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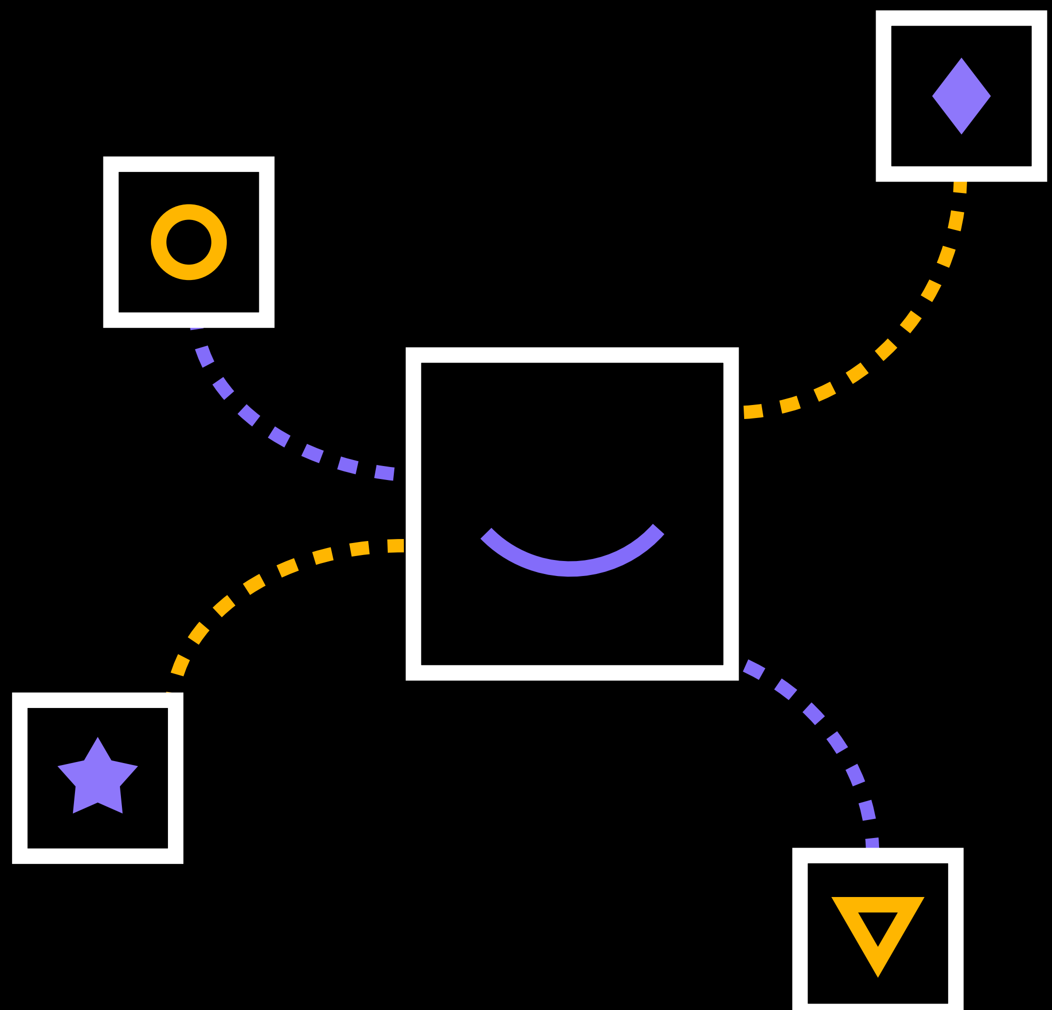
Network vendor diversity report 2021



Report

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Preface

For the last three years, the team at Auvik has compiled this Network Vendor Diversity Report, showcasing the variety of vendors used across managed networks, as well as their market share. In this 2021 edition of the report, we've redesigned the format to make our growing data analysis easier to digest and share.

The data in this report was prepared in September 2021. We sampled the following information from our global database. There is a strong concentration from North America.

4 device categories
2,500+ IT teams
40,000 networks
520,000+ managed devices

The networks measured vary greatly in size, so to corroborate, we have defined small, medium and large networks as follows:

Small: <50 devices and workstations
Medium: 50-200 devices and workstations
Large: 200+ devices and workstations

We also analyzed data specific to the IT managed service provider (MSP) industry. In these instances, the definitions of small, medium, and large change to the following:

Small: <10 networks under active management
Medium: 10-50 networks under active management
Large: 50+ networks under active management

The four types of managed devices surveyed were access points, switches, routers, and firewalls. Unmanaged devices were not included in the data. Additionally, it's worth noting that this report relies on the accuracy of underlying SNMP, CLI, and API implementations on each managed device. We did our best to clean and build out the data by drawing on multiple sources, however, some information is not yet available.

Executive summary

The 2021 edition of the Network Vendor Diversity Report looks at access points, switches, routers, and firewalls that are deployed across managed networks, and compares that data with our previous 2020 and 2019 reports.

Our conclusion for this year

The network device market continues to become more crowded and more fragmented, but networks in general are not becoming more complex.

Vendors represented in the data increased by 46, broken down as follows:

19 new switch vendors
8 new firewall vendors
0 change in access point vendors
1 less router vendor

A minimum of 60 vendors compete in each device category now, and the largest category is switches, with 157 vendors. Cisco maintains its place as the most commonly deployed vendor, and has increased its share from last year's decline.

The top 10 most commonly deployed vendors claim 86.9% of all networks. 404 smaller vendors share the other 13.1%. While the number of network device vendors continues to climb, it has not affected network complexity.

In the MSP space, nearly two-thirds of all MSPs are managing more than five network device vendors, but across all sizes of network, 90% have only between one and three device vendors deployed. The number of device vendors does grow along with the size of the MSP, but in this field there has been limited change in the data compared with the previous year's report.

Finally, this report introduces two new data points—most commonly deployed router vendors by geographic region, and most commonly deployed router vendors outside of the top 10 vendors were explored. As we continue to gather data, future iterations of this and other reports will include insights by industry and more.

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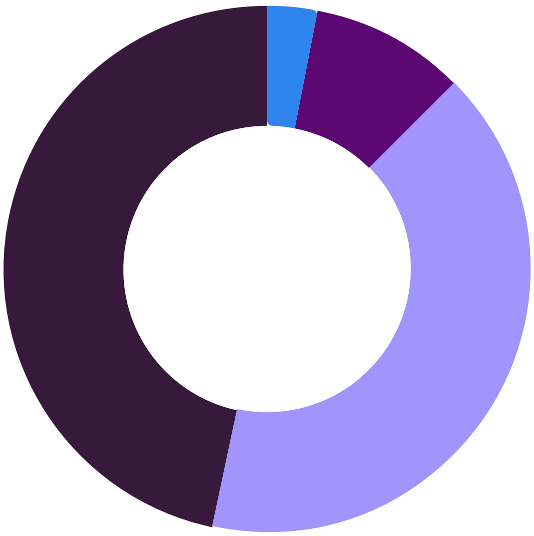
Network makeup by device type

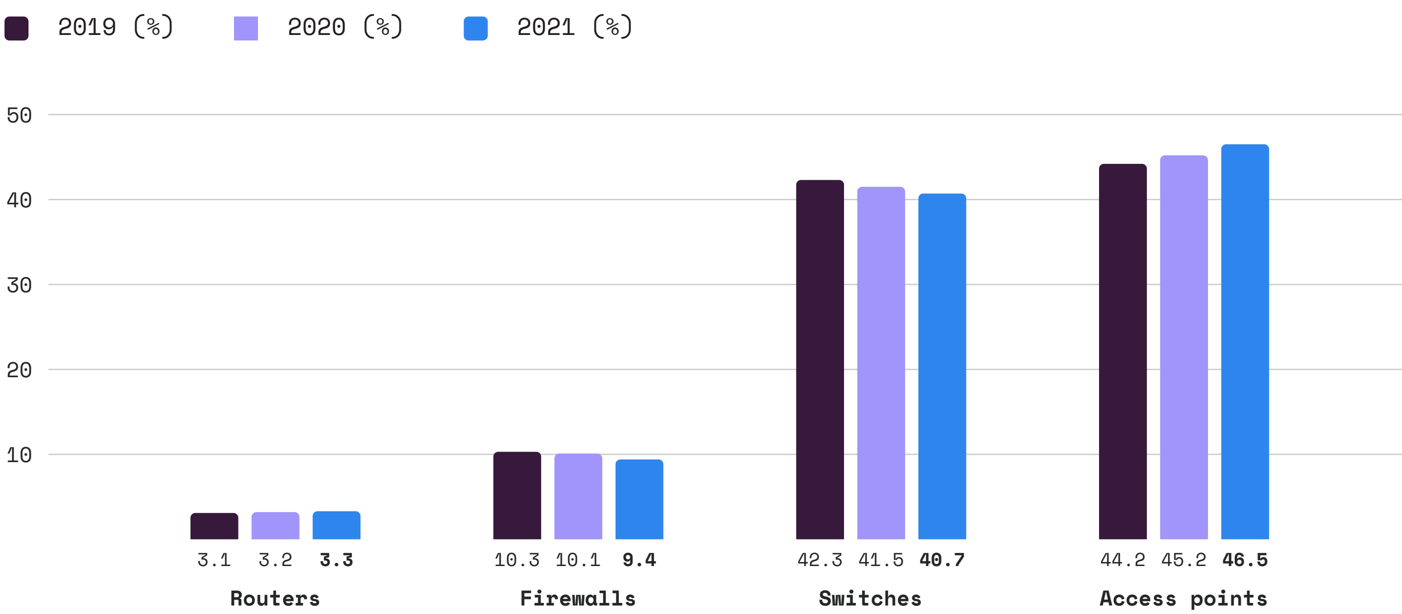


Network makeup by device type, 2021

- Routers: **3.3%**
- Firewalls: **9.4%**
- Switches: **40.7%**
- Access points: **46.5%**

In terms of network makeup in 2021, there were gradual gains for routers and access points, and gradual losses for firewalls and switches. The most significant change was the growth in the access point category, up 0.8% from 2020. A continued increase in access points is most likely due to the industry's focus on improved mobility. This is great news, as we are moving toward a world without wires where end users can connect to the network no matter where they are located.

Network makeup by device type, year over year



The number of access points grew by **0.8%**, showing the industry's increased focus on mobility.

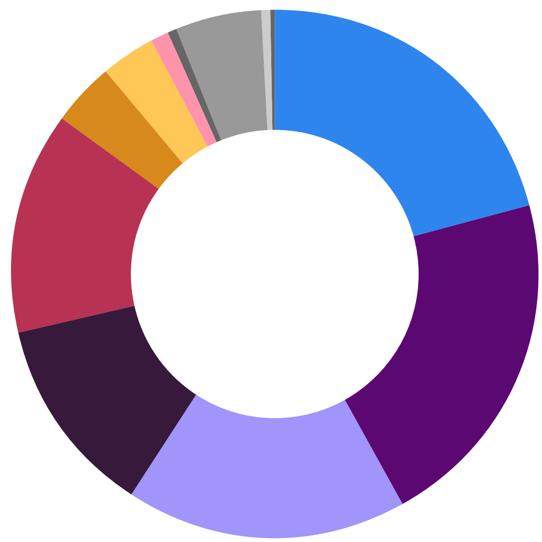
Access points

A total of **120** different vendors were represented in this data.

