier, we were caught off guard a little bit this year by explosive growth well ahead of what our expectations were back in the beginning of the year, and that growth came from all different segments of the business. It put us in the unfortunate situation of constraining some of the demand signals that we were seeing from the market and our customer base.

In conjunction with our customers, our teams have done an outstanding job in the third quarter and we project into the fourth quarter, and that has enabled us to increase our revenue outlook for the year by $1.7 billion. But I think as we go into the fourth quarter, given the demand signals we continue to see across the business, we in fact will be constraining growth.

Our focus has been prioritizing, in conjunction with our customers, Xeon and Core processors. And therefore by definition, the lower end of PC and the IoT business is being constrained. So we are in a constraint scenario into the fourth quarter, both at low-end PC and IoT.

As we go into next year and the timing, we've put a lot of capital to work this year. It's a record year for CapEx for us at $15.5 billion. It's $1.5 billion higher than what we expected entering the year, and we have taken some of our 10-nanometer equipment and tools and began to blow that back to meet the increased demand for 14. So we're working extremely hard to get back on track in 2019. But at this stage of the game, given the demand signals we've seen in fourth quarter, we're going to be constrained a little bit. And we're trying to prioritize best as we can with our customers.

Q - John William Pitzer {BIO 1541792 <GO>}

Thank you very much.

A - Mark H. Henninger {BIO 17653227 <GO>}

Thanks, John.

Operator

Thank you. Our next question comes from the line of Ambrish Srivastava from Bank of Montreal, your question please.

Q - Ambrish Srivastava {BIO 4109276 <GO>}

Hi, thank you very much, Bob. Thanks actually for providing some color on 2019, but one area you did not touch on was CapEx. And I'm asking if you could provide us some directional input on that and what we should expect for CapEx, specifically in light of the Micron call option and implications that has for your spend on the memory side. Thank you.

A - Robert Holmes Swan {BIO 1972621 <GO>}

I think on CapEx at the macro level, as we think into 2019, we expect logic CapEx to likely be a little higher, and memory CapEx, despite building self-sufficiency on Optane, to be a little bit lower. So at the macro level, those are the dynamics.

In terms of how it plays out on overall levels, it's still a work in process, and I'd characterize it, Ambrish, this way. First, it's going to be a function of growth. As we get clearer around what growth looks like in 2019 for 14-nanometer, that will impact what the overall CapEx level is. Secondly, we've made some good progress on 10-nanometer yields over the course of the last six months. And as we progress through the fourth quarter and into 2019, if we're further ahead on 10-nanometer yields, that will influence the amount of CapEx next year.

Third, our progress on 7-nanometer, how well we progress on 7-nanometer also will influence how we think about CapEx. And last but not least, as it relates to memory, it's more the customer quals and adoption of our leading-edge 3D NAND 96-layer product. As we continue to make progress on developing that, we may deploy that capital, and that pays for itself very quickly.

So as we sit here today, CapEx, I expect logic to be up, memory to be down. And as we look at those four things, all which I'd characterize as being good things if we make progress on all four of those, that will influence the rate of CapEx spend next year. So we'll try to provide you a little more analytical color versus that qualitative color in January.

Q - Ambrish Srivastava {BIO 4109276 <GO>}

This is very helpful. Thank you.

Operator

Thank you. Our next question comes from the line of Joe Moore from Morgan Stanley, your question please.

Q - Joseph Moore {BIO 17644779 <GO>}

Great, thank you. I wanted to get – just give us a little bit more color on the PC numbers in the quarter. How much were you constrained by the shortages that you saw? And I guess it looks like you grew a little bit more than seasonal on a sequential basis. And how much of the ASP lift that you saw you think was a function of those shortages? And then just any color on could those shortages spread higher into this product stack over the course of Q4?

