Q3 2018 Earnings Call

Company Participants

- Hock Tan, President and Chief Executive Officer
- Tom Krause, Chief Financial Officer

Other Participants

- Blayne Curtis, Analyst
- Chris Caso, Analyst
- Craig Hettenbach, Analyst
- Edward Snyder, Analyst
- Harsh Kumar, Analyst
- John Pitzer, Analyst
- Matthew Ramsay, Analyst
- Pierre Ferragu, Analyst
- Pradeep Ramani, Analyst
- Romit Shah, Analyst
- Ross Seymore, Analyst
- William Stein, Analyst

Presentation

Operator

Welcome to Broadcom Inc's Third Quarter Fiscal Year 2018 Financial Results Conference Call.

At this time, for opening remarks and introductions, I would like to turn the call over to Tom Krause, Chief Financial Officer of Broadcom Inc. Please go ahead, sir.

Tom Krause {BIO 17978469 <GO>}

Thank you, operator, and good afternoon everyone. Joining me today is Hock Tan, President and CEO of Broadcom. Today, Hock is going to give you a detailed review on our core business and spend some time outlining the industrial logic behind our recently announced acquisition of CA. I will then spend time reviewing our Q3 results and Q4 outlook, and most importantly, our financial model and capital allocation policy.

Quickly on the formalities of today's call will primarily refer to non-GAAP financial results. A reconciliation to US GAAP measures is included in today's press release which is available in the Investor section of our website at broadcom.com. Information on the risks that could cause actual results to differ materially from the forward-looking statements made on this call is also available in today's press release, and in our recent SEC filings.

This conference call is being webcast live. A recording will be available via telephone playback for one week and archived in the Investors section of our website at broadcom.com.

At this time, I'd like to turn the call over to Hock. Hock?

Hock Tan {BIO 1460567 <GO>}

Well, thank you, Tom. The strength of our business model delivered another quarter of very sustain revenues, strong earnings and free cash flows. Consolidated net revenue for the third quarter was $5.07 billion, 13% increase from a year ago, and EPS came in at $4.98, a 21% increase from a year ago, while free cash flow at 2.13 billion is 42% of revenues. We have a lot to cover today. So let's dive right into the segments.

Starting with Wired. In the third quarter, wired revenue was $2.3 billion growing 4% year-on-year. And this segment represented 45% of our total revenues. Third quarter wired results reflect strong year-on-year growth for both our networking and compute offload businesses, driven by robust demand from the cloud data center markets, as well as traditional enterprises. Networking and compute offload represented approximately 60% of our total wired segment in the quarter, and grew over 10% year-on-year in the quarter. This is off the back of growing over 15% annually in the second quarter. So this part of the wired segment is doing really well.

However, cyclical headwinds in certain parts of our broadband businesses have impacted year-on-year growth for the wired segment. While digital subscriber line or DSL demand remained stable. Demand for PON fiber to the home in China as well as video access, particularly in North America has been soft compared to a very strong 2017. As a result, broadband was down year-over-year in the third quarter, after being down in Q2 as well.

Turning to the fourth quarter of fiscal 2018, we expect networking and compute offload to continue to grow double-digits year-on-year, as strong demand from both the cloud and traditional enterprise sustain. However, cyclical headwinds we have seen in video access, including cable and satellite are persisting into the fourth quarter, and as a result in the fourth quarter, we expect wired to grow only mid-single-digit year-on-year.

But on the other hand, we are very encouraged by the prospects for fiscal 2019. We expect strong growth in our networking business to continue, driven by new product brands, of our Tomahawk 3 switches and on Jericho 2 router platforms. We also continue to see strength from our deep learning ASIC with our cloud customers. And we focused broadband video will bottom this fourth quarter, as we start to enter an up cycle in 2019.

On enterprise wireless access 2 [ph], we expect to be the first to enable integrated 802.11ax chipsets, during this coming year among service providers enterprises and homes. Let me now, turn to enterprise storage. For the third quarter of 2018, enterprise storage revenue was $1.25 billion, representing 25% of revenues. As we have experienced and mentioned in our wide networking businesses, robust enterprise IT spending drove over 70% year-on-year revenue increase. This of course, includes contribution from Brocade, but even without Brocade, storage was robust year-on-year in the third quarter. Looking at the fourth quarter, strong demand from enterprise continues to be good and we expect year-on-year storage revenue growth to accelerate.

Moving on now to wireless. In the third quarter, wireless revenue was $1.3 billion, which was flat year-over-year. The wireless segment represented about 25% of our total revenue. In aggregate wireless revenue was in line with our expectations for the third quarter, we benefited from the initial seasonal rent at our North American OEM customer, which was partially offset by anticipated decline and our other large wireless customer. We expect this trend and our North American OEM customer to drive wireless revenue to be over 25% sequentially, even as it may be down single-digit year-on-year.

Let me take some time to put this in perspective. Like all our franchises, our RF front-end business, which makes up roughly half of our wireless segment, compete -- and competes very well based on its technology leadership and its ability to deliver differentiated high performance products, generation after every generation. To generate the high returns we expect on a substantial R&D and manufacturing investments, we focus on delivering the best FR [ph] technology in every new generation of smartphones.