Most commonly deployed access point vendors

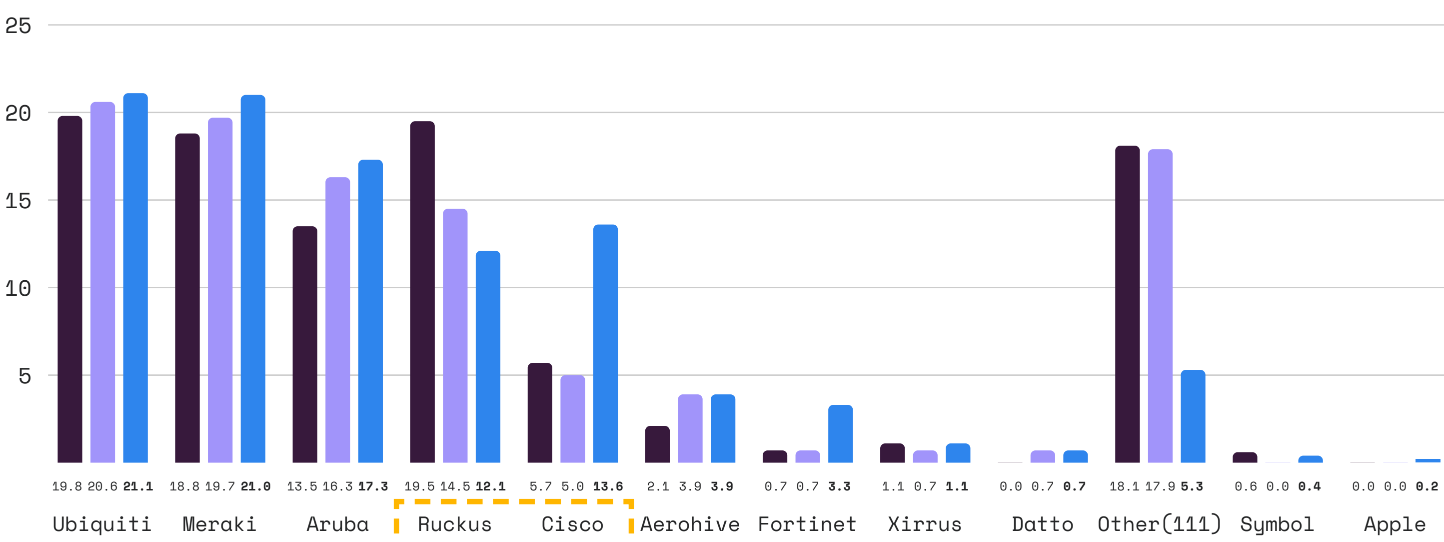
Top 10 access point vendors by device count, 2021

Ubiquiti	**21.1%**	Fortinet	**3.3%**
Meraki	**21.0%**	Xirrus	**1.1%**
Aruba	**17.3%**	Datto	**0.7%**
Ruckus	**12.1%**	Other	**5.3%**
Cisco	**13.6%**	Symbol	**0.4%**
Aerohive	**3.9%**	Apple	**0.2%**



Top 10 access point vendors by device count, year over year

2019 device   2020 device   2021 device



*__Largest share gain:__ Cisco, 8.4%

*__Largest share loss:__ Ruckus, 2.4%

**These measurements exclude the "Other" category, and focus on the top named vendors.*

The access point category was very closely determined again in 2021, with Ubiquiti leading by only 0.1% over Meraki. It's interesting to note that Cisco nearly doubled its share and the category share for other vendors as a whole greatly decreased.

Biggest shifts in the access point category

	Small networks % 2021	Medium networks % 2021	Large networks % 2021	Small MSPs % 2021	Medium MSPs % 2021	Large MSPs % 2021
Ubiquiti	↓ 1.0 22.9	↓ 3.1 27.3	↓ 5.3 15.8	↓ 7.4 28.6	↓ 1.5 29.7	↓ 0.5 17.0
Meraki	↓ 1.4 20.1	↓ 2.4 24.6	↓ 3.7 25.2	↓ 1.2 20.9	↓ 2.5 21.0	↓ 1.6 24.3
Aruba	↓ 2.7 19.4	↓ 0.5 16.2	↓ 6.4 21.0	↓ 1.2 15.6	↓ 2.1 13.2	↓ 1.4 22.9
Ruckus	↓ 2.7 16.6	↓ 4.9 9.2	↑ 0.1 10.6	↓ 0.7 11.2	↓ 4.2 11.2	↓ 7.2 14.2

↑ ↓ *indicate % change from 2020*

Ubiquiti edges out Meraki and Aruba once again as the most commonly deployed access point vendor on small and medium sized networks. For large networks, Meraki retains the largest share. Ruckus sees decline in the small and medium sized networks, but shows some growth in large networks.

Auvik insights

With tons of businesses shifting to a "work from anywhere" model in a post-COVID world, many may choose to replace their numerous access points with a few higher quality access points for employees who drop into physical offices. This bodes well for products that build their reputation on high quality tech that may come with a higher price point.

We expect to continue to see a battle between Ubiquiti, Meraki, and Aruba for the top spot in this device category.

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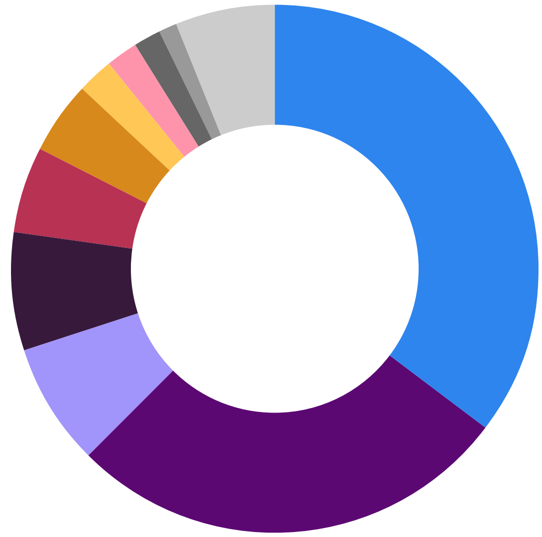
Switches

A total of **157** different vendors were represented in this data.

Most commonly deployed switch vendors

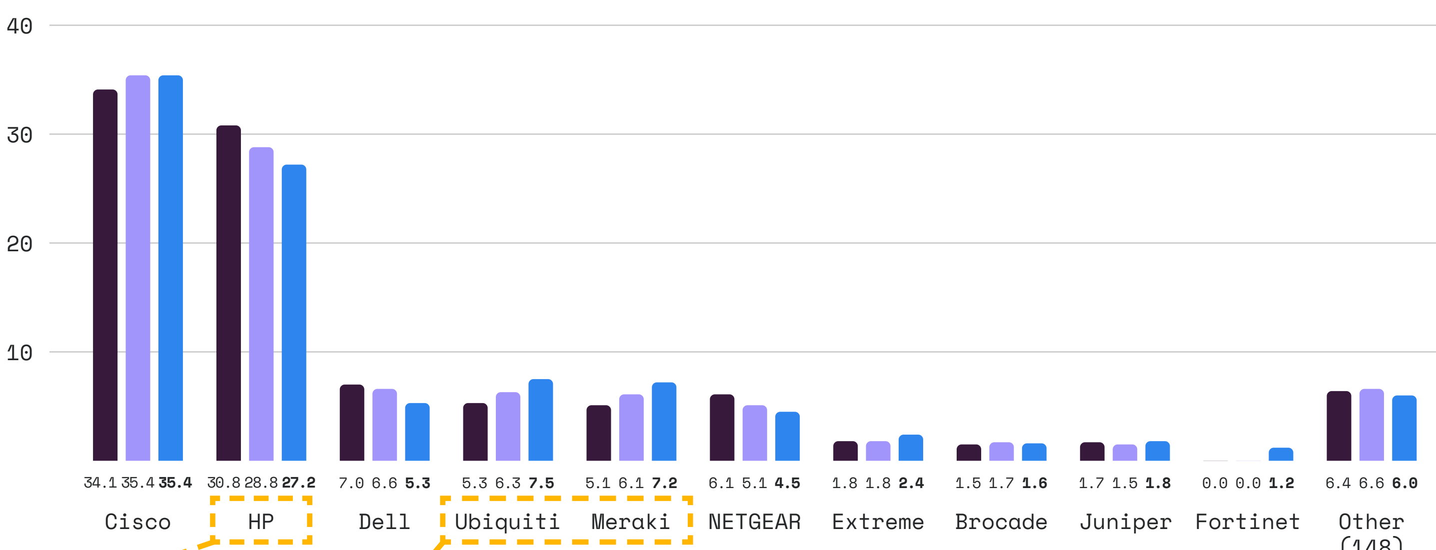
Top switch vendors, 2021

- Cisco | **35.4%**
- HP | **27.2%**
- Ubiquiti | **7.5%**
- Meraki | **7.2%**
- Dell | **5.3%**
- NETGEAR | **4.5%**
- Extreme | **2.4%**
- Juniper | **1.8%**
- Brocade | **1.6%**
- Fortinet | **1.2%**
- Other (148) | **6.0%**



Top 10 switch vendors by device count, year over year

2019 (%) 2020 (%) 2021 (%)



***Largest share gain:** Ubiquiti, Meraki, 1.0% each

***Largest share loss:** HP, 1.6%

While several of the leading switch vendors saw gradual growth in 2021, the top 10 stayed relatively the same. Cisco continues to hold the top spot, and when combined with HP, the two make up two-thirds of the category. Category share by the top 10 vendors nears 95%.

Biggest shifts in the switches category

	Small networks % 2021	Medium networks % 2021	Large networks % 2021	Small MSPs % 2021	Medium MSPs % 2021	Large MSPs % 2021
Cisco	^ 0.1 35.7	v 0.8 31.2	^ 1.7 40.7	v 0.7 34.2	^ 2.2 34.2	v 0.6 36.2
HP	v 0.89 26.9	v 1.3 30.1	v 3.0 27.4	v 3.2 25.2	v 2.2 27.2	v 0.2 30.3

^ v *indicate % change from 2020*

Cisco maintains the lead across small, medium, and large networks, covering over 30% of market share of each subcategory. While HP lost some market share this year, it remains the second most popular vendor, particularly on medium-sized networks.

Auvik insights

Gains in the switch category can be attributed to the industry shift from hardware to software. Many network administrators and engineers are willing to pay a premium for software with strong integrations and ease-of-use.

Several switch vendors new to the 2021 report are virtual switch vendors, which continues to show the growth in software-defined technology with a bigger focus on user experience, when deploying a new vendor.

