

Switching Trends

Switching market weakening as backlog is depleting; the worst is still ahead of us

Industry Overview

3Q23 switching growth moderates on depleted backlog

The global switching market grew 14.7% YoY in 3Q23, below 3Q22's 38.3% growth, as orders remain weak and backlog levels are depleting. To put this in perspective, in the 10 years prior to 2022, the total switching market grew only 4.4% per annum on average, jumping to 28.7% and 40.1% growth in 2022 and 1H23, respectively. We believe current demand is weak and expect 2024 to be a difficult year for the segment's growth, possibly reaching negative territories. Anecdotally, we believe this should have negative implications to Cisco and Juniper, with Arista's impact partially mitigated through its high Cloud and AI Titan exposure.

Cloud providers and 400G offsetting DC moderation

The data center (DC) switching market grew 13.1% YoY in 3Q23. Demand from Cloud providers remains solid, and revenue of White Box Vendors, mostly reflecting purchases of Amazon and Google, was up 12.2% YoY in 3Q. Arista continues to benefit from its exposure to Microsoft and Meta, with its DC switching revenue up 20.9% in 3Q23. We also flag the strong demand for 400G switching, a market dominated by Arista and White Box Vendors. 400G DC switching revenue was up 54.6% YoY in 3Q, while the rest of the switching market (total switching ex-400G) was up only 6.1%. 400G now accounts for ~20% of the total DC switching market vs. 14.5% a year ago, with hyperscalers accounting for 70.2% of this market. On a vendor basis, Arista's holds 42% share of the 400G market, White Box Vendors carry 34.2% share, while Cisco holds 3.4% and Juniper holds 0.7% share, respectively.

Arista/White Box Vendors are main beneficiaries of genAI

IDC forecasts that generative AI (genAI) data center switching will accelerate from a ~3% contribution of the DC switching market in 2023 to roughly 25% by 2027. Hyperscalers are a significant portion of the market opportunity, accounting for ~82% of genAI DC switching share in 2023. Within the combined 100G/400G market for hyperscalers, Arista and White Box vendors held 45.4% and 38.3% share, respectively, while Cisco held 0.7% and Juniper held 1.9% in 3Q23. We expect Cisco's share to grow over time, but mostly through routing silicon and optics. Similarly, we don't expect the combined HPE-Juniper entity to grow share meaningfully in the hyperscaler DC switching market, yet we expect to see greater participation in the WAN segment (routing).

Campus switching supporting overall 3Q23 growth

Campus switching remains the bulk of the total switching market, accounting for approx. 59% of the market in 3Q23. Segment growth started moderating, only up 15.7% YoY in 3Q vs. 54.1% and 51% in 2Q and 1Q, respectively, and we expect the segment's growth to turn negative in early 2024. Historically, Campus switching grew at a 2.5% CAGR between 2011-2021. Cisco remains the market leader, increasing its share from 50.4% in 3Q22 to 53.5% in 3Q23, shipping more ports over the last few quarters than it has in any other quarter over the last 10 years. Arista's share remained relatively flat YoY at only 1.9% in 3Q, while Juniper's share continues to fluctuate between 2%-3% since 2018.

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Glossary

- AI = Artificial Intelligence
- DC = Data Center
- genAI = Generative AI
- WAN = Wide Area Network

Total Switching Market Trends

Exhibit 1: Global Switching Revenue Share

The global switching market grew 14.7% YoY in 3Q23, driven by continued growth in both campus and data center switching

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|--------|--|----------|----------|----------|----------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| Revenue (\$mn) | \$5,785 | \$6,327 | \$7,140 | \$7,364 | \$6,495 | \$6,758 | \$7,523 | \$8,331 | \$7,578 | \$8,930 | \$10,406 | \$10,546 | \$10,681 | \$12,447 | \$11,931 | | | \$27,754 | \$26,615 | \$29,106 | \$37,461 |
| QoQ % Chg | -21.5% | 9.4% | 12.8% | 3.1% | -11.8% | 4.1% | 11.3% | 10.7% | -9.0% | 17.8% | 16.5% | 1.4% | 1.3% | 16.5% | -4.1% | | | | | | |
| YoY % Chg | -11.0% | -7.8% | 1.7% | -0.1% | 12.3% | 6.8% | 5.4% | 13.1% | 16.7% | 32.1% | 38.3% | 26.6% | 40.9% | 39.4% | 14.7% | | | 2.4% | -4.1% | 9.4% | 28.7% |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | | |
| Cisco | 50.7% | 45.3% | 47.8% | 42.8% | 47.8% | 44.1% | 44.0% | 42.5% | 42.3% | 40.3% | 41.8% | 40.3% | 42.2% | 44.8% | 43.3% | | | 49.3% | 46.5% | 44.5% | 41.1% |
| Arista | 7.1% | 6.6% | 6.7% | 7.0% | 8.1% | 8.2% | 8.1% | 8.4% | 10.1% | 10.8% | 9.7% | 10.4% | 10.1% | 9.7% | 10.3% | | | 7.3% | 6.9% | 8.2% | 10.2% |
| Huawei | 8.0% | 11.3% | 11.0% | 14.5% | 8.4% | 11.2% | 11.3% | 12.2% | 7.6% | 10.1% | 11.0% | 11.3% | 6.2% | 8.6% | 10.3% | | | 9.7% | 11.4% | 10.9% | 10.2% |
| White Box Vendors | 2.8% | 4.7% | 4.2% | 4.6% | 5.2% | 1.7% | 4.4% | 5.5% | 6.7% | 7.3% | 6.9% | 7.5% | 8.7% | 7.1% | 6.8% | | | 2.8% | 4.1% | 4.2% | 7.1% |
| HPE | 6.8% | 5.6% | 5.3% | 6.8% | 6.2% | 7.5% | 6.1% | 5.5% | 6.1% | 5.3% | 4.6% | 5.4% | 6.5% | 5.9% | 5.7% | | | 5.7% | 6.1% | 6.3% | 5.3% |
| H3C | 4.8% | 8.2% | 6.8% | 5.8% | 5.6% | 8.8% | 8.2% | 7.8% | 8.3% | 7.7% | 6.5% | 5.5% | 4.7% | 4.5% | 4.2% | | | 6.0% | 6.4% | 7.6% | 6.9% |
| Juniper | 3.5% | 3.0% | 3.0% | 3.3% | 2.8% | 3.6% | 3.5% | 3.2% | 3.0% | 3.2% | 3.1% | 3.1% | 2.4% | 2.3% | 2.4% | | | 3.1% | 3.2% | 3.3% | 3.1% |
| Extreme | 1.6% | 1.5% | 2.0% | 1.6% | 1.9% | 0.0% | 0.0% | 1.1% | 1.5% | 1.6% | 1.5% | 1.6% | 1.6% | 1.5% | 1.4% | | | 2.0% | 1.7% | 0.8% | 1.6% |
| Dell | 2.3% | 2.1% | 1.8% | 1.9% | 1.9% | 1.7% | 1.6% | 1.9% | 2.0% | 1.6% | 1.4% | 1.8% | 1.7% | 1.5% | 1.0% | | | 2.0% | 2.0% | 1.8% | 1.7% |
| Ruijie Networks | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.3% | 1.1% | 0.7% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| Ubiquiti | 0.9% | 0.7% | 1.0% | 1.0% | 1.1% | 0.0% | 0.0% | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% | 0.8% | 0.7% | 0.7% | | | 0.6% | 0.9% | 0.5% | 0.9% |
| NETGEAR | 1.0% | 0.7% | 0.8% | 0.8% | 1.0% | 0.0% | 0.0% | 1.0% | 1.0% | 1.0% | 0.9% | 1.0% | 0.8% | 0.5% | 0.5% | | | 0.9% | 0.8% | 0.5% | 1.0% |
| D-Link | 0.8% | 0.6% | 0.7% | 0.7% | 0.8% | 0.0% | 0.0% | 0.7% | 0.6% | 0.6% | 0.6% | 0.5% | 0.5% | 0.5% | 0.5% | | | 0.8% | 0.7% | 0.4% | 0.6% |
| TP-Link | 0.8% | 0.8% | 0.8% | 0.8% | 0.7% | 0.0% | 0.0% | 0.7% | 0.6% | 0.3% | 0.7% | 0.4% | 0.7% | 0.4% | 0.4% | | | 0.8% | 0.8% | 0.3% | 0.5% |
| CommScope (Ruckus) | 0.7% | 0.7% | 0.7% | 0.6% | 0.7% | 0.0% | 0.0% | 0.5% | 0.6% | 0.5% | 0.5% | 0.5% | 0.4% | 0.3% | 0.3% | | | 0.0% | 0.7% | 0.3% | 0.5% |
| Alcatel-Lucent Enterprise | 0.4% | 0.3% | 0.4% | 0.6% | 0.4% | 0.0% | 0.0% | 0.5% | 0.4% | 0.4% | 0.5% | 0.5% | 0.3% | 0.3% | 0.2% | | | 0.5% | 0.5% | 0.2% | 0.5% |
| Ruby Tech | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | | | 0.1% | 0.1% | 0.0% | 0.1% |
| Alaxala | 0.3% | 0.2% | 0.2% | 0.1% | 0.2% | 0.0% | 0.0% | 0.2% | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | | | 0.2% | 0.2% | 0.1% | 0.1% |
| Apresia | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | | | 0.1% | 0.1% | 0.1% | 0.1% |
| ZTE | 0.8% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 1.0% | 0.4% | 0.0% | 0.0% |
| Arris | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.6% | 0.0% | 0.0% | 0.0% |
| Adtran | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.1% | 0.0% | 0.0% | 0.0% |
| Other | 6.4% | 6.3% | 6.6% | 6.9% | 6.9% | 13.2% | 12.8% | 7.3% | 7.9% | 8.1% | 9.1% | 8.9% | 10.9% | 9.9% | 11.0% | | | 6.2% | 6.6% | 10.0% | 8.6% |

Source: Omdia

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**Exhibit 2: Global Switching Port Shipment Share**

Global switching port shipments declined 5.4% YoY in 3Q23, vs. +20.2% growth in 3Q22