A - Robert Holmes Swan {BIO 1972621 <GO>}

Joe, I think as you saw from the IDC and Gartner folks, growth for PC TAM in the quarter probably around 1%. Our guess is it was probably a little bit stronger than that, 1% to 2% growth. And within that, we delivered 6% unit growth, so real strong unit growth and again good ASP momentum.

I would say in Q3, largely a function of customer collaboration in our fabs, I don't think we were too terribly constrained on the PC side, to be honest with you. I think as we're going into Q4 is where I think the constraints are impacting us a little bit more. So I don't think ASPs or supply constraints really benefit. We did not benefit from higher ASPs nor were we constrained in terms of unit growth in the quarter. It's more a fourth quarter thing where demand signals remain relatively strong. And as you saw from our guide, while it's good year-on-year growth, it's relatively flat overall on Q3 to Q4. And PCs, low-end PCs and IoT will be impacted as we see the demand signals at this stage of the game.

Q - Joseph Moore {BIO 17644779 <GO>}

Great, thank you very much.

A - Mark H. Henninger {BIO 17653227 <GO>}

Thanks, Joe.

Operator

Thank you. Our next question comes from the line of Weston Twigg from KeyBanc Capital Markets, your question please.

Q - Weston David Twigg {BIO 15419233 <GO>}

Sure, thanks for taking my question. I just wanted to ask a little bit. I guess the demand is really good here in the back half of 2019. But with the trade war discussions, softening demand in China, some cycle risk indicators, are you seeing anything or talking to customers that would indicate that there would be any first half 2019 risk to demand?

A - Robert Holmes Swan {BIO 1972621 <GO>}

It's a great question. I think at the aggregate level, there is what I'd maybe characterize as some decent tailwinds as we exit the year and then go into 2019, but also some headwinds. The tailwinds, as you know, we've been talking about an expanded TAM where we play a bigger and bigger role in the increased needs for data. That larger TAM and the momentum we're building across all of our products is a pretty good tailwind as we look at just demand for data, whether it's with consumers or with businesses going into the new year. That's a tailwind.

Secondly, Murthy mentioned a few of the products that we have coming down the pike in the fourth quarter and going into next year. And those products we believe will deliver more and more performance for our clients, which I'd characterize as a tailwind.

And then third, in somewhat of a perverse way, as you know, when PC was 70% of the business and when enterprise was 50-plus percent of the Data Center business and those were declining, it was a headwind for the company's growth. But those more recently have been stable. So whether it's our expanded TAM, our new products, or the mix of our business, we have some tailwinds as we think about 2019.

At the same time, to your point, there are some headwinds. And the headwinds first, this has been a fantastic year for us and I think for the industry, and that just makes comps a little bit tougher as we go into next year. Second, we have growing competition. Growing competition can be a headwind for us. And our expectations are we'll deal with that pretty effectively.

And third, just global trade, in particular, as you know, China is a big market for us. We've got some important customers there, and it's an important part of our global supply chain. So as this most recent round of tariffs play out, and we're doing a lot of work with our customers to ensure that the global supply chain can be adjusted and adapted to deal with any tariffs that come down the way. But I think it's going to be a wait-and-see as we go into 2019.

At this stage of the game, we don't see any impact on 2018's results. And in 2019, we have what I consider a world-class supply chain team that can manage and weather the dynamics of changes in movement of goods better than anybody else in the industry. So I think that would be a competitive advantage for us as we go into next year.

Q - Weston David Twigg {BIO 15419233 <GO>}

That is very helpful. Thank you so much.

A - Robert Holmes Swan {BIO 1972621 <GO>}

Thanks.

Operator

Thank you. Our next question comes from the line of Tim Arcuri from UBS, your question please.

Q - Timothy Arcuri {BIO 3824613 <GO>}

Thank you very much. I wanted to ask about DCG. You're not specifically guiding it next year, but it sounds like you're still pretty bullish. And there are a lot of investors I think worried about a hyperscale CapEx slowdown next year. So I guess is it that you're bullish on CapEx next year, or is it more a commentary on product cycle, maybe Xeon Scalable beginning to catalyze the server upgrade cycle? Thank you.