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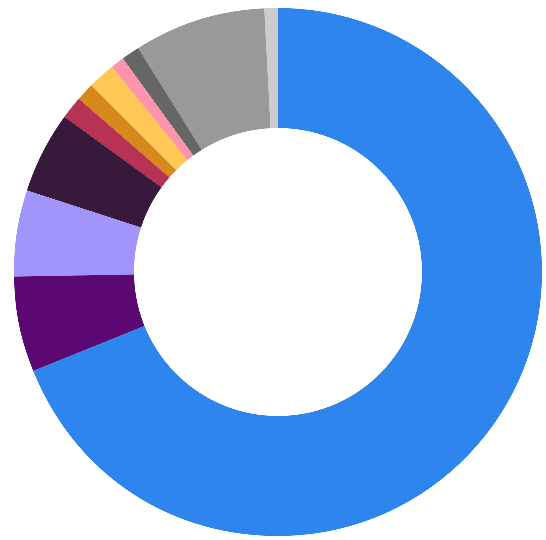
Routers

A total of **86** different vendors were represented in this data.

Most commonly deployed router vendors

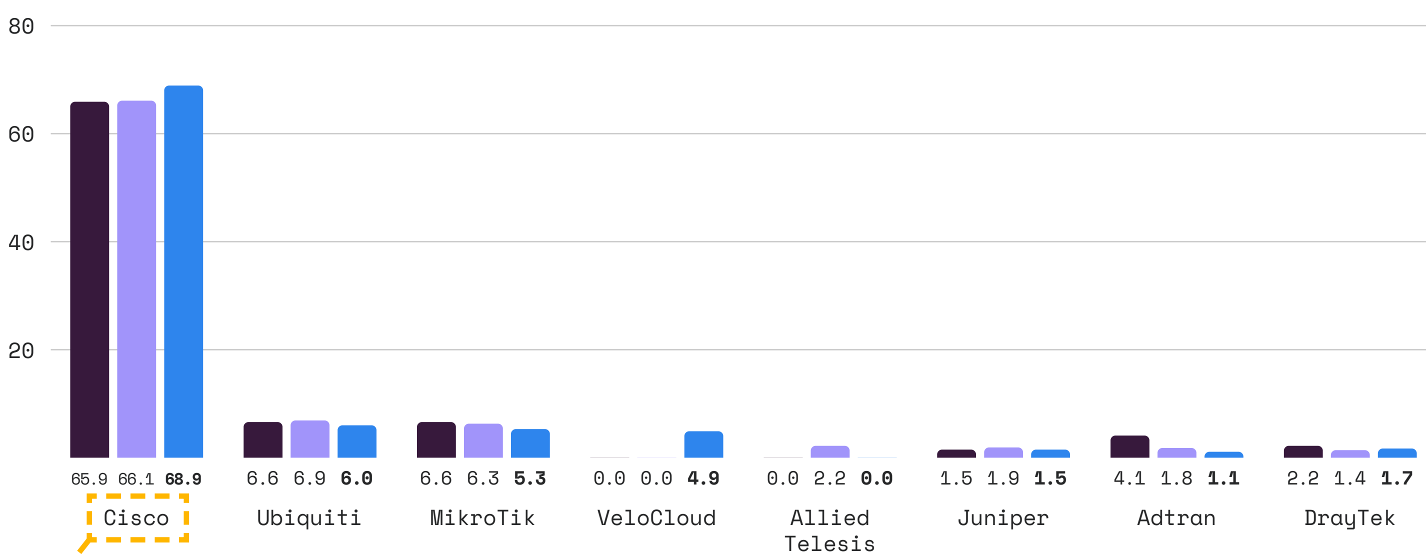
Top 10 router vendors by device count, 2021

Cisco	**68.9%**
Ubiquiti	**6.0%**
MikroTik	**5.3%**
VeloCloud	**4.9%**
Juniper	**1.5%**
Adtran	**1.1%**
DrayTek	**1.7%**
Hughes	**0.8%**
Meraki	**1.0%**
Other (81)	**8.1%**
Foundry	**0.7%**



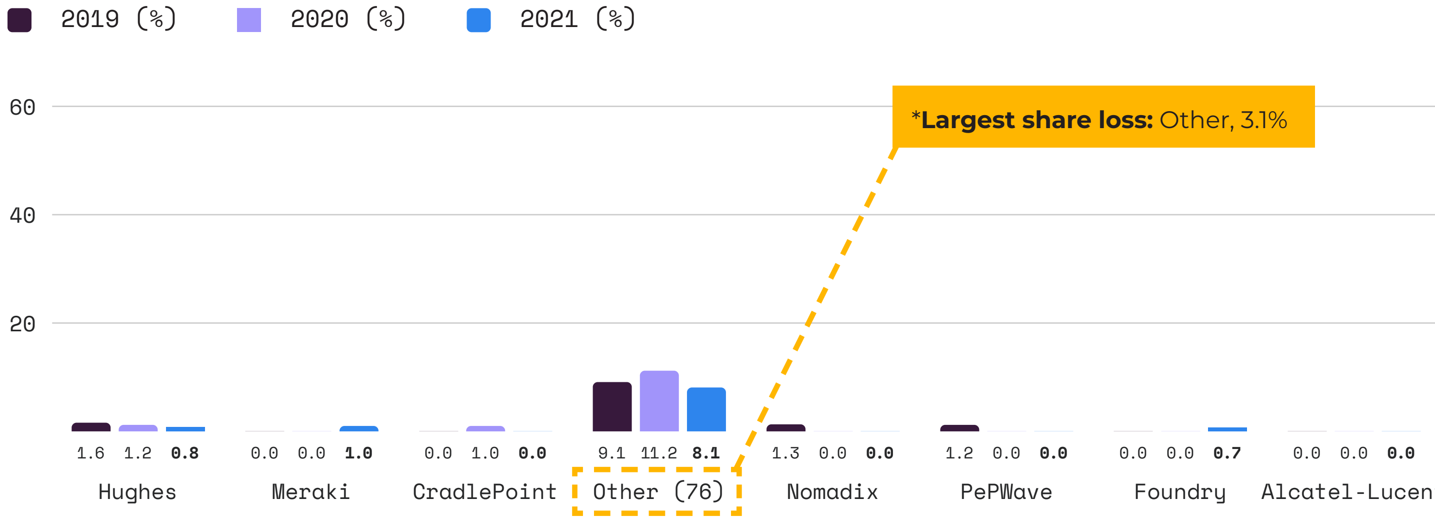
Top 10 router vendors by device count, year over year

2019 (%) 2020 (%) 2021 (%)



***Largest share gain:** Cisco, 2.8%

cont'd: Top 10 router vendors by device count, year over year



Cisco makes up more than two-thirds of the router market share alone. The closest competing category is the Other segment, composed of 76 vendors, or Ubiquiti if considering only single vendors. The Other category includes SD-WAN vendors, and as the industry continues to adopt this technology in place of traditional routers, we expect this category to grow.

Biggest shifts in the router category

	Small networks % 2021	Medium networks % 2021	Large networks % 2021	Small MSPs % 2021	Medium MSPs % 2021	Large MSPs % 2021
Cisco	^ 7.1 70.2	^ 6.5 73.8	^ 12.2 84.4	v 0.7 34.2	^ 2.2 34.2	v 0.6 36.2

^ v indicate % change from 2020

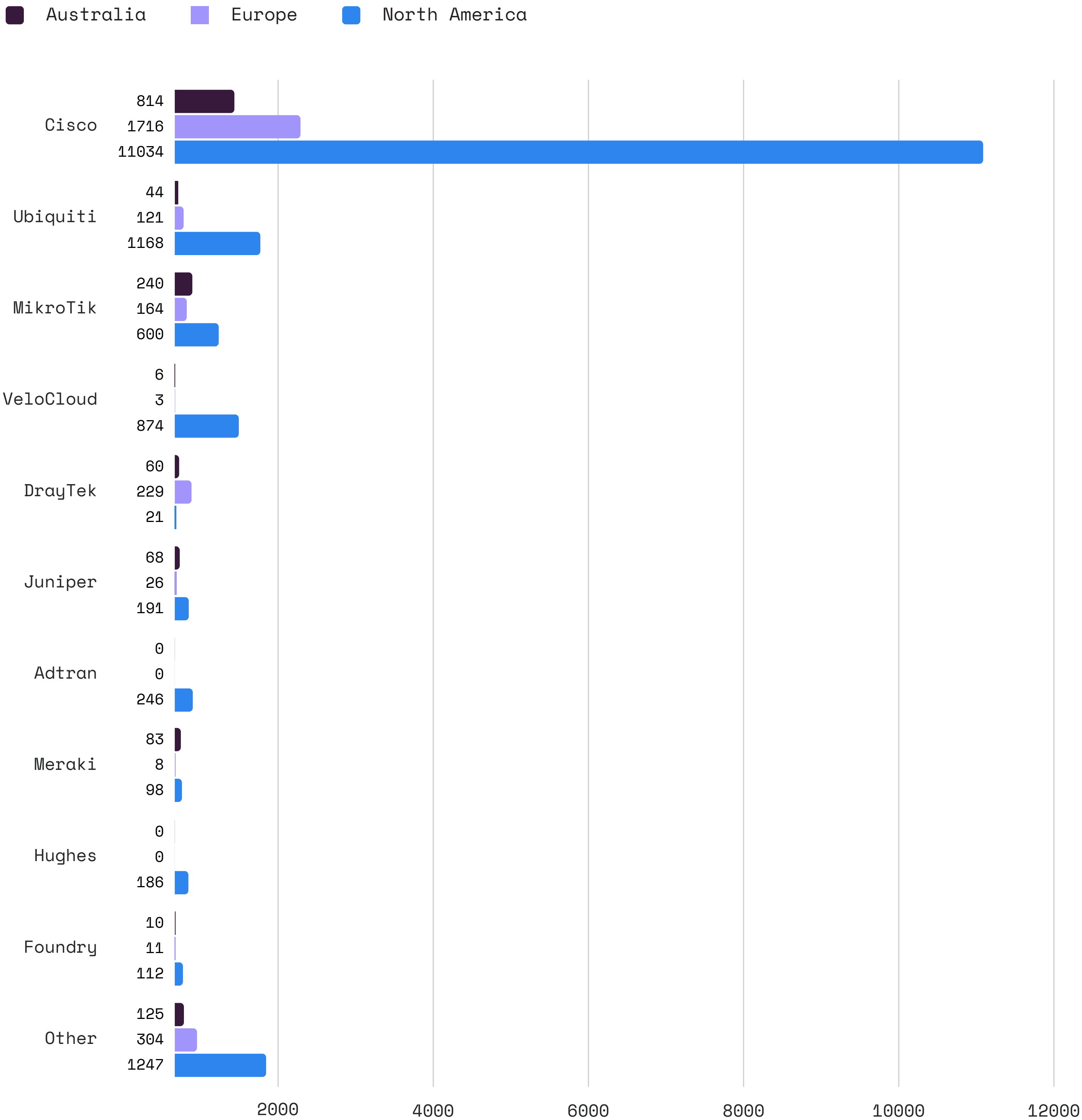
Cisco gained 7.1% share on small networks, 6.5% on medium, and a massive 12.2% on large networks. The data also showed a comparable level of growth by this vendor in the MSP space.

Auvik insights

While the number of SD-WAN vendors in the router category is expected to keep growing, thus expanding the Other vendor category, Cisco has a firm grasp on router market share.

Through analysis in combination with our firewall data, we suspect that many small and medium networks will be investing more in firewall technology, as it can often provide both routing and security functions. Many businesses are no longer investing in physical routers at all, so we predict that this category will remain relatively unchanged in coming years.

