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<<Ryan Koontz, Analyst, Needham & Company>>

Hello. Welcome to the 27th Annual Needham Growth Conference. I'm Ryan Koontz. I cover the networking sectors here at Needham. I'm really thrilled to be joined by Ciena and their President, Gary Smith. Welcome, Gary. How are you?

<<Gary B. Smith, President and Chief Executive Officer>>

Very well. Thank you for having me.

<<Ryan Koontz, Analyst, Needham & Company>>

Excellent. If any of you have questions you'd like to suggest, you can e-mail me at rkoontz@needhamco.com, or submit them via the conference portal platform. So Gary, just to start with congrats on a nice quarter and a superb outlook. Can you maybe walk us through kind of what led you to your strong guidance there and strong outlook?

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. No, we're seeing very good visibility and strength in the business in a number of facets. Number one, the service provider business, as you know, has been a little chaotic over the last few years, and I think that's getting into balance from supply and demand. And we were seeing a strong few quarters in terms of orders outstripping revenue. So we're getting back to a more normalized trajectory on that. So that's all good. And then on the cloud side, which directly and indirectly is more than 50% of our business now. We're seeing super growth opportunities there, both in just continuing to connect into the data centers, connect them all together around the world. And then also some opportunities into the campus and eventually into the data center. So we feel pretty good around the next one to three years.

<<Ryan Koontz, Analyst, Needham & Company>>

Excellent, really exciting stuff, and we'll unpack all those things. Maybe just starting with the bandwidth demand in general. Lot of questions about AI these days and tremendous investment going into building out that infrastructure for the cloud providers and eventually the enterprises. Can you maybe quantify the impact of AI on bandwidth demand as it relates to traditional drivers you've seen in your business?

<<Gary B. Smith, President and Chief Executive Officer>>

I mean if you go through sort of bandwidth demand, typically, the growth of bandwidth around the world is typically 20% to 30% that has been for, frankly, the last two decades.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes.

<<Gary B. Smith, President and Chief Executive Officer>>

And that's largely, as we know, through service providers and through these advent of the Internet, et cetera. What we're beginning to see is potentially that growth rate increasing with this overlay of AI traffic. And we're seeing that manifest in a couple of ways already. Just overall, the cloud traffic and our business directly into the cloud continues to increase. So I think we're seeing some of that in there. It's – you can't discern exactly how much is AI and how much is just cloud growth, but definitely an uptick.

And we're seeing some dedicated builds as well, particularly around machine to machine, where they – obviously, with all the GPU investments, you can't get them all in one place because of power and space. And so, they're having to get high-speed connections between data centers for learning and training. And we are seeing dedicated capacity come out of that, which we haven't been obviously before. And then I think there's this opportunity from a traffic point of view for all the inference, and that's really in front of us. And no one really knows how to model that, except as much to say that if they're going to realize all of their investments and this enormous investment in compute and data centers, to monetize it, you've got to get it out into the network. And so – but that's all kind of in front of us. We're seeing an uptick now already.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes, it's mostly driven by training then initially...

<<Gary B. Smith, President and Chief Executive Officer>>

Largely, we're seeing some dedicated builds right now, Ryan, where they're only using it put direct interconnect between data centers. And that really is for training and learning.

<<Ryan Koontz, Analyst, Needham & Company>>

Incredible. That's great. A lot still ahead of us then. On the geo side, can you maybe elaborate on some of the things you're seeing in terms of geographic trends, where you're seeing most of the explosive growth here or uptick in reacceleration growth?

<<Gary B. Smith, President and Chief Executive Officer>>

Well, I mean, I think here, in North America, obviously strong. I mean you're seeing that from a cloud point of view. You're also seeing it from a service provider point of view. We had, for the first time in about two years, orders outstripped revenue for our North Americans. And they were the ones that really had the supply chain absorption challenges. And that, I think, has cleared out. So we're seeing strength in the North America. We're seeing a gradual uptick internationally,

places like India, Europe from a service provider point of view. And then from a cloud point of view, you seen significant growth in markets like India, where they're building these MOFN, these managed optical fiber networks dedicated to the cloud players. So we're seeing that.

