Company Name: Intel
Company Ticker: INTC US
Date: 2018-04-26
Event Description: Q1 2018 Earnings Call

Market Cap: 247,213.00
Current PX: 53.05
YTD Change($): +6.89
YTD Change(%): +14.926

Bloomberg Estimates - EPS
Current Quarter: 0.830
Current Year: 3.633
Bloomberg Estimates - Sales
Current Quarter: 15768.759
Current Year: 65092.441

Q1 2018 Earnings Call

Company Participants

- Mark H. Henninger
- Brian M. Krzanich
- Robert Holmes Swan

Other Participants

- Ross C. Seymore
- Stacy Aaron Rasgon
- Christopher Brett Danely
- Chris Caso
- John William Pitzer
- Timothy Arcuri
- Romit Jitendra Shah

MANAGEMENT DISCUSSION SECTION

Mark H. Henninger

GAAP and Non-GAAP Financial Measures

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

Brian M. Krzanich

Q1 Highlights

Client Computing Group and Data-Centric Businesses

- Coming off a record 2017, 2018 is off to an exceptionally strong start
- Q1 was Intel’s best first quarter ever and significantly exceeded the expectations we set in January
- Our Client Computing Group continued to execute well, producing growth within a declining PC market
- And our transformation to a data-centric company accelerated, with our data-centric businesses, including McAfee, up 25% over Q1 last year

Strategy

Compute Performance and CPU Business

- The strength of Intel's business underscores my confidence in our strategy
- What we're seeing is an unrelenting demand for compute performance, driven by the continuing growth of data and the need to process, analyze, store, and share that data
- That dynamic benefits our traditional CPU business, and it reinforces the big bets we've made in memory, modems, FPGAs, and autonomous vehicles
- We're competing to win in our largest collection of addressable markets ever
  - And importantly, we're not just competing in these markets
- We're leading and shaping them, as our first quarter results demonstrate

Data Center Group and Cloud Segments

Revenues

- Data Center Group revenue was up 24% y-over-y
- We saw broad-based demand strength across all DCG segments in Q1
- And customer preference for high-performance products, including Xeon Scalable, drove a richer ASP mix
- The cloud segment grew 45%
- And in the comm service provider segment, we continued to take share and grew revenue 33%, as customers chose IA-based solutions to virtualize and transform their networks as the industry prepares for the 5G transition

5G Network

- Intel's presence at the Winter Olympics in Pyeongchang was a powerful showcase of our 5G capability
- Intel and KT deployed the world's largest 5G network to date, including more than 20 5G links, delivering 3,800 terabytes of network capacity
- We've established leadership in 5G.
  - And when commercial networks begin deploying around 2019, we'll be there with industry-leading products, from the core of the data center to the edge to mobile devices

Growth in Enterprise Segments

- And we also saw growth in our enterprise segments for the second consecutive quarter, as macro strength continued and customers prioritized hybrid and on-premises infrastructure investments

Data Center Customers and PSG's Business

- Data center customers are also looking to FPGAs for workload acceleration
- The Programmable Solutions Group again set a record for design win volume, and those design wins are translating directly into revenue
- PSG's business grew 17% in Q1 on data center and embedded strength along with last-time buys

- PSG's data center segment was up 150% over last year
  - And the advanced products category, our 28, 20 and 14-nanometer solutions, grew more than 40%

Microsoft

- Microsoft also recently announced that they're using Intel's FPGAs to power new Bing Intelligent Search features using real-time AI.
  - PSG's momentum is evidence that our 2016 acquisition of Altera is delivering value for our customers and contributing directly to Intel's growth

IOTG

- Our IOTG [Internet of Things Group] business grew 17% on record unit volume, with continuing momentum in the retail and video segments, as compute increasingly moves to the edge
  - Consistent with our commitment to be disciplined with our resources, we made the decision to divest Wind River and sharpen the focus of IOTG on other growth opportunities that more closely align to our strategy

Memory Business

- The memory business set a revenue record, growing 20% in Q1, crossing over the $1B mark in revenue
- The last business that passed that mark was DCG, crossing over that mark over a decade ago
- Both yields and output in our Dalian factory continue to ramp ahead of schedule
  - In fact, we believe the Dalian fab expansion is one of the fastest brownfield wafer starts projects in memory industry history

Optane SSDs and NSG

- We also launched our first mainstream Optane SSDs for clients, known as the 800 Series, driving further industry adoption of this revolutionary technology
- The NSG remains on track to be profitable for the full year

Intel Mobileye Autonomous Vehicle Test Fleet

- And we continued to demonstrate momentum in autonomous driving, and I'm happy to report that the Intel Mobileye autonomous vehicle test fleet has begun to operate in Israel and will expand to other geographies in the coming months
- Our fleet fully implements the Responsible-Sensitive Safety system, or RSS, that we introduced last year
  - This unique system applies a formal common-sense safety seal to the vehicle's decision-making, resulting in the optimal combination of provable safety and human-like driving style