Nonetheless, from time-to-time not that often by time-to-time, the same technology platform used by our customer may extend beyond one generation. And when this happens, it does create an opportunity for our customer to temporarily use lower performance alternatives in selected SKUs. With the benefit of hindsight, this may be precisely what happened with this 2018 generation. But, every indication we have is that the cadence of annual platform upgrades will resume in the upcoming 2019 smartphone generation, and we believe we're very well positioned to win back the platform.

And with 5G on our horizon, we expect these cadence of annual upgrades to sustain. As a result, we are maintaining our high level of investment at the market transitions of 5G. Meanwhile, in WiFi bluetooth the transition to 802.11ax continues to keep us in the lead. We believe we are very well our positioned to sustain this particular franchise over the next several years. And accordingly, we expect to see our wireless revenue returning to double-digit growth in fiscal 2020, following a temporary dip in fiscal 2019.

Finally, our last segment industrial. In the third quarter, the industrial segment represented 5% of total revenues, excluding IP licensing, industrial business was up over 10% year-on-year. Distribution resales continued to be strong with double-digit Q3 year-on-year growth. We expect the demand environment for industrial to remain strong, and industrial resales to maintain double-digit year-on-year growth during the fourth quarter.

So, in summary, we continue to execute well on our business model. More than half, our consolidated revenue, you may note is benefiting from strong cloud and enterprise data center spending. This coupled with the seasonal uptick in wireless will drive our forecast revenue in the fourth quarter to be $5.4 billion, an increase of 11% from a year go. In the meantime, our margins continue to expand due to our focus on technology leadership and high performance products. This is all driving exceptional cash flows, which provides us great flexibility in our capital allocation model of returning cash to shareholders through dividends and share repurchases, while enabling us to pursue strategic acquisitions to expand our earnings capacity going forward.

Speaking of acquisitions, before I turn this this call back to Tom, to talk about the financials in greater detail, let me perhaps take a few more minutes and talk about CA Technologies. The number one question we get from -- we get with CA, is why did we chose to buy them? Cut to the chase, we're buying CA, because of their customers, and their importance to these customers. CA sells mission critical software to virtually all of the world's largest enterprises. These are global leaders in key verticals, including financial services, telecoms, insurance, healthcare and retail. And CA does it at a scale fairly unique to the infrastructure software space. This can only come from long-standing relationships with these customers that spans several decades, in other words, these guys are deeply embeded.

Now Broadcom, does a lot of business with the cloud companies building the digital economy. The leaders Google, Amazon, Microsoft, are all large customers for us. They are growing rapidly and we are as you notice growing with them. They use our leading edge silicon solutions to develop their next generation data centers to enable many businesses world wide.

On the other hand, when you look at the largest enterprises, which comprise CA key customers, these guys really have limited ex -- direct access to our mission critical technology. In depth lies what we think is a new and future opportunity. Just has we have done with hyper cloud players, we believe we can bring our compute offload solutions our Tomahawk switches, Jericho routers, fiber optics and our server storage connectivity portfolio directly to the same large enterprises that are buying CA's software. This launch end users invest tens of billions of dollars on IT infrastructure every year. Through CA, we believe we have a big doorway to engage strategically with these customers and provide them direct access at very compelling economics to the same leading edge networking storage and compute technology that are used to enable the cloud service providers today.

Beyond this industrial logic, I might note CA by itself is a great franchise. Mainframes remain the backbone of the enterprise computing environment, and are relied on to run reaching critical applications. Mainframe process are approximate -- mainframes process approximately 30 billion transactions per day and $7 trillion of credit card payments annually. Contrary to popular belief, over the last 10 years, mainframe workloads have actually increased 3.5 times driven largely by increasing amount of data generated with every single transaction. Given mainframes filed the most important parts of larger enterprises, we believe, this will remain a strong and stable market opportunity for us for a long time.

CA is the leader in delivering a suite of mainframe solutions across application development and ITOM tool. So bottom line, we actually see this opportunity, a great opportunity I may say to double down for future growth.

With that, let me turn the call over to Tom at this time.

Tom Krause {BIO 17978469 <GO>}

Thank you, Hock, and good afternoon, everyone. My comments today will focus primarily on our non-GAAP results from continuing operations, unless otherwise specifically noted. Let me walk through our results for the third quarter of fiscal 2018. Third quarter net revenue was 5.07 billion, just ahead of the midpoint of our guidance. Our gross margin from continuing operations was at the high end of our guidance at 67.3%, as we benefited from the more favorable product mix in the quarter. Operating expenses were slightly lower than we expected at 874 million, driven by lower SG&A. As a result, operating income from continuing operations for the quarter was 2.54 billion, and represented 50.1% of net revenue.

Adjusted EBITDA for the quarter was 2.71 billion, and represented 53.4% of net revenue. For housekeeping purposes, Q3 depreciation was 129 million in the quarter. Below the line, net interest expense was slightly better than guidance, due to higher interest income from our cash deposits. The tax provision was in line at 7% of operating income from continuing operations or 170 million. The diluted share count was 453 million shares and includes the weighted average impact of the stock repurchases completed in the quarter. As a result, the company delivered $4.98 of EPS in the quarter, this represents 21% year-on-year growth, including the impact of share repurchases.