I would also pick out the submarine cable space. It's got some challenges, obviously, around some of the geopolitical stuff. And as we know, in places like the Red Sea, which is strategically important. But notwithstanding that, that really is a sort of critical arteries for all of the web scale follow-up. So you're continuing to see investment in that. And that sort of – I think that's from a geographical point of view, it's fairly broad led by the U.S. would be my summary.

<<Ryan Koontz, Analyst, Needham & Company>>

And the cloud builders mostly driving that uptick globally?

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. Yes. Even when you talk about submarine cables, it's largely – they're the largest consumers and probably the math would be the largest, some of the largest owners now of submarine cable. And certainly, the stuff that's planned they've all announced. You saw Meta's announcement, I think it was billions of dollars investments in cables, but you've obviously heard Google.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes. These cables have really – the subsea cable have kind of come to the forefront even in terms of some of the geopolitical tensions, right? We've got to talk about Sabotage, subsea, sabotage, maybe in space coming. I mean, it's – it's a new world.

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. No, it is. And then these are very critical arteries for the whole sort of global infrastructure. They are strategically important, both to trade and economics, but also to countries.

<<Ryan Koontz, Analyst, Needham & Company>>

So maybe in terms of like the risk and risk management as it relates to the current demand environment, how do you think about managing those risks, whether geopolitical or whether they're – of the other, just macroeconomic risk. How do you manage those as a leader?

<<Gary B. Smith, President and Chief Executive Officer>>

Well, I mean, I think we've got to be mindful around all of that stuff that goes on, the geopolitical stuff, some of which I just talked about as it relates to submarine cable issues. You've got things like tariffs, which is like everybody's done, who knows how that will play out. I mean, we've got various scenarios, which we're working, we'll see what happens. But we've got a very diversified supply chain that's robust. So we'll figure out how to manage that. So those are the kind of things that you try and get out ahead of as much as you can. But until they manifest in

whatever form they will, it's tough to know what problem you're trying to solve. So I think we're all trying to figure out what will happen there, for sure. But listen, overall, from a demand dynamics and thinking about the risk mitigation, I think we're in a reasonable place from that point of view. I think the economy is going very strong, certainly in the U.S. and the amount of investment that's going on in compute, that if they're going to monetize it, it's got to get out on the network.

<<Ryan Koontz, Analyst, Needham & Company>>

That's right.

<<Gary B. Smith, President and Chief Executive Officer>>

So I feel pretty good around all of those dynamics.

<<Ryan Koontz, Analyst, Needham & Company>>

Excellent. Yes. And your leadership is, I think, unchallenged to some degree in terms of your leadership. In terms – and on that note, in terms of your competitive advantages relative to the bandwidth growth, I mean, where do you really flex your muscles there on Ciena's strengths relative to your peers?

<<Gary B. Smith, President and Chief Executive Officer>>

Well, I mean, I think as it relates to supply chain, Ryan, or just the technology...

<<Ryan Koontz, Analyst, Needham & Company>>

Yes, supply chain and beyond in kind of the overall...

<<Gary B. Smith, President and Chief Executive Officer>>

Yeah, the overall competitive.

<<Ryan Koontz, Analyst, Needham & Company>>

R&D as well.

<<Gary B. Smith, President and Chief Executive Officer>>

I think you think about the company now and where we're at, I mean, we're clearly the best in the world at high-speed optics, as it relates to outside the data center.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

And I think strategically the opportunity for us is to continue to grow the space that we're in based on that core technology leadership.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

But then also the opportunity to get in places where we have zero revenue right now, which is campus type markets, and then eventually inside the data center with that high speed core technology, because that's what we're good at.

