Router and Switch Vendor Leadership

Service Provider Survey Excerpts

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IHS Markit Technology | Survey

Contents

Exhibits

Top takeaways

This survey measures service provider attitudes toward and perceptions of service provider edge/core router and carrier Ethernet switch (CES) manufacturers. The top 4 service provider router/switch market share leaders are at the top of virtually all of our measures of respondent edge/core router and CES manufacturer leadership. Juniper, Huawei, Cisco, and Nokia form a top tier clearly separated from the other manufacturers, mirroring the top 4 in terms of worldwide router/CES market share.

These 4 manufacturers accounted for 87% of worldwide revenue market share for routers and CES in 2016 (see the IHS Markit *Service Provider Routers and Switches Market Tracker*, December 2017).

Cisco, Juniper, Nokia, and Huawei are:

- The leaders in all 5 of our top manufacturer selection criteria; there is generally a big gap between these 4 manufacturers and their competitors
- The top 4 in our 3 other measures in this survey: unaided brand awareness, familiarity (or aided awareness), and equipment installed and under evaluation

The individual vendor strengths show up in their scores in the top 5 manufacturer selection criteria, which are product reliability, price-to-performance ratio, service and support, technology innovation, and security.

- The #1 vendor selection criterion is product reliability: Juniper is #1, followed by Cisco and Nokia
- Criterion #2 is price-to-performance ratio: Huawei leads, followed Juniper at #2 and Cisco and Nokia tied for #3
- Criterion #3 is service and support: Juniper is #1, followed by Cisco and Nokia
- Criterion #4 is technology innovation: Juniper is #1, followed by Cisco and Nokia
- Criterion #5 is security: Juniper is #1, followed by Cisco and Nokia

Introduction

We briefly present the market background and an overview of the survey methodology to set the scene before jumping into which companies the respondent carriers consider to be the top manufacturers.

This document is an excerpt; please contact IHS Markit for the full report.

Market background

Service provider edge and core routers provide the main thoroughfares of the Internet and carrier networks, guiding, prioritizing, and guaranteeing delivery of IP/MPLS traffic to and from destinations around the globe. Our world economies and our daily lives—whether at work, home, or play—depend heavily on these routers. Edge/core routers and CES will be a ~$15.2B annual market in 2017 with manufacturers fighting for every bit of market and market share. Therefore, it is important to understand how service providers select manufacturers, whose equipment they have installed and will evaluate for future purchases, and which manufacturers they consider to be leaders in each of the selection criteria. Finally, it is important to know which manufacturer selection criteria are most and least important to service providers.

Methodology and demographics overview

In August through November 2017, using online, telephone, and in-person survey methods, we interviewed 20 service providers who have detailed knowledge of their companies' data networks and who influence purchase decisions and planning for routers and CES.

75% of respondents are either the primary decision-maker or have a lot of influence. The 20 responding operators control 33% of worldwide telecom capex and 27% of revenue.

Please see “Methodology and Demographics” for details on the sample.

Providers prioritize manufacturer selection criteria

Respondents ranked a list of 9 criteria for choosing service provider edge/core router and CES manufacturers from 1 (most important) to 9 (least important). In this ranking, the highest rank is the lowest percentage.

