



Managing Network Vendor Diversity

The MSP Challenge



In May 2018, Auvik Networks looked at close to 100,000 managed network devices deployed across nearly 17,000 networks under the care and management of about 1,000 IT managed service providers (MSPs). The networks were located around the world, with a heavy concentration in North America.

The networks ranged in size from small to large. The MSPs managing those networks also ranged in size from small to large. We've defined small, medium, and large as follows:

Networks

- Small: Fewer than 50 devices and workstations
- Medium: 50 - 200 devices and workstations
- Large: More than 200 devices and workstations

MSPs

- Small: Fewer than 10 networks under active management
- Medium: 10 - 50 networks under active management
- Large: More than 50 networks under active management

The data focuses on four main types of managed network device—switches, firewalls, access points, and routers—and their representation across MSP-managed networks. Unmanaged devices are not included in the data.

The data in this report relies on the accuracy of underlying SNMP implementations on each device. While we can clean and build out the data by drawing on multiple sources and inferences, some information simply isn't available.

Why we wrote this

Many of our MSP partners ask about trends we see in network management. Managing networks can be difficult and information can be valuable in addressing some of the challenges head on.

One of the major challenges experienced by MSPs is network vendor diversity on client sites. We've investigated vendor and device compositions of MSP-managed networks to better understand this network complexity. This report shares our findings.

Thank you to Corey Kirkendoll of 5K Technical Services and Richard Tubb for their contributions to this report.

Contents

4	EXECUTIVE SUMMARY
5	MOST COMMON DEVICE TYPES
5	Network Makeup by Device Type
6	TOP NETWORK DEVICE VENDORS
6	Most Common Switch Vendors
11	Most Common Firewall Vendors
14	Most Common Access Point Vendors
17	Most Common Router Vendors
20	Most Common Vendors Across All Network Devices
21	THE CROWDED NETWORK DEVICE MARKET
21	Number of Vendors per Network Device Type
22	NETWORK VENDOR DIVERSITY AMONG MSPs
22	Number of Network Vendors Managed per MSP
26	Number of Network Vendors per Managed Network
29	ABOUT AUVIK NETWORKS

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Executive Summary

The MSP Challenge

Managed service providers (MSPs), who may manage anywhere from a handful of client networks to more than 100, face a big challenge: high diversity in the network hardware they operate. Since there's little industry standardization in terms of how network devices operate or are managed, a high diversity of devices means MSPs must grapple with multiple operating systems, languages, and interfaces.

An Intensely Competitive and Fragmented Market

Looking at four categories of managed network device—switches, firewalls, access points, and routers—deployed across MSP-managed networks, our data reveals a very crowded and fragmented market.

Upwards of 40 vendors compete in each device category. Fragmentation at the smaller end of the market is common, with a high number of vendors competing for less than 10% of the pie in every category.

Cisco is the most commonly deployed vendor on today's MSP-managed networks. Including the numbers for Cisco-owned Meraki, Cisco devices make up more than a third of deployed network hardware.

HP, including HP-owned Aruba, is the second most commonly deployed vendor on MSP-managed networks, representing almost a fifth of devices.

The top nine most commonly deployed vendors claim around 80% of the total market between them, leaving dozens and dozens of smaller vendors to fight over what's left.

Multi-vendor Networks Increase Complexity for MSPs

Most MSPs—nearly three-quarters—are managing four or more network vendors for their clients. Fully a third of the MSPs we sampled are managing six to 10 different vendors. And some MSPs are managing upwards of a staggering 20 different network vendors.