If you think about the business, we've got number one market share in all these strategic markets, cloud, data center interconnect, submarine cables, et cetera, because of our core technology, we're able to put bits faster and longer than anybody else.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

We've just bought out WaveLogic 6, which continues to expand our competitive advantage even further and we're just actually right now working on the shorter reach variant of that, which will be the 800-gig pluggable. And then a variant of that, which will be out towards the end of this year, which will basically be our first product into the data center.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

That will be a variant about a 1.6T coherent into the data center. So, we're excited about that.

<<Ryan Koontz, Analyst, Needham & Company>>

That's a derivative of the 6 nano?

<<Gary B. Smith, President and Chief Executive Officer>>

Yes, exactly. Yes, exactly. So, we're at a point where we're able to do these different trains of development on like WaveLogic 6, where we do different variants to it, and we are able to do them fairly quickly. And these have been in the planning for years. And so frankly, it just compounds our competitive advantage in all these various markets.

<<Ryan Koontz, Analyst, Needham & Company>>

And your company has got such a great reputation for renovation and leadership. I'm sure your customers start by measuring you on like price performance, just the basic innovation and showing up for the best price, lowest cost per bit. Is that the main...

<<Gary B. Smith, President and Chief Executive Officer>>

Well, I mean you think about what's going on in the cloud space and how we've been able to take such market share there and you think about what they're trying to do, they're building these global super complex networks they want absolute high speed. The fastest they can and power is super important to them.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes.

<<Gary B. Smith, President and Chief Executive Officer>>

And so from a technology point of view, those are the things that are important to the cloud players, and we're able to do variants that play to that. And we've also collaborated with them.

So, you think about all of the line systems we're now deploying. Our new RLS, which is our intelligent automated line systems, they've basically been adopted by all of the major cloud players and they're rolling out our line systems around the world on all of their network interconnect. And that was a collaboration with a couple of them in the design of it. And we're continuing to work collaboratively with them on a whole bunch of stuff from a technology point of view.

And this may not be that well known, we actually provide a bunch of services to them as well in terms of installation, and planning and all that kind of stuff, because these networks are massive and have global reach. And so we're able to add value to them, not just from a technology point of view, but also from a support perspective as well.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes, network planning and these sorts of kind of strategic functions as well as installs and capital and strategic...

<<Gary B. Smith, President and Chief Executive Officer>>

Yes, and maintenance, and that's around the world. You think about all these submarine cables, where they are and the rest of it, we're resource. We're a very global company, always have been. And so we've got support resources where they want them. And so, we're able to support the cloud players.

And the other thing I would say about the cloud players as well, Ryan, is that group is expanding. You've got a lot, it used to be the sort of four of them, now you've got these other large players that are actually building out their network, and we're expanding our market opportunity just with those folks building out an outlooks where they weren't before.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes, incredible. That's great. So some of those kind of Tier 2 late arrivals on cloud are bringing more in-house than they used to kind of outsource some of those?

<<Gary B. Smith, President and Chief Executive Officer>>

Exactly. And we struggled with what to call. I mean they're very, very large companies. And calling them Tier 2s feels a bit odd, given the size, and scale and market cap of these folks. But yes, they're sort of newer entrants into the network, but you've seen a lot more of those players over the last few months.

<<Ryan Koontz, Analyst, Needham & Company>>

Excellent. Great to hear that. Maybe shifting back to – you mentioned MOFN, I know that's been a real key initiative for the cloud operators over, I'm sure, several years here. Can you maybe walk through the consumption model there to you and how that differs from a traditional direct sale to SP or cloud?

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. There is some different types, they call managed optical fiber networks. And at its simplest form, what it is, is customized capacity and networks for the cloud players. Typically, it's been in certain countries, whatever. For example, in India, they don't want to get a telecom license for all of the issues that go with that, for example. And so they partner with us and with a local service provider there to build a network customized for them, and it support – it's rolled out and supported with us and the service provider of choice. So, they provide a service level agreement to them.