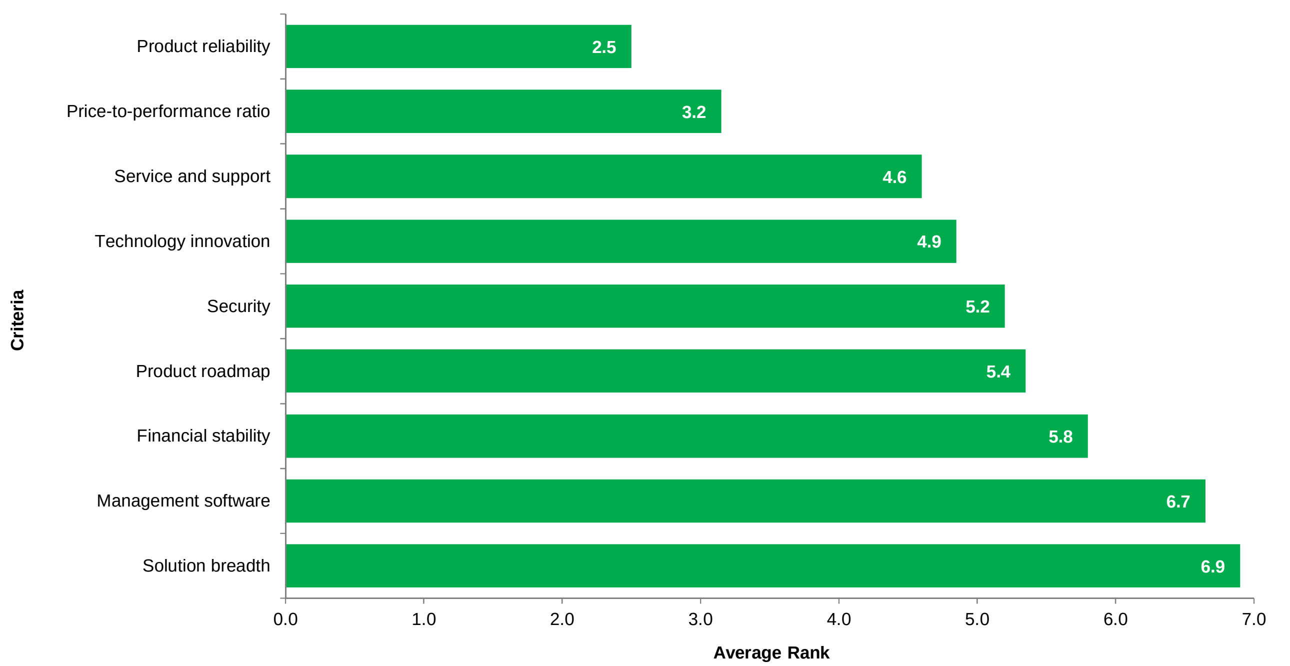
The top 4 criteria that providers use to choose manufacturers are the same as last year, with product reliability ranking higher this year, bumping price-to-performance ratio to 2nd place. We believe these top 4 criteria reflect the need for the lowest total cost of ownership (TCO) and the best value for capex and opex.

These results indicate that carriers are consistent in evaluating their suppliers, and it is critical for manufacturers to position themselves strongly as supporting the top 4 criteria. In marketing and sales messaging, manufacturers need to highlight their strengths in TCO, product reliability, and service and support, which all continually rank high in all the surveys we've done over the years. It is also important that vendors are seen as being creative and innovative with their product lines, given the emphasis that operators put on technology innovation and product roadmap.

Even though respondents ranked criteria like solution breadth, management software, and financial stability last, it doesn't mean those factors are not important to operators as well.

Please note that for the graph below, the smaller the number, the more important the criterion.

Exhibit 1 Service provider edge/core router and CES manufacturer selection criteria
n=20