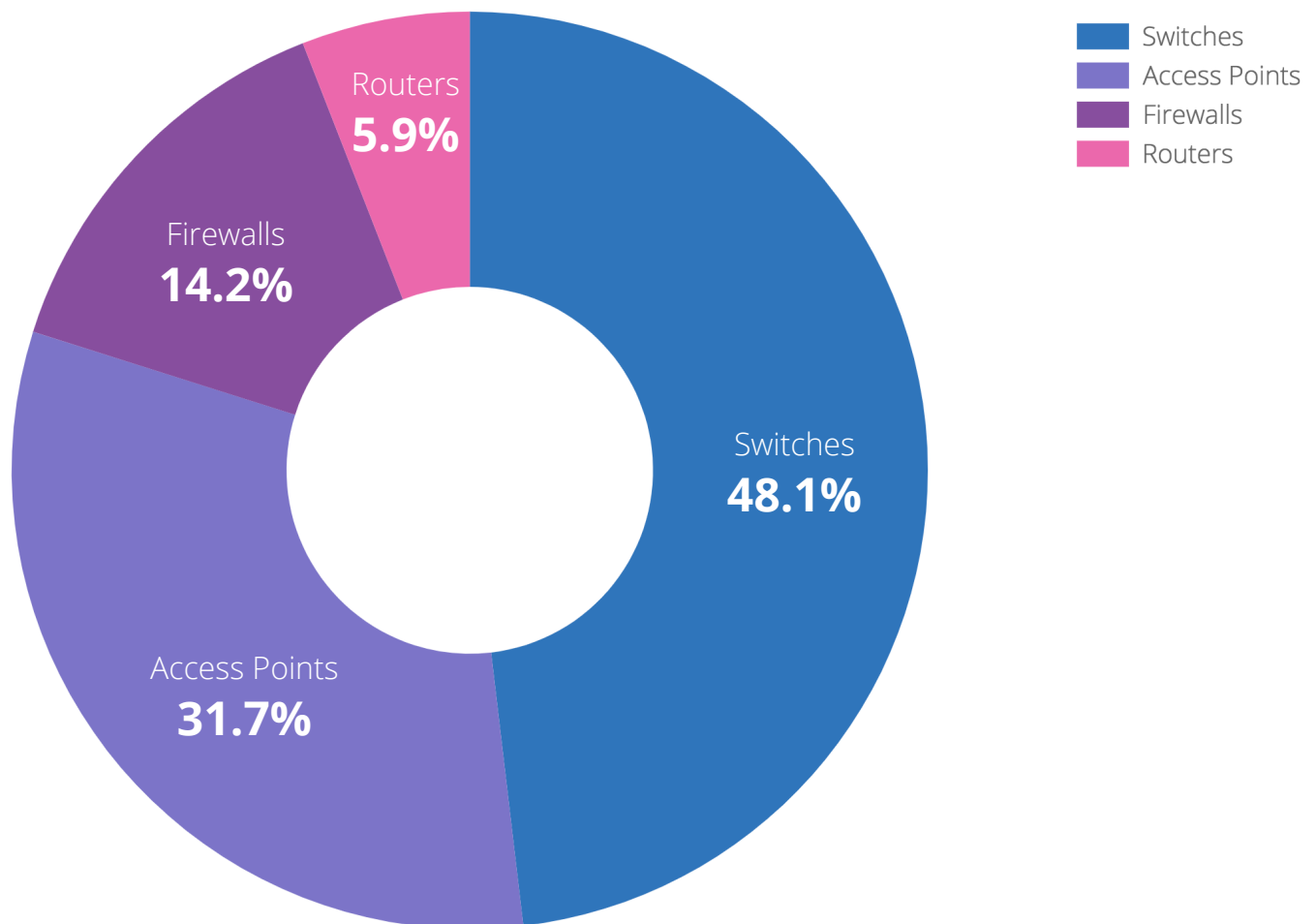
The benefits of standardizing on a specific network hardware stack are huge. MSPs supporting a smaller stack are able to build deep expertise in specific vendors and define a set of standard operating procedures.

MSPs managing many different network vendors grapple with finding and training staff to knowledgeably support a variety of products, putting a drag on efficiency and ultimately profit margins. Though this is widely known, and standardization is frequently recommended to managed service providers as a way to boost profitability, the data indicates standardization can be difficult to achieve.