ADAS Capabilities

- We believe that the winning path to autonomous driving will be a progression from ADAS capabilities to full autonomous driving

- And we're seeing significant momentum in the marketplace, including a recent high-volume design win for EyeQ5 with a European premium vehicle manufacturer

Client Computing Group

Revenues and i9 Processors

- And finally, the Client Computing Group extended its strong track record of execution in a challenging PC environment
- Revenue was up 3% despite a declining PC TAM, on strength in the commercial and enthusiast segments, leading to a strong Core mix
- The CCG launched its first-ever i9 processors for laptops in Q1, again demonstrating our outright product leadership

10-Nanometer Process

- We continue to make progress on our 10-nanometer process
- We are shipping in low volume and yields are improving, though the rate of improvement is slower than we anticipated
- As a result, volume production is moving from H2 2018 into 2019
- We understand the yield issues and have defined improvements for them, but they will take time to implement and qualify
  - We have leadership products on the roadmap that continue to take advantage of 14-nanometer, with Whiskey Lake for clients and Cascade Lake for the data center coming later this year

Moore's Law

- Moore's Law is central to our strategy and our product leadership
- It continues to create significant value for Intel and our customers
  - While it's taking longer and costing more to deliver and yield advanced process technologies, we are able to optimize our process and products within the node to deliver meaningful performance improvements

14-Nanometer Process

- For example, 14-nanometer process optimizations and architectural improvements have resulted in performance gains of more than 70% since the first 14-nanometer products were launched
- We combine these advances in manufacturing technology and architecture to produce truly leadership products
  - And it's that product leadership that ultimately matters most to our customers and end users

Spectre and Meltdown

- Intel and the industry stepped up to a tough challenge as we responded to the security vulnerabilities known as Spectre and Meltdown

- I'm pleased with our progress and proud of how Intel and industry partners addressed this issue collaboratively with transparency and with customer-first urgency

- We're delivering against our security-first pledge and we've now rolled out micro code-based mitigations for all Intel products launched over the last nine years that require protection against Spectre and Meltdown
  - We'll also begin delivering both client and data center products with hardware-based mitigations later this year

Data Center Transformation and Anniversary

- With our data center transformation accelerating, we're raising our expectations for our full-year results, yet more evidence that our strategy is working
- As Intel marks its 50th anniversary, we're well positioned to be the end-to-end platform provider for the new data world and a leader in artificial intelligence and the autonomous revolution

Robert Holmes Swan

Financial Highlights

Revenues, Operating Income and Capital Allocation

- Q1 was truly an outstanding start to 2018
- Our transformation to a data-centric company continues to build momentum
- Revenue was a first quarter record at $16.1B, up 13% y-over-y
- Operating income was $4.8B, up 21% y-over-y, and EPS at $0.87 was up 32% y-over-y
- From a capital allocation perspective, we generated $6.3B of cash flow from operations and returned $3.3B to shareholders in the form of buybacks and dividends

EPS and FCF

- As a result of the strength we are seeing in the business, we are raising our full-year revenue guide by $2.5B to $67.5B.
- We're raising our EPS guide by $0.30 to $3.85, and we're raising our FCF guide by $1.5B to $14.5B.

Data-Centric Businesses

- Our Q1 results demonstrated continued momentum in our transformation from a PC-centric company to a data-centric company
- Intel's data-centric businesses were up 25% collectively, with each business individually growing double digits
  - Our data-centric businesses are now approaching 50% of our revenue, an all-time high
- Our PC-centric business was up 3% on strength in notebook, desktop, and modem
- DCG's strong cash flows fund Intel's investments in new data-centric growth

New Revenue Recognition

- As a reminder, we adopted a new revenue recognition standard in Q1
- The new standard drove $462mm in incremental Q1 revenue recognition
  - This predominantly affected CCG and NSG.
- By year end, we expect roughly half of this to net out

Earnings, EPS, Operating Margins and Spending

- Moving to Q1 earnings, we generated significant EPS expansion in the quarter, up 32% year on year
- Our non-GAAP EPS improvement was driven by strong top line growth, a 3-point improvement in operating margins, and an 11-point reduction in our effective tax rate
- The 3-point improvement in operating margins were driven by a 4-point reduction in spending, partially offset by a 1-point decline in gross margin
- The 1-point decline in gross margin was driven by growth in our adjacencies, which have lower gross margins than our CPU products
- From a spending standpoint, vs. last year, we delivered $1.3B more revenue on $200mm less spending