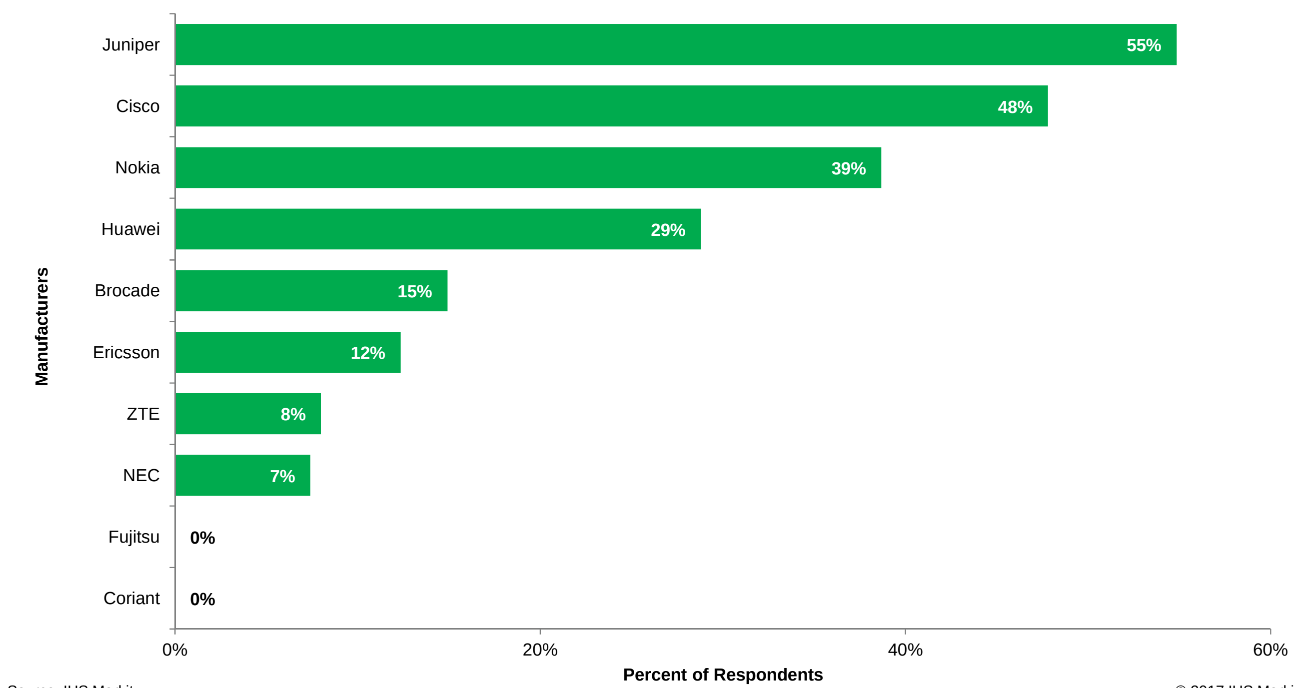
Source: IHS Markit

Vendor leadership in each of the top 5 vendor selection criteria

Although all 9 vendor selection criteria are important, the operators ranked (not rated) these important criteria above (Exhibit 1). The following 4 exhibits show how operators view manufacturers in each of the top 5 manufacturer selection criteria: product reliability, price-to-performance ratio, service and support, technology innovation, and security. Individual vendor strengths show up in their scores in these criteria.

In our surveys over many years, product reliability often shows up as the top vendor selection criteria, and this survey follows that nearly perpetual operator value. In the #1 vendor selection criterion of product reliability, Juniper ranks 1st, followed by Cisco and Nokia

Exhibit 2 **Service provider edge/core router and CES manufacturer leadership: Criterion #1, product reliability**
n=20