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY2019 | CY2020 | CY2021 | CY2022 |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------|--------------|--------------|--------------|----------------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Ports (mn) | 156.2 | 167.2 | 188.6 | 191.7 | 163.9 | 241.9 | 252.4 | 245.4 | 213.3 | 252.7 | 303.4 | 305.2 | 264.8 | 296.0 | 287.0 | | 721.4 | 703.7 | 903.6 | 1,074.6 |
| QoQ % Chg | -22.7% | 7.0% | 12.8% | 1.7% | -14.5% | 47.6% | 4.3% | -2.8% | -13.1% | 18.5% | 20.1% | 0.6% | -13.2% | 11.8% | -3.1% | | | | | |
| YoY % Chg | -2.0% | -5.1% | 2.7% | -5.2% | 4.9% | 44.7% | 33.9% | 28.0% | 30.1% | 4.5% | 20.2% | 24.4% | 24.2% | 17.1% | -5.4% | | 4.5% | -2.5% | 28.4% | 18.9% |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 21.4% | 19.8% | 18.1% | 17.1% | 20.2% | 20.6% | 20.3% | 19.6% | 20.9% | 22.1% | 25.7% | 23.7% | 23.8% | 24.6% | 23.1% | | 20.6% | 19.0% | 20.2% | 23.3% |
| Arista | 1.3% | 1.3% | 1.3% | 1.2% | 1.6% | 1.1% | 1.3% | 1.5% | 1.7% | 1.6% | 1.6% | 1.6% | 2.0% | 2.0% | 2.1% | | 1.1% | 1.3% | 1.3% | 1.6% |
| Huawei | 7.3% | 10.8% | 11.2% | 12.7% | 6.4% | 7.9% | 8.5% | 7.9% | 5.4% | 7.5% | 7.9% | 8.4% | 5.2% | 9.2% | 10.1% | | 6.8% | 10.6% | 7.8% | 7.4% |
| White Box Vendors | 1.3% | 2.2% | 1.4% | 1.5% | 1.8% | 0.4% | 1.2% | 1.4% | 1.6% | 1.7% | 1.5% | 1.6% | 2.5% | 1.9% | 1.8% | | 1.2% | 1.6% | 1.1% | 1.6% |
| HPE | 6.2% | 4.4% | 5.6% | 6.4% | 6.2% | 7.5% | 6.0% | 6.1% | 5.6% | 5.1% | 7.9% | 5.8% | 6.3% | 6.0% | 5.7% | | 5.9% | 5.7% | 6.4% | 6.2% |
| H3C | 8.4% | 12.1% | 10.7% | 8.1% | 10.4% | 14.2% | 14.5% | 14.3% | 15.0% | 15.3% | 12.7% | 12.7% | 9.9% | 9.6% | 12.0% | | 11.9% | 9.8% | 13.6% | 13.8% |
| Juniper | 1.7% | 2.0% | 1.7% | 1.9% | 1.9% | 1.9% | 1.9% | 1.9% | 2.2% | 1.7% | 1.5% | 1.8% | 2.2% | 2.3% | 2.4% | | 1.6% | 1.8% | 1.9% | 1.8% |
| Extreme | 0.9% | 0.8% | 0.7% | 0.9% | 1.0% | 0.0% | 0.0% | 1.0% | 0.9% | 0.9% | 1.0% | 1.1% | 1.2% | 1.2% | 1.0% | | 1.0% | 0.8% | 0.5% | 1.0% |
| Dell | 1.2% | 1.1% | 0.9% | 0.9% | 0.9% | 0.7% | 0.6% | 0.8% | 0.7% | 0.5% | 0.4% | 0.6% | 0.6% | 0.6% | 0.2% | | 1.2% | 1.0% | 0.7% | 0.6% |
| Ruijie Networks | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.4% | 4.3% | 4.2% | | 0.0% | 0.0% | 0.0% | 0.0% |
| Ubiquiti | 4.7% | 3.8% | 5.4% | 5.6% | 6.1% | 0.0% | 0.0% | 5.8% | 5.4% | 5.3% | 5.2% | 4.8% | 4.6% | 4.3% | 3.9% | | 3.3% | 4.9% | 2.7% | 5.1% |
| NETGEAR | 6.2% | 4.7% | 5.3% | 5.3% | 6.5% | 0.0% | 0.0% | 6.3% | 6.4% | 6.3% | 5.3% | 5.4% | 4.8% | 3.3% | 3.2% | | 5.6% | 5.4% | 2.9% | 5.8% |
| D-Link | 7.0% | 4.0% | 5.2% | 5.4% | 6.1% | 0.0% | 0.0% | 4.3% | 4.9% | 4.5% | 4.1% | 4.4% | 4.4% | 5.0% | 4.7% | | 6.8% | 5.4% | 2.3% | 4.4% |
| TP-Link | 15.7% | 16.9% | 16.4% | 16.4% | 14.6% | 0.0% | 0.0% | 14.1% | 13.7% | 12.7% | 11.6% | 12.6% | 12.6% | 9.8% | 9.1% | | 16.0% | 16.4% | 6.5% | 12.6% |
| CommScope (Ruckus) | 1.1% | 1.2% | 1.3% | 1.2% | 1.4% | 0.0% | 0.0% | 1.2% | 1.3% | 1.2% | 1.1% | 1.1% | 1.1% | 0.9% | 0.8% | | 0.0% | 1.2% | 0.6% | 1.2% |
| Alcatel-Lucent | | | | | | | | | | | | | | | | | | | | |
| Enterprise | 0.3% | 0.3% | 0.3% | 0.4% | 0.4% | 0.0% | 0.0% | 0.6% | 0.4% | 0.5% | 0.5% | 0.4% | 0.4% | 0.4% | 0.3% | | 0.4% | 0.3% | 0.2% | 0.5% |
| Ruby Tech | 0.2% | 0.3% | 0.2% | 0.2% | 0.2% | 0.0% | 0.0% | 0.4% | 0.3% | 0.3% | 0.3% | 0.4% | 0.4% | 0.7% | 0.7% | | 0.3% | 0.2% | 0.1% | 0.3% |
| Alaxala | 0.1% | 0.0% | 0.1% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.0% | 0.1% | 0.0% | 0.0% |
| Apresia | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | | 0.1% | 0.1% | 0.1% | 0.1% |
| ZTE | 0.2% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.4% | 0.1% | 0.0% | 0.0% |
| Arris | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 1.1% | 0.0% | 0.0% | 0.0% |
| Adtran | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.1% | 0.0% | 0.0% | 0.0% |
| Other | 14.6% | 13.9% | 14.2% | 14.3% | 14.4% | 45.7% | 45.7% | 12.7% | 13.3% | 12.8% | 11.8% | 13.3% | 14.5% | 13.8% | 14.4% | | 14.4% | 14.2% | 31.0% | 12.8% |

Source: Omdia

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Exhibit 3: Regional Switching Revenue Share

Switching growth is supported by regional recovery in North America, which grew from a 42.9% contribution in 3Q22 to 45.8% in 3Q23

| Regional Market Share | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| North America | 42.3% | 40.4% | 41.7% | 38.3% | 40.8% | 38.0% | 40.4% | 39.3% | 42.0% | 41.7% | 42.9% | 42.3% | 44.5% | 45.5% | 45.8% | | 41.6% | 40.6% | 39.6% | 42.3% |
| EMEA | 28.9% | 25.9% | 26.7% | 27.0% | 29.5% | 27.1% | 26.7% | 26.0% | 28.1% | 26.0% | 26.3% | 27.0% | 27.4% | 26.9% | 26.7% | | 27.0% | 27.1% | 27.2% | 26.8% |
| APAC | 26.0% | 31.2% | 29.3% | 32.3% | 27.2% | 32.6% | 30.7% | 32.7% | 27.7% | 30.2% | 28.2% | 27.6% | 25.5% | 24.8% | 24.7% | | 28.4% | 29.9% | 31.0% | 28.4% |
| CALA | 2.8% | 2.4% | 2.3% | 2.4% | 2.4% | 2.2% | 2.3% | 2.0% | 2.1% | 2.1% | 2.6% | 3.2% | 2.6% | 2.8% | 2.9% | | 3.0% | 2.5% | 2.2% | 2.5% |

Source: Omdia

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Exhibit 4: Global Switching Port Speed Revenue Share

1G revenue grew from a 34.2% contribution in 3Q22 to a 35.7% contribution in 3Q23, while 100G share declined from a 24.8% contribution to 21.2%

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| 100M | 1.5% | 1.8% | 1.5% | 1.8% | 1.7% | 1.2% | 1.2% | 1.0% | 0.5% | 1.0% | 1.0% | 1.0% | 0.9% | 1.2% | 1.4% | | | 2.5% | 1.7% | 1.3% | 0.9% |
| 1 Gig | 42.4% | 38.1% | 38.8% | 36.7% | 35.9% | 39.9% | 33.9% | 32.6% | 30.6% | 31.7% | 34.2% | 33.9% | 34.2% | 37.1% | 35.7% | | | 40.8% | 38.8% | 35.4% | 32.8% |
| 2.5 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.8% | 0.8% | 0.9% | 0.9% | 0.9% | 1.0% | 1.0% | | | 0.0% | 0.0% | 0.0% | 0.9% |
| 5 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.3% | | | 0.0% | 0.0% | 0.0% | 0.2% |
| 10 Gig | 22.4% | 23.6% | 21.2% | 22.3% | 22.1% | 23.0% | 24.6% | 24.6% | 20.9% | 19.4% | 19.6% | 20.2% | 18.8% | 19.2% | 20.2% | | | 25.2% | 22.3% | 23.7% | 20.0% |
| 25 Gig | 7.6% | 8.0% | 9.4% | 8.8% | 9.3% | 8.2% | 9.2% | 9.0% | 10.6% | 9.7% | 9.3% | 9.1% | 9.7% | 9.3% | 9.0% | | | 5.7% | 8.5% | 8.9% | 9.6% |
| 40 Gig | 5.0% | 4.8% | 4.5% | 4.9% | 4.2% | 4.5% | 4.3% | 3.9% | 3.6% | 3.2% | 3.1% | 2.4% | 2.2% | 2.0% | 2.1% | | | 6.8% | 4.8% | 4.2% | 3.0% |
| 50 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | 0.5% | 0.4% | 0.5% | 0.0% | 0.2% | 0.2% | | | 0.0% | 0.0% | 0.0% | 0.5% |
| 100 Gig | 20.7% | 23.2% | 24.1% | 24.9% | 26.1% | 22.0% | 25.4% | 25.1% | 27.6% | 26.7% | 24.8% | 24.0% | 24.8% | 21.5% | 21.2% | | | 18.8% | 23.4% | 24.7% | 25.6% |
| 200 Gig | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% | 0.1% | 0.2% | 0.2% | 0.2% | 0.3% | 0.1% | 0.2% | | | 0.0% | 0.0% | 0.1% | 0.2% |
| 400 Gig | 0.3% | 0.5% | 0.4% | 0.5% | 0.6% | 1.1% | 1.4% | 3.5% | 4.7% | 6.7% | 6.3% | 7.6% | 8.0% | 8.2% | 8.1% | | | 0.1% | 0.4% | 1.8% | 6.4% |
| 800 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.7% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| Legacy (100M/1G) | 43.9% | 39.9% | 40.3% | 38.5% | 37.6% | 41.1% | 35.1% | 33.6% | 31.0% | 32.6% | 35.2% | 34.9% | 35.0% | 38.3% | 37.1% | | | 43.3% | 40.5% | 36.6% | 33.7% |
| Total ex-100G/200G/400G/800G | 79.0% | 76.3% | 75.5% | 74.5% | 73.3% | 76.9% | 73.2% | 71.3% | 67.6% | 66.4% | 68.7% | 68.2% | 66.9% | 70.2% | 69.8% | | | 81.1% | 76.2% | 73.5% | 67.8% |