New Mark-to-Market Standard

- As a second reminder, we adopted a new mark-to-market standard for our equity investments
- In 2017, all realized gains and losses were recorded in our non-GAAP results
- But in 2018, all mark-to-market adjustments flow through earnings
- In an effort to eliminate volatility, we have excluded these adjustments from our non-GAAP results
- Our Q1 GAAP EPS included approximately $0.13 for mark-to-market gains in our ICAP portfolio that were excluded from our non-GAAP results

Operating Efficiencies, R&D Spending and SG&A Costs

- We are also making excellent progress on our operating efficiencies
- In January, we pulled in our 30% spending goal from 2020 to 2019, and we’re off to a good start in 2018
- Total spending was down 4% y-over-y in the quarter
- R&D spending as a percentage of revenue was down approximately 2 points
- And our SG&A costs were down over 2 points
- Our intensity on spending is designed to accelerate top line growth, and it is paying off
- Currently, as a result of strong top line growth, we now expect to meet our 30% spending target in 2018, two years ahead of our original expectations

Data Center Group

Revenues, Operating Margins and Volumes

- Let me touch briefly on our Q1 performance by segment
- The Data Center Group delivered a great quarter, much better than expected
- DCG revenue of $5.2B was up 24% y-over-y, and operating income of $2.6B grew 75%
- Q1 operating margin was 50%
- Overall, unit volume was up 16% and ASPs were up 7%

Demand, Cloud, Comm Service and TAM

- We saw broad-based demand strength in Q1, with customer preference for high-performance products driving richer ASPs
- Cloud and comm service provider segments were greater than 60% of the data center business
  - And this was Q1 our cloud business has surpassed $2B in revenue, which made it our largest segment in Q1
- Additionally, we redefined our expanded TAM for DCG to markets beyond the CPU, like silicon photonics, fabric, network ASICs, and 3D XPoint memory
  - These adjacent businesses are gaining traction and grew 16% y-over-y
- DCG performance in all segments was better than our January forecast, and we expect that strength to continue to aid DCG momentum through Q2

Data-Centric Businesses

Growth, Operating Profits and Revenues

- Our additional data-centric businesses, IOTG, NSG, and PSG, are becoming a larger component of our overall business, growing 18% y-over-y in the quarter
- Our Internet of Things business achieved revenue of $840mm, growing 17% y-over-y, driven by strength in video and continued momentum in retail
- Operating profit was $227mm, up 116% y-over-y, on higher revenue and lower spending, as we shifted our ADAS investments to Mobileye
- As you heard from Brian, the Mobileye business is going strong
- Q1 revenue was $151mm
  - And while it’s early in the journey, we are on track to our deal thesis

Memory Business

Demand and Operating Losses

- Our memory business broke $1B in quarterly revenue for the first time, up 20% y-over-y, with strong demand for data center SSD solutions

- We reduced our operating losses by $48mm, with strong gigabyte demand and unit cost reductions more than offsetting ASP reductions

64L 3D NAND

- The transition to 64L 3D NAND is improving our cost while we invest in and expand our Dalian factory
  - We expect H2 2018 to be balanced between supply and demand, and we continue to expect this segment to be profitable for the full year of 2018

Programmable Solutions Group

- The Programmable Solutions Group had revenue of $498mm, with 17% growth, driven by strength in data center and the embedded segments
- Operating profit was $97mm, up 5% y-over-y
- The PSG team continues to perform and execute well
- Our advanced FPGA products, those at 28, 20, and 14-nanometer, grew over 40% in the quarter
- In fact, PSG won more customer designs in Q1 than in any prior quarter

Client Computing Group

Revenues, commercial and gaming businesses

- Finally, the Client Computing Group had another strong quarter
- Revenues of $8.2B were up 3%, and operating margins were down 4 points due to 10-nanometer transition costs and growth in our modem business
- Our PC-centric business continues to perform well in a challenging but improving market and serves as a significant source of cash flow for the company
- We saw strength in the commercial and gaming businesses, and we believe the worldwide PC supply chain is operating at healthy levels

Capital Allocation Priorities, Cash, CapEx and FCF

- We’ve laid out our capital allocation priorities: invest organically; expand acquisitively; and return capital to our shareholders and do it wisely
- We continued to execute to these priorities
- We generated $6.3B in cash from operations
- This included $1.7B in cash received from NAND customer supply agreements
- We invested $2.9B in CapEx and delivered $3.4B in FCF, up 73% y-over-y
- We returned almost 100% of FCF to our shareholders in the form of $1.9B in buybacks and $1.4B in dividends, a 10% increase per share over last year