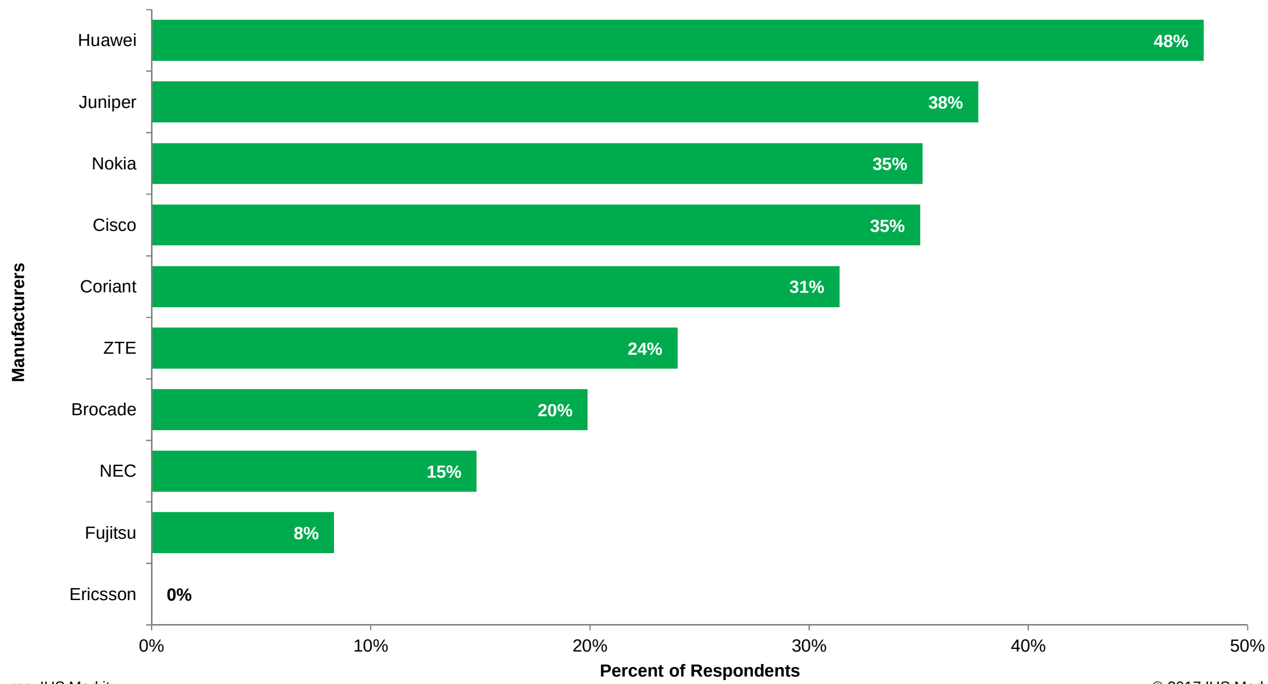


Source: IHS Markit

Price-to-performance ratio—an important aspect of TCO—typically ranks as high in importance to operators, and this survey follows that trend. In vendor selection criterion #2, price-to-performance ratio, Huawei leads, followed by Juniper at #2 and Cisco and Nokia tied for #3.

Exhibit 3 Service provider edge/core router and CES manufacturer leadership: Criterion #2, price-to-performance ratio