Most commonly deployed router vendors by region

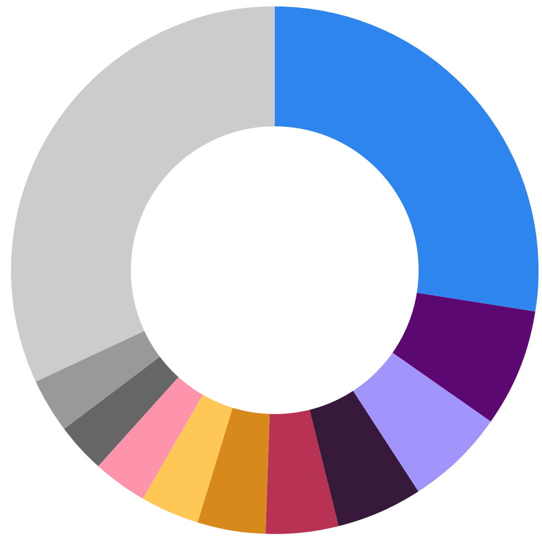


While our data is gathered from a majority of North American sources, it is interesting to see that Cisco consistently reigns in the router category regardless of geography. If not Cisco, European networks are more likely to implement routers in the Other segment, while Australian networks show some investment in Mikrotik.

Top router vendors in the "other" category (outside top 10)

Top routers outside of top 10, 2021

Generic	27.8%
Nomadix	7.2%
Unknown	6.1%
HP	5.1%
Netgate	4.4%
SonicWall	4.3%
Huawei	3.5%
CradlePoint	3.3%
ADVA	3.2%
PePWave	3.1%
Other	32.0%



Unfortunately, many of the routers outside of the top 10 vendors could not be categorized. The Generic and Unknown categories combined cover one-third of the category. Still, Nomadix represents a relatively large 7.2% of the identifiable segment, followed by HP, Netgate, SonicWall, and Huawei routers.

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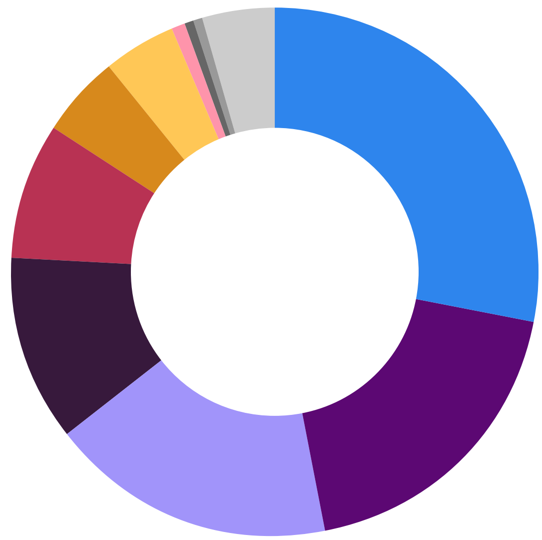
Firewalls

A total of **60** different vendors were represented in this data.

Most commonly deployed firewall vendors

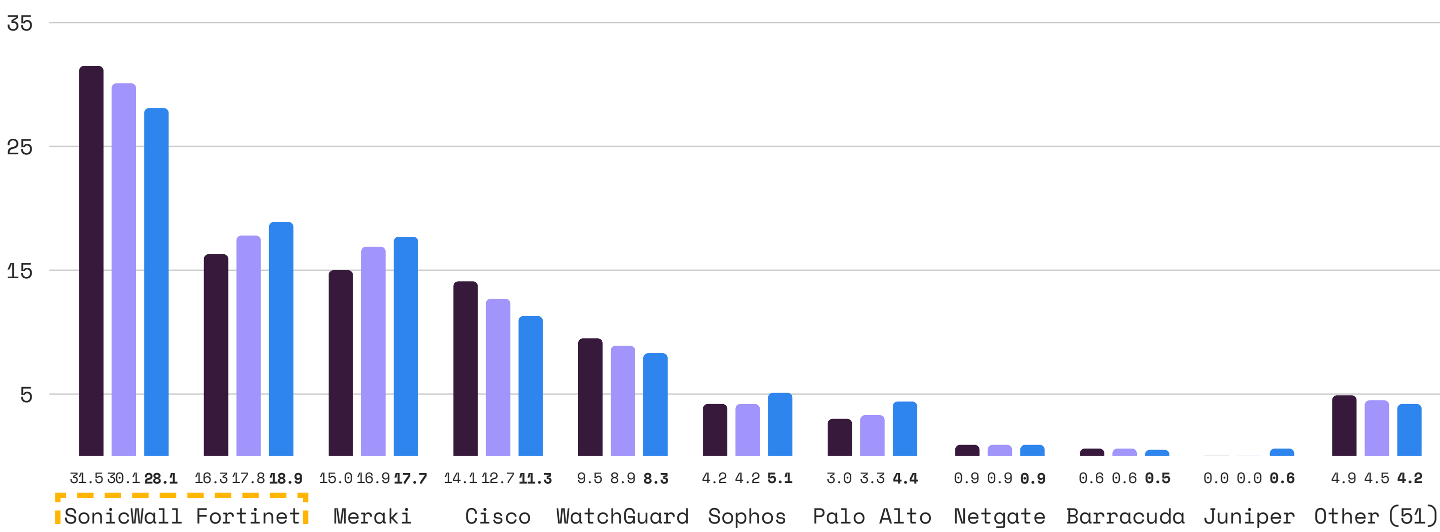
Top 10 firewall vendors by device count, 2021

Vendor	Share	Vendor	Share
SonicWall	**28.1%**	Palo Alto	**4.4%**
Fortinet	**18.9%**	Netgate	**0.9%**
Meraki	**17.7%**	Barracuda	**0.5%**
Cisco	**11.3%**	Juniper	**0.6%**
WatchGuard	**8.3%**	Other (51)	**4.2%**
Sophos	**5.1%**		



Top 10 firewall vendors by device count, year over year

2019 (%) 2020 (%) 2021 (%)



***Largest share gain:**
Fortinet, 1.1%

***Largest share loss:**
SonicWall, 2.1%

The firewall category has shown limited change from 2020—none of the top 10 vendors gained significant market share. SonicWall remains the top vendor, accounting for approximately 28% of the market. With year over year growth continuing positively for Meraki, we anticipate that it will see further gains in the future as the brand's reputation improves across its various products.

Biggest shifts in the firewall category

	Small networks % 2021	Medium networks % 2021	Large networks % 2021	Small MSPs % 2021	Medium MSPs % 2021	Large MSPs % 2021
SonicWall	↓ 2.6 26.7	↓ 0.8 30.9	↓ 2.5 27.7	↓ 4.3 27.6	↓ 1.1 28.5	↓ 1.9 28.2
Fortinet	↑ 2.4 20.1	↑ 0.4 17.4	↓ 1.8 18.9	↑ 1.6 16.8	— 0.0 17.4	↑ 1.9 20.9
Meraki	↓ 0.4 16.6	— 0.0 17.6	↑ 8.3 23.1	↑ 1.3 14.1	↑ 0.1 16.1	↑ 0.8 20.0
Cisco	↓ 1.2 11.9	↓ 1.4 10.5	↓ 2.3 10.8	↓ 1.8 11.2	↓ 1.4 11.0	↓ 1.3 11.6

↑ — ↓ *indicate % change from 2020*

Meraki is the only firewall vendor in the top ten to gain significantly in the large networks subcategory. There is a slight downward trend for SonicWall and Cisco on small and medium networks. Fortinet continues to make gradual gains across sub-categories.

Auvik insights

We've heard feedback from the IT community that Fortinet and Meraki have excellent and easy to deploy cloud management platforms. This could be one reason for their gains in the firewall segment.

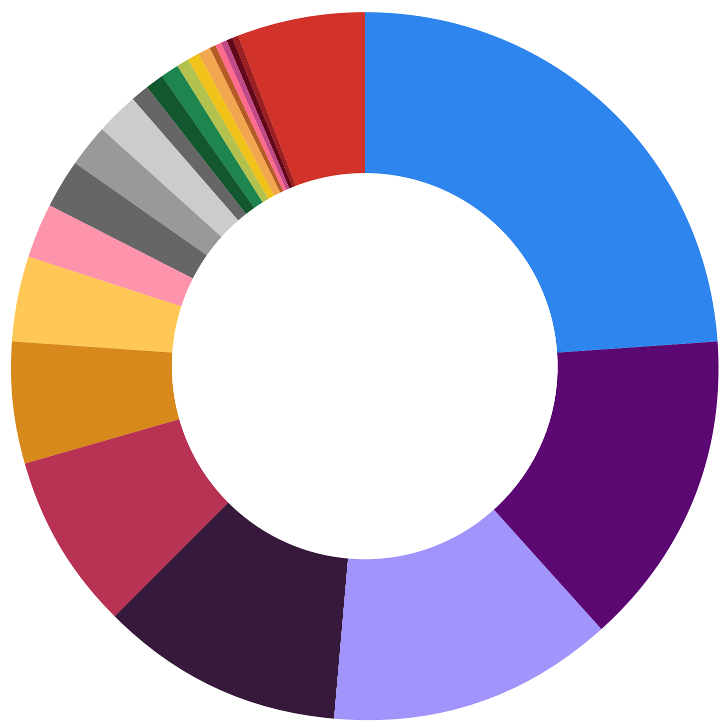
SonicWall's Global Management System (GMS) has been ported to the cloud, allowing users to centrally deploy and manage their firewalls, which could be why they continue to dominate the category—they are not falling behind on industry trends.

Ubiquiti is not yet represented in the top 10 firewalls, but this may be due to their later entry into the security field. As this well-known brand continues to build out their security offering, we expect them to see significant gains.