Source: Omdia

BoFA GLOBAL RESEARCH

Exhibit 5: Global Switching Port Speed Shipment Share

Despite only 3.7% port shipment share, 100G accounted for 21.2% of revenue share, suggesting premium pricing compared to legacy speeds, such as 1G

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| 100M | 11.2% | 10.1% | 10.5% | 9.6% | 8.6% | 8.3% | 8.2% | 7.6% | 8.0% | 8.1% | 7.3% | 7.1% | 5.8% | 6.2% | 7.4% | | | 14.6% | 10.3% | 8.2% | 7.6% |
| 1 Gig | 77.1% | 76.1% | 77.2% | 77.8% | 78.3% | 82.1% | 80.8% | 79.5% | 76.8% | 77.2% | 79.2% | 78.9% | 78.1% | 80.0% | 77.1% | | | 74.4% | 77.1% | 80.3% | 78.2% |
| 2.5 Gig | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.8% | 1.0% | 1.0% | 1.0% | 1.2% | 1.2% | 1.2% | | | 0.0% | 0.0% | 0.1% | 1.0% |
| 5 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% | 0.1% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | | | 0.0% | 0.0% | 0.0% | 0.2% |
| 10 Gig | 5.5% | 6.6% | 5.9% | 6.0% | 5.6% | 5.2% | 5.4% | 6.6% | 7.2% | 7.0% | 6.3% | 6.7% | 6.4% | 4.8% | 6.4% | | | 6.1% | 6.0% | 5.7% | 6.8% |
| 25 Gig | 2.9% | 2.8% | 2.6% | 2.7% | 2.8% | 1.8% | 2.1% | 2.3% | 2.6% | 2.3% | 2.0% | 2.0% | 2.7% | 2.5% | 2.6% | | | 1.7% | 2.7% | 2.2% | 2.2% |
| 40 Gig | 0.6% | 0.7% | 0.5% | 0.6% | 0.6% | 0.4% | 0.4% | 0.5% | 0.4% | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% | | | 0.7% | 0.6% | 0.5% | 0.3% |
| 50 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| 100 Gig | 2.7% | 3.7% | 3.2% | 3.3% | 4.0% | 2.0% | 3.0% | 3.2% | 3.6% | 3.4% | 3.0% | 3.1% | 4.4% | 3.8% | 3.7% | | | 2.5% | 3.2% | 3.0% | 3.2% |
| 200 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| 400 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% | 0.2% | 0.3% | 0.5% | 0.6% | 0.7% | 0.8% | 0.9% | 1.0% | | | 0.0% | 0.0% | 0.1% | 0.5% |
| 800 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| Legacy (100M/1G) | 88.3% | 86.1% | 87.7% | 87.3% | 86.9% | 90.4% | 89.0% | 87.1% | 84.8% | 85.3% | 86.5% | 86.0% | 83.9% | 86.2% | 84.5% | | | 89.0% | 87.4% | 88.5% | 85.7% |
| Total ex-100G/200G/400G/800G | 97.2% | 96.3% | 96.8% | 96.7% | 96.0% | 97.9% | 97.0% | 96.5% | 96.0% | 96.1% | 96.4% | 96.2% | 94.7% | 95.3% | 95.3% | | | 97.5% | 96.7% | 96.9% | 96.2% |

Source: Omdia

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**Exhibit 6: Global Switching Revenue per Port Overview**

Global switching revenue per port grew 21.2% YoY in 3Q23, supported by the impact of pricing actions

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--|-------------|-------------|-------------|-------------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| Revenue per Port (\$) | \$37 | \$38 | \$38 | \$38 | \$40 | \$28 | \$30 | \$34 | \$36 | \$35 | \$34 | \$35 | \$40 | \$42 | \$42 | | | \$38 | \$38 | \$32 | \$35 |
| QoQ % Chg | 1.5% | 2.2% | 0.1% | 1.4% | 3.2% | -29.5% | 6.7% | 13.9% | 4.7% | -0.6% | -3.0% | 0.8% | 16.7% | 4.2% | -1.1% | | | | | | |
| YoY % Chg | -9.2% | -2.8% | -0.9% | 5.3% | 7.0% | -26.2% | -21.3% | -11.6% | -10.3% | 26.5% | 15.1% | 1.8% | 13.5% | 19.0% | 21.2% | | | -2.1% | -1.7% | -14.8% | 8.2% |
| Revenue per Port Speed | | | | | | | | | | | | | | | | | | | | | |
| 100M | \$5 | \$7 | \$5 | \$7 | \$8 | \$4 | \$4 | \$4 | \$2 | \$4 | \$5 | \$5 | \$6 | \$8 | \$8 | | | \$7 | \$6 | \$5 | \$4 |
| 1 Gig | \$20 | \$19 | \$19 | \$18 | \$18 | \$14 | \$12 | \$14 | \$14 | \$14 | \$15 | \$15 | \$18 | \$20 | \$19 | | | \$21 | \$19 | \$14 | \$15 |
| 2.5 Gig | \$20 | \$28 | \$25 | \$28 | \$32 | \$14 | \$16 | \$16 | \$37 | \$30 | \$30 | \$30 | \$33 | \$34 | \$36 | | | \$19 | \$26 | \$19 | \$31 |
| 5 Gig | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$45 | \$42 | \$41 | \$41 | \$47 | \$49 | \$44 | | | \$0 | \$0 | \$0 | \$42 |
| 10 Gig | \$152 | \$135 | \$137 | \$144 | \$156 | \$123 | \$136 | \$126 | \$102 | \$97 | \$106 | \$105 | \$119 | \$167 | \$131 | | | \$159 | \$141 | \$133 | \$103 |
| 25 Gig | \$98 | \$108 | \$136 | \$126 | \$131 | \$127 | \$132 | \$136 | \$145 | \$148 | \$156 | \$154 | \$144 | \$153 | \$145 | | | \$131 | \$118 | \$132 | \$151 |
| 40 Gig | \$319 | \$260 | \$320 | \$300 | \$293 | \$309 | \$300 | \$295 | \$351 | \$328 | \$331 | \$299 | \$298 | \$278 | \$278 | | | \$363 | \$298 | \$299 | \$327 |
| 50 Gig | \$201 | \$161 | \$102 | \$46 | \$55 | \$58 | \$58 | \$111 | \$408 | \$357 | \$463 | \$418 | \$150 | \$239 | \$238 | | | \$371 | \$65 | \$84 | \$410 |
| 100 Gig | \$278 | \$239 | \$288 | \$290 | \$261 | \$308 | \$256 | \$265 | \$271 | \$281 | \$283 | \$271 | \$225 | \$240 | \$237 | | | \$291 | \$274 | \$269 | \$276 |
| 200 Gig | \$216 | \$199 | \$243 | \$314 | \$252 | \$239 | \$239 | \$244 | \$318 | \$377 | \$386 | \$354 | \$403 | \$339 | \$441 | | | \$0 | \$247 | \$244 | \$362 |
| 400 Gig | \$570 | \$620 | \$537 | \$609 | \$601 | \$560 | \$576 | \$500 | \$516 | \$472 | \$381 | \$391 | \$390 | \$384 | \$352 | | | \$495 | \$586 | \$529 | \$421 |

Source: Omdia

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Campus Switching Market Trends

Exhibit 7: Global Campus Switching Revenue Share

The global campus switching market saw growth of 15.7% YoY in 3Q23, fueled by drawdown of backlog levels

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|---------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Revenue (\$mn) | \$3,254 | \$3,433 | \$3,939 | \$4,036 | \$3,556 | \$3,972 | \$4,167 | \$4,666 | \$3,932 | \$4,666 | \$6,088 | \$5,978 | \$5,938 | \$7,190 | \$7,045 | | \$15,752 | \$14,662 | \$16,361 | \$20,664 |
| QoQ % Chg | -26.2% | 5.5% | 14.7% | 2.5% | -11.9% | 11.7% | 4.9% | 12.0% | -15.7% | 18.7% | 30.5% | -1.8% | -0.7% | 21.1% | -2.0% | | | | | |
| YoY % Chg | -10.6% | -9.1% | 0.2% | -8.4% | 9.3% | 15.7% | 5.8% | 15.6% | 10.6% | 17.5% | 46.1% | 28.1% | 51.0% | 54.1% | 15.7% | | 1.9% | -6.9% | 11.6% | 26.3% |
| Cisco | 56.8% | 52.5% | 51.6% | 46.8% | 53.4% | 47.2% | 47.3% | 48.3% | 47.2% | 49.1% | 50.4% | 48.9% | 51.5% | 55.0% | 53.5% | | 55.6% | 51.6% | 48.9% | 49.1% |
| Arista | 0.2% | 0.4% | 0.4% | 0.4% | 0.3% | 0.4% | 0.9% | 1.9% | 2.9% | 3.4% | 1.7% | 2.5% | 1.7% | 1.4% | 1.9% | | 0.1% | 0.4% | 0.9% | 2.6% |
| Huawei | 7.2% | 9.8% | 11.6% | 12.5% | 7.0% | 11.0% | 11.2% | 10.1% | 7.2% | 10.5% | 10.6% | 12.2% | 5.8% | 9.9% | 10.7% | | 8.5% | 10.4% | 9.9% | 10.4% |
| HPE | 10.7% | 8.9% | 8.5% | 11.1% | 9.9% | 11.6% | 9.8% | 8.9% | 10.9% | 9.4% | 7.3% | 8.6% | 10.4% | 9.1% | 8.7% | | 8.7% | 9.8% | 10.0% | 8.8% |
| H3C | 4.2% | 8.6% | 6.1% | 6.8% | 6.9% | 9.1% | 9.7% | 9.2% | 9.2% | 5.9% | 8.6% | 6.3% | 4.9% | 3.7% | 3.7% | | 6.5% | 6.5% | 8.8% | 7.4% |
| Juniper | 2.6% | 2.8% | 2.8% | 2.9% | 2.2% | 2.6% | 2.9% | 3.0% | 2.4% | 3.2% | 2.6% | 2.2% | 1.9% | 2.0% | 2.1% | | 2.4% | 2.8% | 2.7% | 2.6% |
| Extreme | 2.9% | 2.8% | 3.7% | 2.9% | 3.5% | 0.0% | 0.0% | 2.0% | 2.9% | 3.1% | 2.5% | 2.9% | 2.9% | 2.6% | 2.3% | | 3.6% | 3.1% | 1.4% | 2.8% |
| Dell | 1.2% | 0.9% | 0.9% | 0.9% | 0.8% | 0.7% | 0.6% | 1.0% | 1.1% | 0.6% | 0.3% | 0.7% | 0.6% | 0.5% | 0.2% | | 1.0% | 1.0% | 0.8% | 0.6% |
| Ruijie Networks | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.4% | 1.9% | 1.2% | | 0.0% | 0.0% | 0.0% | 0.0% |
| Ubiquiti | 1.6% | 1.3% | 1.8% | 1.9% | 2.0% | 0.0% | 0.0% | 1.6% | 1.7% | 1.7% | 1.6% | 1.6% | 1.4% | 1.3% | 1.2% | | 1.1% | 1.7% | 0.9% | 1.6% |
| NETGEAR | 1.8% | 1.3% | 1.4% | 1.5% | 1.8% | 0.0% | 0.0% | 1.8% | 1.9% | 2.0% | 1.6% | 1.7% | 1.4% | 0.9% | 0.9% | | 1.6% | 1.5% | 0.9% | 1.8% |
| D-Link | 1.5% | 1.0% | 1.2% | 1.3% | 1.5% | 0.0% | 0.0% | 1.3% | 1.2% | 1.2% | 1.0% | 0.9% | 0.8% | 0.9% | 0.8% | | 1.3% | 1.3% | 0.7% | 1.1% |
| TP-Link | 1.4% | 1.5% | 1.5% | 1.5% | 1.2% | 0.0% | 0.0% | 1.2% | 1.1% | 0.6% | 1.2% | 0.7% | 1.3% | 0.7% | 0.7% | | 1.4% | 1.5% | 0.6% | 0.9% |
| CommScope (Ruckus) | 1.2% | 1.3% | 1.3% | 1.2% | 1.3% | 0.0% | 0.0% | 1.0% | 1.1% | 1.0% | 0.8% | 0.9% | 0.7% | 0.6% | 0.5% | | 0.0% | 1.2% | 0.5% | 1.0% |
| Alcatel-Lucent Enterprise | 0.8% | 0.6% | 0.7% | 1.1% | 0.8% | 0.0% | 0.0% | 0.9% | 0.8% | 0.9% | 0.8% | 0.8% | 0.6% | 0.5% | 0.4% | | 0.9% | 0.8% | 0.4% | 0.8% |
| Ruby Tech | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.2% | 0.2% | 0.1% | 0.1% | 0.2% | 0.1% | 0.2% | 0.2% | | 0.2% | 0.1% | 0.1% | 0.1% |
| Alaxala | 0.5% | 0.4% | 0.4% | 0.3% | 0.5% | 0.0% | 0.0% | 0.3% | 0.4% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | | 0.3% | 0.4% | 0.2% | 0.3% |
| Apresia | 0.3% | 0.2% | 0.3% | 0.2% | 0.2% | 0.0% | 0.0% | 0.1% | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | | 0.2% | 0.2% | 0.1% | 0.1% |
| ZTE | 0.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.4% | 0.1% | 0.0% | 0.0% |
| Arris | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 1.1% | 0.0% | 0.0% | 0.0% |
| Adtran | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.2% | 0.0% | 0.0% | 0.0% |
| Other | 4.8% | 5.3% | 5.9% | 6.5% | 6.5% | 17.4% | 17.5% | 7.2% | 7.4% | 6.9% | 8.5% | 8.5% | 11.0% | 8.5% | 10.4% | | 4.8% | 5.7% | 12.1% | 7.9% |