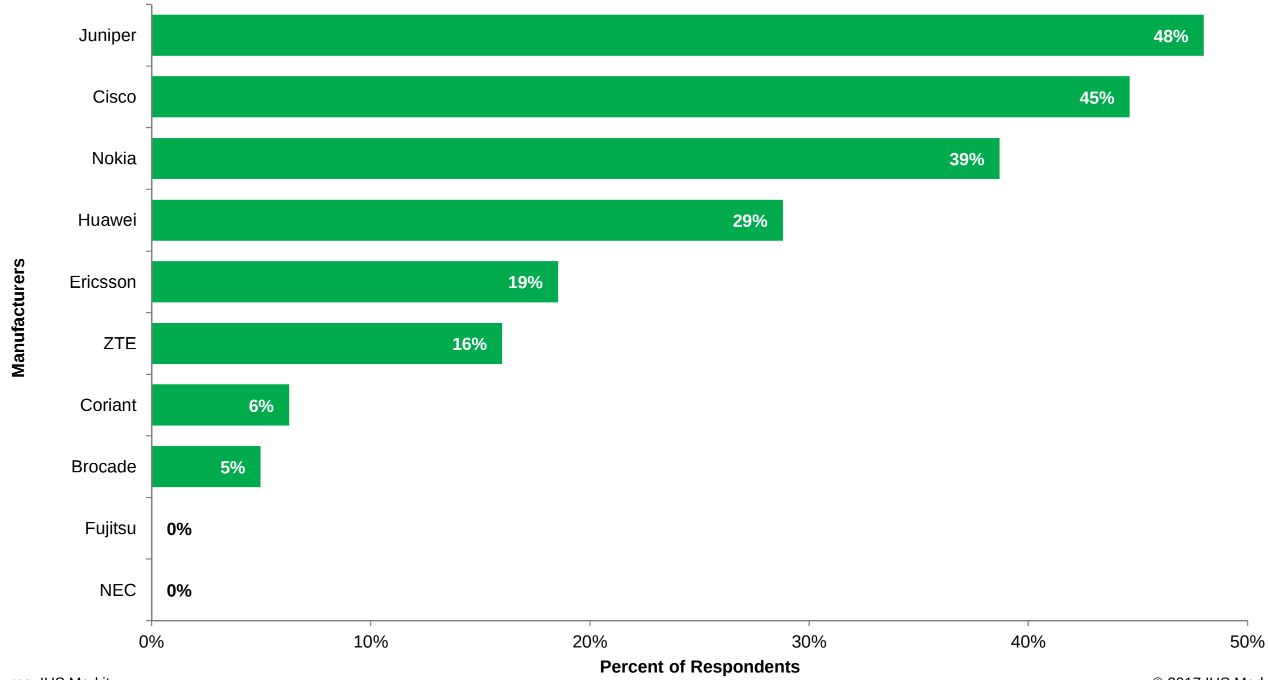
n=20



Source: IHS Markit

Service and support typically shows up as high in importance to operators in choosing a vendor, and this survey supports that trend. In vendor selection criterion #3, service and support, Juniper is #1, followed by Cisco and Nokia.

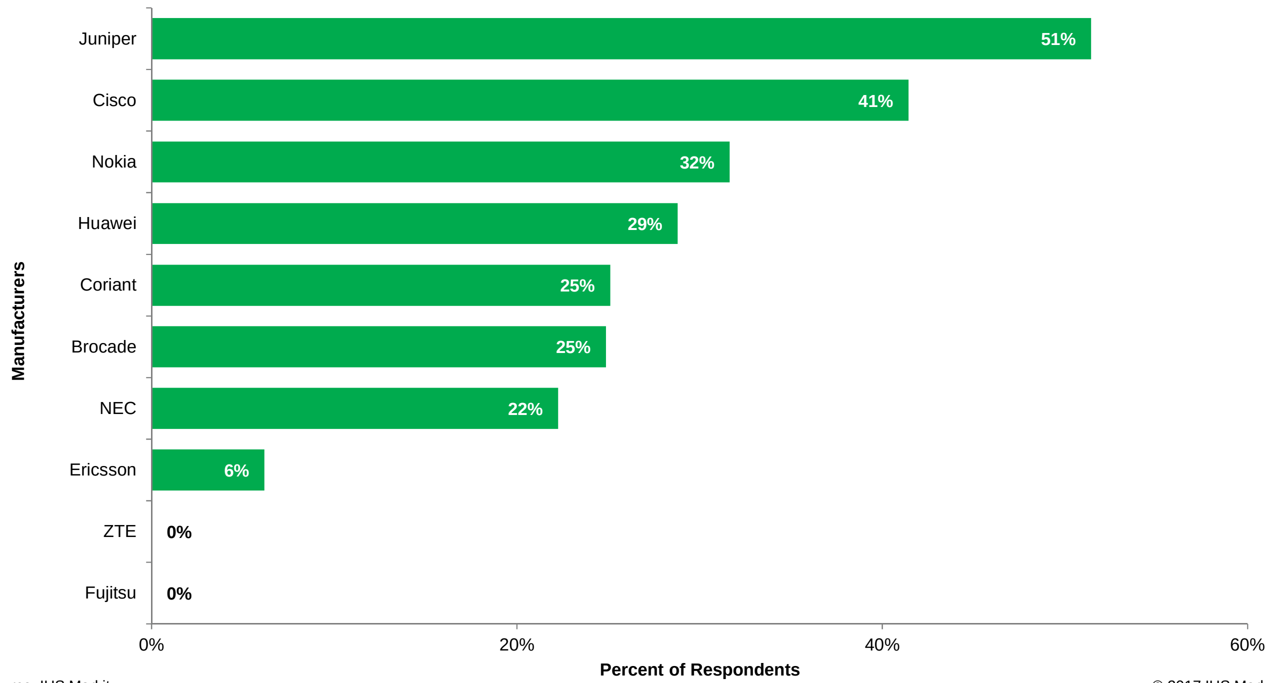
Exhibit 4 Service provider edge/core router and CES manufacturer leadership: Criterion #3, service and support n=20



Source: IHS Markit

Technology innovation is prized by many operators because they expect that future network operation, competitiveness, and cost will be improved as a result of new technologies. It is no surprise, then, that technology innovation shows up as high in importance to operators in choosing a vendor. In vendor selection criterion #4, technology innovation, Juniper is #1, followed by Cisco and Nokia.