Working capital, excluding cash and cash equivalents increased approximately 209 million, compared to the prior quarter, due primarily to an increase in receivables. This increase was driven by seasonally higher shipments in the last month of the quarter as well as the effect of a distributor consolidation program for the Brocade business, where we're providing a temporary extension of payment terms to facilitate the consolidation. In addition, cash restructuring expenses were 18 million, as we are now at the tail end of the Brocade integration.

Finally, we spent $120 million on capital expenditures, which was slightly below expectations, as a result, free cash flow from operations was 2.13 billion or 42% of revenue. This represents 52% year-over-year growth in free cash flow from operations. In the quarter, we returned $754 million in the form of cash dividends and spent 5.38 billion repurchasing 24 million AVGO shares. We did not pay down any debt in the quarter. We ended the quarter with 4.14 billion of cash, 17.6 billion of total debt and 438 million fully diluted shares outstanding.

Now let me turn to our non-GAAP guidance for the fourth quarter of fiscal year of 2018. This guidance reflects our current assessment of business conditions and we do not intend to update this guidance. This guidance is for results from continuing operations only. Net revenue is expected to be 5.4 billion plus or minus 75 million. Gross margin is expected to be 67% plus or minus 1 percentage point. Operating expenses are estimated to be approximately 394 million. Tax provision is forecasted to be approximately 7%, net interest expense and others expected to be approximately 125 million. The diluted share count forecast is for 436 million shares. CapEx will be approximately 110 million.

Before we open the call for questions, I want to update you on our financial model and capital allocation policy. On the financial model, there has been a lot of questions regarding our long-term growth and concerns about the growth rate of our core semiconductor business. The intention with the CA announcement has not been to signal a change in the growth rate of our core business. On the contrary, we believe our long-term growth rate for the semiconductor segment will remain mid-single-digits, driven by end market growth and content increases from new product introductions. As we acquire businesses outside of semiconductors, including Brocade, and more recently CA, we are taking a conservative approach relative to our internal expectations on revenue growth.

The returns we model do not require growth to hit our targets, but make no mistake, we do expect to grow these businesses. So the important message is that we do not see any fundamental changes in our long-term growth rate. Now on the capital allocation. Here at Broadcom, we have a set of complementary highly profitable technology franchises that require limited capital expenditures and that fit on top of an efficient corporate platform. This in turn, splits out a substantial and sustainable base of cash flows that we expect will grow over time. This expected cash flow generation provides us with a lot of flexibility on how we allocate capital to create value for you the shareholders.

We are committed to our policy of distributing 50% of our prior fiscal year free cash flow to shareholders in the form of cash dividends. Given our fourth quarter outlook and expected full fiscal year '18 results, we anticipate another substantial increase in the quarterly dividend for calendar 2019. Now, with the remaining free cash flow, we see the opportunity to do a couple of things. One, we plan to continue to buy back shares. We currently have 6.3 billion left on our 12 billion stock repurchase authorization that extends through the end of FY '19. And two, with a focus on maintaining our investment grade credit rating, we believe we also have the cash flow and the borrowing capacity to continue to expand our earnings base for strategic and accretive acquisitions.

Finally, as previously announced, we have cleared HSR with respect to the CA transaction in July. The transaction is still subject to CA shareholder approval and antitrust approvals in the EU and Japan. We expect to close in the fourth calendar quarter of 2018.

That concludes my prepared remarks. During the Q&A portion in today's call, we request that you limit yourselves to one question each. So with that operator, could you please open up the call for questions.

Questions And Answers

Operator

Certainly. (Operator Instructions) And our first question will come from the line of Tim Arcuri with UBS. Your line is open.

Q - Pradeep Ramani {BIO 19683324 <GO>}

Hi, this is Pradeep Ramani on behalf of Timothy Arcuri. I had a question, more on the longer-term view of CA, and how you view -- CA and the wireless solutions group. And how you view the wireless solutions group from a strategic standpoint, given that the CA acquisition is kind of focusing you guys towards more of an infrastructure company?

A - Hock Tan {BIO 1460567 <GO>}

That's a very interesting question and it affords me the opportunity to clarify how we look at our -- as Tom calls it set of businesses. Our business model is very much focused on putting together a portfolio. On portfolio of what we consider product technology, product franchises. And that's not necessarily limited to IT infrastructure or networking or data centers in any particular specifics. As you notice, we have a range of products that sells into multiple end markets, which ranges from wired, and even in wired we have made a distinction as I said, of networking data centers, as well as more service provider spending, as it relates to carrier access and PON and video delivery. And that's two sets of end markets by itself. Then we have enterprise storage, which is very data center centric.

But then you are right, we have wireless, which is as we define it is very focused on mobility or in smartphones where we put up the best latest technology, and finally we have industrial where we have set of products that goes through various industrial product unnecessarily [ph] connected to the data centers. So, they are very disparate. They are very diverse and day in, in our view lies our strength. It's a very set of diverse product franchises and that's the key to operate the both franchises. But each of them has -- very a set of common characteristics. One is they operate in niche markets typically. Those on these niche markets that become mass markets because mass markets have moved over to this niche markets and but two, is we have the technology -- modern technology. We are the leader in technology in each of these niche markets, and we tend to have the lead -- or we tend to have the highest market share to in each of these end markets.