Most Common Device Types

Network Makeup by Device Type

on networks managed by MSPs



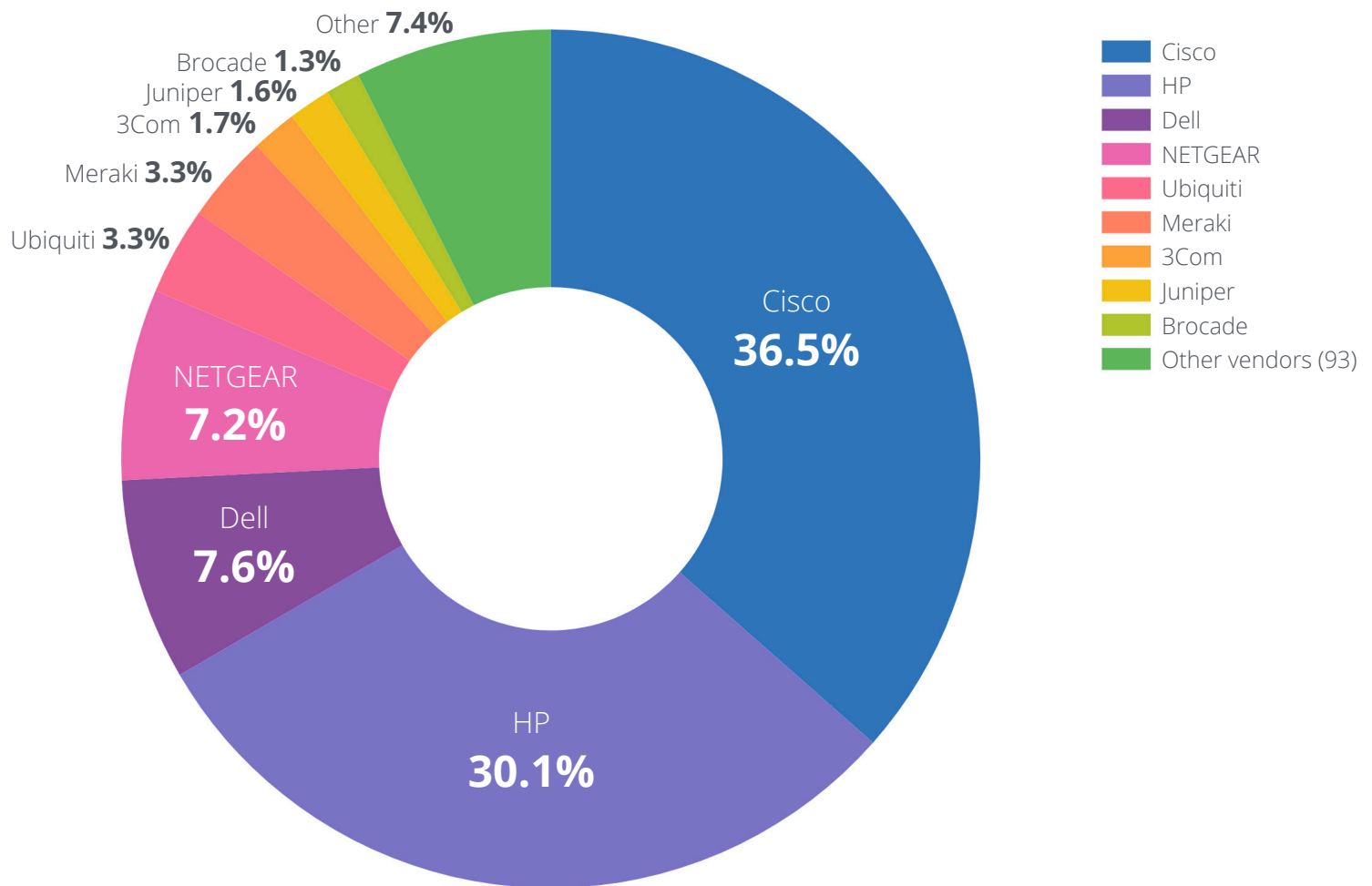
Switches account for almost half of all network devices. Routers are the least common devices on a network, accounting for just 5.9% of the total.

