



**Ciena Corporation**

**Fiscal First Quarter 2018 Financial Results Conference Call**

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## C O R P O R A T E P A R T I C I P A N T S

**Gary B. Smith**, *President and Chief Executive Officer*

**James E. Moylan, Jr.**, *Senior Vice President, Finance and Chief Financial Officer*

**Stephen B. Alexander**, *Senior Vice President and Chief Technology Officer*

**Gregg M. Lampf**, *Vice President, Investor Relations*

## C O N F E R E N C E C A L L P A R T I C I P A N T S

**Doug Clark**, *Goldman Sachs*

**Paul Silverstein**, *Cowen & Company*

**Tejas Venkatesh**, *UBS*

**Simon Leopold**, *Raymond James*

**Stanley Kovler**, *Citi Research*

**Michael Genovese**, *MKM Partners*

**Meta Marshall**, *Morgan Stanley*

**Jeff Kvaal**, *Nomura*

**Bryan Noone**, *Deutsche Bank*

**Tim Savageaux**, *Northland Capital Markets*

## P R E S E N T A T I O N

### **Operator:**

Good morning, my name is Lisa and I will be your conference Operator today. At this time, I would like to welcome everyone to the Ciena Fiscal First Quarter 2018 Financial Results Conference Call. All lines have been placed on mute to prevent any background noise. After the speakers' remarks, there will be a question and answer session. If you would like to ask a question during this time, simply press star, then the number one on your telephone keypad. If you would like to withdraw your question, press the pound key. Thank you.

Gregg Lampf, Vice President of Investor Relations, you may begin your conference.

**Gregg M. Lampf:**

Thank you, Lisa. Good morning and welcome to Ciena's 2018 Fiscal First Quarter Review. With me today is Gary Smith, President and CEO, and Jim Moylan, CFO. Steve Alexander, our CTO, will join us for the Q&A portion of the call.

Today's prepared remarks were made available at 7:00 a.m. Eastern today, along with this morning's press release, and an accompanying Investor Presentation that reflects this discussion, as well as certain highlighted items from the quarter. Our comments today include details on our fiscal first quarter results, Management's view of the market, an update on our share repurchase program, and Management's guidance for the second quarter. We will also discuss the impact of recent tax reform in the U.S. on our results.

Before turning the call over to Gary, I'll remind you that during this call we will be making certain forward-looking statements. Such statements are based on current expectations, forecasts and assumptions regarding the Company that include risks and uncertainties that could cause actual results to differ materially from the statements discussed today. These statements should be viewed in the context of the risk factors detailed in our most SEC filings. Our 10-Q is required to be filed with the SEC by March 8, and we expect to file by that date. Ciena assumes no obligation to update the information discussed on this call, whether as a result of new information, future events, or otherwise.

Today's discussion include certain adjusted or non-GAAP measures of Ciena's results of operations. A detailed reconciliation of these non-GAAP measures to our GAAP results is included in today's press release.

This call is being recorded and will be available for replay on the Investors section of our website.

Now, I'd like to hand the call over to Jim.

**James E. Moylan, Jr.:**

Thanks, Greg. Good morning, everyone. Last quarter, we shared with you a set of long-term financial targets and our strategy for managing the business over the next several years to hit those targets. Our Q1 results today demonstrate that we are off to a strong start in making solid progress towards those goals.

As we said last quarter, we're focused on profitability and taking market share, given the opportunities we see within the current industry environment. In the first quarter, we continued to grow and to diversify our business. In the meantime, our competitors are struggling on a number of fronts, including keeping up with the innovation, given the level of expertise required and how high the threshold for investment is today.

This quarter, we delivered particularly strong diversification metrics. Non-telco revenue comprised roughly 35% of total sales. Our direct webscale business was 15% of revenue, which is roughly double the contribution from this key customer segment in Q1 of '17, both as a percentage of revenue and in absolute dollars. Our Asia-Pacific momentum continued. The region contributed 17 % of Q1 revenue, up 25% from the same quarter last year, including contributions from several customers outside of our strong India base, and our submarine business was up 10% year-over-year, largely driven by the continued growth of webscale traffic.

Overall, we performed very well in Q1, including a particularly strong order flow performance for our fiscal first quarter, which is often challenging due to seasonality. Booking slightly exceeded revenue and our backlog grew, and we continued to execute on our strategy of capturing new footprint around the world, primarily with global service providers, and also with non-telco customers.

