

Global Service Providers Identify Optical Equipment Leaders

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INTRODUCTION

Optical networking equipment is the backbone upon which all modern consumer and enterprise communication systems rely. The numerous video applications, business communications, cloud networking functions—and increasingly, backhaul of mobile broadband data—would be impossible without the abundant and cheap bandwidth provided by optical transmission.

In 2010, optical networking equipment accounted for \$13 billion in annual spending by global service providers and some non-service providers, a massive market that is roughly the same size as all service provider routers and switches. One difference is that the \$13 billion in optical spending is allocated by a tighter circle of customers, and the sentiment of a sample of these customers can account for a large percentage of global capex.

Each year we survey service providers for their opinions on which optical vendors are seen as the leaders in a number of categories. This is a summary of some of the results from our November 2010 *Optical Equipment Features and Vendor Leadership: Global Service Provider Survey*.

TOP TAKEAWAYS

- **Ciena, Alcatel-Lucent,** and **Huawei** top the list of vendors respondents consider to be among the top three optical vendors, a result consistent with their high rankings in global market share.
- **Ciena** dominates the 40G/100G leadership rankings, with 94% of respondents naming Ciena as a leader.
- **Alcatel-Lucent** tops the list of vendors respondents consider to be leaders in packet-optical transport systems (P-OTS), with **Ciena, Huawei, Cisco,** and **Fujitsu** following. The top three vendors are similarly ranked for OTN/ODU crossconnect leadership.

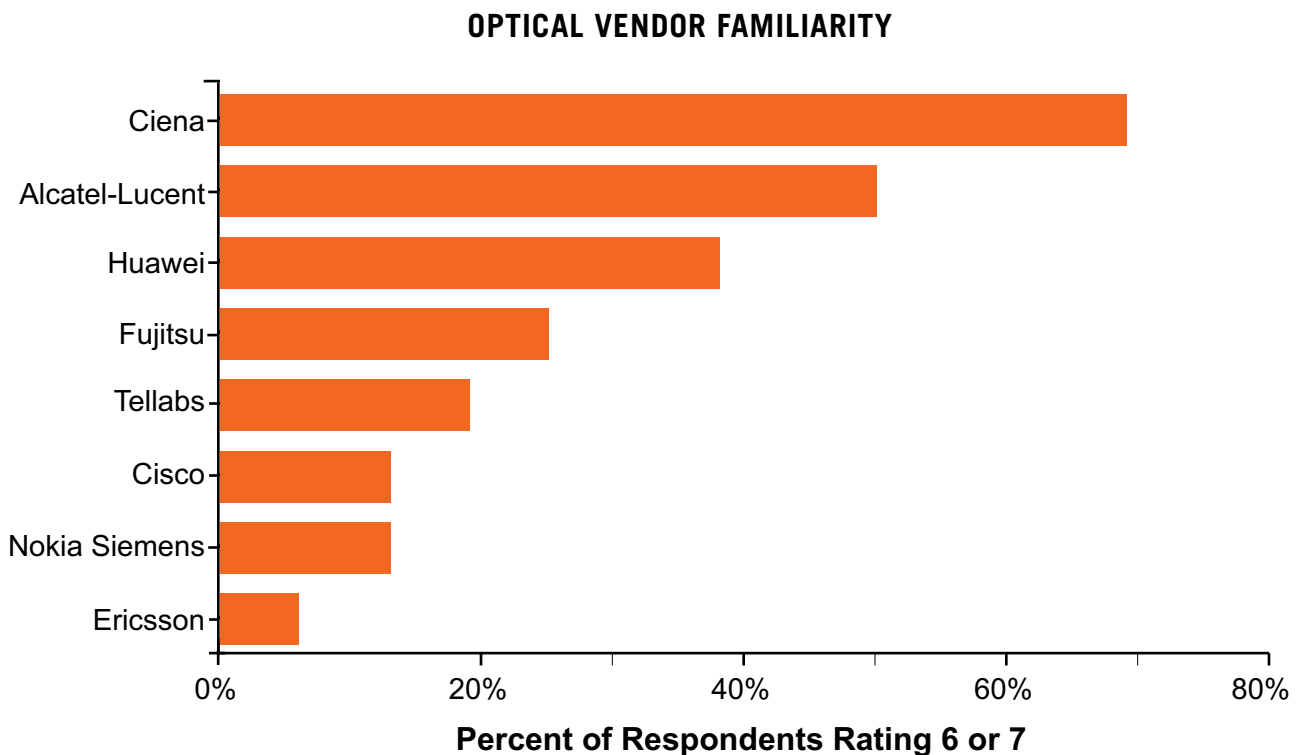
In the eyes of their customers, Ciena has cemented a technology leadership position based on 40/100G technology and packet-optical and OTN switching.