Now there's lots of different variants on this.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes.

<<Gary B. Smith, President and Chief Executive Officer>>

But it's something that's been around for a little while, but the last couple of years, it accelerates basically time to market for these folks. It keeps the architecture the same, so they basically manifest that they want the Ciena architecture, so it fits in with their global footprint and they can manage it. And it gives them flexibility locally as well. And we've seen that particularly in some of these markets where they're expanding internationally.

We've also seen in North America. And you saw the a variation on this with Lumen. The announcement that they had a few months ago. So you're seeing some fairly sophisticated models here from the service providers, helping support the cloud folks ambitions and what they need because there's a massive amount of networking required. That's the good note.

<<Ryan Koontz, Analyst, Needham & Company>>

Are these typically existing Ciena SB customers?

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. I mean the things that we bring to the table there is we're in all the major service providers pretty much around the world. And so we're able to work with them on providing the right kind of architecture. And when we partner obviously deeply with the cloud players that where we're able to customize that architecture for them that's consistent with what they're doing elsewhere in the world.

<<Ryan Koontz, Analyst, Needham & Company>>

Got it.

<<Gary B. Smith, President and Chief Executive Officer>>

And so we're kind of uniquely positioned to do that, having the relationships with both the global service providers and also in the – with the cloud players as well.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes. And so the cloud players have network visibility then when the local guys – local SPs build it for them?

<<Gary B. Smith, President and Chief Executive Officer>>

Yes, yes. And we're increasingly seeing that model. And in some countries, it's a hybrid. They'll do some of that, they'll build their own, they'll do a mix of it, so there is one-size-fits-all, but it gives them a nice option. And it's also an opportunity for the service providers to take some value from this too. I'll have a bit of lumen approach to it.

<<Ryan Koontz, Analyst, Needham & Company>>

Sure. Yeah. Excellent. Maybe another quick topic here that comes up with investors a lot around pricing and competitive environment. How would you characterize broadly the competitive environment and how it affects your own approach to pricing?

<<Gary B. Smith, President and Chief Executive Officer>>

I think the pricing model has been pretty solid for us given our competitive advantage from a technology point of view. We're not the lowest cost player, and I have no intent on being. But given what we deliver from the total cost of ownership, we can shift bits further and more of them than anybody else.

So the economics of it are all compelling. So we see a pretty stable environment from that point of view. Notwithstanding anything that may or may not happen with the tariffs, let's say that. But that's been a fairly stable environment. We have some margin pressures in the first half of our year, but that's not really competitive. That's more to do with mix.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

We've got a lot of new products that are ramping up, not least of which is WaveLogic 6. So the costs on that tend to be higher until we get to scale, which we will in the second half.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

Then also, Ryan, we've got a lot of the line systems I talked about RLS. It's an amazing amount of line systems being deployed by all these – the cloud players.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

And so that tends to be lower margin. So that's a bit of a weigh on us for the first half. But we think as we get to the second half and pluggables, as we ramp up our pluggable business. But those margins improve as we get to the second half and we get more volume on that. But that's really not an artifact of competitive pricing. It's just mix right now.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. Your building footprint and your tax rate to that footprint, it's an open line systems, I understand, right, but the attach rate and the advantages of deploying...

<<Gary B. Smith, President and Chief Executive Officer>>

Why wouldn't you put our modems on it when you get – you got the best technology and then most effective use of it, you put our modem technology on it, which typically they do.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. That's great. On the demand side, you guys had some pretty impressive book-to-bill run here. What factors do you attribute to this run here on strong bookings that you guys reported?

<<Gary B. Smith, President and Chief Executive Officer>>

Well, I mean, I think there's two or three things that play here. One is if you look at that service provider business, which has gone through quite a tumultuous whiplash.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

First of all, they had COVID. When they didn't want to invest in the network and just wanted egress and ingress points on Zoom and don't mess with the network. Then you have this whole supply chain chaos and have now absorption, which they're largely through. And so I think it's an artifact really of that, that we're now seeing that get into balance, and they're beginning to invest in a normal way again from the service provider.