And the common thing we do is they all sits on our platform, but each of those niches keep investing and you have seen the level of dollars we invest, we are investing over $3 billion, $3.2 billion a year. Just on R&D and product development, as we move through each product generation and the advance of technology for use of end customers. And we make sure we lead in each of those.

And so we still believe to answer your question specifically on wireless. We believe our position in wireless, in those wireless niche -- in those wireless products and markets that we are very much in the lead technology, we are lead in market showing the niches we are in. So, it's satisfying those considerations all of us -- of franchises in those specific markets, as you would apply to switching and routing in data centers where we are very well represented too. And the benefit of all of these particular franchises is they all are enormously profitable and they all continue to grow.

Operator

Thank you. Our next question will come from the line of Pierre Ferragu with New Street Research. Your line is open.

Q - Pierre Ferragu {BIO 15753665 <GO>}

Hey Hock and Tom, thanks for taking my question. So lets hear about computer associates as well. So you have demonstrated in the past a rather unmatched ability to create value from your acquisition and this is something you have mostly done in the semiconductor industry and that's what you got a lot of investors the managers used too. So today it really feel like we need to better understand, both committed how about one can create so much value from acquisition and how it can apply to CA.

So, in that spirit my question to the two of you Hock and Tom would be, can you tell us what you guys do like nobody else. What makes you unique at integrating a business you acquire and create value from this businesses like nobody else and in particular like private equity funds, for instance, will not be able to do. And then of course to that in the context of computer associate, how are you going to apply this unique capabilities to computer associates?

A - Hock Tan {BIO 1460567 <GO>}

Thank you. Interesting question. Let me try to address that, If I could. One of which -- to start of with, we are not private equity, by no means, are we. Why? We know we understand the businesses that operates in the come -- in Broadcom very well and we operate those businesses. We are not financial investors. The financial performance, the capital allocation that comes out is exceptional cash flow we generate of those -- making those businesses, is very successful. Happens to be just the end product.

We run those businesses and we run them as a group. That's the biggest difference between us and private equity. Very, very much so. So, where we see our -- where we see some differentiating trades and how we identify and acquire those businesses, and then integrate them into a whole as part of Broadcom, is simply this. I think we're very, very aware of our ecosystem, what product lines, what markets are very sustainable, very good and as potential profit and growth opportunities, and we're very focused.

We are very focused in determining what businesses makes sense to invest in and what businesses we do not or should not invest in because it won't generate the return, which is why in -- to expand on my reply to the earlier question, today Broadcom comprises 19 separate product divisions. Each of them leader in their own rights in each of those niche market they are in and by being extremely focused on continuing to be the technology and market leader, which basically means delivering generation after generation, because they -- one advantage in technology is you keep having to evolve with better and better products that your customers can use and as far as you do that, you actually create more and more value to your customers.

And the extension of that is shown by the fact that if you look at our financials over the last several years. We expand our product margin -- gross margin as our collective hope [ph]. 100 basis points approximately every year. This is the same product. This is not about adding new acquisitions which achieved the gross margin. We are talking about, if you look organically at the same products that we have three, four, five years ago, you will see that the margins expand as a whole. And the reason it can expand is because you're delivering more value to your customers. And so, the real basic thing is be very focused, stick to what we do very well, and focus on where you are very successful and keep doing the same thing.

And what we do when we look at acquisitions very simply is, we look at companies where the opposite is actually sometimes happening. Where the core business of the company -- on this business companies are not so -- on focus on things like that in many ways and in state the bright shiny objects gets focused on where the strength of that -- of the company may not be so good. And we basically pull them back to their roots and put them into as part of the overall Broadcom portfolio. That's really what we have.

Operator

Thank you. And our next question comes from the line of William Stein with SunTrust. Your line is open.

Q - William Stein {BIO 15106707 <GO>}

Great. Thanks for taking my question. Hock, one of the biggest questions that we've gotten especially more recently is on the semi-cycle. Now I understand you have 19 or so franchises that you could argue are more specialized. But I think you're certainly exposed to the broader trends in the industry, and there is an expectation that we are seeing a slowdown in particular in China, especially potentially related to tariffs. And I'm wondering if you can offer a comment just to where you think we are in that cycle, what you see going on in that regard. Thank you.

A - Hock Tan {BIO 1460567 <GO>}

That's a very, very good question, and very timely question. And what we -- I'm not trying to look out far, nor trying to basically postulate a vision here, but short -- but what we're seeing now and what we are seeing recently and looking what we are seeing now, is that, the dynamics of the semiconductor space is constantly changing. I know that's a obvious answer, but what I mean is, by different end markets. And -- we, in some ways, unfortunately in selling to four, five end-markets, very, very different end markets. And I can tell you over the last two years, the behavior of all those five end markets are very -- have been very different.

So it's hard for me to say, how is the whole semiconductor industry, because it does cover into a lot of spaces. And like once in two years ago, I did say that in, 2016, even 2017 and '16, broadband was very strong. One part of the, I guess, of service provider spending -- levels of service provider spending worldwide, but also and leading to business that kind of cyclical. It's a business at my end, that's relatively flat, but sustainable and cyclical. So today as I say, broadband, as I mentioned, it's not so strong anymore.