Andrew Schmitt, Directing Analyst, Optical, Infonetics Research

SERVICE PROVIDERS' FAMILIARITY WITH THE EIGHT LARGEST VENDORS

Though familiarity with a vendor's offering does not necessarily translate into contract wins, vendors need buyers to be aware of their product to be evaluated as potential suppliers. Without a degree of familiarity, vendors don't even get invited to the table. Respondents rated their familiarity with each of the eight highest-revenue optical transmission and switching vendors on a scale of 1 to 7, where 1 is *not familiar*, 4 is *somewhat familiar*, and 7 is *definitely familiar*, a measure called *aided awareness*, and we graphed the percentage of respondents rating each vendor a 6 or 7.

Compared with our 2009 results, we see a greater identification with larger vendors and less with smaller ones. **Ciena** increased its score significantly, most likely because of the Nortel acquisition (Nortel was rated a 6 or 7 by 33% last year). The low percentages for **Fujitsu**, **Tellabs**, and **Cisco** represent their strong North American regional orientation, and vendors familiar with Marconi sometimes do not associate the products with **Ericsson**.



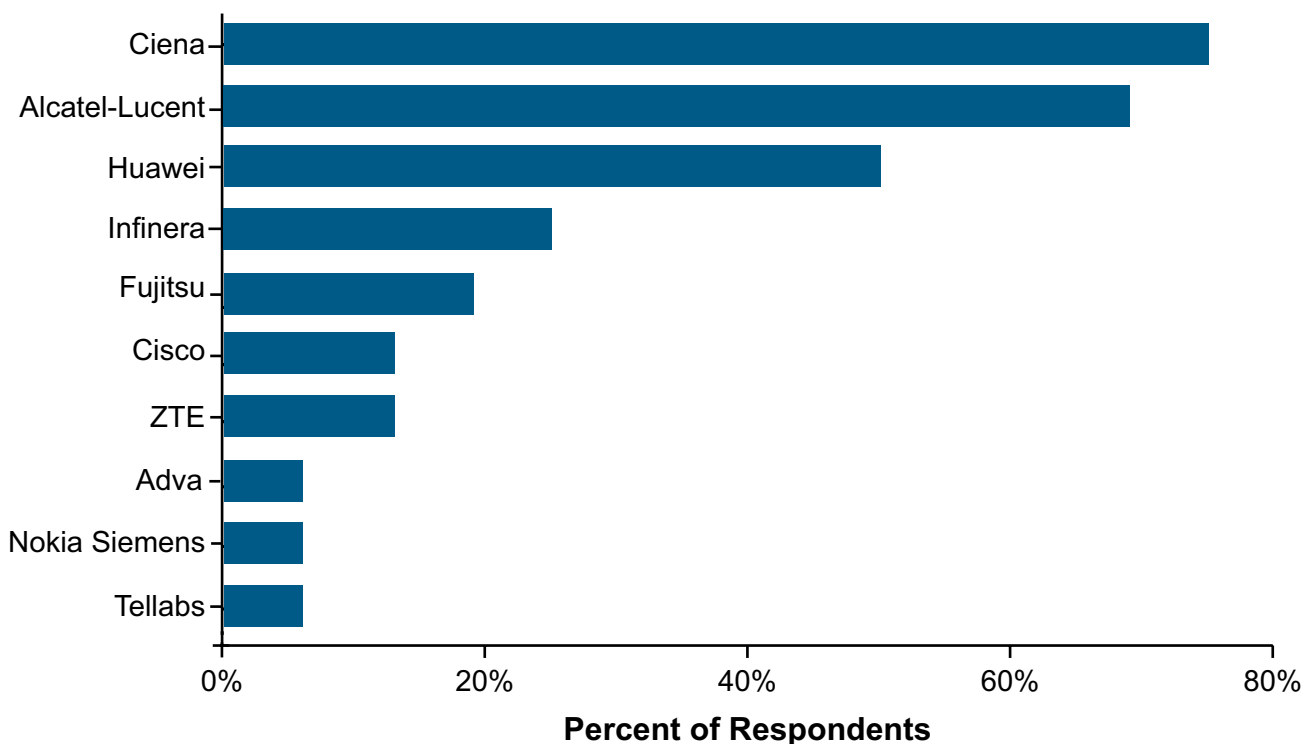
Source: Infonetics Research, *Optical Equipment Features and Vendor Leadership: Global Service Provider Survey*, November 2010