Outlook

Revenues, Operating Margin, Costs and Tax Rate

- Now moving to our full-year outlook, our strategy is working and our investments are paying off
- We are now forecasting the midpoint of the revenue range at $67.5B, up $2.5B vs. our expectations in January
- We expect operating margin of approximately 31%, up 1 point from January, as spending as a percent of revenue drops to approximately 30%. vs. prior estimates, gross margin will be approximately flat, as broad-based strength in our business is offset by the higher costs associated with the 10-nanometer volume production shift to 2019
- We now expect a full-year tax rate of 13%, 1 point down vs. our prior estimates

Operating Margins and EPS

- Overall, stronger top line growth, improved operating margins, and a lower tax rate will boost EPS to $3.85, up $0.30 vs. prior estimates

Cash Flow, FCF and CapEx

- From a cash flow perspective, we are increasing our FCF to $14.5B, up $1.5B from January
- We now expect net capital deployed of approximately $12.5B, up $500mm vs. the expectations we set in January
- This reflects gross CapEx of approximately $14.5B, offset by approximately $2B of customer prepayments for memory supply agreements

Q2

Growth, Revenues, Operating Margins and EPS

- In Q2, we expect strong growth to continue
- We are forecasting the midpoint of the revenue range at $16.3B, up 10% y-over-y
- We expect operating margin of approximately 30%, up 1 point vs. last year, which reflects approximately 1.5-point decrease in gross margin and a 2.5 to 3-point decline in spending
- We expect EPS of $0.85, up 31%, excluding equity adjustments, from strong top line growth, spending reductions, and a lower tax rate

Summary

To sum it up, we believe 2018 will be another record year for Intel

We’ve met and exceeded our financial commitments, and we feel great about where we are relative to our 3-year plan

Our PC-centric team keeps winning in a challenging market and our data-centric businesses are growing fast, fueling Intel’s transformation to a company that powers the cloud and smart connected devices

QUESTION AND ANSWER SECTION

<Q - Ross C. Seymore>: One for you about the sustainability of this demand, specifically on the data center side. I think people are pretty aware that the macroeconomic drivers are all going the right way, and that's helping the enterprise side of things. But the acceleration of the cloud on the comm side for the last two quarters is beating your own expectations for growth rates and have been quite strong. How much of that do you believe is Intel-specific, and if you can go into the reasons why, or is the macro side really the bigger driver on those two vectors as well?

<A - Brian M. Krzanich>: Let me try to answer it. So the first thing I'd tell you is that there is a bit here that the transition to cloud continues to occur. It's occurring at a bit even faster rate, so that you do see that trend going on. Remember, we've always talked about that over the long haul you have to look at these a bit. It can sometimes be lumpy. So our forecast for the long term is still in that high teens, low 20s range for that kind of growth.

We thought that enterprise is clearly up. We think that, as you said, a lot of that is reinvigoration of investments by companies in onsite data. Our view of the long term there, as I look out over the long term again, it's still that should be in a declining mode vs. moving those workloads long term over to the cloud.

So, if I take a look at this, as Bob said in his prepared remarks, if I look at our data-centric businesses in general, so even just beyond the data center, we see these growing in that mid to high teens range. And that's how we view this, and we do believe that is sustainable. And it will move from cloud to enterprise. And sometimes you'll see IoT pick up a bit and offset something, but that's why we grouped those into that data-centric, but they're all really tied together. It's data coming from the edge, moving through the network into the data center, and really being based in the cloud and analytics being applied to it, and people using that data then to make decisions or drive businesses. So we think it's sustainable in the data-centric numbers that you saw, but it will float between those various segments.

<A - Robert Holmes Swan>: The only thing, Ross, that I would add is in terms of our outlook in the more near term, our outlook for the year is continued strength into Q2, similar to Q1. But beyond that, it's probably a little cloudier. I think we are benefiting from global macroeconomic environments. I think the higher earnings and the ability to deduct IT-related expenditures I think has given CIOs a little more money to spend. And we see ourselves benefiting from that through H1. H2 is going to be a little bit of a wait-and-see as to whether the short-term dynamics continue into H2.

But if you go back to Brian's comments, I think what we do know is this increased demand for compute data, analytics, storage, rapid retrieval is what's really driving the demand for high-performance compute. And not only do we see the unit volume strength, but also the ASP strength, which we think is a function of Intel-related products.

<Q - Ross C. Seymore>: For my follow-up question, for either of you, frankly, on the 10-nanometer pushout, do you believe that the competitive lead you have vs. your competition is shrinking, or is this a challenge everybody is going to have? And then the gross margin side of that equation, Bob, you said it was going to be a headwind into the full-year guide. Any sort of linearity about when that starts to move from being a headwind to a tailwind would be great. Thanks.

<A - Brian M. Krzanich>: Let me start with we absolutely have product and process leadership. We're shipping 10-nanometer products today. So I did want to make sure that that was very clear to you, and those are the densest, highest performing products out there.