Top Network Device Vendors

Most Common Switch Vendors

deployed on networks managed by MSPs

Total number of vendors represented: **102**



Top 3 Most Commonly Deployed Cisco Switch Models

Cisco switch models	% of Cisco switches deployed
Cisco Catalyst 2900 series	31.1%
Cisco Catalyst 3700 series	14.3%
Cisco Catalyst 3800 series	10.9%

Top 3 Most Commonly Deployed HP Switch Models

HP switch models	% of HP switches deployed
Aruba 2530	21.6%
Aruba 2920	16.9%
HP V1910	6.6%

Among the four types of network devices, switches are by far the most crowded category with more than 100 vendors represented.

Cisco is the category leader with a 36.5% share of switches managed by MSPs of all sizes. Cisco-owned Meraki comes in as the sixth most commonly deployed switch vendor, bringing Cisco up to 39.8%.

HP isn't far behind with 30.1% market share. Together, these two giants account for more than two-thirds of switches deployed on MSP-managed networks.

At the other end of the list, 93 vendors are competing for 7.4% of the market. With such fragmentation, smaller switch vendors need to focus on differentiation and unique features to capture the attention of the MSP buyer.

Fragmentation at the bottom of the market is something we see within every network device category. It's particularly pronounced with switches because of the high number of vendors in the category.

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The network switch market is mature. The industry has gone through upgrade cycles from 10Mb/s to 100Mb/s to 1Gb/s. There aren't currently strong drivers to bring 10Gb/s into the small and mid-sized business, as this speed is typically used in data center applications. Switch refresh cycles have slowed.

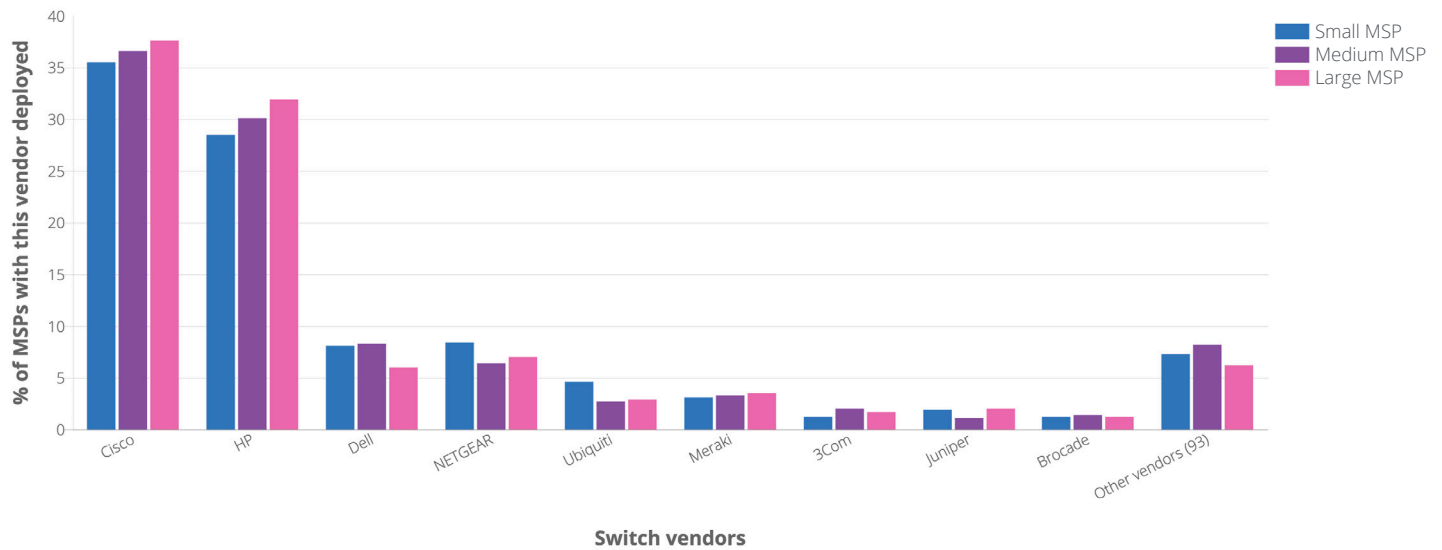
Vendors such as Cisco and HP have been in the switch business for decades and have built a fantastic reputation for delivering reliable and feature-rich products. Both vendors provide limited lifetime warranties, which is important to MSPs as they need to stand behind the product and the investment for their clients.