A - Robert Holmes Swan {BIO 1972621 <GO>}

I think firstly in terms of growth for next year in the aggregate, we haven't really provided any quantitative color, more qualitative color in terms of the dynamics that we see. That being said, our DCG growth this year is projected to be north of 20%, real strong through the first three quarters of the year. The fourth quarter we expect really solid demand. But it's on a much tougher comp because fourth quarter last year was a great quarter for the DCG business.

As we go into next year, we've got – Murthy highlighted we've got a good product roadmap of expanded features for Cascade Lake as we exit this year, Cooper Lake middle of next year. And we have a much more diverse business now, with obviously cloud has been a big accelerant for us. I don't expect that it will grow at 50% forever. 50% was our cloud growth in the quarter. But at the same time, our comms and networking business growth has been accelerating quite a bit, and the stability we've seen in enterprise and government has really helped.

So I think next year, we have a much more diverse business. We've got a good product lineup, and we'll provide a little more color as we get into January, but outstanding year this year for Data Center, both top line and bottom line.

Q - Timothy Arcuri {BIO 3824613 <GO>}

Thank you, Bob.

A - Robert Holmes Swan {BIO 1972621 <GO>}

Thank you.

Operator

Thank you. Our next question comes from the line of Ross Seymore from Deutsche Bank, your question please.

Q - Ross C. Seymore {BIO 20902787 <GO>}

Hi, guys. Thanks for letting me ask a question. Bob, I wanted to ask on the gross margin side. First, thank you for the color you gave on 2019. But if I back it up a step, what's the headwinds in the fourth quarter sequentially? And then any big picture moving parts, 10-nanometer yields, mix, what have you, that gives you the confidence that you could still stay in the upper half of that 55% to 65% range for 2019?

A - Robert Holmes Swan {BIO 1972621 <GO>}

Yeah, great question. First, a little color on Q3, and then a walk from Q3 to Q4 dynamics. As we highlighted in the materials, almost 66% gross margin in the quarter is as high as it's been for a very long time, and it was a function of a few things: one, continued volume leverage with full factories; two, ASPs both on the client side and on the data center side. And those were partially offset by platform costs going up and changing mix, growth of our modem and memory business. So those are the four dynamics that played out during the course of the quarter.

I would say 66% was artificially high, and I'd say that for a couple reasons. One, we had, in the NSG business, we earned a government incentive that was from scaling our fabs outside the U.S. So that incentive was worth about $110 million, so a bit of a one-timer that we don't expect to repeat itself.

Secondly, sell-through of product either, on the CPU side, we are working with our customers and shaping demand to where we had inventory. We had good sell-through for some inventory that was previously partially reserved. And then second on our modem growth, our explosive modem growth in the quarter, we PRQ'd that product in the third quarter, so we got the benefit of previously fully reserved inventory. So what all that means when you adjust for one-timers, the 66% is closer to 64% in terms of a normalized basis going into the fourth quarter.

Our guide in the fourth quarter, to your question, is 62%. So there's really three dynamics that we see playing out in the fourth quarter. One, we expect ASPs to be better. And that's going to be a little bit of a function of the prioritization of Xeon and Core processors, which are higher ASP mix, so we expect that to benefit us.

But at the same time, there's three other things as we go into fourth quarter that I'd characterize as really good things, but will have an impact on our gross margin. One is ramping 10-nanometer. We're making good progress on 10-nanometer. Yields are improving, and that's giving us the confidence to in effect turn on more equipment and incur the depreciation cost associated with that. So that will impact our Q3 to Q4 gross margins. And it's a function of the progress we're making on 10-nanometer.

Second, memory continues to grow, good 21% growth in the third quarter. We expect it to continue to grow in the fourth quarter. And that has, our NAND business has been profitable during the course of the year but not at the gross margins of our logic business.