Source: Omdia

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**Exhibit 8: Global Campus Switching Port Shipment Share**

Cisco has shipped more ports in the last few quarters than it has in any other quarter over the last 10 years, resulting in port shipment share gain over the last few years

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| Ports (mn) | | | | | | | | | | | | | | | | | | | | | |
| QoQ % Chg | -24.3% | 6.0% | 14.6% | 1.6% | -15.4% | 53.6% | 3.0% | -3.2% | -13.8% | 18.5% | 22.0% | 0.4% | -15.5% | 12.3% | -2.7% | | | 664 | 641 | 839 | 996 |
| YoY % Chg | -2.7% | -6.2% | 2.3% | -6.6% | 4.4% | 51.3% | 35.9% | 29.6% | 32.0% | 1.9% | 20.7% | 25.1% | 22.6% | 16.2% | -7.3% | | | 5.0% | -3.4% | 30.8% | 18.8% |
| | | | | | | | | | | | | | | | | | | | | | |
| Cisco | 20.0% | 19.1% | 16.8% | 15.8% | 18.9% | 19.6% | 19.4% | 19.0% | 20.2% | 22.0% | 25.9% | 23.7% | 23.7% | 24.4% | 22.8% | | | 19.6% | 17.8% | 19.3% | 23.2% |
| Arista | 0.0% | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.3% | 0.4% | 0.6% | 0.6% | 0.5% | 0.6% | 0.6% | 0.6% | 0.7% | | | 0.0% | 0.1% | 0.2% | 0.5% |
| Huawei | 7.4% | 10.9% | 11.5% | 12.7% | 6.3% | 7.8% | 8.5% | 7.6% | 5.2% | 7.4% | 7.7% | 8.3% | 5.1% | 9.4% | 10.1% | | | 6.7% | 10.8% | 7.7% | 7.3% |
| HPE | 6.6% | 4.8% | 6.0% | 6.9% | 6.6% | 7.8% | 6.3% | 6.6% | 6.0% | 5.5% | 8.4% | 6.2% | 6.8% | 6.5% | 6.2% | | | 6.3% | 6.1% | 6.9% | 6.6% |
| H3C | 8.3% | 12.2% | 10.6% | 8.2% | 10.7% | 14.3% | 14.8% | 14.6% | 15.3% | 15.3% | 13.2% | 13.1% | 10.2% | 9.9% | 12.6% | | | 12.3% | 9.8% | 13.9% | 14.1% |
| Juniper | 1.5% | 2.0% | 1.6% | 1.9% | 1.8% | 1.9% | 1.8% | 1.9% | 2.1% | 1.6% | 1.4% | 1.7% | 2.2% | 2.3% | 2.5% | | | 1.5% | 1.8% | 1.8% | 1.7% |
| Extreme | 1.0% | 0.9% | 0.8% | 1.0% | 1.1% | 0.0% | 0.0% | 1.1% | 1.0% | 1.0% | 1.0% | 1.2% | 1.3% | 1.3% | 1.1% | | | 1.0% | 0.9% | 0.5% | 1.0% |
| Dell | 0.9% | 0.6% | 0.5% | 0.5% | 0.4% | 0.5% | 0.3% | 0.5% | 0.4% | 0.2% | 0.2% | 0.3% | 0.2% | 0.2% | 0.0% | | | 0.7% | 0.6% | 0.4% | 0.3% |
| Ruijie Networks | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.7% | 4.7% | 4.6% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| Ubiquiti | 5.1% | 4.2% | 5.9% | 6.1% | 6.7% | 0.0% | 0.0% | 6.2% | 5.8% | 5.7% | 5.5% | 5.1% | 5.1% | 4.8% | 4.3% | | | 3.6% | 5.4% | 2.9% | 5.5% |
| NETGEAR | 6.9% | 5.2% | 5.8% | 5.8% | 7.2% | 0.0% | 0.0% | 6.8% | 7.0% | 6.9% | 5.6% | 5.8% | 5.3% | 3.6% | 3.5% | | | 6.1% | 5.9% | 3.1% | 6.2% |
| D-Link | 7.7% | 4.5% | 5.7% | 5.9% | 6.7% | 0.0% | 0.0% | 4.7% | 5.3% | 4.9% | 4.4% | 4.8% | 4.9% | 5.5% | 5.2% | | | 7.3% | 5.9% | 2.4% | 4.8% |
| TP-Link | 17.2% | 18.7% | 17.9% | 18.0% | 16.1% | 0.0% | 0.0% | 15.2% | 14.9% | 13.8% | 12.4% | 13.6% | 13.9% | 10.8% | 10.0% | | | 17.4% | 18.0% | 7.0% | 13.5% |
| CommScope (Ruckus) | 1.3% | 1.4% | 1.4% | 1.3% | 1.5% | 0.0% | 0.0% | 1.3% | 1.4% | 1.3% | 1.1% | 1.2% | 1.2% | 1.0% | 0.9% | | | 0.0% | 1.4% | 0.6% | 1.2% |
| Alcatel-Lucent | | | | | | | | | | | | | | | | | | | | | |
| Enterprise | 0.3% | 0.3% | 0.3% | 0.5% | 0.5% | 0.0% | 0.0% | 0.6% | 0.5% | 0.5% | 0.5% | 0.5% | 0.4% | 0.4% | 0.3% | | | 0.4% | 0.4% | 0.3% | 0.5% |
| Ruby Tech | 0.2% | 0.3% | 0.2% | 0.2% | 0.3% | 0.0% | 0.0% | 0.4% | 0.4% | 0.3% | 0.3% | 0.5% | 0.5% | 0.8% | 0.7% | | | 0.4% | 0.2% | 0.2% | 0.4% |
| Alaxala | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.1% | 0.0% | 0.0% |
| Apresia | 0.2% | 0.1% | 0.2% | 0.1% | 0.2% | 0.0% | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | | | 0.2% | 0.1% | 0.1% | 0.1% |
| ZTE | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.4% | 0.1% | 0.0% | 0.0% |
| Arris | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 1.2% | 0.0% | 0.0% | 0.0% |
| Adtran | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.1% | 0.0% | 0.0% | 0.0% |
| Other | 15.1% | 14.5% | 14.6% | 14.8% | 15.0% | 47.9% | 48.5% | 13.0% | 13.6% | 12.9% | 11.8% | 13.4% | 14.7% | 13.8% | 14.4% | | | 14.9% | 14.7% | 32.8% | 12.9% |

Source: Omdia

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Exhibit 9: Global Campus Switching Port Speed Revenue Share

From the perspective of port speeds, the largest share of revenue in the campus switching market will be from lower to mid-range switches