Right now, many MSPs make no money on network hardware beyond the initial sale of a device to a client. And once a client has made that investment, it can be difficult to move them away from legacy gear, as the asset needs to be depreciated.

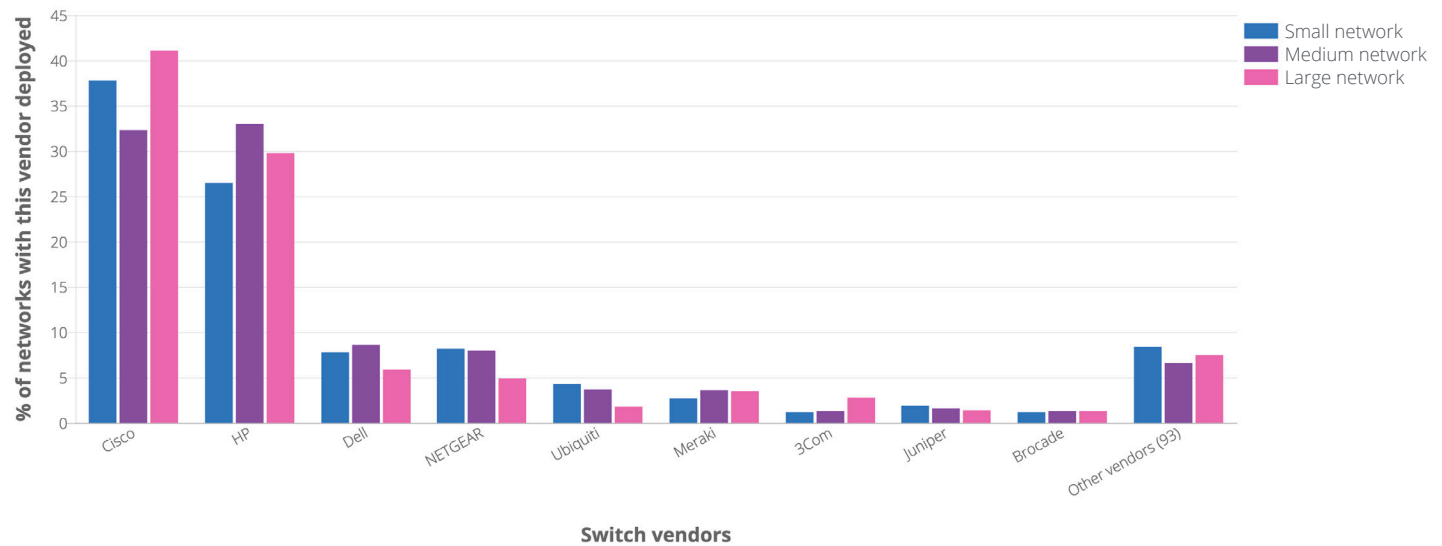
But the hardware infrastructure as a service (IaaS) market is growing. With this model, the MSP makes the hardware investment, then offers the device to the client for a set monthly fee, most often bundled into a service package for that device.

It will be interesting to see how the rise of IaaS will affect things like the switch refresh cycle and even which vendors dominate.