Now last year, two years ago data center spending was okay, but this year 2018, its extremely strong and continues to look good. So we see different parts of the cycle. Just like even wireless, I mean the wireless, two years ago -- two years ago was great. Content was growing, than what we've seen over the past year is smartphones, literally, and not just handset worldwide, but smartphones just kind of flatten out, totally flattened out. And where cost becomes a concern among the net demand on innovation becomes limited. And people are now waiting for perhaps the 5G cycle before we see another uptick.

And industrial or automotive was booming away for few years, drives industrial continues to do so as we see, though we've started to see definitely some slowdown from where we are, both in automotive and industrial. So you are seeing ups and downs across different segments, different end markets that some which uses semiconductors. And I guess, our best saving grace here is, because we are fairly diversified. We kind of give ourselves stable and secure on the total basis as opposed to rising any particular end market upwards or downwards.

Operator

Thank you. And our next question comes from the line of John Pitzer with Credit Suisse. Your line is open.

Q - John Pitzer {BIO 1541792 <GO>}

Yeah. Good afternoon, guys. Congratulations on the strong results. Hock, maybe the short way to ask my question is, does this operating margin expansion story have a feeling at some point, but I guess the longer-term or longer to way to ask the question is, wondered if you could just talk a little bit about how you think about R&D. I think oftentimes investors get fixated on R&D as a percent of revenue, and forget that at your scale, your absolute dollar spend is just enormous. But help me understand, is there something about your IP portfolio that gives it more leverage than a typical digital or SOC company, or why are you able to drive so much more leverage out of your R&D line than many of your large peers. And again as you answer that question, maybe you can talk about, is there a ceiling to this op margin?

A - Hock Tan {BIO 1460567 <GO>}

That's a great question, John, and I'll try to address that. And you're right, it starts with IP. We sell intellectual property, except with product pricing [ph] with -- you may know lot of business are semiconductors and we sell IP embedded in silicon is perhaps a simple best way to describe. That's what we do. We don't try to license this out. We make it into products that addresses what our end users, end customers need to make -- to use or -- further make it part of systems. And it's that intellectual property that drives the technology evolution, because we keep feeding that machine. We keep enhancing, innovating on those technologies in any particular markets we are in.

And as I mentioned, we are in 19 of those markets. In each of them we behave very commonly. We have a team of people and in many cases, in all most cases, I would add, we have the best engineers in the world, architects and engineers in the world in each area in the space, they are in. We have among the best. And many of these -- and guys is the other aspect -- the other side to IP, they have developed over the years, and innovate to the next better thing. We keep doing that, and the customers love to have this product, because it makes them successful, and makes them more productive, it makes them do things that otherwise they can do.

And when you do that which each evolving technology, each evolving generation of technology, you basically get a higher value added to your product, always will -- always do because you give your customer more value, you get something more for it. I'll give you an example right. There are well known Tomahawk 3 is a 12.8 terabit per second throughput switch that previous generation Tomahawk 2 was only 6.4, half that throughput. So you are able to put into a data center and on top of a direct of servers, twice the throughput, twice the capacity, twice the bandwidth.

Do you -- do I -- am I able to charge 2x the price, of course not. That's not the way technology works. But we are able to obviously improve. Again our value simply by the fact that even as dollars, our price per terabit drops on the total 2x terabit, the value of the product goes up for us, for the customer. And if the demand, the usage, consumption increases to use up all 12.8 terabit at the -- basically the data center scale gets to scale out tremendously at a very cost effective, instead of economics.

And that's an example that applies across all product lines. And to bounce down, at the bottom -- at the end of it all, so because of that, our customer, are ability to do that, to offer better products are more value to our customers, our product margin goes up, and it goes up faster than the amount of R&D we'd poll in every point quite a bit to sustain that level of improvement, and that leads to an improved operating and expanding operating margin. That's what we have seen, that's what has happened.

Operator

Thank you. Our next question comes from the line of Ross Seymore with Deutsche Bank. Your line is open.

Q - Ross Seymore {BIO 20902787 <GO>}

Thanks for that. Let me ask a question. Hock, I wanted to focus on your wired business both in the near term and the long-term. In the near term, you did a great job of explaining some of the puts and takes between that 60-40 split of the fast-growing and slower growing businesses. But to the extent it's 45% of your business today and we look forward longer term, how should we think about the growth rates of that 60-40. And what does it mean to the profitability of the company either on the gross or operating margin line as the growth rates seem to be so different between those two sub-segments?

A - Hock Tan {BIO 1460567 <GO>}

Well. Ross, thanks for asking that too. But what you say is true right now. In 2016, I loved broadband. It was on a up cycle, if you recall there was this summer lump floating around everybody was signing up for cable, cable access. So we're doing, we were booming. That time, hey that thing out performed data centers, networking that is. Today the cycle turn around, we look at broadband segment. The thing is dragging me. It's not, when the up cycle happens as a fully expect within the next 12 months. Also you'll be greater gains.

So, that's one of the interesting thing of volume in looking at say even wired or even wireless. Every one of this -- lot of these markets go as their ups and downs. Especially if you look at the quarterly much less annually, quarterly even worse, what we have to keep realizing is these are all technology driven applications and market driven as better and better more innovative technology comes in. It keeps expanding. Some at a slower pace than others, but what it does it adopts new technology, which allows us to keep adding more value as we progress through it, even though it goes through its ups and downs and the key thing to all this is sustainability. These are all very sustainable end markets.