I'm just sort of generalizing that, and we had our first positive book-to-revenue ratio was on that last quarter, and that looks like continuing. So I think that's got back into balance, as I would say it, Ryan.

<<Ryan Koontz, Analyst, Needham & Company>>

Perfect.

<<Gary B. Smith, President and Chief Executive Officer>>

The other thing that's coming on top of that, of course, is the growth of cloud. And as we talked, it's just continuing to grow. Some of that is fueled by the AI traffic. Some of it fueled by machine-to-machine AI traffic and we're seeing that expansion. And we're also beginning to get

into new markets that we don't really have revenue from like the campus. We're beginning to get pluggables into the campus.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

And that's not an area that we've got revenue from before. So you put all of those things together, and that's why, from an order point of view, we're beginning to get some very strong order quarters together. And our backlog actually grew last quarter even though we had a good revenue.

<<Ryan Koontz, Analyst, Needham & Company>>

Definitely.

<<Gary B. Smith, President and Chief Executive Officer>>

So I think I think we're in for a fairly strong dynamic around the market here for the foreseeable future.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah, super exciting. Are there any specific initiatives? We've talked about AI, or anything else you'd point to in terms of programs that are driving your outlook?

<<Gary B. Smith, President and Chief Executive Officer>>

Yeah, I mean, Ryan, you talked about the campus. I mean we really get no revenues from the campus. And these campuses are now getting very large, as we know. The speeds that are required and the amount of capacity that's required now is get to a point where some of our technology, our coherent technology is a good fit, and we're beginning to see that.

And then I think the piece that we're heavily invested in is the opportunity to intersect that same dynamic inside the data center, which has really been a direct connect market kind of technology forever. But it's get the physics to getting to a point, where these GPU clusters is all much traffic coming out from them. The architecture requires that they put some – in some cases, some optical switches in there. And once you start to do that, you're introducing noise. And so you then need to manage that transportation in a way and coherent is the perfect technology for that, so.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

We're super excited about that. We're in market with product at the end of the year – by the end of this year, inside the data center. I think it will take a while. We think the next one to three years, there will be an intersect point where that technology homes into that space. And again, this is about growing our addressable market, basically taking the same technology, let's just call it, WaveLogic and taking essentially the same technology into the systems market, the optical system market that we're known for in the various applications.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

And then taking that same technology generally in component or pluggable form into the campus and the data center, which is a whole new market for us.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. And those distances are kind of in this 10 kilometer reach for these massive campuses, massive data centers that we're talking about those kind of distances?

<<Gary B. Smith, President and Chief Executive Officer>>

Yeah. And I was talking to somebody here today on the fiber side, they're saying they're shipping more fiber into the data centers than they are outside of the data centers, which kind of gives you – I don't know how true that is. But it does give you a – it's a shocking perspective, the amount of fiber that's going into these data centers, when you think about the compute ramp that they're having and they're getting massive, both in terms of distance and the wraparound of the fibers around there. The distance is getting quite long.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. As they scale, they have nowhere to go but out, right?

<<Gary B. Smith, President and Chief Executive Officer>>

That's it, or up. Some of them are actually building, with the deal that we won the day that was three stories. They're just building on top.

<<Ryan Koontz, Analyst, Needham & Company>>

Wow.

<<Gary B. Smith, President and Chief Executive Officer>>

But the constraint is, as you and everybody knows is on this call, its power. And I was talking with one of the executives from one of the big cloud players here today, is that the constraint is not capitals. It's absolutely power. We would be building more, if we could. It's power and being able to get the right kind of location. But even the location, if they can get the power and the cooling and the rest of it, they can figure the network out. It's easier to figure the networking out than it is the power, which makes sense.