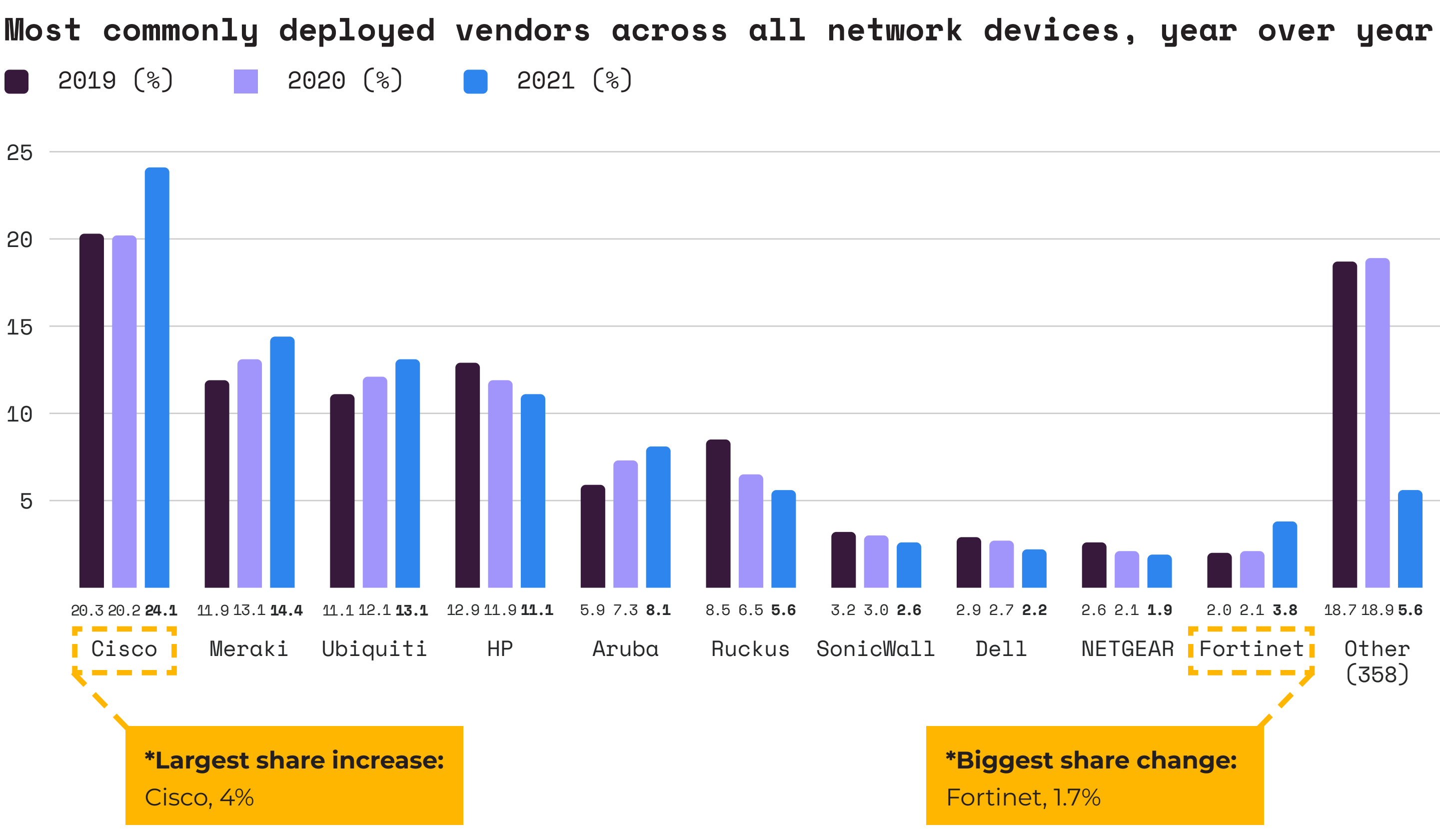
Most commonly deployed vendors in all categories

Most commonly deployed vendors across all network devices, 2021

Cisco	24.1%
Meraki	14.4%
Ubiquiti	13.1%
HP	11.1%
Aruba (HP)	8.1%
Ruckus	5.6%
Fortinet	3.8%
SonicWall	2.6%
Dell	2.2%
NETGEAR	1.9%
Aerohive (Extreme)	1.8%
Extreme	1.0%
Juniper	0.8%
WatchGuard	0.8%
Brocade	0.7%
Xirrus	0.5%
Sophos	0.5%
Palo Alto	0.4%
Datto	0.3%
Symbol	0.2%
MikroTik	0.2%
Netgate	0.1%
Other (386)	5.6%



cont'd:
Most commonly deployed vendors in all categories



Cisco showed significant gains in this category, with a 4% increase over 2020's figures. The biggest change in the top ten vendors was Fortinet's 1.7% growth, moving them to seventh most in terms of market share.

The device portfolio of each vendor continues to play a significant role in the rankings. Cisco is represented across all four studied managed devices, and the second and third ranked vendors, Meraki and Ubiquiti respectively, offer all but routers. As these companies increase their market share, particularly in the access point category, we expect them to take greater overall share.

Remember, when we look at companies in terms of total share, Cisco owns Meraki, HP owns Aruba, and Dell owns SonicWall. If you combine their figures, the perspective of the market changes, with Cisco taking a whopping 38.5% share.

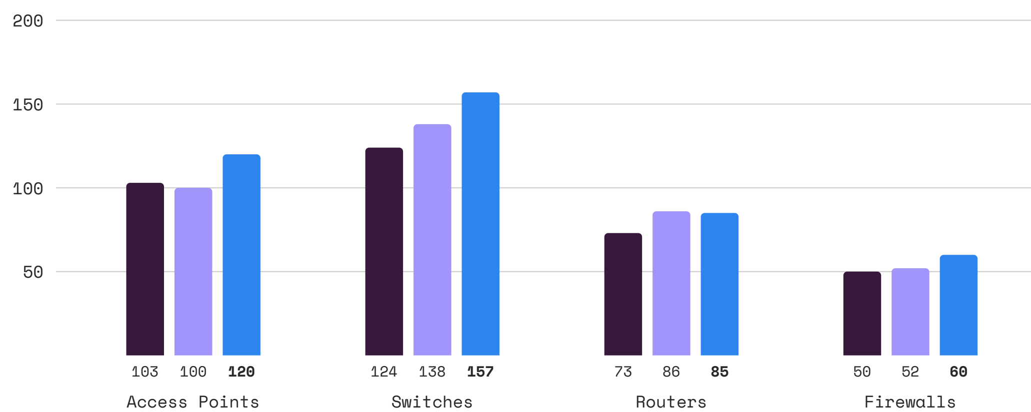
Growth in the network vendor market

Number of vendors per network device type, 2021

# of vendors

Number of vendors per network device type: year over year

2019 (%)
2020 (%)
2021 (%)



Change in vendors in 2021 showed as follows:

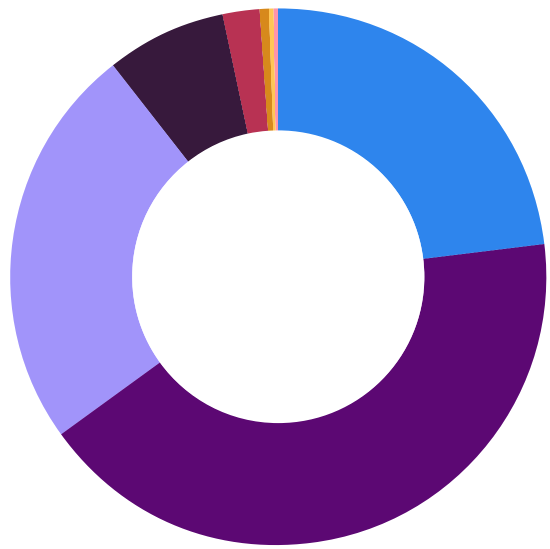
- **+20** Access point vendors
- **+19** Switch vendors
- **+8** Firewall vendors
- **-1** Router vendor

It is surprising that the vendor count for routers decreased. With the growth in SD-WAN vendors, we expected similar growth in router vendor diversity. The switch market, on the other hand, is already mature, and we did not anticipate much growth in that category, yet new and additional vendors are still making their way into the market.

With the rise of software and remote work, the barrier to entry in mature categories is actually at an all time low. Vendors no longer have to build devices from the ground up. Software is often being used off the shelf, and Original Equipment Manufacturing (OEM) and Original Design Manufacturing (ODM) are making it very easy to pull hardware together.

Network device vendor diversity among MSPs

Number of network vendors per managed network

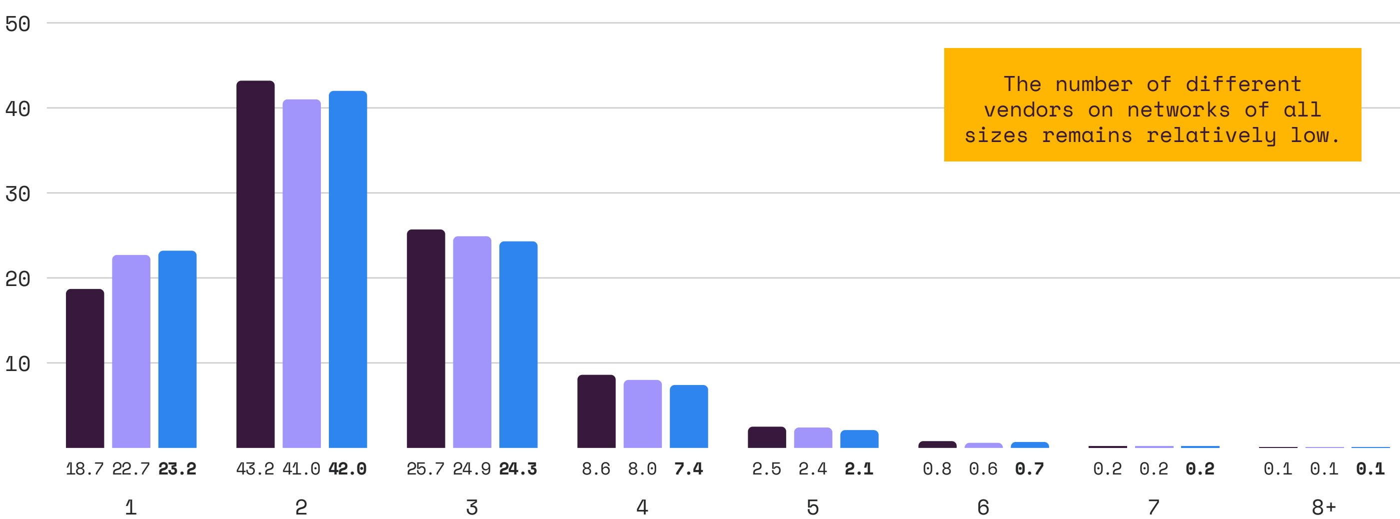


Number of network device vendors on networks of all sizes, 2021

1	23.2%
2	42.0%
3	24.3%
4	7.4%
5	2.1%
6	0.7%
7	0.2%
8+	0.1%

Number of network device vendors on networks of all sizes, year over year

2019 (%) 2020 (%) 2021 (%)



Median of different network device vendors:

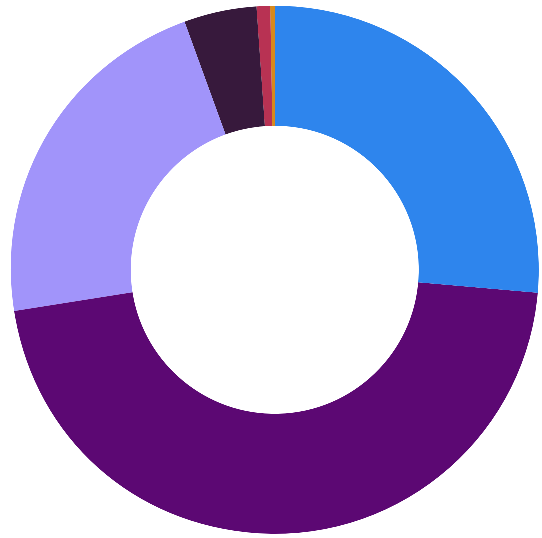
- Networks of all sizes: **2**
- Small networks: **2**
- Medium networks: **3**
- Large networks: **4**

Nearly 90% of networks of all sizes have between one and three device vendors deployed on them. This remains consistent when networks are segmented by size.