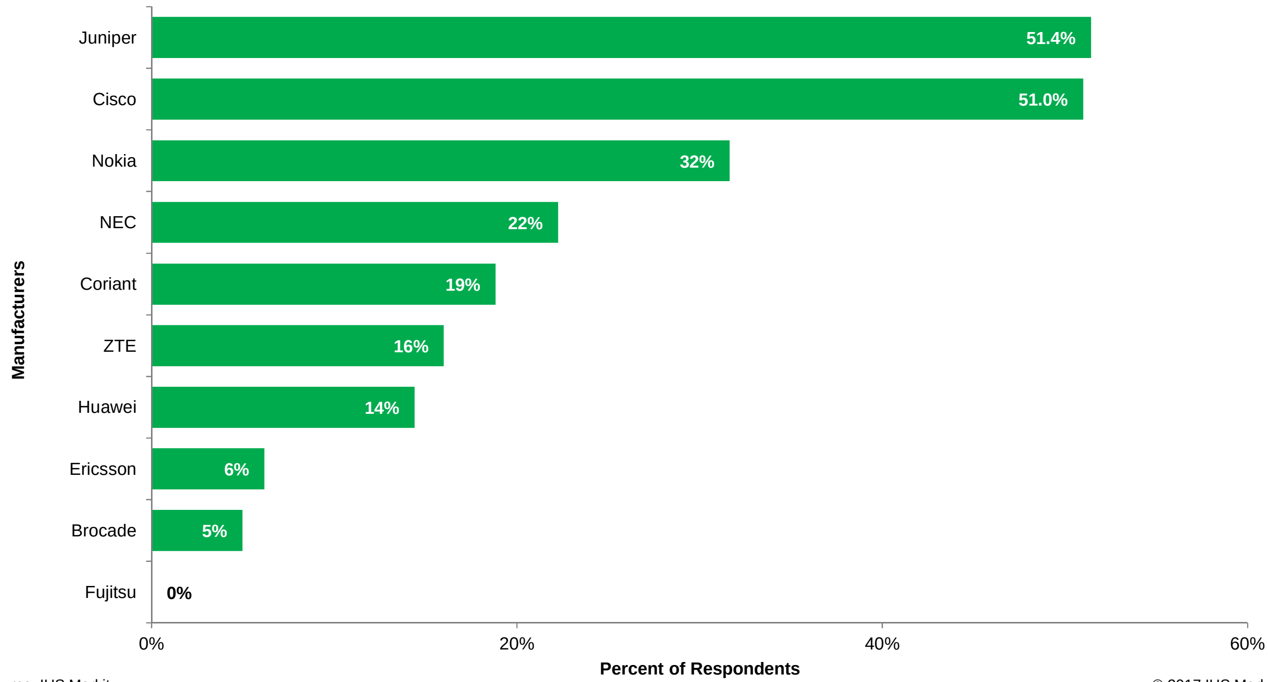
Exhibit 5 Service provider edge/core router and CES manufacturer leadership: Criterion #4, technology innovation n=20



Source: IHS Markit

Security is essential across all parts of networks, and with recent headlines covering stories from stolen credit card information to international espionage and election interference, security is a top concern. In vendor selection criterion #5, security, Juniper is #1 at 51.4% and Cisco is #2 at 51.0%, followed by Nokia.

Exhibit 6 Service provider edge/core router and CES manufacturer leadership: Criterion #5, security
n=20



Source: IHS Markit

Bottom line

In our interviews with operators, it is clear that 4 manufacturers of edge/core routers and CES—Cisco, Huawei, Juniper, and Nokia—excel at delivering on the criteria that operators consider most important, especially in meeting operators' expectations in the top 5 criteria: product reliability, price-to-performance ratio, service and support, technology innovation, and security.