<<Ryan Koontz, Analyst, Needham & Company>>

We hear all this stuff about nuclear, micronuclear and they've been building data centers next to power plants for like the last decade, I think, and...

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. Yes. Yes. No, I mean the good news is that all that investment in GPUs and compute and the rest of it and all the data centers that are coming online towards the end of this year, if they're going to monetize all of this investment, it's got to be on the network. How do you get to inference and the users, if you got to put it on the network. So – and no one knows how that will model out, but logic says, it's going to be a pretty big uptick in traffic.

<<Ryan Koontz, Analyst, Needham & Company>>

But power needs of the new Blackwell chip and everything. I mean, it's only going up.

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. No, that's the good news. It's a good place to be in.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes. Power is up puts more demand on the network as they have to move to new grids.

<<Gary B. Smith, President and Chief Executive Officer>>

Yes.

<<Ryan Koontz, Analyst, Needham & Company>>

Maybe shifting back to the income statement a little bit. You've set a target of 15% to 16% by 15% '27 for op margin. What are your strategies to achieve that, a mix of growth and some OpEx expansion, walk us through that?

<<Gary B. Smith, President and Chief Executive Officer>>

Well, it's more about growth and operating leverage because some of those markets we – another way of putting it is kind of growing into our body. We've been investing during all the chaos in the last three, four years, we continued to invest, for example, in WaveLogic into the data center into the pluggables, et cetera, because we felt passionately that, that market would open up for us. So we've been investing. And we do not need another massive step function in investment to get where we think we want to go. We'll continue to make sure it's – we're investing at the right levels for sure. But basically, it's a matter of them getting growth. And you saw our growth span between 8% to 11%. So it's higher than we would normally be and it should be because that's what we've been spending into that and investing into it.

So we grow into our body. We'll expand our OpEx, but it won't be a big step function expansion. We'll get operating leverage as we go forward on our OpEx because of the investments that we've already made. And sort of 15%, 16%, we think, is a reasonable approach that we think we can get to. I would kind of remind folks that pre-COVID in the decade prior to that, we expanded our operating margin pretty successfully, and we were, I think, at 18% by the time COVID came along. So it's not without precedent. I think we'll see how far we can get to. But 15%, 16% should be a reasonable target for us that we can get through basically operating leverage.

<<Ryan Koontz, Analyst, Needham & Company>>

Sure. And the gross margin line, you said you've got some mix issues going on in the front half, maybe normalized in the second half, and you see opportunity to continue to tweak that up with new fulfillment models, how should invest...

<<Gary B. Smith, President and Chief Executive Officer>>

Yes. I mean I think it's really for us about mix as we go through. We should see an improvement in the second half. And as we start to talk about year two and year three, I think you get to that 15% operating, 16% operating margin, you've got to get to a gross margin in the mid-40s for that to really kick in. And that's certainly absolutely doable. We think we can get there. We've got some ramping to do on the pluggables to get that scale. We've got some ramping to do on WaveLogic 6, but we know how to do that.

So I think we can get the margin into the mid-40s as we go forward. And then we'll we see where we go from there. We're entering the opportunities into these new markets in the campus and in the data center with our components. That will help scale when you think about – you're taking the component, you're putting it into the data center and you're shipping it to systems the velocity of that should yield some pretty interesting economic benefits for us.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes. Great scale, great scaling opportunity. In terms of your kind of technology suite there, WaveLogic Extreme really set the bar. It seems like you've got a pretty big lead there. Can you kind of walk us through your competitive position specifically where you guys feel like you are on the high end?

<<Gary B. Smith, President and Chief Executive Officer>>

We probably think we're about 18 months to two years ahead, everyone else. And we're continuing, as we talk here, we've actually got the Nano in-house, and we're working on that. But the variance of that, which will be the 800-gig plug, and then the inside the data center piece. So we're continuing to invest. We're not standing still on any of that. We have a very aggressive program on all the WaveLogic stuff to further compound our competitive advantage. So lots of different variants of it that are optimized around power and space and distant submarine cables variant for it.