Number of network devices deployed on small networks

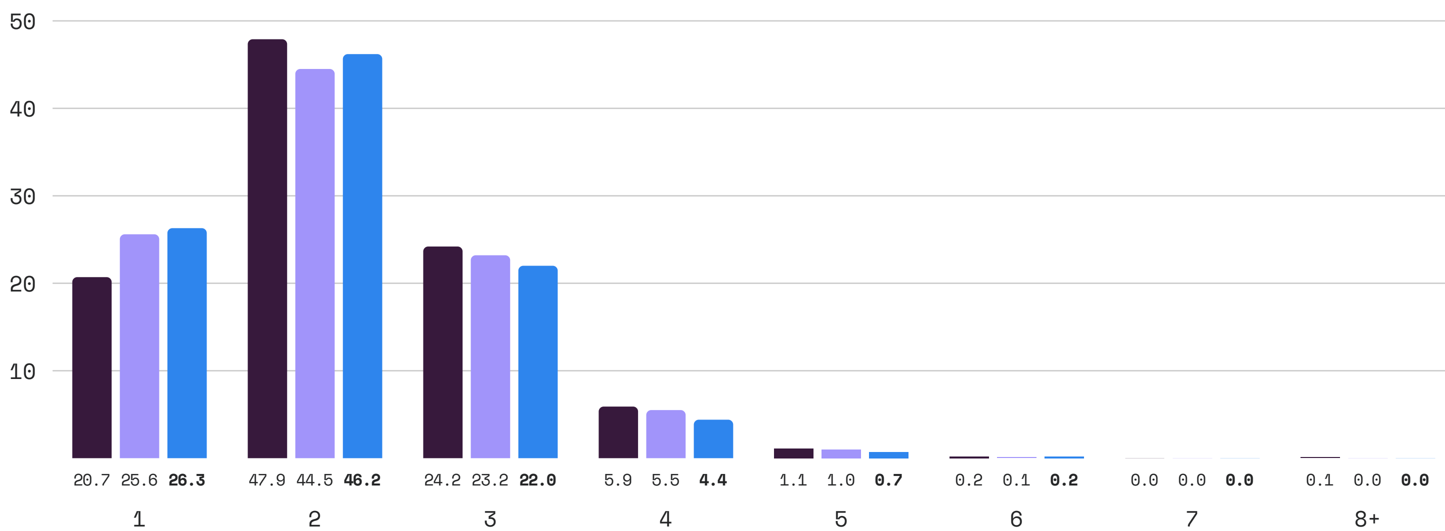
Number of network device vendors on small networks, 2021

1	**26.4%**
2	**46.3%**
3	**22.0%**
4	**4.4%**
5	**0.7%**
6	**0.2%**
7	**0.0%**
8+	**0.0%**



Number of network device vendors deployed on small networks, year over year

2019 % small networks   2020 % small networks   2021 % small networks



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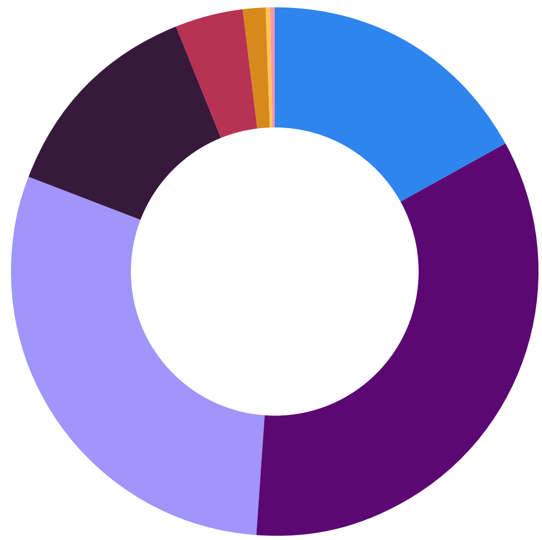
Number of network devices deployed on medium networks

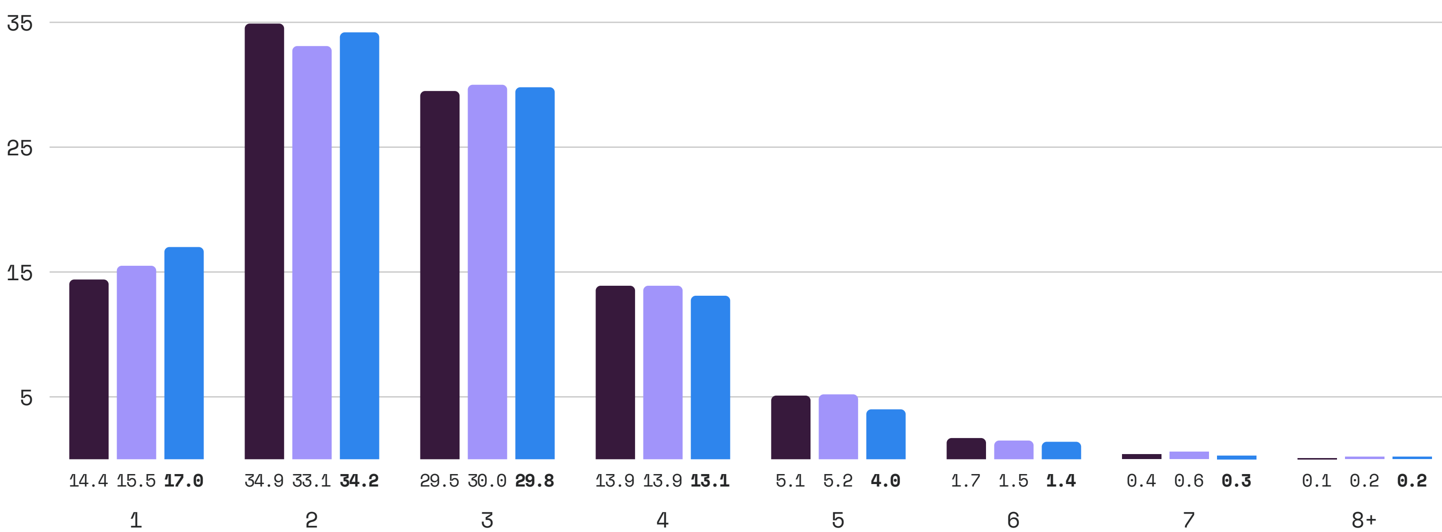
Number of network device vendors on medium networks, 2021

1	17.0%
2	34.2%
3	29.8%
4	13.1%
5	4.0%
6	1.4%
7	0.3%
8+	0.2%



Number of network device vendors deployed on medium networks, year over year

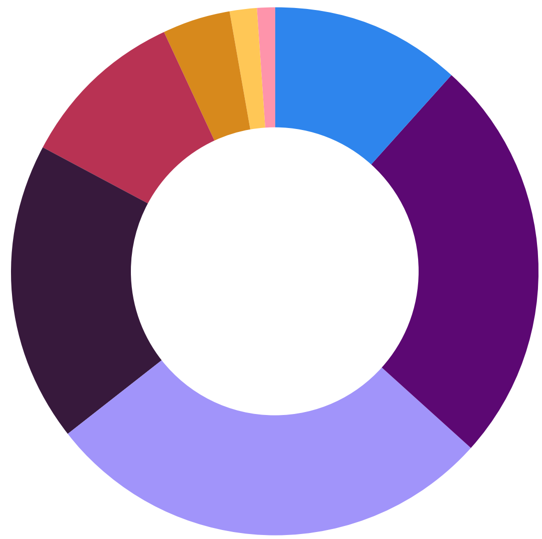
2019 % medium networks · 2020 % medium networks · 2021 % medium networks



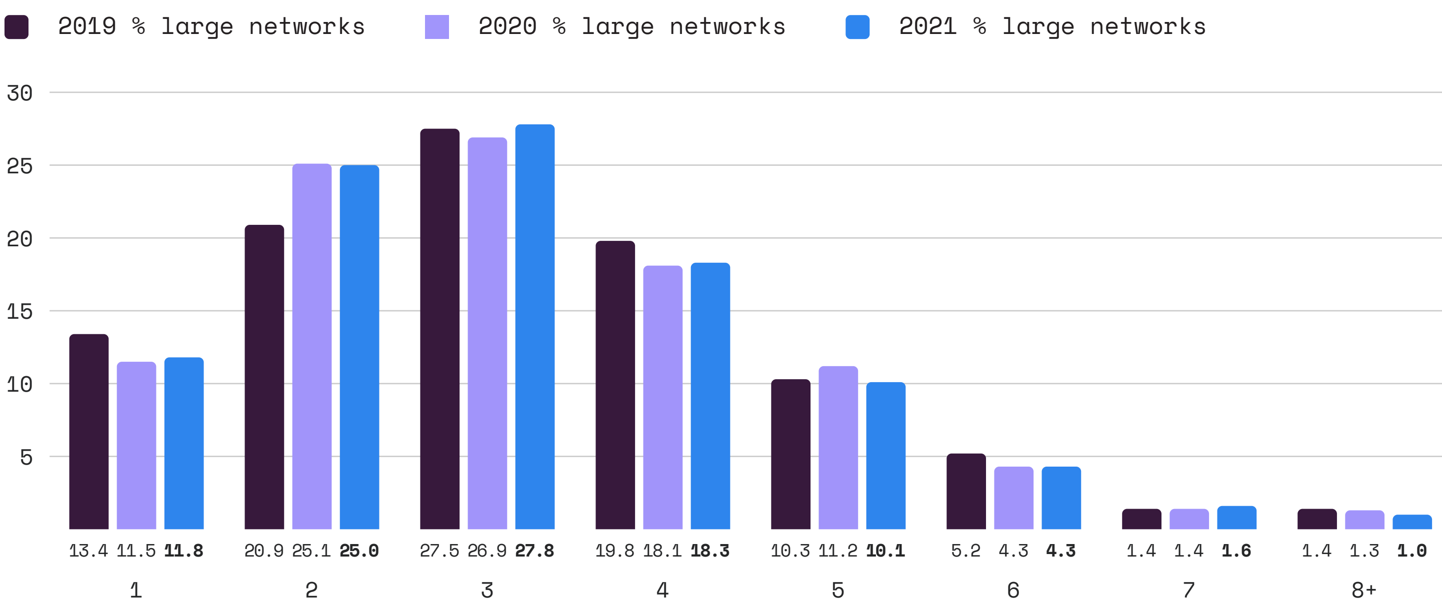
Number of network devices deployed on large networks

Number of network device vendors on large networks, 2021

1	**11.8%**	5	**10.1%**
2	**25.0%**	6	**4.3%**
3	**27.8%**	7	**1.6%**
4	**18.3%**	8+	**1.0%**