We're slowing the ramp down as we go and fix these yields, and we're able to do that. A), we understand the yield issues. They're really tied to this being the last technology tied to not having EUV and the amount of multi-patterning and the effects of that on defects. But also, the real strength of 14-nanometer, I mentioned in my prepared remarks that we've done 70% improvements in the performance of that technology over its current lifetime. And we believe it continues to have legs, that we can continue to make improvements, both within that process technology and architecturally. That's really giving us the breathing room to go and make these yield improvements.

So it's really balancing between delivering the world's best products. So we believe our roadmap for 2018 is as strong or stronger than it's ever been. And we have the ability to carry that into 2019, allowing us to get the yields where we want them to be. So the cost and the spending are really in line with what you as a shareholder expect from us.

We believe that if you take a look at others during this timeframe, if you looked at anybody else and said 70% improvement on a technology node, they may rename those nodes as we go through this. And we have always chosen

to be really transparent and clean and just say it's improvements on the existing technology rather than renaming. So we believe we have that.

Now as we look out in time, we do see the density. If you just take that component, the density gap is narrowing a bit, but that's out in time. But again, performance is really a function of multiple parts of the process around power and performance and in architecture. And that's why we think our products continue to lead and be the world's standard.

<A - Robert Holmes Swan>: And on the gross margin question, the strong both volume and ASP performance in Q1 contributed to gross margins being 2 points ahead of our expectations at the beginning of the year, so we saw that real good performance on the top line flowing through in Q1.

What we indicated for the full year, though, there's no change in our full-year gross margin. That essentially is a function of continued volume and ASP strength, but partially offset by yields that are improving but not quite at the rate that we had anticipated on 10-nanometer. And secondly, our costs associated with – we expected at the end of the year that we'll have pre-PRQ reserves that will be a little bit higher as we shift into 2019. So strong first quarter, strong for the full year, but those 10-nanometer costs will be a little bit of a drag.

When we step back, we still look at gross margins for the full year that are at the high end of our historical range, in the 60% to 65% range, which is good. And for us, that's despite the fact that we're getting really solid growth from our lower-margin but earnings-accretive businesses like modem and memory. Thanks, Ross.

<Q - Stacy Aaron Rasgon>: I wanted to follow up on that 10-nanometer point. So as the volume production pushes out into 2019, given you understand the yield issue supposedly, is this a H1 pushout, or does it push out into H2? And when it actually does ramp, do you think it actually will be the current 10-nanometer process that's shipping, or will that be slipping out to 10-nanometer plus potentially?

<A - Brian M. Krzanich>: I'm just going to correct you. You said that supposedly we have the solutions. We do understand these, and so we do have confidence that we can go and work these issues, Stacy. Right now, like I said, we are shipping. We're going to start that ramp as soon as we think the yields are in line. So I said 2019. We didn't say first or H2, but we'll do it as quickly as we can based on the yield.

The last part of your question about whether will it be a 10 or 10-plus-plus or 10-plus I think was your question, the yield improvements that we're making are just that, more focused on yield. So think of them as improvements to the various edge stuff, the lithography stuff, [ph] thin cleans (33:54) and things like that in order to really drive the multi-patterning and, in some cases, multi-multi-patterning, where you have four, five, six layers of patterning to produce a feature. It's really about that. They aren't necessarily around performance.

We do have plans on 10-nanometer already, similar to 14-nanometer, for 10-plus and 10-plus-plus. And so we think all of these technologies now have multiple years of performance improvements built into them as they come off the floor.

<Q - Stacy Aaron Rasgon>: For my follow-up, I wanted to ask about gross margin drivers and FCF drivers into 2019. We have CapEx pretty significantly outpacing depreciation at the moment. You'll have that 10-nanometer ramp starting. Memory and modems are probably going to be growing. And then on the FCF side, we've got the reversal potentially of the NAND prepayment eventually as you start shipping the NAND that you've been paid for. How do we think about the drivers, gross margin puts and takes around those elements and maybe others as we go through – get into 2019?

<A - Robert Holmes Swan>: First, I'll probably not dwell a whole lot on 2019 as we focus on trying to execute what we believe will be an outstanding 2018. But I think there are a few dynamics that we've been wrestling with. As you know, over the last couple years, we've seen a gap between earnings and cash flow, and it's really been driven by a couple things. One, success, and by that, I mean accelerating rates of growth and the additional capital that goes along with that growth, both CapEx and inventory levels. So those have been one of the drivers. Secondly, we've brought on 10-nanometer equipment but haven't necessarily put it to use yet, so that's a cash driver without an impact on earnings. And third, memory is in the investment phase. So those three things have really been what's driving the gap.

And we've done a few things in light of that that you're aware of. One, memory, we engaged in the strategic supply agreements that you mentioned, which really for us is a sign that our customers are excited and committed to the technologies that we're building such that we can help – we can use their money to help fund the scaling of the business. And we think that's a good positive short, medium, and long-term move.