TOP VENDORS—RESPONDENT PERCEPTION

Transmission and Switching—Ciena the Leader

In an open-ended question, we asked all of our respondents who they consider to be the top three optical transmission and switching vendors, a measure called *unaided awareness*. **Ciena** vaulted to the top position, displacing **Alcatel-Lucent** and **Huawei**, achieved most likely because of the acquisition of Nortel. In 2009, Ciena was ranked third, with 39% considering them to be a top-three vendor, and Nortel was eighth with 17%. Huawei and Alcatel-Lucent continue to rank high. The arrival of Huawei as a formidable competitor for Western carrier business is old news, and they continue to be highly regarded by Western service providers.

TOP THREE OPTICAL TRANSMISSION AND SWITCHING VENDORS

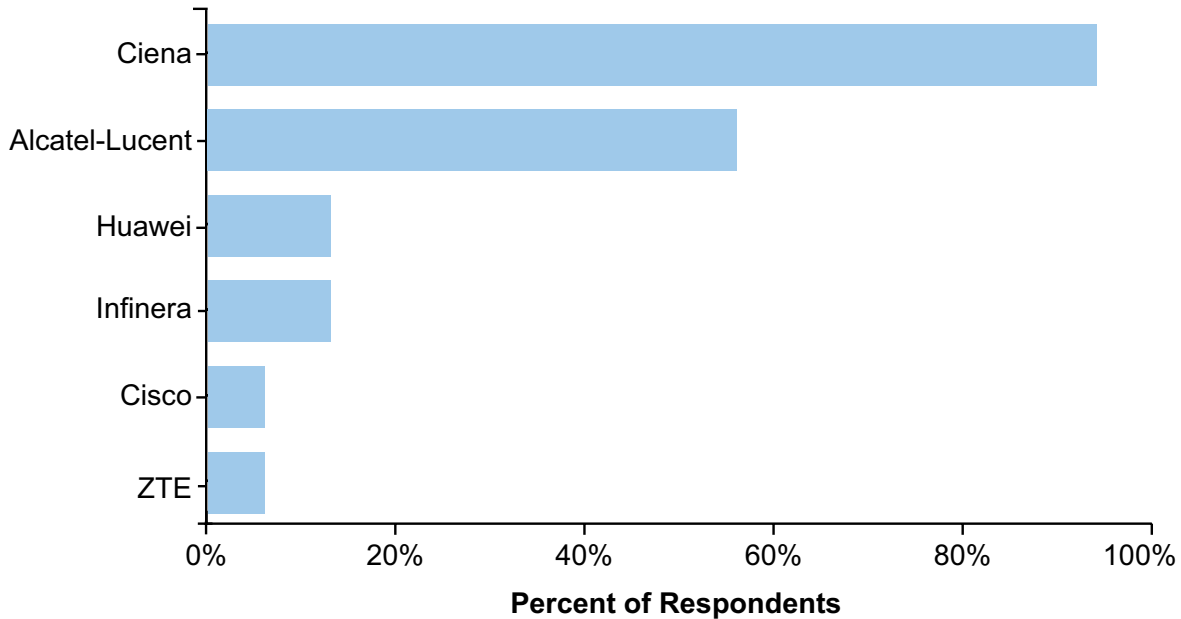


Source: Infonetics Research, *Optical Equipment Features and Vendor Leadership: Global Service Provider Survey*, November 2010

40G/100G Leadership: Ciena Dominates