Number of network device vendors deployed on large networks, year over year



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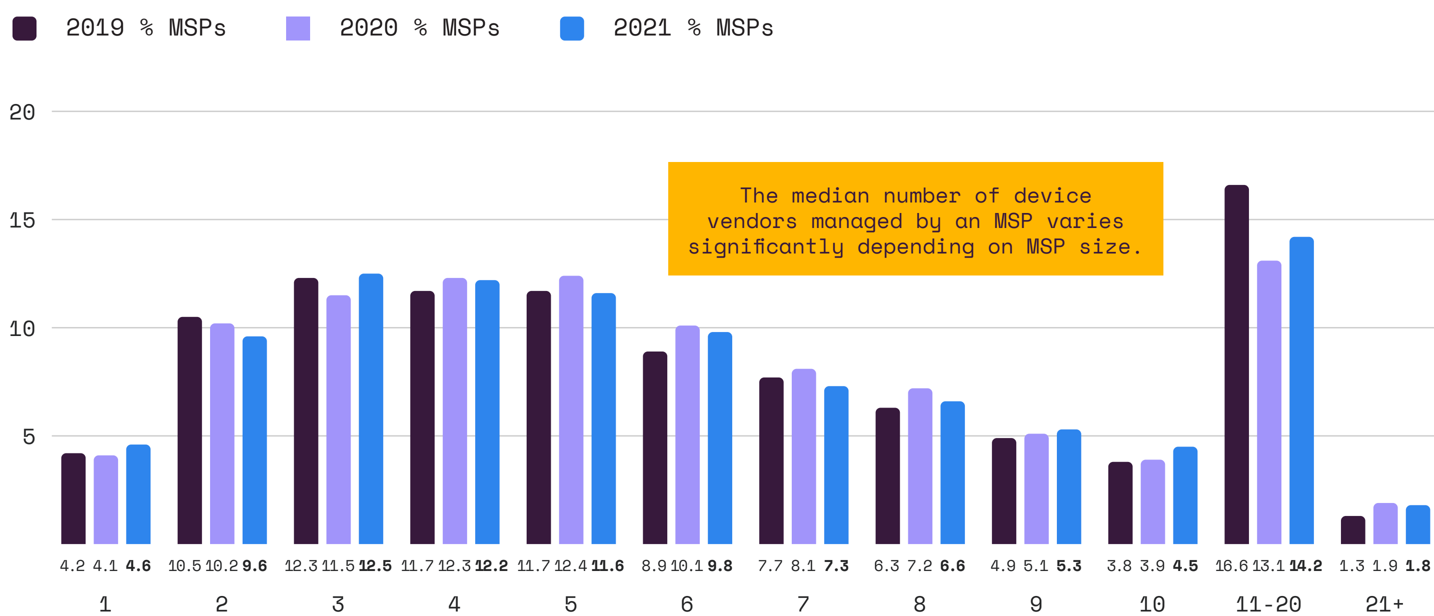
Number of network vendors managed by MSPs (all sizes)

Number of network vendors managed by MSPs of all sizes, 2021

1	4.6%
2	9.6%
3	12.5%
4	12.2%
5	11.6%
6	9.8%
7	7.3%
8	6.6%
9	5.3%
10	4.5%
11-20	14.2%
21+	1.8%

Number of network vendors managed by MSPs of all sizes, year over year



Median of network device vendors managed:

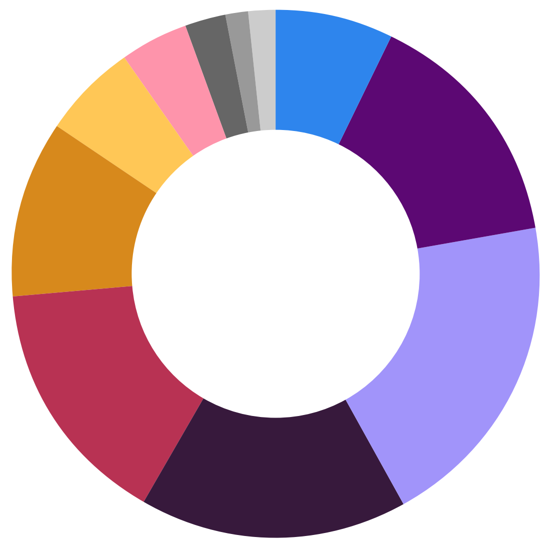
- All MSPs: **5**
- Small MSPs: **4**
- Medium MSPs: **8**
- Large MSPs: **15**

Two-thirds of all MSPs continue to manage more than five network device vendors per client. As an MSP gets larger, so does the number of device vendors they are responsible for managing. Large MSPs are also responsible for managing increasingly complex networks. However, the median number of device vendors managed is about the same as last year.

Number of network vendors managed by small MSPs

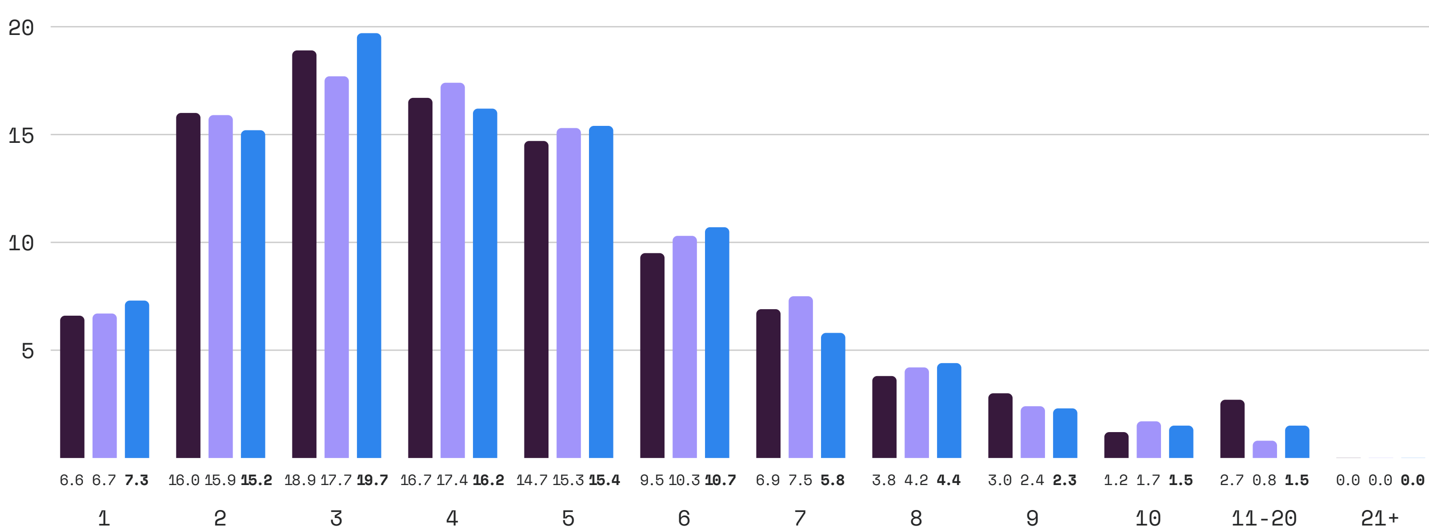
Number of network vendors managed by small MSPs, 2021

1	7.3%
2	15.2%
3	19.7%
4	16.2%
5	15.4%
6	10.7%
7	5.8%
8	4.4%
9	2.3%
10	1.5%
11-20	1.5%
21+	0.0%



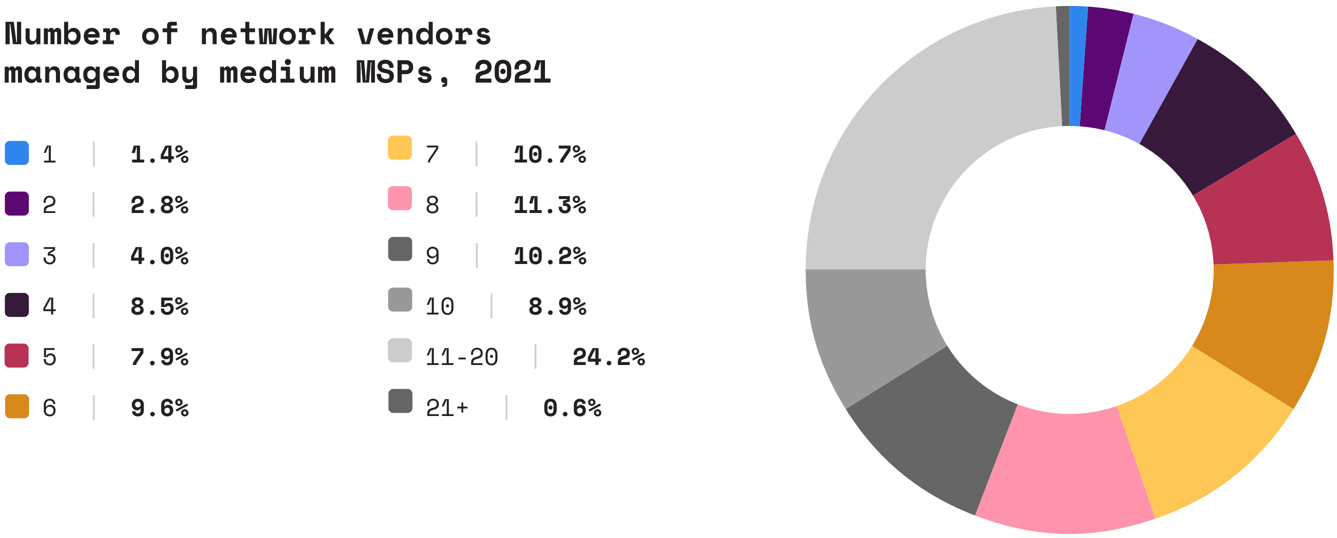
Number of network vendors managed by small MSPs, year over year