The product we see today, it may be much better than the product in this end market we saw five years ago and the product five years from now, will be much better than product we see today. But believe me the end use continues.

Operator

Thank you. Our next question comes from the line of Craig Hettenbach with Morgan Stanley. Your line is open.

Q - Craig Hettenbach {BIO 6185428 <GO>}

Yes. Thank you. Hock had a question for wireless RF. I mean you play mostly at the high end of the market. Interesting developments in China. When I think of some of the local brands there, some impressive specs coming out and as they start to ramp volumes. So just want to know if that potentially could change your opportunities that RF in the China market over time?

A - Hock Tan {BIO 1460567 <GO>}

Very interesting question and it is again part of the whole franchise model. And yes, because again in the case of wireless, we have very unique technology. We are very, very differentiated technology that allows us to produce very high performance products in those smartphones. And so far it's been the super high-end smartphones that tends to the use our products. And I could see a situation where especially 5G coming into the mix, with all these difficult bands showing up where 5G you start running higher than 3-gigahertz spectrum bandwidth, you start to need better and better RF components, especially in filtering, very much so in filtering and we could see that we've required across the bond in many next phase on next generation 5G phones.

We can see that happening in which case then, it starts to expand beyond just high-end phones and you are exactly right in that regard. It has happened before a few years ago when there was certain band that was so critical it can only be done using (inaudible). Very difficult as far technology and for one that was pretty cool.

Operator

Thank you. And our next question comes from the line of Blayne Curtis with Barclays. Your line is open.

Q - Blayne Curtis {BIO 15302785 <GO>}

Hey. Thanks for taking my question. I just want to follow up on that wireless you're talking about cycles and some years better than others. When you look at wireless cellular and then WiFi has two components. Just kind of curious as you look out, you mentioned 5G kind of, what's the content story between now and a couple of years now, and 5G will be the majority. And then on the WiFi side if you could just talk about timing of that.

A - Hock Tan {BIO 1460567 <GO>}

Okay. You -- and its actually two aspects you're asking here. So let me try to address them separately. WiFi in many ways is a more stable, predictable evolution of the technology trends. And today very much so everybody uses the standard WiFi standard called 802.11ac, C as in China, and that's great. It's definitely an improvement from what it used to be five years or 10 years ago, but we have a new thing launching new protocol coming in called 802.11ax, which I made commented on a couple of times in my prepared remarks. What AX does is in a nutshell it increases in layman's language the bandwidth huge. You can imagine easily running data stream wirelessly from your handsets upwards and uploading and downloading way over 1 gigabit per second, even 2-gigabit per second, you can carry the way. But what'e even more interesting is it allow for multiple users simultaneously, which is something that's always have been tricky.

I think it requires a lot of technology hardware and software, and we're in the lead in doing it as I indicated. We have the first out with our product, they're working we're designing and we started launching it with multiple partners starting October that's next month by the way this year, starting with the retail routers and going on to access -- the enterprise access points and then operators by early next year.

So, it's a big thing. 802.11ax, and I bet you in the spring you will find at least one big handset makers coming out big time to push 802.11ax and our chips will be right in those flagship phones. But so it's more predictable and our technology is so strong, I have to say that we see ourselves in the road map of our key customers over the next two, three years. More predictable as 802.11ax starts to go to a second wave and upgrade and all that.

On RF as well, it's growing not that much different, except that what's happening here more than anything else is over every several years we go from as your know 2G GSM we've gone to 3G and now, and then we had 4G that's been going on now for six years and now there is a demand -- a kind of a demand on my head [ph] for even higher speeds, higher throughputs, lower latencies more connections that's what 5G is all about, which leads to IoT applications and all those applications we had dreamt about previously. That -- those are great. It's just that, those are very, very difficult to implement and you're not to make it happen, one, in a nutshell, it will happen as it has happened in the past on 4G, is your phone already runs 3G, 4G, you now have to put in additional components, additional capability to run and additional set of spectrum that runs, that is operating in 5G.

And once you start doing that you really have issues of coexistence. You also have to reach out in 5G to frequencies that are much higher, much more difficult to produce to put in a phone for communications, data communications and I'm referring to frequencies that go way above 3-gigahertz now, as a first step.

And as we go into more and more of these 5G phones, you have more frequencies, more requirements or components in the same limited space of a phone. So, you start to have to innovate on your components to be able to pick them in a phone a limited space, lower power, working very well together. And that's where our capabilities, our technology in RF especially FR comes into result. And that's why we see this as a sustainable franchise, especially for someone who is able to design, have the IP to design, capabilities, components, than few people are able to replicate.

Operator

Thank you. Our next question comes from the line of Chris Caso with Raymond James. Your line is open.

Q - Chris Caso {BIO 4815032 <GO>}

Yes, thank you. Just a follow-up question with regard to the wireless and some of the prepared comments that you made. You talked about expectations will return to double-digit wireless growth next year. You also talked about being in a position to win back some of the FR business. Can you reconcile those two comments and was one dependent on the other for the double-digit growth you are expecting next year. What are the assumptions behind that?