For Q1, we posted revenue of \$646 million, which is above the midpoint of our guidance. We delivered adjusted gross margin of 42.6%, which is within our expected range and is a result of our deliberate strategy to take share from competitors and gain footprint with new and existing customers. Finally, we reported adjusted operating expense of \$234 million.

With respect to profitability measures over the first quarter, we delivered adjusted operating margin of 6.3%, adjusted net income of \$21.9 million, and adjusted EPS of \$0.15. Both EBITDA and cash flow have become more meaningful measures of our progress and performance as our business has grown and matured. In Q1, our Adjusted EBITDA was \$61.8 million, we generated \$35.7 million in cash from operations, and free cash flow was \$10 million. Finally, we ended the quarter with approximately \$1 billion in cash and investments.

With that, I'll turn it over to Gary.

**Gary B. Smith:**

Thanks, Jim. As Jim outlined, we've been delivering consistent and differentiated financial performance with respect to top line growth, profitability and cash generation for some time now. We've been successful, and will continue to be, because of our ability to, number one, deliver innovations ahead of the competition that directly address the changing business and consumption models of our numbers, and, number two, leverage our exposure and investment in high-growth and emerging markets to intersect with demand drivers that play a key role in our market share opportunities.

I'd like to share with you a few examples of these dimensions of success in the first quarter.

From the rapid proliferation and adoption of mobile applications, the cloud-based services, to over-the-top video streaming, network operators around the world are working to respond to the increased demand for capacity, and we at Ciena are uniquely positioned to help them solve this challenge.

With our WaveLogic Ai coherent modem, we lead the market across the full range of high-capacity technologies, including 400G, which is beginning to essentially change the "unit of currency" for capacity in our customers' networks today. Specifically, we expect that 200G will begin now to replace many 100G long-haul connections over time, while 300G can now be deployed over 1,000 kilometer distances and 400G for shorter reach distances. In Q1, we had seven new wins for our 400G-capable WaveLogic Ai, bringing us to a total of 17 to date.

We are seeing this capacity trend play out with our global Tier 1 service providers; notably, as Jim mentioned, in Asia-Pacific, where a key contributor to our Q1 growth in region was revenue from our recent wins in Japan and Korea, in addition to sustained strength in India. This capacity trend also encompasses the metro builds we've discussed, including the strong contribution from the Verizon metro network project in Q1, which is rolling out exactly as expected.

It is no surprise that DCI applications, particularly in our webscale customer base, are driving a need for higher-capacity solutions. Highlighting the rapid adoption of our purpose-built DCI solution, Waveserver generated approximately \$65 million in Q1, and today claims more than 80 customers globally.

In subsea, traffic levels continue to rise on existing cables and new cables are now being deployed. We signed two new deals in January alone, one for a trans-pacific cable system, the other for a trans-Atlantic system.

On the emerging side of our strategic drivers is fiber densification, which is becoming a more frequent topic of conversation with our customers. This includes the 5G network strategies, where we recently announced our solution plans. It also includes *Fiber Deep* strategies with cable operators. In Q1, we secured our second MSO customer for this specific application.

Of course, software automation is becoming increasingly critical in optimizing all of this capacity. Q1 got us off to a very good start for the year in software, with a strong contribution to our top line from our Blue Planet network domain controller and orchestration solutions.

Overall, it is clear that our key market segments and customer verticals performed very well across the board in the first quarter.

With respect to our overall market conditions, we are seeing continued growth in network traffic, increased network service and capacity requirements, and the transition to more open, programmable and adaptive networks. Accordingly, the primary driver for network operator spend in our space is the need to deploy and manage capacity as demand continues to grow and fiber densification architectures are implemented. I'd like to stress that these factors were incorporated into the long-term financial targets we laid out for you last year at the end of the last quarter.

Since our last quarterly report, however, there's been a lot of speculation about additional demand drivers in our industry, including the impact of U.S. tax reform. We believe that tax reform is a positive for our customers, clearly. However, definitive plans are largely yet to be determined. In any event, I would stress that we view the effects of tax reform as secondary to the core industry trends that have been impacting and really continue to drive customer network spending.

We remain confident in the outlook we provided three months ago and in our long-term plans for managing the business to continue growing faster than market and expanding our profitability at the bottom line.