In another open-ended question, we asked all respondents who they consider to be the top two leaders in 40G/100G transmission technology (see chart on next page). **Ciena** soared to the top, with 94% of respondents naming them as a leader. This is one of the few questions where we see “Nortel” as an open-ended response, which we translated as “Ciena.” It is clear that their technology is well respected, having garnered the top position last year despite bankruptcy proceedings. Some carriers added comments in their open-ended responses, such as, “No one is even remotely close.” **Huawei** was named as a 40G/100G transmission technology leader by some carriers, but mostly by the respondents already using their technology; it was not named by companies who haven’t installed but are evaluating Huawei’s equipment.

TOP TWO LEADERS IN 40G/100G TRANSMISSION TECHNOLOGY

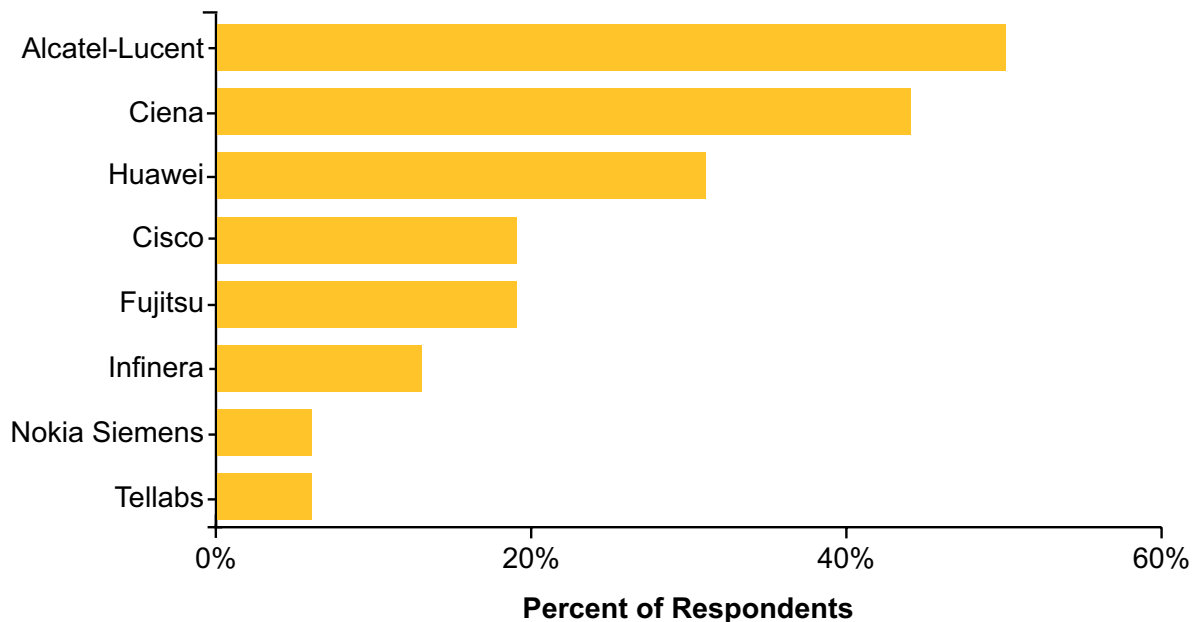


Source: Infonetics Research, *Optical Equipment Features and Vendor Leadership: Global Service Provider Survey*, November 2010