And the other thing, just if you think about, Stacy, how we guided this year, you have earnings. If you don't give us credit for the ICAP gains last year and strip that out, you see earnings growth. That's roughly 25% – 26%. And you see FCF growth that's in the mid-30s. So you'll start to see that gap narrowing as we go through the course of this year.

And then the other thing is we're going to make a fairly significant cash tax payment in 2018 as a result of the ICAP gains from last year, and that's roughly $1.2B that's going to weigh on our cash flows this year. If you strip that out for a second, what you see during the course of 2018 is roughly 25% earnings growth and roughly 50% FCF growth. And that gap begins to narrow while we're accelerating the growth rate of the business.

So those are the dynamics in terms of how we're deploying capital for accelerating top line growth and the improvements on FCF relative to EPS this year. As we get through the course of 2018, we'll start to shed a little more light on what that means for 2019 later in the year.

<Q - Christopher Brett Danely>: Another question on the manufacturing. Can you just talk about why the ramp in 10-nanometer or why the yields have been a little bit slower than expected? Have there been any changes in manufacturing? And then also, should we expect this to extend to future generations as well; i.e., a little bit slower than it had been in the past?

<A - Brian M. Krzanich>: The issues around 10-nanometer, I'm trying to lay that flat out without getting too deep into the technology. But this is the last technology that doesn't incorporate EUV. And what you also need to understand is that we took very aggressive goals at 10 nanometers. So if you talk about the scaling factor or think about it as the multiple at which you shrink a feature, we took a target of 2.7. So you took any feature and run over 2.7 is the dimensional shrink that you did to this device. For example, on 14-nanometer, we took a target of 2.4, so you're almost 10% more aggressive on 10 nanometers.

And if you look at what is the industry standard, what the foundries and other players are typically doing, they're typically in that 1.5 to 2.0 range. So there, we're maybe 20% more aggressive. So it's very aggressive goals to hit our cost targets and where we want the technology to be. And that combined with the end of life of the immersion scanner before we hit EUV has just created something that's a little bit more difficult.

So that's why I have the confidence that this is not something we're shipping. The transistors work. We know the performance is in line. So it's really just about getting the defects and the costs in line to where we want.

As far as what does that imply for future technologies, we made a lot of changes at 7 nanometers. 7-nanometer currently is the first technology forecasted to implement EUV, so that immediately makes the lithography system different. We're going back to a more standard, for us, compaction number of 2.4, so that makes it a little bit easier. We think we bit off a little too much in this case. And it may not seem like a lot, but 10% can make a lot of difference in this kind of a world.

And thirdly, we are using some very unique packaging technologies and such that allow us. At 7 nanometers and beyond, we're really moving to a world where you're not going to look at any piece of silicon as being a single node. You're going to use what we're going to call heterogeneous techniques that allow us to use silicon for multiple nodes. So you may use cores from 7 nanometers and IP from 14 nanometers and even as far back as 22 nanometers for the parts that don't need the high performance. And we're able to put those together and make them perform and behave like a single piece of silicon in the package. So really 7 nanometers is quite a bit different, and so I think as a result, we don't expect to see these kinds of impacts on 7 nanometers.

<Q - Christopher Brett Danely>: For my follow-up, I know in the presentation, you mentioned that adjacency ramps will be responsible for some of the gross margins being down in Q2. Does that have any impact on gross margin for the rest of the year, or are you assuming that data center growth is going to slow down in H2, and that's another reason

why the gross margin hasn't moved up, or is it entirely the 10-nanometer issue?

<A - Robert Holmes Swan>: It's maybe all three. First, we do expect the adjacencies throughout the course of the year to continue to grow faster than the rest of the business, if you will, so that will have a compression effect throughout the course of the year. Secondly, yes, 10-nanometer will be a headwind. And third, for data center growth, while we're expecting strong growth through H1, H2 implied in our guidance is a deceleration.

If you put it in the context of the updated guide, we have data-centric growth going from mid-teens to higher teens. And you can attribute virtually all of that to DCG because obviously it's the biggest component. But we do expect there to be deceleration for DCG growth from H1 to H2 for sure. We hope we're wrong, but where we sit right now, we see the trends continuing into Q2. But we'll have tougher comps. We'll have tougher competition going into H2. And we're going to wait to July to see how we see the trends we've experienced through the first four months of the year play out for H2.

<Q - Chris Caso>: Just the first question is on CapEx that's been coming up a bit. If you could, talk a little bit about the incremental growth in CapEx, what that's associated with. And are there any CapEx effects associated with the changes in the ramp of 10-nanometer?