I'll turn it back over to Jim, who will cover a few more topics, including our guidance for the fiscal second quarter. Jim?

**James E. Moylan, Jr.:**

Thanks, Gary. First, like other U.S.-based companies, we've had to account for the impact of the new U.S. tax law in our financial results. As a result, in the first quarter, we experienced a GAAP loss, primarily due to a significant non-cash charge for the revaluation of our deferred tax asset from the 36% rate to the new 21% rate. This resulted in an estimated \$477 million of tax expense. With respect to our tax rate for 2018, there may be quarterly fluctuations. However, we currently expect our blended GAAP tax rate for the year to be 29%. In calculating adjusted net income, we expect to use a 26% rate for fiscal '18. It continues to be the case that we do not expect to pay cash taxes for U.S. federal income tax for the foreseeable future, primarily due to our deferred tax asset balance.

Next, I'll update you on the share repurchase program that we announced with last quarter's results. We have Board authority to repurchase up to \$300 million of Ciena common stock through the end of fiscal 2020. We began repurchases late in our fiscal first quarter, and through March 5, we have repurchased approximately 874,000 shares of common stock for an aggregate purchase amount of about \$20 million at an average price of \$22.34 per share. We intend to continue this repurchasing activity as part of the

strategy we articulated last quarter and our commitment to returning capital to shareholders. We have confidence in our long-term growth, as well as our strong balance sheet and cash flow generation.

Looking ahead, in fiscal second quarter 2018, we expect to deliver revenue in a range of \$710 million to \$740 million, gross margin in the low to mid-40s range, roughly equivalent to Q1 gross margin, and operating expense of approximately \$240 million.

On gross margin specifically, I will remind you again that we are deliberately targeting new footprint opportunities around the world and we are winning. As a result of this success, we currently have a large number of significant deployments in their early stages. These often carry correspondingly lower gross margins. As we've seen in the past, over time these deployments reach stages which generally carry a more favorable product and pricing mix. We have experienced this over many years and over many projects around the world. As we said last quarter, we thought that this pattern would continue for the first two quarters of fiscal 2018, and that is playing out as we expected.

As highlighted by our first quarter results and our second quarter guide, our business is strong and we are executing well on our strategy. We are uniquely positioned in this industry to continue delivering a combination of top line growth, profitability and cash generation, with a strengthening balance sheet.

Lisa, we will now open the line for questions.

**Operator:**

At this time, I would like to remind everyone, in order to ask a question, press star, then the number one on your telephone keypad. We'll pause for just a moment to compile a Q&A roster.

Our first question comes from the line of Doug Clark from Goldman Sachs. Your line is open.

**Doug Clark:**

Hi, and thanks for taking my questions. My first one is you mentioned—or reiterated confidence in your long-term outlook. I just want to be clear that that includes the 5% to 7% revenue growth CAGR. Then, Waveserver specifically, the doubling year-on-year, can you talk about the trends there? Is that a sustainable number, will remain solid on a quarterly basis? How penetrated are you into some of the large hyper-scale guys at this point?

**James E. Moylan, Jr.:**

Thanks, Doug. I'd say we're absolutely off to a great start on all of the strategic imperatives that we set out for ourselves last quarter. We're making progress across the board, we think those numbers are still in the range of what we're going to achieve, and feel very good about the outlook for us not only this year, but for the next three years.

**Gary B. Smith:**

Doug, specifically, on the webscale, yes, it was very strong performance, particularly when compared with the same period last year. Listen, I think, overall, you're seeing a trend upwards in the direct business that we do with webscale, and clearly the indirect business, as well. I think you're going to see it fluctuate quarter to quarter for sure, but I think, generally speaking, looking at the footprint, we have most of the major webscale players globally now as Ciena customers, so I'd continue to expect good growth with webscale over the next couple of years.

**Doug Clark:**

Okay, and then my follow-up was—I noticed that software and software-related services were strong sequentially and on a year-on-year basis. You mentioned Blue Planet being a good contributor in the first quarter. Can you talk about what drove that inflection? Is it monetization of Blue Planet?

**Gary B. Smith:**

Yes, I think it's getting our multi-domain controller out into market. For the first time, we're beginning to see revenues come to speed with that. Also, I think the orchestration and packages that we're getting into the market now, and the learning that we've had over the last couple of years, I think is beginning to show up in the financial performance. Again, still, you know, relatively nascent space, early days for us, but very encouraging, the traction that we saw in Q1.