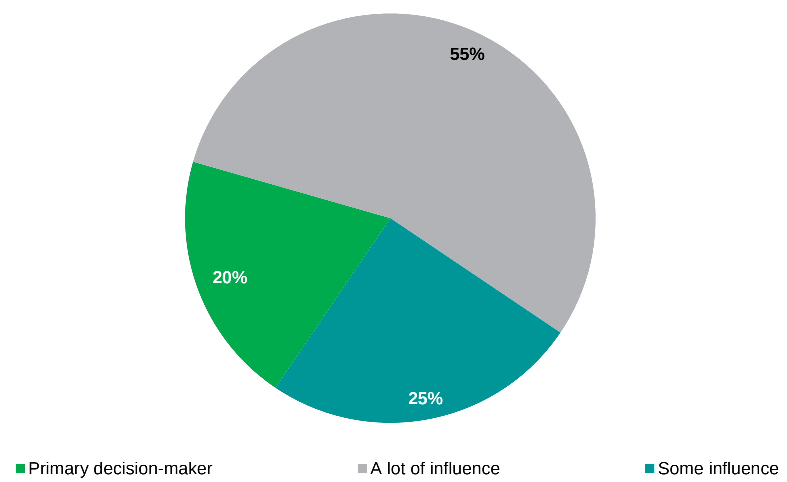
Methodology and demographics

In August through November 2017, using online, telephone, and in-person survey methods, we interviewed 20 service providers regarding their opinions of manufacturers of service provider edge and core routers and carrier Ethernet switches (CES).

Respondents influence the purchase decision

To qualify, respondents must have knowledge of their companies' data networks and influence purchase decisions and planning for routers and CES. As shown in the next chart, 75% of respondents are either the primary decision maker or have a lot of influence. This is a key part of the screening process to ensure that we receive responses from people who are knowledgeable decision-makers that influence the buying process.

Exhibit 7 **Respondents have purchase influence**
n=20

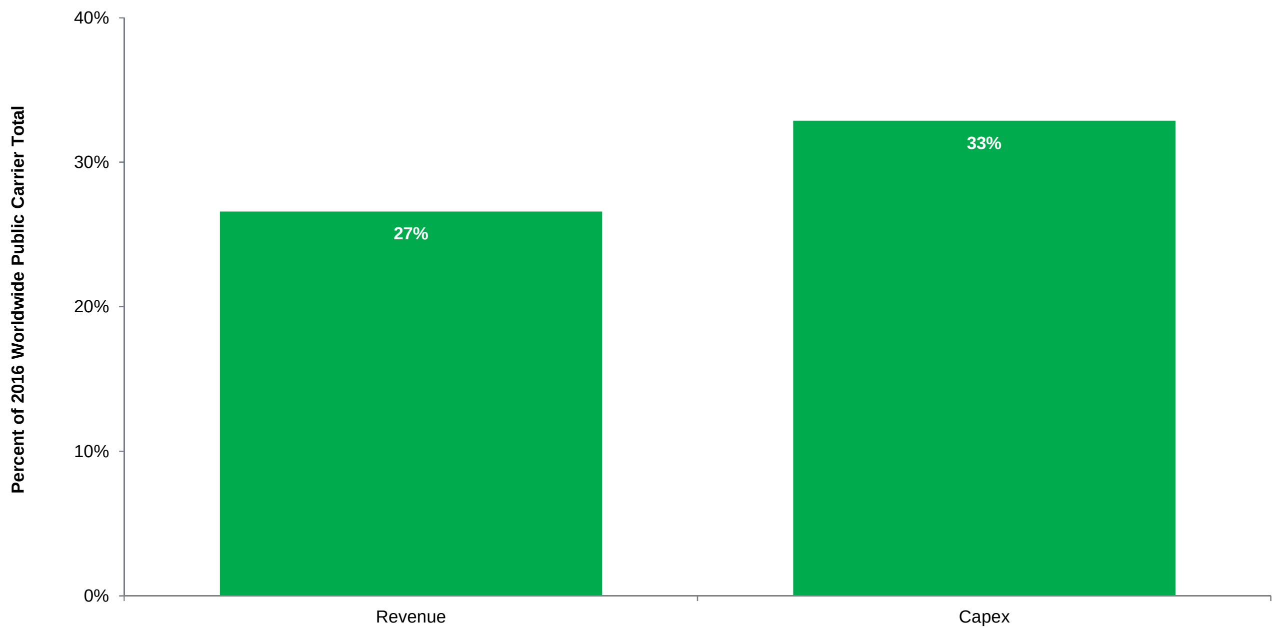


Source: IHS Markit

Respondents control more than 33% of worldwide capex

We have a good representation of the router/CES buying population as respondent organizations control 33% of worldwide 2016 telecom capex and account for 27% of revenue.