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| 100M | 2.7% | 3.3% | 2.7% | 3.3% | 3.1% | 2.1% | 2.2% | 1.8% | 0.9% | 1.9% | 1.8% | 1.7% | 1.6% | 2.1% | 2.3% | | | 4.4% | 3.0% | 2.2% | 1.6% |
| 1 Gig | 74.1% | 69.3% | 69.4% | 66.3% | 64.5% | 67.1% | 60.4% | 57.6% | 58.4% | 60.1% | 58.2% | 59.6% | 61.1% | 64.0% | 60.2% | | | 70.4% | 69.6% | 62.1% | 59.1% |
| 2.5 Gig | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.1% | 1.6% | 1.5% | 1.5% | 1.5% | 1.7% | 1.7% | 1.7% | | | 0.0% | 0.1% | 0.1% | 1.5% |
| 5 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.4% | 0.3% | 0.3% | 0.3% | 0.4% | 0.4% | 0.4% | | | 0.0% | 0.0% | 0.0% | 0.4% |
| 10 Gig | 22.7% | 26.5% | 25.2% | 27.1% | 29.8% | 30.8% | 33.7% | 33.6% | 31.0% | 27.6% | 26.2% | 28.5% | 27.5% | 28.2% | 29.1% | | | 24.5% | 25.5% | 32.1% | 28.1% |
| 25 Gig | 0.2% | 0.2% | 0.6% | 0.7% | 0.7% | -0.5% | 0.6% | 1.5% | 2.0% | 1.7% | 2.5% | 1.7% | 1.7% | 1.7% | 2.1% | | | 0.1% | 0.4% | 0.6% | 2.0% |
| 40 Gig | 0.2% | 0.1% | 0.3% | 0.2% | 0.1% | 1.1% | 1.0% | 1.1% | 0.9% | 1.1% | 1.5% | 0.5% | 0.4% | 0.3% | 0.3% | | | 0.4% | 0.2% | 0.9% | 1.0% |
| 50 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | 0.9% | 0.7% | 0.8% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.8% |
| 100 Gig | 0.1% | 0.5% | 1.6% | 2.3% | 1.7% | -0.8% | 1.9% | 4.0% | 3.6% | 4.0% | 6.9% | 5.1% | 5.2% | 1.9% | 3.7% | | | 0.1% | 1.2% | 1.8% | 5.1% |
| 200 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | -0.1% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| 400 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% | 0.4% | 0.3% | 0.8% | 0.4% | 0.2% | 0.4% | -0.1% | 0.0% | | | 0.0% | 0.0% | 0.2% | 0.4% |
| 800 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| Legacy (100M/1G) | 76.8% | 72.6% | 72.2% | 69.6% | 67.6% | 69.2% | 62.6% | 59.3% | 59.2% | 62.0% | 59.9% | 61.4% | 62.6% | 66.1% | 62.6% | | | 74.9% | 72.6% | 64.4% | 60.7% |
| Total ex-100G/200G/400G/800G | 99.9% | 99.5% | 98.4% | 97.7% | 98.3% | 100.8% | 98.0% | 95.6% | 96.1% | 95.2% | 92.7% | 94.8% | 94.3% | 98.3% | 96.3% | | | 99.9% | 98.8% | 98.0% | 94.5% |

Source: Omdia

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Exhibit 10: Global Campus Switching Port Speed Shipment Share

1G constitutes the bulk of campus port shipments, with an 84.1% contribution in 3Q23

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | | CY19 | CY20 | CY21 | CY22 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | | |
| 100M | 12.3% | 11.2% | 11.4% | 10.5% | 9.5% | 8.9% | 8.9% | 8.2% | 8.7% | 8.8% | 7.9% | 7.7% | 6.4% | 6.8% | 8.1% | | | 15.9% | 11.3% | 8.8% | 8.2% |
| 1 Gig | 84.2% | 83.9% | 83.9% | 84.6% | 85.9% | 86.8% | 86.5% | 85.5% | 83.4% | 83.7% | 84.6% | 84.5% | 85.8% | 87.5% | 84.1% | | | 80.3% | 84.2% | 86.2% | 84.1% |
| 2.5 Gig | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.9% | 1.0% | 1.1% | 1.1% | 1.3% | 1.3% | 1.3% | | | 0.0% | 0.0% | 0.1% | 1.0% |
| 5 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.3% | | | 0.0% | 0.0% | 0.0% | 0.2% |
| 10 Gig | 3.3% | 4.6% | 4.4% | 4.4% | 4.2% | 4.3% | 4.3% | 5.5% | 6.3% | 6.0% | 5.6% | 6.0% | 5.4% | 3.8% | 5.6% | | | 3.7% | 4.2% | 4.6% | 5.9% |
| 25 Gig | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | -0.2% | 0.1% | 0.3% | 0.3% | 0.1% | 0.3% | 0.2% | 0.4% | 0.3% | 0.4% | | | 0.0% | 0.1% | 0.1% | 0.3% |
| 40 Gig | 0.0% | 0.1% | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | | | 0.1% | 0.1% | 0.1% | 0.1% |
| 50 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| 100 Gig | 0.0% | 0.1% | 0.1% | 0.2% | 0.2% | 0.0% | 0.1% | 0.3% | 0.1% | 0.0% | 0.2% | 0.2% | 0.4% | 0.0% | 0.2% | | | 0.0% | 0.1% | 0.2% | 0.1% |
| 200 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| 400 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| 800 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | | 0.0% | 0.0% | 0.0% | 0.0% |
| Legacy (100M/1G) | 96.5% | 95.1% | 95.3% | 95.1% | 95.4% | 95.7% | 95.4% | 93.7% | 92.1% | 92.5% | 92.5% | 92.2% | 92.2% | 94.3% | 92.2% | | | 96.1% | 95.5% | 95.0% | 92.3% |
| Total ex-100G/200G/400G/800G | 100.0% | 99.9% | 99.9% | 99.8% | 99.8% | 100.0% | 99.9% | 99.7% | 99.9% | 100.0% | 99.8% | 99.8% | 99.6% | 100.0% | 99.8% | | | 100.0% | 99.9% | 99.8% | 99.8% |

Source: Omdia

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Data Center Switching Market Trends

Exhibit 11: Global Data Center Switching Revenue Share

The global data center switching market grew 13.1% YoY in 3Q23, below 3Q22's 28.7% on spending moderation

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Revenue (\$mn) | \$2,531 | \$2,894 | \$3,200 | \$3,328 | \$2,939 | \$2,786 | \$3,357 | \$3,664 | \$3,647 | \$4,264 | \$4,318 | \$4,568 | \$4,743 | \$5,257 | \$4,886 | | \$12,002 | \$11,953 | \$12,745 | \$16,797 |
| QoQ % Chg | -14.7% | 14.3% | 10.6% | 4.0% | -11.7% | -5.2% | 20.5% | 9.2% | -0.5% | 16.9% | 1.3% | 5.8% | 3.8% | 10.8% | -7.1% | | 2.9% | -0.4% | 6.6% | 31.8% |
| YoY % Chg | -11.5% | -6.2% | 3.5% | 12.2% | 16.1% | -3.7% | 4.9% | 10.1% | 24.1% | 53.1% | 28.7% | 24.7% | 30.1% | 23.3% | 13.1% | | | | | |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 42.7% | 36.7% | 43.2% | 37.9% | 41.1% | 39.7% | 39.8% | 35.2% | 36.9% | 30.6% | 29.6% | 29.2% | 30.5% | 31.0% | 28.7% | | 41.0% | 40.1% | 38.8% | 31.3% |
| Arista | 15.9% | 14.1% | 14.5% | 15.0% | 17.6% | 19.4% | 17.1% | 16.7% | 17.8% | 18.8% | 21.0% | 20.8% | 20.5% | 21.0% | 22.4% | | 16.8% | 14.8% | 17.6% | 19.7% |
| White Box Vendors | 6.4% | 10.4% | 9.3% | 10.2% | 11.5% | 4.1% | 9.8% | 12.4% | 14.0% | 15.3% | 16.7% | 17.3% | 19.6% | 16.8% | 16.5% | | 6.5% | 9.2% | 9.7% | 15.9% |
| Huawei | 9.2% | 13.1% | 10.3% | 16.8% | 10.0% | 11.6% | 11.4% | 14.9% | 7.9% | 9.5% | 11.5% | 10.2% | 6.6% | 6.7% | 9.7% | | 11.3% | 12.6% | 12.1% | 9.9% |
| Juniper | 4.7% | 3.3% | 3.2% | 3.7% | 3.5% | 5.0% | 4.2% | 3.4% | 3.7% | 3.3% | 3.9% | 4.2% | 2.9% | 2.7% | 2.7% | | 4.1% | 3.7% | 4.0% | 3.8% |
| H3C | 5.4% | 7.7% | 7.6% | 4.5% | 4.1% | 8.3% | 6.3% | 6.0% | 7.3% | 9.6% | 3.6% | 4.4% | 4.3% | 5.7% | 4.8% | | 5.3% | 6.3% | 6.1% | 6.1% |
| Dell | 3.7% | 3.6% | 3.0% | 3.0% | 3.2% | 3.2% | 2.8% | 3.1% | 3.0% | 2.8% | 3.0% | 3.2% | 3.0% | 2.9% | 2.1% | | 3.4% | 3.3% | 3.1% | 3.0% |
| HPE | 1.9% | 1.7% | 1.4% | 1.5% | 1.8% | 1.6% | 1.4% | 1.1% | 1.0% | 0.7% | 0.8% | 1.3% | 1.7% | 1.4% | 1.3% | | 1.8% | 1.6% | 1.4% | 0.9% |
| NVIDIA | | | | | | | | | | | | | | 2.1% | 2.3% | | | | | |
| ZTE | 1.6% | 2.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 1.8% | 0.8% | 0.0% | 0.0% |
| Other | 8.5% | 7.5% | 7.5% | 7.3% | 7.4% | 7.2% | 7.1% | 7.3% | 8.4% | 9.5% | 10.0% | 9.5% | 10.9% | 9.6% | 9.5% | | 7.9% | 7.6% | 7.3% | 9.4% |

Source: Omdia

BoFA GLOBAL RESEARCH

Exhibit 12: Global Data Center Switching Port Shipment Share

Arista and White Box Vendors continue to grow their port shipment share, supported by hyperscaler initiatives