**Doug Clark:**

Great. Thanks a lot.

**Gregg M. Lampf:**

Thanks, Doug.

**Operator:**

Our next question comes from the line of Paul Silverstein from Cowen. Your line is open.

**Paul Silverstein:**

Hey, guys, can you hear me?

**Gary B. Smith:**

Hello, Paul. Yes, we can.

**Paul Silverstein:**

Good morning. Jim, on the gross margin outlook, when you talk about extending through to this quarter, how much visibility do you have into Q3 and Q4 in terms of a rebalancing your appreciably extended gross margin? How much is that based on hard data points and how much on, you know, hope and belief, and then I have a follow-up?

**James E. Moylan, Jr.:**

All of our forecasts are based on hard data points, Paul. We have a backlog. We have expectation of what we're going to bring in orders over the next two or three quarters. So, it's not all based on quarters we have in today, but it is all based on projections that are bottoms-up. So, we feel confident about our gross margin prediction.

**Paul Silverstein:**

Jim, just to be clear, if I can push you, when you say you feel confident, you feel confident that come Q3 and Q4 you're going to see a meaningful appreciation in gross margin, because of the impact of these

new deals you won in Asia-Pac and elsewhere will start to—you'll start to see the shift from coverage footprints (inaudible) expansion, or are there other factors?

**James E. Moylan, Jr.:**

Our expectation is that Q3 and Q4 will be in the mid-40s range, for a lot of different reasons. Basically, what's happening, in Q1 and Q2 is we have a lot of international, early-stage deployments which carry correspondingly lower gross margins. We have played this pattern out over and over again around the world, so we're confident that those contracts will recover as we move through time, and they will also be a smaller percentage of our overall revenue base, so we'll get some recovery from that, as well.

**Paul Silverstein:**

Jim, my apologies, you did say mid-40s in Q3 and Q4?

**James E. Moylan, Jr.:**

Mid-40s in Q3 and Q4.

**Paul Silverstein:**

All right, and one clarification, if I may. With respect to your India business, I think I heard you or Gary talk about ongoing long-term strength, I'm not surprised, but can you guys give us a more detailed update in terms of how many service providers, what is the nature of the build-outs and where they're at from a longer term perspective, and what the revenue contribution was, if you would?

**Gary B. Smith:**

Yes, I mean, I'd say we are—we have relationships with all of the major service providers in India. As you know, the number one and, I think, number four are consolidating with Idea/Vodafone, they're a customer. So, I think you'll end up with three large carriers, all of which are significant Ciena customers in various forms. Then, you've got some of the specialist regional carriers that are also customers with Ciena. The subsea carriers that come into India, also, we have number one market share there, too. We have government contracts into India, plus the Department of Defense in India, which we won last year. I think the thing to stress is this is a very broad-based adoption in India. It's the fastest growing Internet market in the world right now. I think that's very sustainable over the next few years, to be able to deliver that growth. I think the economic activity around digital India is also supporting this kind of framework of growth. So, I think Ciena is incredibly well positioned for sustained growth in India.

**Paul Silverstein:**

I appreciate it. I'll pass it on. Thanks, guys.

**Gregg M. Lampf:**

Thanks, Paul.

**Operator:**

Our next question comes from the line of Tejas Venkatesh from UBS. Your line is open.



**Tejas Venkatesh:**

Thanks for taking my question. The 17 wins for WaveLogic Ai that you alluded to in your prepared remarks, I just wanted to confirm that that's for the 5x7 module that you're trying to sell with your partners.

**Stephen B. Alexander:**

This is Steve Alexander. The 5x7 module is completely separate from those. That was referring to, I believe it was Waveserver wins, right—the Waveserver Ai wins. So, that's the complete system, right?

**Gary B. Smith:**

We had seven in the quarter, 17 to date total, and that's both Waveserver and 6500.

**Tejas Venkatesh:**

Got it, and could you comment on that modem business and what you've seen? It's been almost a year since you sort of announced that.

**James E. Moylan, Jr.:**

Right. So, what we said was end of this—well, let's see, this is now 2018, so we said we would be sampling parts 2017 and 2018, which we are doing, getting feedback from customers, and then the middle to end of this year, we'd start to recognize some of the revenue and shipments from it.

**Stephen B. Alexander:**

End of this year.