So we feel very, very confident around our technology leader. And people always talk about us in terms of the modem technology leadership, but also you look at things like line systems, which are – have become critical in the densification of fiber around all of these huts, et cetera, I'm unable to do that. And the intelligence that's going to be required in these line systems. We probably have about a two-year lead on that, too. And pretty much all of the major hyperscalers have adopted RLS, and that gives us a tremendous advantage.

So you think about that. And then in addition to that, here, we've got our Navigator software, which is the only microservices-based platform to manage and the whole domain around that. That was a massive investment for us that took us more years than we care to mention and more costs too than we care to mention, it was a painful journey, but we're finally at a point now, where we can pile basically all different kinds of applications on top of it and a micro services platform. It's the only one of its kind out there by any kind of systems player.

And so you think about the optical situation to answer your question, we've got the technology leadership on the modems, the line systems and on all the management software enabling around all the domain management of that as well. So we're in a super strong position. There's no doubt about it. And we're leveraging that both in the service provider world and obviously in the cloud.

<<Ryan Koontz, Analyst, Needham & Company>>

Yes. And you talked about several variants on ZR. Are you starting to see interest in the ZR – using ZR in the ZR+ model, where you have definitely you mentioned subsea and different applications where you might see use of pluggables and other applications?

<<Gary B. Smith, President and Chief Executive Officer>>

The answer to your question is yes. I think the main deployments of these is going to be in the short reach interfaces, because you start talking about the submarine cables or even the long distance, they don't want to mess with pluggables. They really don't. They just want to lock into the system piece. And now on the metro side, where we didn't have a large market share, I absolutely think that the pluggable piece is, yeah, and we are seeing it, it's playing. And it makes a lot of sense. And then as you get into 800, I think we had the first win of anybody on the 800 ZR. So I think that's a fantastic market for us. I don't see it really apart from a couple of corner cases really extending into the long haul.

<<Ryan Koontz, Analyst, Needham & Company>>

Okay. Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

I don't. There are a couple of applications that I think makes sense to it. But – the great news for us is it really gives us the opportunity and the shorter reach on the metro side, where we didn't have a large market share.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah.

<<Gary B. Smith, President and Chief Executive Officer>>

So...

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. Yeah. That's...

<<Gary B. Smith, President and Chief Executive Officer>>

That's working out well for us. Yeah.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. Great way and great progress. I think we talked about you guys approaching near 15% market share in ZR exiting the year, it's really impressive.

<<Gary B. Smith, President and Chief Executive Officer>>

From where we were, it doesn't sound like a big number.

<<Ryan Koontz, Analyst, Needham & Company>>

No, I see.

<<Gary B. Smith, President and Chief Executive Officer>>

We certainly have aspirations a lot higher than that. But from where we were because we kind of deliberately did not go through the first phase of this, when they first started out. And so we will have laid entrants to it. And we – that was a trade-off that we consciously made on WaveLogic. But we thought the intercept point would always be round about now on the far and where it

really starts to ramp up. And I think we got fortunate or whatever the expression is, that timing seems to be about right.

<<Ryan Koontz, Analyst, Needham & Company>>

Perfect. Yeah. That hats off – it's been great to see. Maybe shifting gears to routing a little bit and your approach to coherent routing, which I understand it's kind of IP over WDM type model. Can you walk us through where you're seeing service providers start to embrace that idea?

<<Gary B. Smith, President and Chief Executive Officer>>

Yeah. Probably the best example of that is probably Verizon, a much public one of it, where they have a converged metro view. That's where we think the convergence is, is on the metro side. People have talked about this for years, right. IP and optical coming together, ever since I've been in the industry. And I think it is sort of finally happening, and there are some examples of that. Verizon being one of them. And it basically leverages what I would sort of crudely call an IP light type architecture, which basically simplifies the metro, converges it into a single network, which it isn't right now, converges it and basically simplifies the operation and deployment of it.