<A - Robert Holmes Swan>: Just the CapEx that we took up, $0.5B is really a function of the incremental $2.5B of revenue. So, Chris, when we came into the year, we guided a larger CapEx of roughly $10.5B, and we had full-year revenue of $65B. So we've taken $65B up to $67.5B. That's going to require roughly $0.5B additional CapEx for H2 and as we go into 2019. So it's the best I've ever felt about a CapEx increase. And it's a result of $2.5B more revenue. And net the CapEx increase, as we indicated, we'll generate an additional $1.5B of FCF as well.

<Q - Chris Caso>: And as a follow-up, perhaps you can give a bit more color on the expectations on memory as you go through the year. I know you talked about that being profitable and I think consistent with what you guys said last quarter. Have there been any changes in your outlook for the year? And if you could, talk a little bit about what's framed your expectations as you look through the year for memory.

<A - Robert Holmes Swan>: First, no real changes. As Brian mentioned, it's our first $1B quarter in Q1. We feel good about the demand that we're seeing. Gigabyte demand is relatively strong. Our cost per gigabyte coming out of our Dalian fab continues to trend down. And at the same time, we see ASPs were down a bit.

But as we go through the rest of the year, we see demand and supply to be relatively well balanced. We are ramping [ph] Mod A (00:46:47) in Dalian, so that is in the early stages of the ramp. That's costing a little bit. But continued gigabyte demand, continuing to scale the Dalian fab, and continuing to come down – the cost per gigabyte curve are all contributing to what we believe will be a continued growth and profitability for the business for the full year.

<A - Brian M. Krzanich>: And maybe the only thing I'd add to that is, Bob mentioned it in his remarks. Our 64-tier product we also believe gives us really a leading-edge product and also very good costs relative to the market. So as we ramp that technology in Dalian, at 64 tiers, we believe our costs are very competitive relative to the rest of the market.

<Q - John William Pitzer>: Within DCG, the cloud hyperscale dynamics are well understood by investors. 90 days ago, I think what surprised everybody, probably including yourselves, was just the strength of enterprise in the December quarter. And I think when you reported December, you were reluctant to call that a trend, and you wanted to get some more data points.

I'm curious as to what the view of enterprise is now 90 days later. And specifically, a couple of your key software partners last year in Microsoft and VMware finally brought out their hybrid cloud software stack solution. And I'm wondering if that's actually been the driver of some of this pent-up demand in the enterprise. And how sustainable do you think it is?

<A - Brian M. Krzanich>: What I would tell you is clearly, as we look out into Q2, we're expecting the same kind of positive trends on enterprise for Q2. I think as we look at the long term, though, that trend that says enterprise should decline in that low single digits and it drives and helps fuel the growth of cloud, and that's not all of the driver of the growth of cloud, those workloads are moving over to the cloud base continue.

I think you're right. Products like Microsoft Azure and others where you can be a hybrid, Azure on-prem vs. Azure in cloud, are great examples how – I think that low single digits is sustainable over the long haul, but I just don't see that trend. Again, I try and look at these businesses not over the quarter, or even within the quarter, or even one to two quarters, but really thinking about how am I going to invest over the next two to five years. I've got to look at that and say that trend is probably likely to continue.

Now for us, we also need to understand that those other segments of data center, the cloud and networking and comm, as I look at the Data Center Group, are now well over 50% of the revenue of that segment. So we are less and less impacted, I'll say, by the enterprise.

If you go back, when I started as CEO, enterprise was 60% – 70% of the business, and so we swung wildly by that. It's the other way around now, where the cloud and networking and storage are now that 60% to 70%, growing to the right, and enterprise is less and less. So the other thing you need to realize, John, is we're more driven by what that cloud is doing anyway.

<Q - John William Pitzer>: And as my follow-up to Bob, just a multipart question on the guide for Q2 and the full year. First, was the ASC 606 impact embedded in the original March quarter guidance? Is that the only quarter where you'll have an ASC 606 impact?

Second, is Wind River now out of Q2 and full-year guide, or is that still in it? And how big is that business?

And then third, when you look at Q2 specifically, it just looks like the operating income beat seems a lot larger than the EPS beat. Is there anything going on below the line other than the tax rates that you guided to that can explain that? Thank you.

<A - Robert Holmes Swan>: First on ASC 606 and what we expect for the full year, we had a strong benefit in Q1, and roughly half of that unwinds during the course of the year. So it contributed to growth in Q1. It will unwind itself throughout the course of the year. So full-year impact will be likely – at this stage of the game, we've got somewhere around $200mm to $250mm, but it unwinds through the next several quarters.

I think your second question, John, was Wind River. Our assumptions are that we will complete the sale of that business at the end of Q2. So it's in our second quarter guide, but it's a component of H1 to H2 deceleration.