A - Tom Krause {BIO 17978469 <GO>}

Chris, this is Tom. Let me just clarify the prepared remarks. What we were referring to is double-digit growth in 2020 off the back of a dip in 2019. And this is to also clarify, we do feel really good about the prospects of winning back the business that we discussed, that we had lost in the current generation phone, which would impact the very back half of '19, but really would have an influence in the 2020 growth rates that we discussed.

Operator

Thank you. Our next question comes from the line of Harsh Kumar with Piper Jaffray. Your line is open.

Q - Harsh Kumar {BIO 3235392 <GO>}

Yeah. Hey, guys. Thank you. First of all congratulations, great numbers. Thank you for the clarity on CA. The big question we're getting is, what is Broadcom's expertise in running a software company. This is the first one for you guys in this area. Could you maybe talk about some of the strengths and challenges you see and maybe some of the plan around running this business. And then also for the non-mainframe business, what kind of margin opportunity do you expect to see from, for example, enterprise solutions?

A - Hock Tan {BIO 1460567 <GO>}

Well, I love this question. I almost tempted to tell you, well, the same reason, we've put together a bunch of businesses in semiconductor, what you call semiconductor solutions. On one extreme in our semiconductor solutions, I have fully simple hardware semiconductors, pure hardware, analog components to the extreme its not even spoken in some cases. It's nanotechnology is (inaudible)as in lasers. Two, the more well known -- well recognized silicon SLCs, silicon on a chip that we build our routers and switches and deep learning chips on with loads of software by the way on these things, lots of software.

I have -- in our networking teams, I have as many software engineers as I have hardware engineers. Silicon solution engineers. In our video delivery business, video, which is basically set-top box, cable modem I have more software engineers, because there are ton of different kinds of software that goes into a set-top box chip versus compared to hardware engineer. We understand software. CA, you're right is all software, but set-top box is 60 -- if I have to put a number, over 60% software. And if I have to look at a switch, I can make a switch as a simple, programmable and it's called software defined networks, and write a lot of software specs to program this, and that's 70% software, 30% hardware. Or I could hard code chips as I do in certain other versions of my networking business, which are typically lower end switches. And I would say, I have 80%, hardware and 20%, 30% software.

So I go -- it's very -- in cause of spect -- it could cause a lot of spectrum. One thing is, common is technology. Its technology solutions you're providing to your customers who cannot operate very productively, very efficiently, sometimes operate at all. We felt that and these technology solutions that evolve over time and your ability to keep up with customer needs over time. We're very good at managing that, we are very good at understanding how to monetize intellectual property in technology. I think that's a common thing we have.

Operator

Thank you. Our next question comes from the line of Matt Ramsay with Cowen. Your line is open.

Q - Matthew Ramsay {BIO 17978411 <GO>}

Thank you very much. Good afternoon. I think it would be helpful for either one of you guys to talk a little bit about the M&A philosophy going forward. I think, Tom, you did an excellent job in sort of reiterating the capital return policy. It's sort of struck me on the lot of the questions that we got from investors, we're just sort of a surprise that the size of the CAD or given some of the prior commentary around maybe focusing on smaller M&A deals. So I just kind of open it up, and I'd love to hear some philosophy conversation about how you're thinking about maybe verticals or size or any of those things. If there's anything that's off limits going forward or we should just think about the capital return policy only and nothing is really off the table in terms of M&A. And I'll just open it up with that. Thank you very much.

A - Tom Krause {BIO 17978469 <GO>}

Good question, Matt. I think the important message is not much has changed. The business model and what we think drives the returns of the acquisitions that we do is very consistent. And we understand and can appreciate that CA was a bit of a surprise and certainly larger than maybe what many people expected. But the reality is, that was the right deal for us at the right time, as we think about how to the earnings base of the company, and how to drive value for shareholders over time.

And if you think back, and this follows up on Harsh's question, a minute ago. When we bought LSI, we were getting into what you could argue is a very different business. We had as I know largely mobile business at Fargo [ph] RF business that sustains today has grown organically very rapidly. But we are getting into businesses that included rechannel SLCs, preamps for hard disk drives. We were getting into enterprise storage, and SaaS connectivity serving -- deliver into the server market, and these were all businesses that we frankly didn't know very well, but it was the characteristics of those businesses.

And just to follow-on what Hock discussed in terms of the intellectual property, the barriers to entry, the sustainability of the businesses and by focusing on those businesses, that's what allowed us to drive the returns we've seen. And we've obviously expanded from there. We've done smaller transactions, but we've also more recently done, Brocade, include that the systems business, its largely software, it has an end-user sales force, it's opened our eyes to end customers and what we can do with those end customers. But more importantly it's proven to us that we can manage these businesses. And the performance of Brocade over the last year and we've obviously been quite familiar with the business for more than that time period has been quite exceptional.

And so CA is really an extension of a strategy that we've been pursuing for a number of years, and has driven tremendous amount of value for shareholders. So we look to continue to do that as a way to drive value. Obviously we're going to deliver on the dividend, which is really important to us, but we have a lot of financial flexibility of the back of significant and substantial operating cash flows to continue to do buybacks and to do accretive M&A. And we see opportunities going forward to do that.

Operator

Thank you. And our next question will come from the line of Edward Snyder with Charter Equity Research. Your line is open.