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|-----------|-----------|-----------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Ports (mn) | 14 | 17 | 16 | 16 | 15 | 14 | 18 | 18 | 17 | 20 | 20 | 21 | 24 | 26 | 24 | | 58 | 63 | 65 | 78 |
| QoQ % Chg | -1.8% | 17.3% | -4.1% | 3.0% | -5.1% | -9.8% | 26.1% | 2.5% | -4.2% | 18.2% | -1.7% | 3.3% | 18.1% | 6.8% | -6.6% | | -1.0% | 8.3% | 3.7% | 20.7% |
| YoY % Chg | 5.9% | 6.2% | 7.2% | 13.8% | 9.9% | -15.5% | 11.0% | 10.6% | 11.7% | 46.4% | 14.1% | 15.0% | 41.7% | 28.0% | 21.6% | | | | | |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 35.6% | 27.0% | 32.6% | 31.5% | 32.0% | 36.0% | 32.7% | 28.3% | 28.6% | 23.2% | 23.2% | 23.8% | 24.2% | 26.6% | 26.1% | | 32.1% | 31.5% | 32.0% | 24.6% |
| Arista | 14.0% | 12.7% | 14.3% | 13.4% | 16.8% | 17.1% | 14.5% | 14.5% | 14.4% | 13.7% | 17.0% | 16.1% | 15.7% | 16.1% | 17.2% | | 14.4% | 13.6% | 15.6% | 15.3% |
| White Box Vendors | 13.9% | 20.9% | 16.1% | 18.1% | 18.7% | 6.6% | 17.4% | 19.2% | 20.4% | 21.0% | 23.3% | 23.8% | 26.7% | 22.0% | 21.4% | | 15.2% | 17.4% | 15.9% | 22.2% |
| Huawei | 6.3% | 9.7% | 7.8% | 12.5% | 7.3% | 9.0% | 8.6% | 12.0% | 6.6% | 8.2% | 10.4% | 9.4% | 6.4% | 7.1% | 9.8% | | 8.5% | 9.2% | 9.3% | 8.8% |
| Juniper | 3.7% | 2.3% | 2.0% | 2.3% | 2.3% | 3.3% | 2.9% | 2.4% | 2.8% | 2.4% | 3.1% | 3.4% | 2.5% | 2.4% | 2.0% | | 3.3% | 2.5% | 2.7% | 2.9% |
| H3C | 9.3% | 10.7% | 12.0% | 7.0% | 7.7% | 13.1% | 10.1% | 9.7% | 11.2% | 15.3% | 6.5% | 6.4% | 6.1% | 6.2% | 5.6% | | 7.8% | 9.7% | 10.1% | 9.8% |
| Dell | 4.9% | 5.3% | 4.7% | 5.0% | 5.1% | 5.1% | 4.3% | 4.7% | 4.8% | 4.0% | 3.9% | 4.4% | 4.5% | 4.5% | 2.3% | | 6.9% | 5.0% | 4.8% | 4.2% |
| HPE | 1.2% | 1.1% | 1.4% | 1.5% | 1.6% | 1.4% | 1.1% | 0.6% | 0.9% | 0.8% | 0.7% | 0.8% | 1.1% | 0.9% | 0.9% | | 1.8% | 1.3% | 1.1% | 0.8% |
| NVIDIA | | | | | | | | | | | | | | 2.6% | 2.9% | | | | | |
| ZTE | 1.2% | 1.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 1.1% | 0.7% | 0.0% | 0.0% |
| Other | 9.9% | 8.7% | 9.2% | 8.8% | 8.4% | 8.4% | 8.4% | 8.6% | 10.3% | 11.2% | 12.1% | 11.9% | 12.8% | 11.6% | 11.6% | | 8.8% | 9.1% | 8.5% | 11.4% |

Source: Omdia

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Exhibit 13: Global 100G DC Switching Revenue Share

100G DC switching remains a competitive market with Cisco and Arista accounting for roughly 25% of the market each

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----------------|----------------|----------------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Revenue (\$mn) | \$1,193 | \$1,450 | \$1,656 | \$1,744 | \$1,632 | \$1,514 | \$1,832 | \$1,906 | \$1,948 | \$2,200 | \$2,159 | \$2,231 | \$2,341 | \$2,535 | \$2,264 | | \$5,210 | \$6,043 | \$6,885 | \$8,539 |
| QoQ % Chg | -7.6% | 21.5% | 14.3% | 5.3% | -6.4% | -7.2% | 21.0% | 4.0% | 2.2% | 12.9% | -1.9% | 3.3% | 4.9% | 8.3% | -10.7% | | 31.2% | 16.0% | 13.9% | 24.0% |
| YoY % Chg | -3.0% | 9.3% | 21.5% | 35.1% | 36.8% | 4.5% | 10.6% | 9.3% | 19.4% | 45.3% | 17.8% | 17.0% | 20.1% | 15.2% | 4.9% | | | | | |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 33.9% | 31.0% | 36.8% | 32.3% | 34.5% | 35.1% | 34.1% | 31.0% | 31.0% | 25.9% | 24.8% | 24.3% | 25.6% | 26.9% | 26.3% | | 33.6% | 33.6% | 33.6% | 26.4% |
| Arista | 25.1% | 20.8% | 20.3% | 20.9% | 22.1% | 27.1% | 23.2% | 22.9% | 23.6% | 22.7% | 26.0% | 25.6% | 23.6% | 24.2% | 25.7% | | 26.0% | 21.5% | 23.7% | 24.5% |
| White Box Vendors | 8.6% | 16.3% | 15.3% | 17.2% | 19.1% | 4.6% | 14.7% | 14.4% | 15.1% | 15.9% | 17.6% | 17.6% | 22.6% | 16.7% | 14.8% | | 11.6% | 14.8% | 13.4% | 16.6% |
| Huawei | 9.9% | 11.3% | 8.7% | 14.0% | 8.7% | 11.0% | 10.1% | 13.7% | 7.2% | 8.9% | 11.1% | 10.3% | 6.7% | 6.9% | 10.3% | | 7.7% | 11.1% | 11.0% | 9.4% |
| Juniper | 6.2% | 3.5% | 3.4% | 3.8% | 3.4% | 5.7% | 4.3% | 4.0% | 4.0% | 3.6% | 4.2% | 4.7% | 3.4% | 3.2% | 3.3% | | 5.1% | 4.1% | 4.3% | 4.2% |
| H3C | 4.2% | 6.1% | 9.4% | 4.0% | 3.9% | 8.4% | 5.9% | 5.6% | 8.7% | 11.0% | 3.3% | 4.0% | 4.0% | 5.5% | 2.9% | | 4.1% | 6.0% | 5.9% | 6.7% |
| Dell | 2.1% | 2.1% | 1.3% | 1.3% | 1.4% | 1.4% | 1.2% | 1.3% | 1.8% | 1.7% | 1.7% | 2.0% | 1.6% | 1.7% | 1.4% | | 2.2% | 1.6% | 1.3% | 1.8% |
| HPE | 1.1% | 0.7% | 0.6% | 1.7% | 1.7% | 1.8% | 1.6% | 1.6% | 1.2% | 0.7% | 1.2% | 1.9% | 2.2% | 1.4% | 1.3% | | 0.7% | 1.0% | 1.7% | 1.2% |
| NVIDIA | | | | | | | | | | | | | | 3.6% | 4.1% | | | | | |
| ZTE | 0.5% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 1.6% | 0.5% | 0.0% | 0.0% |
| Other | 8.4% | 6.6% | 4.2% | 4.9% | 5.3% | 5.1% | 5.1% | 5.5% | 7.5% | 9.7% | 10.0% | 9.7% | 10.4% | 9.9% | 9.8% | | 7.4% | 5.8% | 5.2% | 9.3% |

Source: Omdia

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Exhibit 14: Global 100G DC Switching Port Shipment Share

Cisco's lower port shipment share and higher revenue share than Arista and White Box Vendors suggests premium pricing in 100G DC switching

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|--------|-----------|-----------|-----------|-----------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Ports (mn) | 4 | 6 | 6 | 6 | 6 | 5 | 7 | 7 | 7 | 9 | 8 | 9 | 11 | 11 | 10 | | 18 | 22 | 25 | 33 |
| QoQ % Chg | 3.0% | 41.5% | -5.0% | 4.5% | 4.2% | -24.3% | 52.3% | -0.4% | 4.0% | 14.6% | -1.2% | 3.9% | 23.9% | 2.4% | -9.6% | | | | | |
| YoY % Chg | 4.6% | 17.3% | 27.6% | 44.6% | 46.3% | -21.7% | 25.6% | 19.6% | 19.4% | 80.6% | 17.2% | 22.3% | 45.7% | 30.3% | 19.3% | | 24.2% | 23.3% | 15.0% | 31.0% |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 17.3% | 13.7% | 16.5% | 15.8% | 17.0% | 24.8% | 19.3% | 16.9% | 15.8% | 13.3% | 12.7% | 12.9% | 12.6% | 15.6% | 17.4% | | 15.8% | 15.7% | 19.1% | 13.6% |
| Arista | 25.8% | 20.7% | 22.7% | 20.0% | 19.2% | 29.6% | 21.0% | 22.3% | 22.2% | 19.8% | 22.4% | 21.9% | 20.0% | 20.6% | 21.4% | | 21.9% | 22.0% | 22.5% | 21.6% |
| White Box Vendors | 24.3% | 40.8% | 37.8% | 42.4% | 42.9% | 13.1% | 35.6% | 34.0% | 33.3% | 34.9% | 38.4% | 37.8% | 42.0% | 33.6% | 31.4% | | 38.3% | 37.3% | 32.7% | 36.2% |
| Huawei | 6.1% | 6.3% | 4.5% | 7.2% | 5.0% | 8.1% | 6.0% | 8.7% | 4.6% | 5.7% | 7.2% | 6.8% | 5.3% | 6.0% | 7.6% | | 4.4% | 6.0% | 6.9% | 6.1% |
| Juniper | 7.2% | 2.1% | 1.5% | 1.5% | 1.6% | 3.6% | 2.4% | 2.3% | 2.3% | 2.0% | 2.3% | 2.5% | 1.9% | 1.8% | 2.2% | | 4.6% | 2.7% | 2.4% | 2.3% |
| H3C | 4.2% | 4.3% | 9.7% | 3.8% | 5.1% | 11.9% | 7.3% | 7.4% | 9.6% | 11.7% | 3.4% | 4.2% | 3.6% | 5.2% | 2.7% | | 3.0% | 5.5% | 7.7% | 7.1% |
| Dell | 2.1% | 2.4% | 1.4% | 1.4% | 1.3% | 1.6% | 1.0% | 1.0% | 1.8% | 1.4% | 1.4% | 1.5% | 1.1% | 1.2% | 0.8% | | 3.0% | 1.8% | 1.2% | 1.5% |
| HPE | 0.4% | 0.2% | 0.5% | 1.5% | 1.4% | 1.6% | 1.2% | 1.0% | 0.8% | 0.3% | 0.7% | 1.2% | 1.2% | 0.6% | 0.6% | | 0.3% | 0.7% | 1.3% | 0.8% |
| NVIDIA | | | | | | | | | | | | | | 3.9% | 4.7% | | | | | |
| ZTE | 0.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | | 0.3% | 0.1% | 0.0% | 0.0% |
| Other | 12.4% | 9.2% | 5.4% | 6.5% | 6.6% | 5.7% | 6.3% | 6.4% | 9.6% | 10.9% | 11.4% | 11.1% | 12.5% | 11.4% | 11.3% | | 8.5% | 8.1% | 6.3% | 10.8% |

Source: Omdia

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**Exhibit 15: Global 400G DC Switching Revenue Share**

Arista and White Box Vendors dominate the 400G DC switching market with roughly 30%-40% of revenue share each