**James E. Moylan, Jr.:**

End of this year, end of our fiscal year.

**Tejas Venkatesh:**

Got it, and just as a follow-up, last year saw a little bit of a spending pause from customer consolidation. Is that starting to turn?

**Gary B. Smith:**

Yes, I don't think we saw too much of that, because we were very, very diversified. You look at our results for last year, we barely missed a beat. So, listen, I think you're always going to have ebbs and flows of customer consolidation. We're at the size now where, quite frankly, it really doesn't impact us on a quarter-to-quarterly basis, we're able to deal with it.

**Tejas Venkatesh:**

Thank you.

**Gary B. Smith:**

Thanks, Tejas.

**Operator:**

Our next question comes from the line of Simon Leopold from Raymond James. Your line is open.

**Simon Leopold:**

Great. Thanks for taking my questions. A couple things. Last call, you mentioned Japan, and I think establishing a little bit of progress in that market. I recall Japan historically has been a relatively closed market to non-Japanese companies, but also a big opportunity. Could you give us a little bit of perspective on your thinking of that opportunity and where you stand today?

**Gary B. Smith:**

Yes, your classification of that market, I think is pretty accurate historically. We've had continued presence there over many, many years, but generally there has been a preference for local indigenous suppliers. I think as, globally, the business is consolidating and the ability for players to really be a global player in this space, the cost of that is increasing and you're getting fewer and fewer players own the core technology. I think what you're seeing in Japan is them looking for a world-class other vendor to help diversify their local base of supply. We've seen this over the last 18 months and it's beginning to actually come to revenue. We have pretty much most of all the major carriers now in Japan either deploying or about to deploy Ciena 6500.

**Simon Leopold:**

Do you see maybe a trajectory where we could see Japan be 5% to 10% of Ciena's revenue? Is it that size opportunity?

**Gary B. Smith:**

I think, you know, it's tough to tell, but I think that sounds a little high. I think you'd get more consistent revenues from Japan than we've had historically, but whether it'll break through 5% a quarter, we'll have to see. But, definitely, if you put that together with the other things that we're seeing in Asia, putting India to one side and just look at the other elements of Asia, we're seeing good growth in places like South Korea. If you go further down the Pacific, we've got Telstra in Australia, very strong, as well. So, I think that region clearly is spending on infrastructure over the next few years.

**Simon Leopold:**

Great, and I wanted to pivot to your comments around cable TV and the *Fiber Deep* initiative. A lot of our work suggests that the spending on these projects should likely inflect in the second half of calendar '18, and I just want to get a better understanding of whether Ciena would be a leading or lagging participant in that market opportunity, so you start to see it in your April quarter, or is it more of something that is a 2019 opportunity for Ciena? Thank you.

**Gary B. Smith:**

I think, overall, the sort of *Fiber Deep* this year, I'd characterize it as people are putting early deployments in, testing the architecture, etc. I do think we'll see some revenue in the second half, and that is encompassed in our thinking about the year, but I think you won't see this sort of larger ramp until 2019 in North America.

**Simon Leopold:**

Great. Thanks for taking my questions.

**Gary B. Smith:**

Thanks, Simon.

**Operator:**

Our next question comes from the line of Stanley Kovler from Citi Research. Your line is open.

**Stanley Kovler:**

Hi, good morning, guys, and thanks for taking the question. I just wanted to ask you about the market drivers. Gary, you mentioned that tax reform was regarded as a driver. I would also say maybe more optimism around 5G spending and deployments. Do you have any more detail for us about front-haul or other type of spending that you can identify as, let's say, purely 5G-related, and I have a follow-up? Thanks.

**Stephen B. Alexander:**

Yes, Stanley, Steve Alexander. If you saw the news coming out of Mobile World Congress, lots of attention to 5G, and we've said for quite a while it was going to show up in kind of three places: cell phones get faster, point-to-point microwave shows up, and then over long term, it's going to be kind of the infrastructure for the Internet-of-Things. So, we view it as a very long-term driver of capacity background for the networks. There's certainly going to be early trials and deployments, kind of point-of-view spot use of higher capacity. We view the edge of the network, if it was one gig, it's going to go to 10 gig, if it was at 10 gig, it's going to go to 100 gig, but that's going to take many, many quarters, if not years, to get really wide-scale deployment.