Q - Edward Snyder {BIO 2498283 <GO>}

Thanks a lot. Hock, thanks for the explanations. One things that struck me though in your initial comments, when you were talking about your new customer base with CA, because it you open up a lot of clients, that you don't have, with the semiconductor business. You were talking about porting in some of your networking and compute solution and storage solutions to them. But right now you are selling semiconductors and the number of your big customers, you mentioned them Google, Facebook or Google, Amazon, Microsoft build their own boxes using your silicon. I would imagine, most of the CA's customers do not do this.

So how are you going to port your -- how do you think you could port your semiconductor products to these new customers without getting into box -- boxes or are you thinking about that or do you think they'll start up such endeavors to porting. I guess I don't understand how your existing products are going to be ported to these new clients without some sort of intermediary or white-box guy or something, maybe I'm confused there, but if you could explain that. I'll appreciate it.

A - Hock Tan {BIO 1460567 <GO>}

Sure, I think that's a very, very insightful question you came out with. And you're right, 100%. One, we're not interested in going into boxes. You've got that right or systems. We don't need to do that, but we have the key ingredients. We have chips the engine. So if you take a box, be it the switch, router or any of those things. And we have the software. Or if you want do some of these end users now, and you're probably aware of that, and to some extent, some of the big operators now are starting to want to build their own data centers, and have come to us. And asks us to enable them to build their own data centers, and that's very similar. And these guys are very, very aware, how the cloud guys are doing. The cloud guys use our own silicon engine, our own merchant silicon, in many cases, some of our initial -- our software as we gave by many cases they even write their own software and they then go to ODMs. The ODMs in Taiwan, in China, anywhere else put a box to build a system, a box. We help to enable that, obviously we have to, and that's how the cloud guys do it. There is no reason why an operator like AT&T with domain 2.0 cannot and ease in fact executing on that basis or any other large enterprise users would have to build out on their own sacle fairly substantial data centers why they can't even do that on their own because as long as you have the core IP the core technology, which is the engine, the software, everything else ties together and there are lots of ODMs out there, we call that white boxes, I believe. And they have a choice of doing that or continuing to buying from their traditional sources. We are able to do now, we have our direct access to CA customers is establish strong strategic and strong engagements with those end users in substantial end user enterprises or end users who would want to start doing it themselves.

In order to not just do it by low economics. But in order to access directly the lasers, I call it living edge silicon, software, products, technology, which will enable them to build data centers just as leading edge as what's available in the cloud. But we have seen that requirement, their request coming in and we are basically responding to it. This is not a pipe dream.

Operator

Thank you. And we have time for one more question on today's call. Our last question will come from the line of Romit Shah with Nomura Instinet. You're line is open.

Q - Romit Shah {BIO 16865852 <GO>}

Yes, thank you. Thanks for squeezing me in. I definitely appreciate that you guys think very strategically about the deals you do. But if I just go back and think about your M&A track record over the last several years. It just is struck me as being financial deals. First and foremost and Hock the playbook has been -- at least my impression has been you'd flash

SG&A by a significant amount. You'd cut R&D while side -- while basically raising prices at the same time. And CA given the kind of legacy nature of their technology has a lot of people believing that this business may turn out to not be a sticky, if you take the same approach. So can you just comment on that please. Thank you.

A - Hock Tan {BIO 1460567 <GO>}

It is a question that's wrong in so many fronts, I don't know where to begin. Let me start, let me try. Number one, we acquired -- we have a history of acquisitions and integrating very, very well. Those are not financial deals. They end up, as I say as great financial returns. They are not, we operate them under a single umbrella, we operate them, I hate to say very, very well, but we also operate them very, very focused. And when you're focus, as I said before, you don't over invest in R&D. When you're focused, you don't over invest in even selling.

When you run your company in the business model that is simple, you don't need huge amount of SG&A as in the rental. It is not about cutting SG&A. it's about simplifying a business process with very strong -- a portfolio of very strong businesses where you focus your spending on R&D to enable key being ahead of the pack. And that's really our vessel our model, is the business model and as we have executed over the last six years through multiple acquisitions and also, as I mentioned, in an earlier response, how well we integrate into the model which ties to being very focused on what you pick as core businesses, you want to keep investing in and divesting, a key part of it and you don't have businesses that you do not see as being sustainable.

Part of being sustainable, it's part of resource there as which ends up the franchise. We -- when we buy companies for the last five, six years, just as many companies and businesses, we add in. If you look at the final print and we have that data, we divest as many businesses out there, we just like to go, because those are businesses, we believe are not sustainable, are not strong, are commoditize and where you don't have that advantage for whatever reasons that comes into play. So in that sense, you might call that financial. I don't, I call it very strategic focus on businesses you can win and that's how we look at even looking towards a, which is an interesting part of what you say because blooming the mainframe business is very alive and well.

Investments are still continuing in the mainframe business. And to put it in simple terms transactions -- online transactions, a lot of them in the largest enterprises in the world, cannot run without mainframe. The hard way all the software tools that drive it, so that's basically all I say to that, but obviously ours is an operating model and the business model and the financials is what comes out of a very strong sustainable and secure business model.

A - Tom Krause {BIO 17978469 <GO>}

Okay. Thank you, everybody for participating in today's earnings call.

A - Hock Tan {BIO 1460567 <GO>}

Thank you.

Operator

That concludes Broadcom's conference call for today. You may now disconnect.