And you route when you have to and switch, when you can is the old saying. And that's a bit of a simplification of it. But basically, it's a very optical convergent bias, which suits us. But IP, where you need it out at the edge. And then also, we've looked at – we do think there will be sort of cause for some of the waiver router type architectures, which are the bigger switches. Now that, I think, is a bit further out, but you've seen us invest in that. And players like Verizon and others will obviously go down that architecture. It's not for everybody around the service providers, but we're increasingly being interested in that kind of coherent routing because it simplifies the operations.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. Historically, they've always had issues with two organizations and two completely different structures and management systems and eventually costs in TCO might went out, and we start to see some progress there in that company.

<<Gary B. Smith, President and Chief Executive Officer>>

Well, I think you've seen that from the service provider world generally now. It's stuff that we've talked about for a while. It's taken way longer than we all would have thought. But there are at a point on a lot of these architectures and also sort of their automation and back office, where they're at a point where they – if they're going to take their costs down and the rest of it and compete then that's become an absolute imperative because also a lot of the older software that they're running in their back office is actually becoming obsolete.

And we've seen this on Blue Planet, too. It's a very small – in a very small way, but you've seen the fortunes of Blue Planet come back very strongly. And that's largely because it's a micro services next-gen architecture. And a lot of the stuff that's out there in things like inventory is becoming obsolete.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. Absolutely. Back on the – back to the competitive landscape, the big combination going on with two of your competitors, Nokia and Infinera coming together, you are seeing impacts there. What do you – how do you see that impacting your business over the next couple of years?

<<Gary B. Smith, President and Chief Executive Officer>>

We're not seeing anything different. Certainly, in the last few months, we see them – we've competed with them very well for the last few years. So we feel pretty good around our technology hand and our ability to compete with them. And I would say, it's always tough when you put two portfolios together, you have to make some choices. I know we went through it when we did the Nortel one at a big scale. And it's challenging. So they've yet to make those – I'm sure they've already made them, but they've got to make some choices...

<<Ryan Koontz, Analyst, Needham & Company>>

Great.

<<Gary B. Smith, President and Chief Executive Officer>>

...around what they're going to discontinue and the rest of it. And frankly, that's sort of an opportunity for us while they're going through that transition.

<<Ryan Koontz, Analyst, Needham & Company>>

Yeah. Definitely. Well, we're just about out of time, Gary, I could talk to you for hours, but anything you want to say in closing up I think investors are missing about Ciena story? It's great to see the support and the stock price, certainly moving in a great trajectory here. But anything you'd say to kind of wrap up to summarize your opportunity ahead?

<<Gary B. Smith, President and Chief Executive Officer>>

Yeah. I mean, I think the company where it sits right now as an enormous opportunity. It's known as an optical systems company, and it clearly won that market. It's the number one player in all the things we just talked about.

<<Ryan Koontz, Analyst, Needham & Company>>

For sure.

<<Gary B. Smith, President and Chief Executive Officer>>

The opportunity is now to go into a whole new market for us, of which we already have relationships with the customers. So it's really then taking that same technology and increasing the velocity of it in its component or pluggable form into the data center and into the campus. And we're already seeing as a proxy for that, the orders for the campus pluggables. So this is an opportunity to, I think, rethink about the company. We're the best in the world at high-speed optics outside the data center. The opportunity is to be – take that technology and leadership inside the campus and the data center. That's the opportunity for us.

<<Ryan Koontz, Analyst, Needham & Company>>

Incredible. I'm excited to see it happen, Gary.

<<Gary B. Smith, President and Chief Executive Officer>>

Thank you, Ryan. Appreciate it. Good to chat as always.

<<Ryan Koontz, Analyst, Needham & Company>>

Thanks for joining. Thank you.

<<Gary B. Smith, President and Chief Executive Officer>>

Thank you.