**Gary B. Smith:**

But, I would say, Stan, we are seeing—and I've seen for a few quarters now—some of the larger carriers begin to encompass their thinking in getting basically high very degrees of fiber connectivity into the metro to support this. As Steve characterized, this sort of direct impact of some of the applications that we're talking about, Internet-of-Things over 5G, personally, I think is a little ways off in terms of major deployments, but I do think we are seeing already the benefit of greater planning around getting higher capacity closer to the customer for 5G.

**James E. Moylan, Jr.:**

I'd just remind everybody, we do have relationships and big contractual commitments with all the big North American metro companies, and we're beginning to grow around the world in metro. So, it's going to be a plus for us, it's just a question of timing.

**Stanley Kovler:**

Thanks, and just to follow up on the point about large customers, how would you characterize your '18 key business in Q1, and then as we look out into fiscal '18, you've specifically guided they're spending up significantly, if you look at it on a nominal basis, before the FirstNet refund, essentially, and then lots of initiatives around fiber deployment, business services, other things. What's the outlook there for '18?

**Gary B. Smith:**

Listen, I mean, I think they're a good solid customer for us in Q1, they're about 14% of total. Obviously, as that business grows, they become less of an overall percentage, even though their business has grown, which I think is healthy, and we're favorably exposed to all of these kind of dynamics with AT&T across the board. We have multiple applications and engagements with them, including some of the software elements. So, listen, I think we're going to have a good couple of years with most of the major carriers in North America, given these kinds of dynamics.

**Gregg M. Lampf:**

Thanks, Stan.

**Stanley Kovler:**

Thank you.

**Operator:**

Out next question comes from the line of Michael Genovese from MKM Partners. Your line is open.

**Michael Genovese:**

Great, thanks, and congratulations on the good results, guys. When you talk about competitors having a hard time keeping up with the innovation, can you just give us a little bit more granularity, specifically, some of the technology areas where you are differentiating and where they are having trouble keeping up?

**Stephen B. Alexander:**

Sure, Mike. Clearly, what we've done with WaveLogic is, I think, sets a standard in terms of the rates and the performance that we're able to drive out of the DSPs, so that's a key piece of it, but I would point you to the way that the basic systems, right? What happens is the transport systems, you know, auto-discover and it determines how they operate and such, we've made them very programmable, very flexible. As you come up the stack, we've done the convergence of the packet and optical features, so we have basically one box does the work of two. For other vendors, they may have to put two or three boxes in to get the same kind of functionality. Then, we're adding to that all the software intelligence, the analytics, the orchestration, the automation, the software definition, if you will, that allows the operators to make the network operate the way they want. So, it's not just one thing. We've invested heavily in a physical way and we've invested heavily at the packet layer, the convergence of those two, and then the software intelligence and automation that goes around it all.

**Gary B. Smith:**

The other thing I would say, just if you wanted a sort of simple soundbite to it, is we are the only viable 400G player out there right now that is actually truly shipping and deploying. We are the only viable player.

**Michael Genovese:**

Right, and then this is my follow-up, guys. There was some unconfirmed chatter out there, I think someone put it out there, that one of your larger—or maybe your largest DCI customer, that maybe a competitor has signed a contract and will be coming into that account in the second half of the year. Obviously, you did really, really well in DCI in this quarter and it doesn't seem to be impacting you at all, but can you talk about whether that's actually true and whether there could be any impact in the future?

**James E. Moylan, Jr.:**

I think you should look at our results. I think our results stand by themselves, as testament to the fact that we're doing extremely well in the DCI business. I think we're going to continue to do very well in the DCI business. There are all sorts of rumors and chatter around all the time about all sorts of things. We feel really good about our DCI position.

**Michael Genovese:**

Great. Keep up the good works, guys.

**Operator:**

Our next question comes from the line of Meta Marshall from Morgan Stanley. Your line is open.

**Meta Marshall:**

Great, thanks. I wanted to kind of get a sense of who are—like, what makes up the 80 Waveserver customers, because I guess I would have thought that was traditionally a smaller number of bigger customers, so maybe kind how much are ICPs or ISPs, and how much are kind of telcos? Then, the second, I just wanted to clarify—some of your other participants in the ecosystem had noted some acceleration in the Verizon roll-out, but it seemed to be that you were noting that it was continuing on pace, just any commentary around the Verizon roll-out would be helpful. Thanks.