Exhibit 8 **Respondents represent a significant portion of 2016 worldwide capex and revenue**
n=20



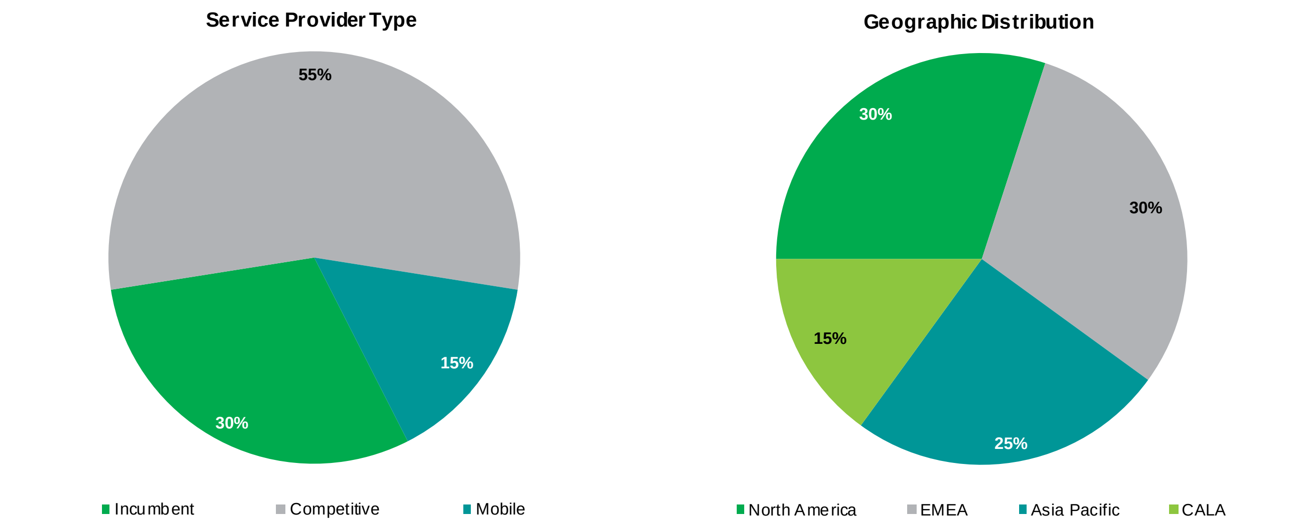
Source: IHS Markit

Respondent service provider types and geographic distribution

Our sample shows a good cross section of service provider types—55% of respondents are competitive providers, followed by incumbent service providers (30%) and mobile (15%).

All 4 major geographic regions are well represented: 30% of respondents are based in EMEA and North America each, followed by Asia Pacific (25%) and CALA (15%).

Exhibit 9 **Respondent service provider types and regional distribution**
n=20, 20



Source: IHS Markit © 2017 IHS Markit

Year-over-year survey sample comparison

45% of last year's respondents participated again this year, which is useful to consider when comparing data year over year. The proportional regional representations are roughly the same, although there are some shifts with more European and North American respondents traded off by a smaller Asia Pacific. We had 3 respondents from CALA this year for the first time (with big incumbents among them).

Exhibit 10 **Survey sample, 2016 versus 2017**

	2016 Survey	2017 Survey
Number of respondents	20	20
EMEA operators (% of respondents)	50%	30%
North America operators (% of respondents)	25%	30%
APAC operators (% of respondents)	25%	25%
CALA operators (% of respondents)	0%	15%

Source: IHS Markit © 2017 IHS Markit

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