Next Generation P-OTS Development: Alcatel-Lucent Seizes the Mantle

We asked respondents who they consider to be the two leaders in developing the next generation of P-OTS (packet-optical transport systems), systems that combine optical, circuit, and Ethernet functionality into a single system. **Alcatel-Lucent** seized the mantle here, with the 1830/1850/1870 family of products. **Ciena** is second most-cited, with the ActivSpan 4200 platform and an aggressive product roadmap including the ActivFlex 5400 series. We believe **Huawei's** surprisingly strong showing is attributable to their technical leadership in high density OTN switching. Though Huawei is third on the list, their name was written first by many of the respondents who cited them, and these are not existing Huawei customers, which implies they have a very positive perception among prospective customers.

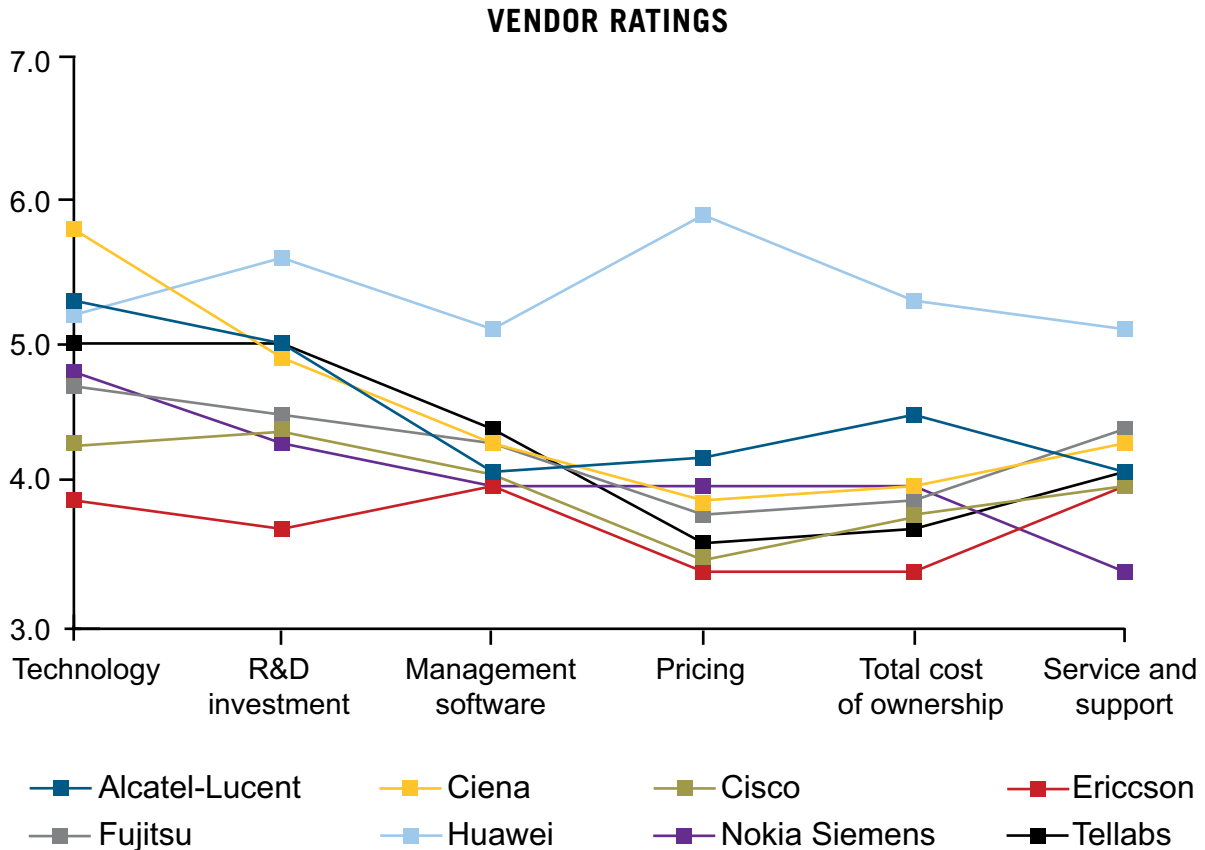
TOP TWO LEADERS IN P-OTS



Source: Infonetics Research, *Optical Equipment Features and Vendor Leadership: Global Service Provider Survey*, November 2010

SERVICE PROVIDERS RATE VENDORS: HUAWEI EDGES MOST

We asked respondents to rate each of the eight largest vendors on a variety of criteria, on a scale of 1 to 7, where 1 is *poor*, 4 is *average*, and 7 is *excellent*. The next chart shows the average rating for each criterion for each vendor. Only ratings from respondents who are familiar with a vendor are included in its average (Alcatel-Lucent was rated by 14 service providers, Ciena by 16, Cisco by 13, Ericsson 7, Fujitsu 9, Huawei 13, Nokia Siemens 10, and Tellabs 7).



Source: Infonetics Research, *Optical Equipment Features and Vendor Leadership: Global Service Provider Survey*, November 2010

- **Huawei** received the top average ratings in five of six categories, and is among the top three in technology. It is a surprise that they received the highest average rating in service and support, given the stereotype that this is their weakness, and this is up from third place in the previous year.
- **Ciena's** ratings are above average; they are clearly recognized as the technology leader.
- **Ericsson** is rated lowest on average in all categories but one (service and support); Cisco's average ratings are low again, but improved slightly in the past 12 months.
- **Nokia Siemens** received the lowest average rating for service and support.