**Gary B. Smith:**

Let me deal with that one first. I think consistently, frankly, there's been speculation around acceleration and the rest of it with regard to Verizon, I would say that pretty much since we agreed the deal with Verizon, it's been very consistent around the roll-out, and they've been really basically on plan throughout, and so what we're seeing now is exactly what they predicted. So, I think it's very consistent and as expected, and encompassed into our overall guidance.

Regarding the Waveserver, I think the thing to remember about that is the applications are—it broadens up the amount of applications, anybody, basically, requiring data center connectivity. That's really the point.

**Stephen B. Alexander:**

Yes, Meta, if you remember the open architecture, right, we had kind of crafted it as content-to-content connections, and clearly that sells into the hyper-scale folks or the webscale folks, but lots of people now are interested in interconnecting buildings, data centers to data centers to data centers, and so there's not just the very large market, the Tier 1s, call them, and the webscale folks, but there's a lot of Tier 2s, and even Tier 3s now, that want to have data center connectivity. So, there's a broadening customer base.

**Gary B. Smith:**

Also, that would include enterprises, governments, etc., education market, which is why we had 35% of our business outside of non-core telco, largely as a benefactor of the Waveserver dynamic.

**Meta Marshall:**

Got it. Just as a follow-up question on that, do you envision kind of the business moving towards kind of, you know, two-thirds core telco and one-third non-core, or do you kind of see those business splits differing over time?

**James E. Moylan, Jr.:**

Well, we certainly have—over time, we've increased the percentage of our business which is non-telco driven, in large part by the fact that GCNs have come into the market as purchasers of capacity. As far as the future, it's hard to predict. The GCN today is the fastest growing segment of the market. They do, however, still buy some of their capacity through service providers, particularly internationally. So, it's hard predict. I'm just confident that we're going to do well with GCNs, U.S., around the world, and with their service provider customers when they use them. So, feel good about it, around the world.

**Meta Marshall:**

Got it. Thanks, I'll pass it on.

**Operator:**

Again, if you'd like to ask a question, that's star, then the number one on your telephone keypad. Our next question comes from the line of Jeff Kvaal from Nomura. Your line is open.

**Jeff Kvaal:**

Yes, thanks very much. I'd like to begin with a clarification. Jim, you spoke earlier about orders being ahead of the seasonal pattern. Could you talk a little bit about what the base line might be, typically, for quarters and the January quarter, and then any color you could provide on where that relative order strength is coming from would be great?

**James E. Moylan, Jr.:**

Yes, well, as we all know, our first quarter encompasses a holiday season in the first month of the year and in many cases budgets aren't set, and so we always have a lower percentage of both revenue and orders in Q1, as compared to the other quarters of the year. We actually expect that to happen this year, as well, but we had a particularly strong quarter in Q1. We did, as I say, slightly grew our backlog in the quarter, which is a very good sign. It's strength, really, across the board. It's a lot of GCN business, a lot of business in Asia, particularly India. So, it's really across the board.

**Jeff Kvaal:**

Okay, great. Then, secondly, you, for a couple quarters now, have been talking about—a little more aggressively about being able to gain share from competitors, particularly those that are struggling with scale, and you've also got a bit of a technology migration that is underway. To what extent should we think that the pricing environment has changed at all, since the pricing environment reflects any of these developments?

**Gary B. Smith:**

I would say the pricing environment overall has been pretty stable, it hasn't really changed. I think what we are seeing is a number, particularly, of Tier 1 carriers internationally. Consistent with our expansion in Japan, I think a number of these customers are looking long-term around who do they want to partner with as their strategic network infrastructure player, and we're increasingly basically winning Tier 1s that we haven't had before, they're new customers to Ciena. I think we have such a large share of the global market, anyway, and then you've got these other large Tier 1 carriers coming to us both in Europe, Middle East and in Asia, and that's not unusual, but what is unusual is that we've got a number of them at the same time. The conclusion is, I think, people are thinking very long and hard about who they want to put their infrastructure partnership with.

**James E. Moylan, Jr.:**

You go back the last five or six years, the market's grown in mid-single-digits. We've grown 8%. We grew 8% last year in a market that was flat to down-ish. So, we feel great about our ability to continue to take market share.

**Jeff Kvaal:**

Thank you both.

**Gregg M. Lampf:**

Thanks, Jeff.

**Gary B. Smith:**

Thanks, Jeff.