And then third, we're experiencing explosive growth on modem with some really good share gains. And the modem product is also – the combination of memory and modem are accretive to our year-on-year earnings growth but dilutive to our gross margins. So that's the Q3 adjusted gross margin going into Q4 will likely cost us roughly a couple points.

As we then step back and think about 2019, we see those same dynamics playing out, primarily 14-nanometer volume, so continued good yield, unit cost performance on 14-nanometer. We don't expect ASPs to be dramatically better in an increasingly competitive environment, but we don't expect them to be much worse. 10-nanometer costs will ramp, and we do expect to continue to grow memory and modem that will be accretive to earnings but a little dilutive to gross margin.

So again, a fairly long-winded walk from what drove Q3. The goodness operationally of what will happen to Q4 gross margins has been our comfort that 2019 will be modest degradation. But when coupled with the leverage on our operating expense, our operating margins will be roughly flat in the 34% range.

Q - Ross C. Seymore {BIO 20902787 <GO>}

Thanks for all the details.

A - Mark H. Henninger {BIO 17653227 <GO>}

Thanks, Ross. And, operator, I think we've got time for two more questions.

Operator

Certainly. Our next question comes from the line of Vivek Arya from Bank of America Merrill Lynch, your question please.

Q - Vivek Arya {BIO 6781604 <GO>}

Thanks for taking my question. Bob, just one more on 10-nanometer. You mentioned it's on track. Is there a way to quantify progress on 10-nanometer over the last three months? And if you were to go back to a similar time when you were getting ready to make the jump to 14-nanometer, are the 10-nanometer yields and costs behaving in a similar way? Just any color around progress would be helpful. Thank you.

A - Venkata S. M. Renduchintala {BIO 17672754 <GO>}

Hey, Vivek, let me take it. This is Murthy. First of all, as Bob said in his opening remarks, the progress we've made in the quarter is very much in line with our expectations. While we can't give any specific numbers, I do believe that the yields as we speak now are tracking roughly in line with what we experienced in 14-nanometer.

So we're still very much reinforcing and reaffirming our previous guidance that we believe that we'll have 10-nanometer shipping by holiday of 2019. And if anything, I feel more confident about that at this call than I did on the call a quarter ago. So we're making good progress and I think we're making the quarter-on-quarter progress that's consistent with prior generations having reset the progress curve.

Q - Vivek Arya {BIO 6781604 <GO>}

Okay, thank you.

Operator

Thank you. Our final question comes from the line of Romit Shah from Nomura Instinet, your question please.

Q - Romit Jitendra Shah {BIO 16865852 <GO>}

Thank you and congratulations on the solid results. Bob, you said that progress on 7-nanometer will also be a factor driving CapEx next year, and I was hoping you could maybe talk about that a little bit more. When you talk about progress, is that a statement about yields, meaning if 7-nanometer yields are improving you could potentially deploy more CapEx to ramp that process node a little earlier?

A - Robert Holmes Swan {BIO 1972621 <GO>}

We haven't really given a timeline for 7-nanometer, so to say it's ramping earlier would be a little bit of a stretch. But we've been investing in EUV for a while, and we've obviously been investing in 7-nanometer. And when we step back and think about CapEx for next year, again, it's a function of growth on 14-nanometer. It's a function of the rate in which we scale 10-nanometer, and it's a function of investments we make to begin to prove out 7-nanometer in a more meaningful way. So those are just the dynamics that we're looking at and thinking about as we get closer to giving you a more definitive guide for CapEx in 2019.

Q - Romit Jitendra Shah {BIO 16865852 <GO>}

Okay, thank you.

A - Mark H. Henninger {BIO 17653227 <GO>}

All right, thank you all for joining us today. Operator, please go ahead and wrap up the call.

Operator

Certainly. Thank you, ladies and gentlemen, for your participation in today's conference. This does conclude the program. You may now disconnect. Good day.