- **Alcatel-Lucent** was rated highly in most categories, with the exception of management software. An interesting change from last year is the dramatic improvement in pricing; they have the second-highest average rating this year, after ranking second to last in 2009.

BOTTOM LINE

Our survey this year placed much more emphasis on open-ended responses, and less on pre-set choices. We changed our survey format with the expectation that smaller vendors might benefit, but with the exception of **Infinera**, we saw a higher concentration of responses focused on the larger vendors.

In the eyes of their customers, **Ciena** has cemented a technology leadership position based on 40G/100G technology and packet-optical and OTN switching, and successfully preserved the strong 40G/100G technical leadership attributed to Nortel in our 2009 survey.

Alcatel-Lucent is the leader in packet-optical and a close follower in vendor leadership ratings.

Huawei is broadly known and respected; it is now rated higher than Western vendors in qualitative measurements (technology, service, etc.), and takes the top position in pricing and total cost of ownership. These ratings are yet another reminder that Huawei is a force to be reckoned with, particularly as these ratings came primarily from Western carriers.

METHODOLOGY AND DEMOGRAPHICS

In September and October 2010, using online, telephone, and in-person survey methods, we interviewed 16 service providers that represent a **statistically significant 23% of 2009 worldwide revenue and 22% of capex** in our *Service Provider Capex, Opex, ARPU, and Subscribers* report. Our sample includes a good mix of **incumbent** (56%), **competitive** (38%) and **wireless** (8%) telcos, ranging from large incumbent service providers to smaller fiber-based competitive carriers, with 43% based in Europe, the Middle East, and Africa (EMEA); 38% in North America; and 19% in Asia Pacific. Each service provider interviewed has an optical transport network, and each respondent has detailed knowledge of their company's optical transmission equipment.

ABOUT INFONETICS RESEARCH

Infonetics Research (www.infonetics.com) is an international market research and consulting firm serving the communications industry since 1990. A leader in defining and tracking emerging and established technologies in all world regions, Infonetics helps clients plan, strategize, and compete more effectively.

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