2019 % small MSPs   2020 % small MSPs   2021 % small MSPs

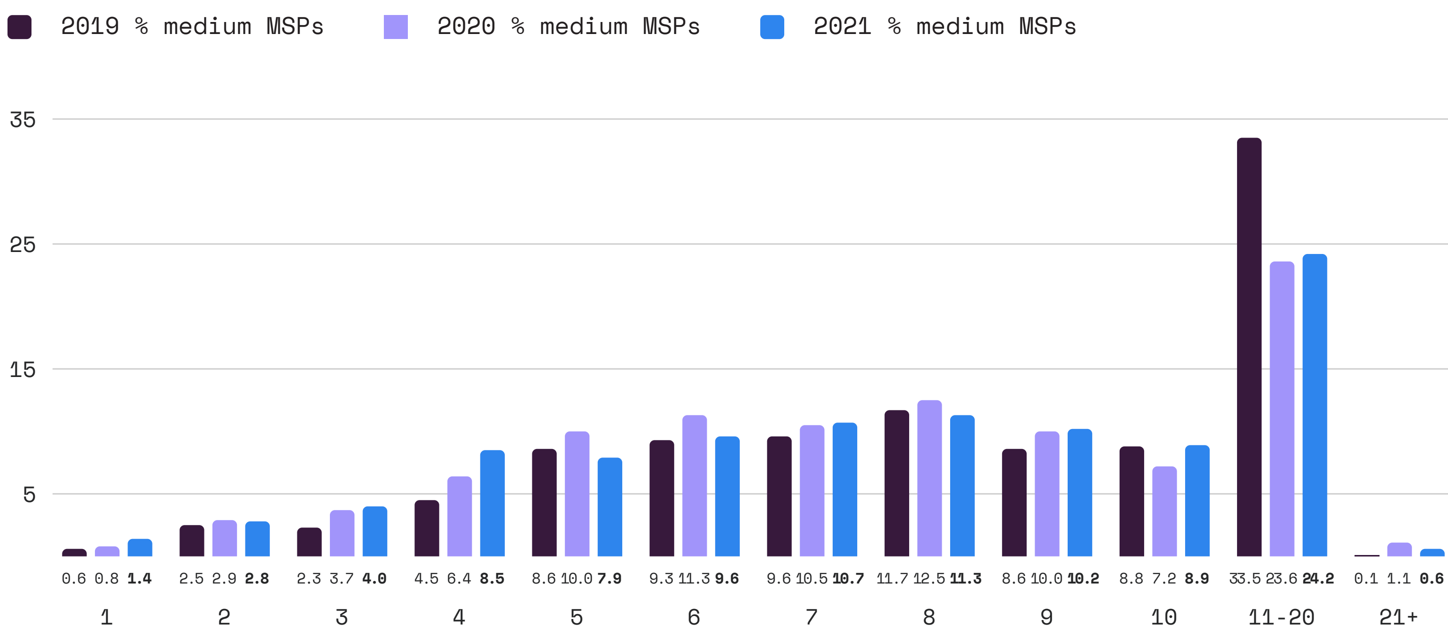


Number of network vendors managed by medium MSPs

Number of network vendors managed by medium MSPs, 2021

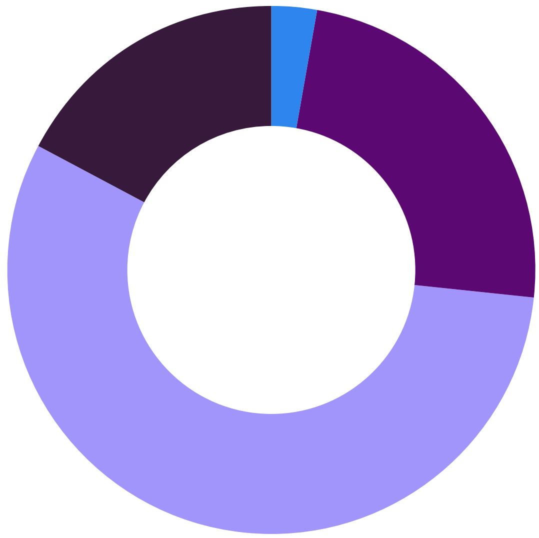


Number of network vendors managed by medium MSPs, year over year

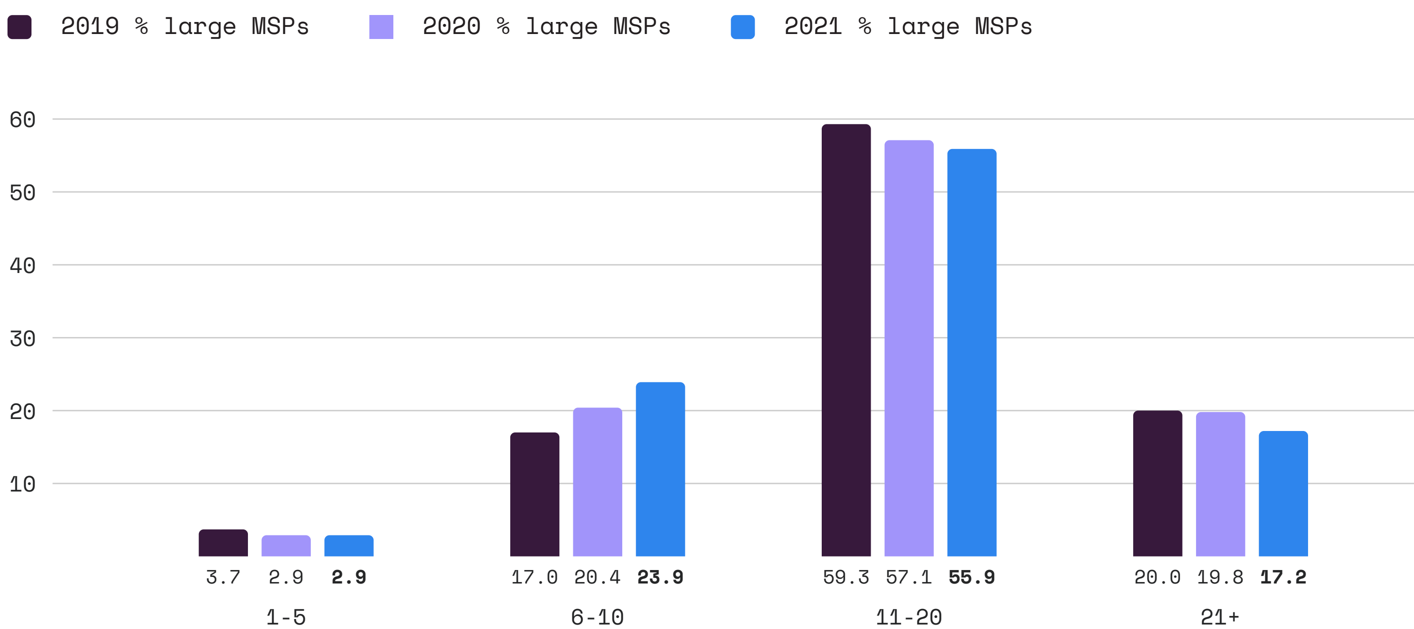


Number of network vendors managed by large MSPs

Number of network vendors managed by large MSPs, 2021



Number of network vendors managed by large MSPs, year over year



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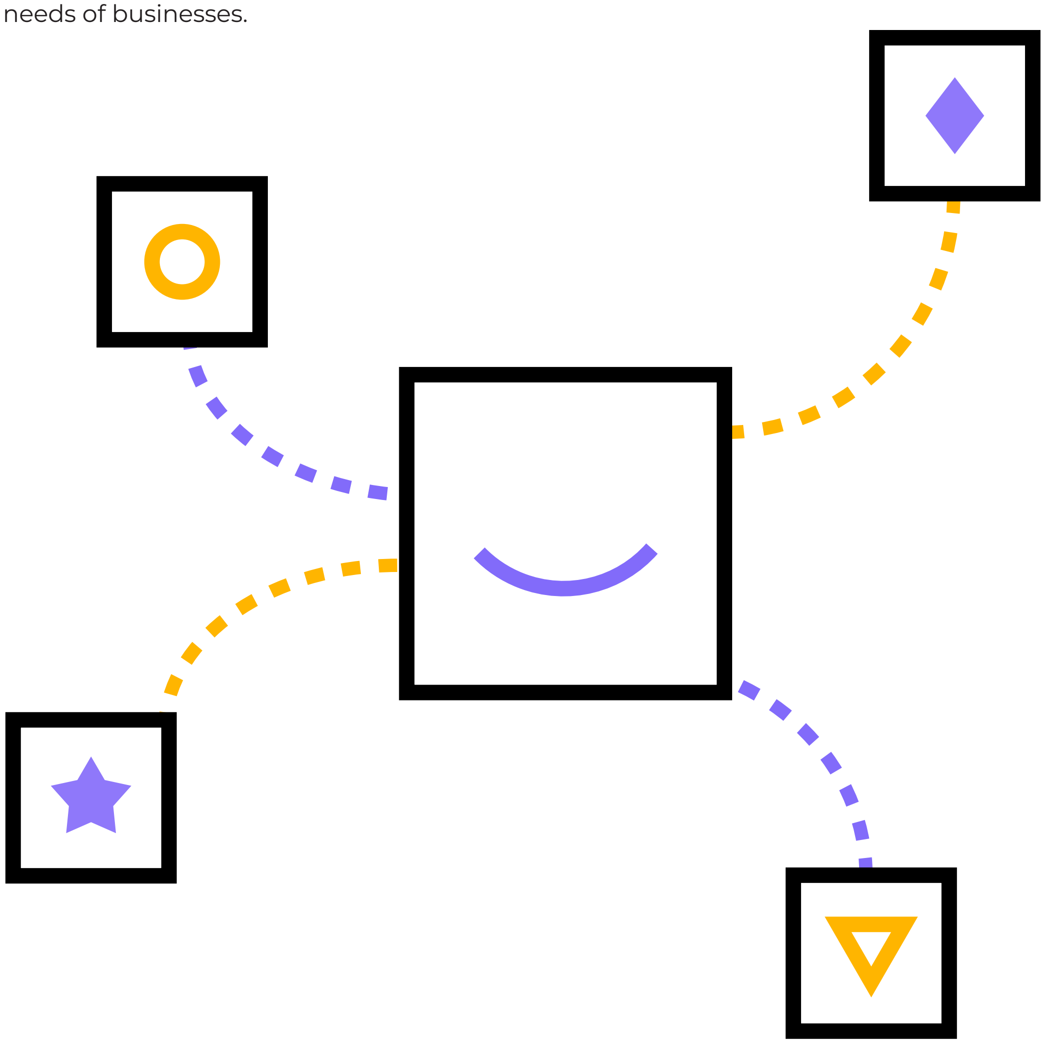
Conclusion

More flexible access points! More virtual switches! Software and cloud-based design on the rise!

While some well-known brands are well-represented in this report, there is a lot of room for growth. There continues to be interesting changes in network technology, and remote work has shifted the way technology is developing, which may lead to more shake-ups in the future. Diversity in network composition can be a good thing. Consistency can also be favorable. It all depends on the preferences of the network engineers and the needs of businesses.

As we continue our research into network vendor diversity, we will grow this report, opening new sections for network composition by industry and more. May your network monitoring and management be safe, sustainable, and stable.



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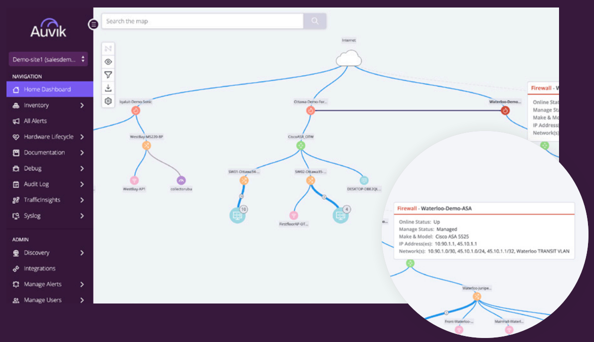

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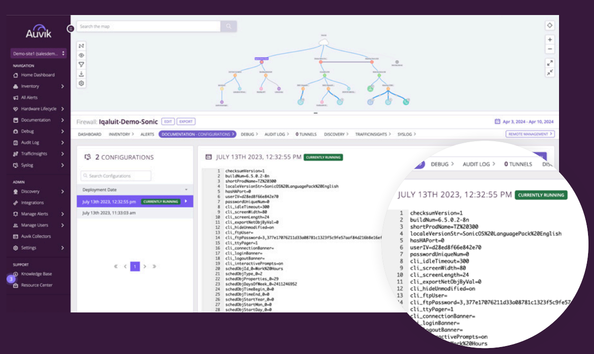

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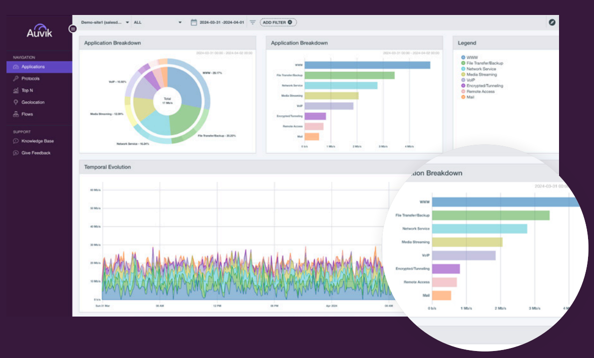

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