**Operator:**

Our next question comes from the line of Vijay Bhagavath from Deutsche Bank. Your line is open.

**Bryan Noone:**

Hi, this is Bryan Noone (phon) on for Vijay. Thanks for squeezing me in. In regards to WaveLogic Ai, can you give us your view on a potential timeframe for when you think 200G sort of starts to replace 100G and when 400G starts to become a meaningful driver of revenue for you guys? Is this more of a 2019 story or can we see something in the back half of '18? Thanks.

**Stephen B. Alexander:**

So, let's see, 200 gig is kind of in our review mirror, we've been there, done that. Four hundred gig, I know it's becoming more and more important. I don't have a breakdown of it in terms of contributions to revenue, because what we're shipping are effectively programmable, so you can run them at various rates. Webscale guys generally will take them at the highest rate available. Some of the carriers can do it now, also. But, 400 gig, for us, is today. When we're looking forward, we're seeing higher rates and higher performance. The 200 gig is kind of yesterday's news.

**James E. Moylan, Jr.:**

One thing we've seen the past several cycles is that there's been a faster rate of adoption as we went through 40 to 100 to 200, and now 400. We're early days on 400 gig, but the early rates of adoption are high, driven in part—well, mostly by GCN.

**Bryan Noone:**

So, just to clarify, the comments around 200 being sort of in the rearview, is that in reference to long-haul connections, as well, or just shorter reach.

**Stephen B. Alexander:**

Both. Again, they can use them at various rates, variance distances, right? So, 200 gig to us is kind of done, solved the problem, and we're on to the higher rates.

**James E. Moylan, Jr.:**

Just to be clear, though, Bryan, we still sell a tone of 100 gig. We're not stopped selling 100 gig, but we were the first in the market with 100, 200 and now 400, and we'll continue to be a leader in innovation. We're confident about that.

**Gregg M. Lampf:**

Thank you, Bryan.

**Operator:**

Our next question comes from the line of Tim Savageaux from Northland Capital Markets. Your line is open.

**Tim Savageaux:**

Hi, good morning, and congrats on a strong report. I want to focus initially on the notable strength in Waveserver, and cloud, in general. You saw in Q1—and last year, you started with a target for Waveserver, in particular, I think, was 50 to 100, or maybe towards the low end of that range. You indicated at the end of last year that you had come in meaningfully above the high end of that range. Given the strength you've seen in Q1, I imagine we could expect that number to maybe double again. I wonder if you care to provide any similar type of range for Waveserver growth expectations for fiscal 2018, comparable to the 50 to 100, which seems pretty low now, where you started last year.

**James E. Moylan, Jr.:**

Tim, we're not prepared today to give you a number for Waveserver. Look, we feel great that product. We feel great about our progress with all of the webscale companies and all of the companies with a business model based on the web, but we're not prepared to give that number. We'll have a great year with Waveserver, though.

**Tim Savageaux:**

Fair enough, and if I may follow up. I'm assuming your 10% in the quarters are still major North American carriers, but given how significant the cloud direct numbers are getting, and perhaps indirect, as well, can you address—to you have any cloud guys who are close, I guess, and maybe you could



characterize that in the context of top five or top 10 customers, or maybe do you have any sense of how important individual cloud customers are becoming to your overall mix?

**James E. Moylan, Jr.:**

We've had two or three of the webscale companies be in our top, at least, 10 customers, and a couple times in our top five companies. We've approached 10%, but we're not at 10%, obviously, but who knows, we'll see what happens here. We've got great positions with just about all the big ones, and most of the smaller ones, as well.

**Gary B. Smith:**

The other thing I would add, as well, just on the diversification piece, is we've had a number of international customers come incredibly close to 10%. We had a couple of them 8% and 9%, you know, international carriers, as well as the webscale folks, as Jim said, in the 8% to 9% range. So, you know, listen, I think it's pretty predictable that we'll have a quarter soon where one of them breaks through as a 10% customer.

**Tim Savageaux:**

Thanks.

**Gregg M. Lampf:**

Thank you, Tim.

**Operator:**

We have no further questions in queue. I'll turn the call back to the presenters.

**Gregg M. Lampf:**

Thank you, Lisa, and thank you, everyone, for joining us today. We look forward to catching up with everyone today at OFC and further on down the road. Thank you.

**Operator:**

This concludes today's conference call. You may now disconnect.