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|--------|-------------|--------------|--------------|----------------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Revenue (\$mn) | \$19 | \$30 | \$26 | \$34 | \$38 | \$77 | \$97 | \$275 | \$344 | \$562 | \$628 | \$793 | \$834 | \$1,030 | \$971 | | \$23 | \$109 | \$488 | \$2,327 |
| QoQ % Chg | 64.2% | 56.7% | -12.6% | 29.9% | 13.7% | 99.8% | 26.6% | 183.0% | 25.0% | 63.3% | 11.7% | 26.2% | 5.2% | 23.6% | -5.7% | | | | | |
| YoY % Chg | | 557.5% | 284.0% | 192.1% | 102.2% | 157.9% | 273.4% | 713.7% | 794.9% | 631.4% | 545.7% | 187.9% | 142.1% | 83.3% | 54.6% | | | 374.7% | 348.8% | 376.9% |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 25.8% | 13.4% | 15.4% | 11.8% | 10.4% | 6.1% | 12.6% | 7.5% | 9.6% | 5.5% | 5.3% | 4.9% | 4.0% | 3.3% | 3.4% | | 12.0% | 15.6% | 8.5% | 5.8% |
| Arista | 6.8% | 17.6% | 20.2% | 25.9% | 24.8% | 26.9% | 33.9% | 27.8% | 28.3% | 40.8% | 42.2% | 40.4% | 41.0% | 38.8% | 42.0% | | 9.2% | 18.9% | 28.6% | 39.2% |
| White Box Vendors | 60.8% | 47.9% | 54.0% | 41.8% | 32.4% | 33.4% | 33.0% | 50.1% | 51.7% | 45.8% | 46.2% | 43.8% | 37.9% | 38.7% | 34.2% | | 72.9% | 49.7% | 42.6% | 46.1% |
| Juniper | | | | | | | | | | | | | | | 0.7% | | | | | |
| H3C | 0.0% | 13.1% | 1.7% | 5.0% | 21.5% | 29.0% | 16.0% | 8.7% | 3.6% | 2.5% | 0.5% | 5.3% | 4.5% | 9.9% | 10.4% | | 0.0% | 5.6% | 14.4% | 3.1% |
| Dell | 1.5% | 1.0% | 1.1% | 2.0% | 1.5% | 1.2% | 1.2% | 1.0% | 0.8% | 0.5% | 0.7% | 0.9% | 0.6% | 0.5% | 0.3% | | 1.0% | 1.4% | 1.1% | 0.7% |
| NVIDIA | | | | | | | | | | | | | | 0.5% | 0.7% | | | | | |
| Other | 5.0% | 7.1% | 7.7% | 13.5% | 9.3% | 3.4% | 3.3% | 4.9% | 6.1% | 4.8% | 5.1% | 4.8% | 11.9% | 8.2% | 8.3% | | 4.9% | 8.9% | 4.7% | 5.1% |

Source: Omdia

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Exhibit 16: Global 400G DC Switching Port Shipment Share

Cisco remains a tiny fraction of 400G DC port shipments, declining to 1.4% share in 3Q23 vs. 1.8% in 3Q22

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------|----------|----------|----------|----------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| Ports (mn) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | | 0 | 0 | 1 | 6 |
| QoQ % Chg | 49.3% | 43.9% | 0.9% | 14.6% | 14.7% | 115.2% | 31.5% | 224.5% | 16.6% | 84.6% | 35.4% | 19.7% | 4.2% | 26.0% | 3.1% | | | | | |
| YoY % Chg | | 408.7% | 234.3% | 148.5% | 90.9% | 185.5% | 272.2% | 953.4% | 970.2% | 818.1% | 845.0% | 248.6% | 211.5% | 112.6% | 61.9% | | | 300.6% | 421.2% | 488.3% |
| Market Share (%) | | | | | | | | | | | | | | | | | | | | |
| Cisco | 12.3% | 6.2% | 6.2% | 5.4% | 4.7% | 2.9% | 5.8% | 3.0% | 4.0% | 2.2% | 1.8% | 1.8% | 1.8% | 1.7% | 1.4% | | 5.0% | 7.1% | 3.6% | 2.2% |
| Arista | 4.5% | 9.4% | 9.3% | 13.5% | 14.9% | 13.9% | 23.1% | 14.5% | 13.1% | 33.0% | 44.0% | 39.2% | 39.9% | 37.3% | 36.5% | | 9.7% | 9.7% | 16.1% | 36.1% |
| White Box Vendors | 75.6% | 64.7% | 63.2% | 55.4% | 48.9% | 49.0% | 45.1% | 65.1% | 68.5% | 54.0% | 45.3% | 45.8% | 44.0% | 44.7% | 45.9% | | 77.7% | 63.5% | 58.0% | 50.2% |
| Juniper | | | | | | | | | | | | | | | 0.4% | | | | | |
| H3C | 0.0% | 4.2% | 0.7% | 2.9% | 13.5% | 14.3% | 9.4% | 4.5% | 2.0% | 1.2% | 0.2% | 2.7% | 3.0% | 6.9% | 6.8% | | 0.0% | 2.2% | 7.4% | 1.6% |
| Dell | 2.7% | 2.1% | 2.0% | 7.9% | 5.1% | 2.4% | 2.3% | 1.6% | 0.9% | 0.9% | 0.7% | 0.9% | 0.6% | 0.5% | 0.2% | | 2.8% | 3.9% | 2.1% | 0.8% |
| NVIDIA | | | | | | | | | | | | | | 0.3% | 0.3% | | | | | |
| Other | 5.0% | 13.4% | 18.5% | 14.9% | 12.9% | 17.4% | 14.3% | 11.4% | 11.5% | 8.8% | 7.9% | 9.5% | 10.7% | 8.6% | 8.6% | | 4.9% | 13.7% | 12.9% | 9.1% |

Source: Omdia

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Exhibit 17: Global Data Center Switching Port Speed Revenue Share

400G accounted for 18.8% of total DC switching revenue in 3Q23 vs. 18.9% a year ago, partially driven by a 4.5% YoY decline in pricing

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| 1 Gig | 1.6% | 1.1% | 1.1% | 0.8% | 1.3% | 1.0% | 0.9% | 0.8% | 0.6% | 0.5% | 0.4% | 0.3% | 0.5% | 0.4% | 0.3% | | 1.9% | 1.1% | 1.0% | 0.5% |
| 10 Gig | 22.1% | 20.1% | 16.3% | 16.5% | 12.9% | 11.9% | 13.2% | 13.2% | 9.9% | 10.4% | 10.2% | 9.4% | 7.9% | 7.1% | 7.2% | | 26.2% | 18.5% | 12.9% | 9.9% |
| 25 Gig | 17.1% | 17.3% | 20.3% | 18.6% | 19.8% | 20.6% | 19.8% | 18.7% | 19.8% | 18.5% | 18.9% | 18.7% | 19.7% | 19.6% | 18.8% | | 13.1% | 18.4% | 19.6% | 19.0% |
| 40 Gig | 11.3% | 10.3% | 9.7% | 10.5% | 9.0% | 9.3% | 8.4% | 7.5% | 6.5% | 5.5% | 5.4% | 4.9% | 4.5% | 4.3% | 4.8% | | 15.2% | 10.4% | 8.5% | 5.5% |
| 50 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.4% | 0.4% | | 0.0% | 0.0% | 0.0% | 0.0% |
| 100 Gig | 47.2% | 50.1% | 51.8% | 52.4% | 55.5% | 54.4% | 54.6% | 52.0% | 53.4% | 51.6% | 50.0% | 48.8% | 49.3% | 48.2% | 46.3% | | 43.4% | 50.6% | 54.0% | 50.8% |
| 200 Gig | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.2% | 0.3% | 0.3% | 0.5% | 0.4% | 0.4% | 0.5% | 0.4% | | 0.0% | 0.1% | 0.1% | 0.4% |
| 400 Gig | 0.8% | 1.0% | 0.8% | 1.0% | 1.3% | 2.8% | 2.9% | 7.5% | 9.4% | 13.2% | 14.5% | 17.3% | 17.6% | 19.6% | 19.9% | | 0.2% | 0.9% | 3.8% | 13.9% |
| 800 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.8% | | 0.0% | 0.0% | 0.0% | 0.0% |
| Total ex-100G/200G/400G/800G | 52.0% | 48.8% | 47.3% | 46.4% | 43.0% | 42.8% | 42.4% | 40.3% | 36.9% | 34.9% | 35.0% | 33.4% | 32.6% | 31.7% | 31.6% | | 56.4% | 48.4% | 42.0% | 34.9% |

Source: Omdia

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Exhibit 18: Global Data Center Switching Port Speed Shipment Share

25G and 100G constitute the bulk of DC switching port shipments with a combined 67.3% contribution in 3Q23

| | 1Q20 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | CY19 | CY20 | CY21 | CY22 |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| | 20-Mar | 20-Jun | 20-Sep | 20-Dec | 21-Mar | 21-Jun | 21-Sep | 21-Dec | 22-Mar | 22-Jun | 22-Sep | 22-Dec | 23-Mar | 23-Jun | 23-Sep | 23-Dec | | | | |
| 1 Gig | 5.1% | 4.2% | 4.7% | 3.7% | 5.5% | 5.2% | 4.1% | 3.9% | 2.6% | 2.4% | 1.9% | 1.5% | 2.9% | 2.4% | 1.9% | | 6.9% | 4.4% | 4.6% | 2.1% |
| 10 Gig | 27.1% | 24.6% | 22.6% | 22.7% | 19.6% | 19.9% | 20.4% | 21.1% | 18.1% | 18.6% | 17.0% | 16.1% | 15.9% | 15.1% | 15.2% | | 33.7% | 24.2% | 20.3% | 17.4% |
| 25 Gig | 31.1% | 27.7% | 30.1% | 29.8% | 28.6% | 33.9% | 28.2% | 27.0% | 28.5% | 27.2% | 26.6% | 26.5% | 25.0% | 26.1% | 26.0% | | 20.5% | 29.6% | 29.2% | 27.2% |
| 40 Gig | 6.0% | 6.5% | 6.0% | 6.5% | 5.4% | 5.9% | 5.1% | 4.8% | 3.5% | 3.5% | 3.7% | 3.4% | 2.8% | 2.9% | 3.3% | | 7.9% | 6.3% | 5.3% | 3.5% |
| 50 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.3% | 0.3% | | 0.0% | 0.0% | 0.0% | 0.0% |
| 100 Gig | 30.4% | 36.6% | 36.3% | 36.8% | 40.4% | 34.0% | 41.0% | 39.8% | 43.2% | 41.9% | 42.1% | 42.4% | 44.4% | 42.6% | 41.3% | | 30.9% | 35.2% | 39.0% | 42.4% |
| 200 Gig | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.2% | 0.2% | 0.3% | 0.3% | 0.2% | 0.2% | 0.2% | | 0.0% | 0.1% | 0.1% | 0.2% |
| 400 Gig | 0.2% | 0.3% | 0.3% | 0.3% | 0.4% | 1.0% | 1.0% | 3.2% | 4.0% | 6.2% | 8.5% | 9.8% | 8.7% | 10.2% | 11.3% | | 0.1% | 0.3% | 1.5% | 7.2% |
| 800 Gig | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | | 0.0% | 0.0% | 0.0% | 0.0% |
| Total ex-100G/200G/400G/800G | 69.3% | 63.0% | 63.4% | 62.8% | 59.1% | 65.0% | 57.9% | 56.8% | 52.7% | 51.7% | 49.2% | 47.5% | 46.6% | 46.9% | 46.7% | | 69.0% | 64.4% | 59.4% | 50.2% |

Source: Omdia

BofA GLOBAL RESEARCH



Stocks mentioned

Prices and ratings for stocks mentioned in this report

| BofA Ticker | Bloomberg ticker | Company name | Price | Rating |
|-------------|------------------|------------------|-------------|--------|
| ANET | ANET US | Arista Networks | US\$ 267.05 | B-1-9 |
| CSCO | CSCO US | Cisco Systems | US\$ 49.77 | B-2-7 |
| JNPR | JNPR US | Juniper Networks | US\$ 37.03 | -6- |

Source: BofA Global Research

Price objective basis & risk**Arista Networks (ANET)**

Our \$305 PO is based on a 2025E P/E multiple of roughly 37.5x. This is a discount to high-growth software peers of 40x and a premium versus networking peers of 20x. We compare the stock to the two groups given its growth attributes and networking hardware solutions, as well as its exposure to secular growth trends across the cloud, OTT video, and big data.