The third question, I think it relates to in Q1, we had good volume, operating margin flow-through to EPS. In Q2, the flow-through is not as rich. And the fundamental reason is we have some below-the-line charges associated with, A), the 2039 convertible securities that we have outstanding that have an exchange feature associated with them. And as people – as we hit a certain stock price, our holders can exercise that exchange feature. The implications are there is a non-cash charge associated with that, which goes through our interest and other line, that's negative.

The good aspect of it is, all else equal, it reduces our outstanding – our diluted shares, and we avoid a coupon going forward. But that will have – as more people exercise that exchange feature, we'll see that non-cash charge below the line. So that's causing a little bit of a drag on the operating income growth flowing through to EPS in Q2.

<Q - Timothy Arcuri>: I actually had a two-part question on 10-nano. The issues seemed to be going on now for some time, and it's almost as if the design libraries or something are flawed. So I guess the first question is why not skip 10-nanometer and go directly to 7-nanometer? You guys have a lot of EUV experience and it's going to cut out a lot of the multi-pattern layers. So that's the first question.

And number two, the real question is that if you did that, would that be a net drag to gross margin looking out because you never really monetized 10-nanometer? Thanks.

<A - Brian M. Krzanich>: Let me try and answer your question. No, there's nothing wrong with the design libraries or anything like that. The proof of that is that we're shipping product. So if there were basic functionality issues like that, you wouldn't be able to produce and ship the product. Again, as I said, this is all around how many layers are on multi-patterning and the end of life of the immersion for the critical layers.

The second part of your question was would it benefit to just skip to 7 nanometers, and would that have an effect on the capital or the gross margins? The simple answer is no. I don't think that's a good idea. The best answer is there's a lot of learning that will happen that we can carry forward into 7 nanometers just like we carried from 14-nanometer to 10-nanometer.

The other thing is that we still hold – roughly 80% of our capital equipment is fungible to the next node or backwards to the prior node. And so that's why as we've shifted 10-nanometer and 14-nanometer, we were able to do that without shifting our CapExs greatly from – we're able to just move the capacity back and forth. The same thing is going to happen between 10-nanometer and 7-nanometer. So you'll have some percentage, and it's always based on demand and how fast things are ramping and all of that. But the equipment will be fungible for the most part between 10-nanometer and 7-nanometer as well.

But no, the right thing to do is exactly what we're doing. This is a unique opportunity we have. There's a lot more performance than 14-nanometer. We can keep driving that. We'll fix the yield issues. If 10-nanometer can have a 10-nanometer, a 10-plus, a 10-plus-plus, you're going to see a lot of products and a lot of performance out of that technology.

<Q - Romit Jitendra Shah>: I wanted to ask you about China. Your filings indicate that mainland China was about 20-plus percent of revenue in 2017. And I have two questions. One, does that figure represent your exposure to the domestic vendors in China? And I guess just in light of the current environment between the U.S. and China, there are reports now of a potential ban beyond ZTE. How concerned are you as it relates to the impact to Intel?

<A - Brian M. Krzanich>: That number is much broader, so that would be, if you think about it, so everything from shipments into companies like ZTE or Huawei that are more domestically oriented, although Huawei ships around the world now. It goes to Lenovo and companies like that, Spreadtrum, all of those companies now. If you look at Chinese companies, very few are holding within just China. They're almost all shipping products and selling across the world. So the number is really representative of all of the companies that are building within China.

Our view is that China is an important market, as you just described, 20-something-plus percent. It's one of our fastest growing segments as well. It's important to us, and we're counting on our leaders and the leaders of the world to go resolve these issues. We believe in fair trade. We believe that countries and companies need to be able to play in markets fairly and compete, and we're counting on this getting worked out. That's very important to us.

<Q - Romit Jitendra Shah>: I'm sure you'll shed more light on longer-term spending targets. But as we build our models for 2019, do you think it's reasonable to assume that you can drive additional operating leverage beyond 2018?

<A - Robert Holmes Swan>: I will shed more light on that later. No, but I think look, the trends that you've seen over the last couple years is how we framed things back at our Analyst Day early last year, I guess. And that is that we're going to see an expanded TAM, and with that expanded TAM, accelerating growth in areas that have lower gross margins, and that we expect over time that there will be a modest degradation in gross margins as a result of growing earnings in different segments. But at the same time, we've said that that gross margin modest erosion we believe will be offset by continued – both continuing to invest in the critical priorities, but getting leverage on our existing spending base.

So with that, I think you're going to have a natural offset. We're two years ahead of our targets to get to 30%. We're excited about the accelerating growth of the company. And we do believe that as we continue to accelerate growth and invest in key priorities that our leverage on spending continue to come down.

or commodities. Any opinion expressed in the transcript does not necessarily reflect the views of Bloomberg LP.