Downside risks are 1) margin pressure from the ramp in sales to Cloud Titans, 2) lumpiness around large customer spending, 3) valuation risks, especially if issues arise around newer growth opportunities.

Upside risks are 1) better-than-expected execution that could translate into higher-than-anticipated growth rates, especially within Cloud Titan 2) solid market share gains in new areas, such as campus switching and 400G

Cisco Systems (CSCO)

Our \$55 PO is based on roughly 12x EV/FCF using our CY2025 estimate, in-line with tech peers at 9-20x (appropriate given Cisco's stability and high 3.0%+ dividend yield). We also focus on FCF to better capture software revenue growth and the shift to subscription models.

Downside risks to our price objective are: (1) deterioration in the spending environment, (2) lack of growth in public spending, a vertical that Cisco dominates, (3) downside risk to gross margin stemming from pricing and competitive pressures, (4) technological changes that would adversely impact high profit switching and routing segments, (5) inability to drive technological innovation in its core and new growth segments through organic innovation and acquisitions, and (6) change in customer behavior that would result in revenue pressure in services and other key areas.

Upside risks to our price objective are: (1) higher than expected growth in key markets, particularly switching and routing, and (2) solid market share gains in security and observability.

Juniper Networks (JNPR)

We have removed the investment opinion on the company's stock. Investors should no longer rely on our previous opinion or price objective.

Analyst Certification

I, Tal Liani, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.



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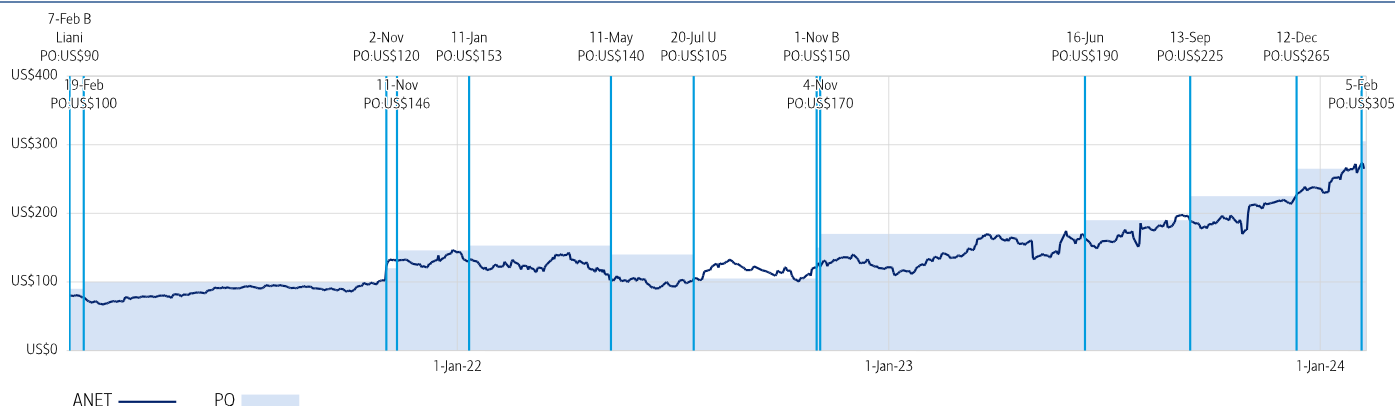
US - Telecom and Data Networking Equipment Coverage Cluster

| Investment rating | Company | BofA Ticker | Bloomberg symbol | Analyst |
|---------------------|-----------------------------------|-------------|------------------|-------------------|
| BUY | | | | |
| | Akamai | AKAM | AKAM US | Madeline Brooks |
| | Amdocs | DOX | DOX US | Tal Liani |
| | Arista Networks | ANET | ANET US | Tal Liani |
| | Check Point Software Technologies | CHKP | CHKP US | Tal Liani |
| | Ciena | CIEN | CIEN US | Tal Liani |
| | CrowdStrike Holdings Inc. | CRWD | CRWD US | Tal Liani |
| | CyberArk | CYBR | CYBR US | Tal Liani |
| | Fastly | FSLY | FSLY US | Madeline Brooks |
| | Fortinet | FTNT | FTNT US | Tal Liani |
| | Gen Digital, Inc. | GEN | GEN US | Jonathan Eisenson |
| | InterDigital, Inc. | IDCC | IDCC US | Tal Liani |
| | Motorola Solutions | MSI | MSI US | Tomer Zilberman |
| | Qualcomm | QCOM | QCOM US | Tal Liani |
| | Zscaler | ZS | ZS US | Tal Liani |
| NEUTRAL | | | | |
| | Cellebrite | CLBT | CLBT US | Tal Liani |
| | Cisco Systems | CSCO | CSCO US | Tal Liani |
| | Palo Alto Networks | PANW | PANW US | Tal Liani |
| | SentinelOne, Inc. | S | S US | Tal Liani |
| UNDERPERFORM | | | | |
| | Cloudflare | NET | NET US | Madeline Brooks |
| | CommScope | COMM | COMM US | Tal Liani |
| | F5 Inc | FFIV | FFIV US | Tal Liani |
| | Okta Inc | OKTA | OKTA US | Madeline Brooks |
| | SecureWorks | SCWX | SCWX US | Tal Liani |

Disclosures

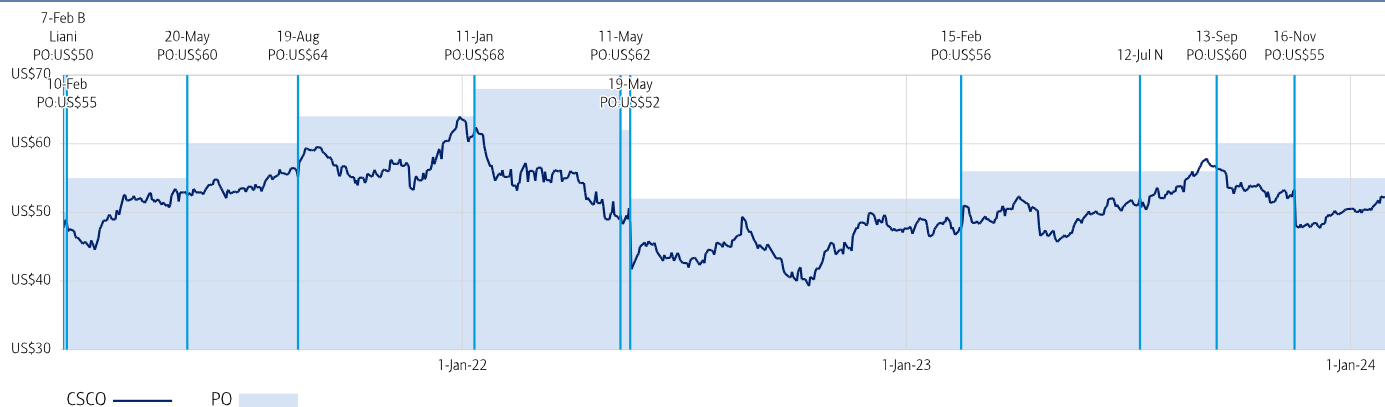
Important Disclosures

Arista Networks (ANET) Price Chart



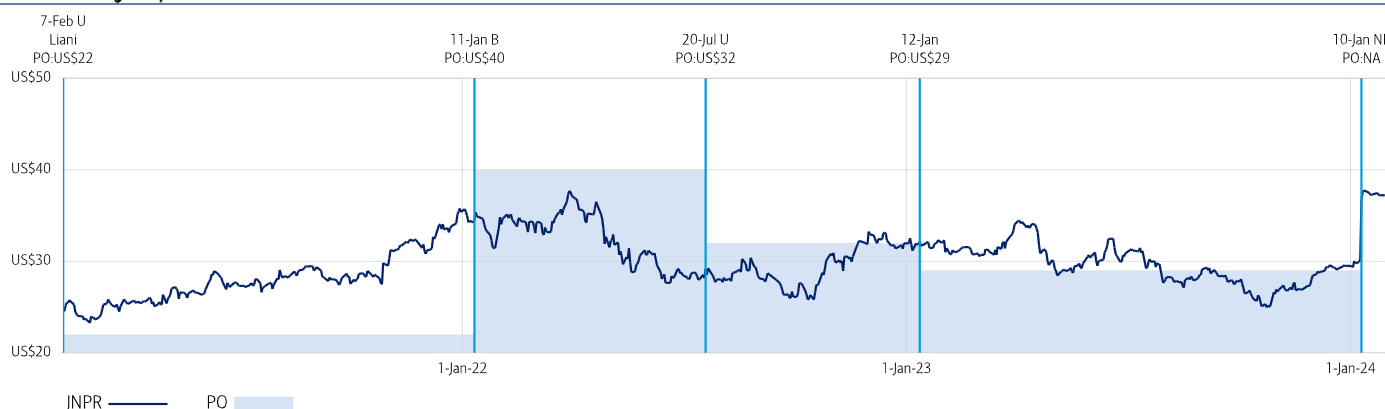
B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Cisco Systems (CSCO) Price Chart

B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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Juniper Networks (JNPR) Price Chart

B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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Equity Investment Rating Distribution: Telecommunications Group (as of 31 Dec 2023)

| Coverage Universe | Count | Percent | Inv. Banking Relationships ^{R1} | Count | Percent |
|-------------------|-------|---------|--|-------|---------|
| Buy | 57 | 51.82% | Buy | 43 | 75.44% |
| Hold | 27 | 24.55% | Hold | 17 | 62.96% |
| Sell | 26 | 23.64% | Sell | 12 | 46.15% |

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

| Coverage Universe | Count | Percent | Inv. Banking Relationships ^{R1} | Count | Percent |
|-------------------|-------|---------|--|-------|---------|
| Buy | 1895 | 53.62% | Buy | 1083 | 57.15% |
| Hold | 832 | 23.54% | Hold | 454 | 54.57% |
| Sell | 807 | 22.84% | Sell | 383 | 47.46% |

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster ^{R2} |
|-------------------|---|--|
| Buy | ≥ 10% | ≤ 70% |
| Neutral | ≥ 0% | ≤ 30% |
| Underperform | N/A | ≥ 20% |

^{R2}Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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