Most Commonly Deployed Switch Vendors by MSP Size



Most Commonly Deployed Switch Vendors by Network Size



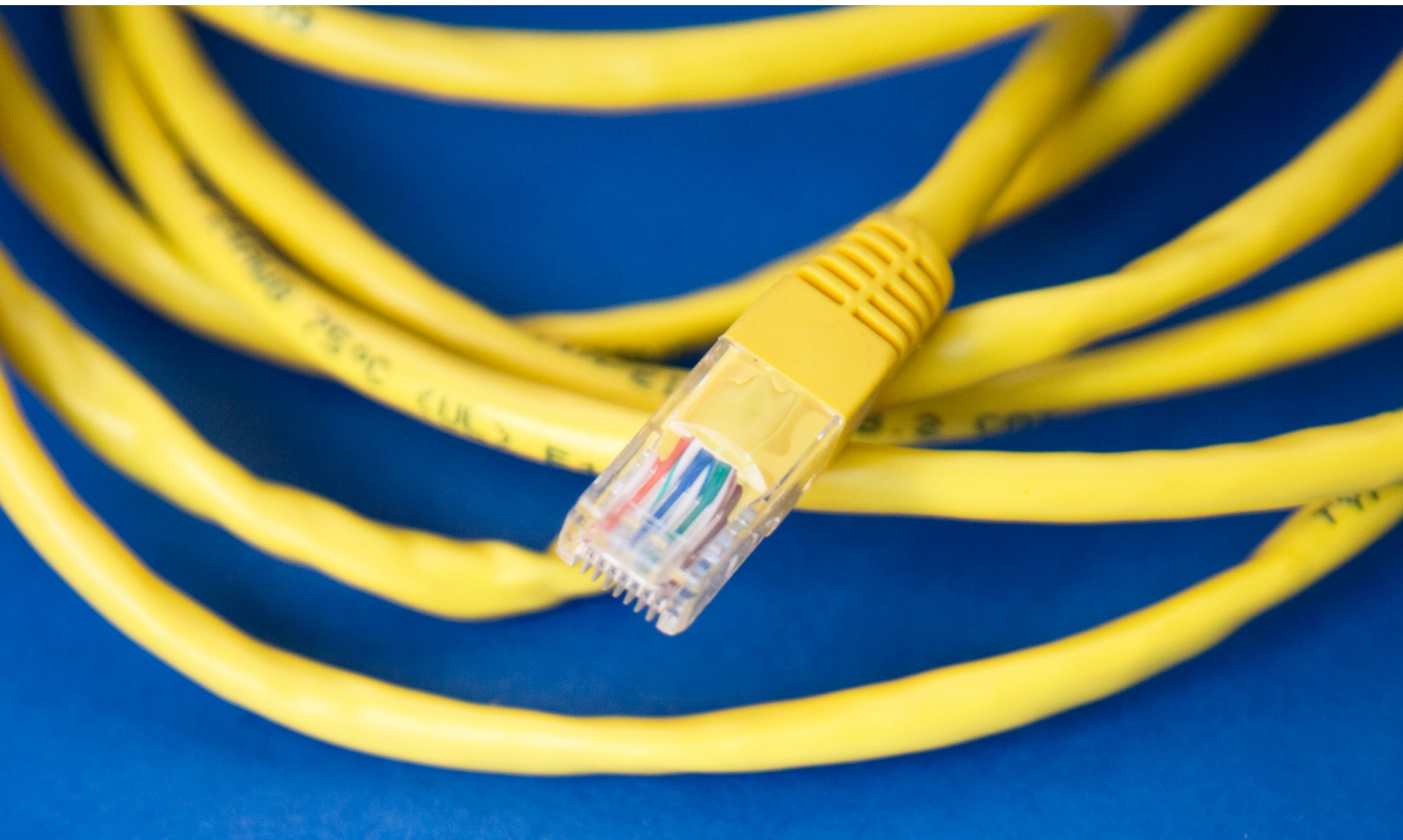
Auvik Insights

3Com was acquired by HP nearly a decade ago, in 2009. The fact that 3Com still lands seventh place among switches managed by MSPs underlines the slow refresh cycle we're seeing for switches.

These rankings for switches also corroborate the anecdotal conversations Auvik has with our partners every day. We're hearing that small businesses often don't see the value in premium products as it becomes harder to justify the cost. For a business of 10 or 15 employees, it's difficult to internalize the benefits of a \$200 switch versus a \$2,000 switch when largely the only requirement is basic connectivity.

As a business grows, the size and complexity of the network often requires increases in usability and functionality. Clients begin to see the value of premium solutions.

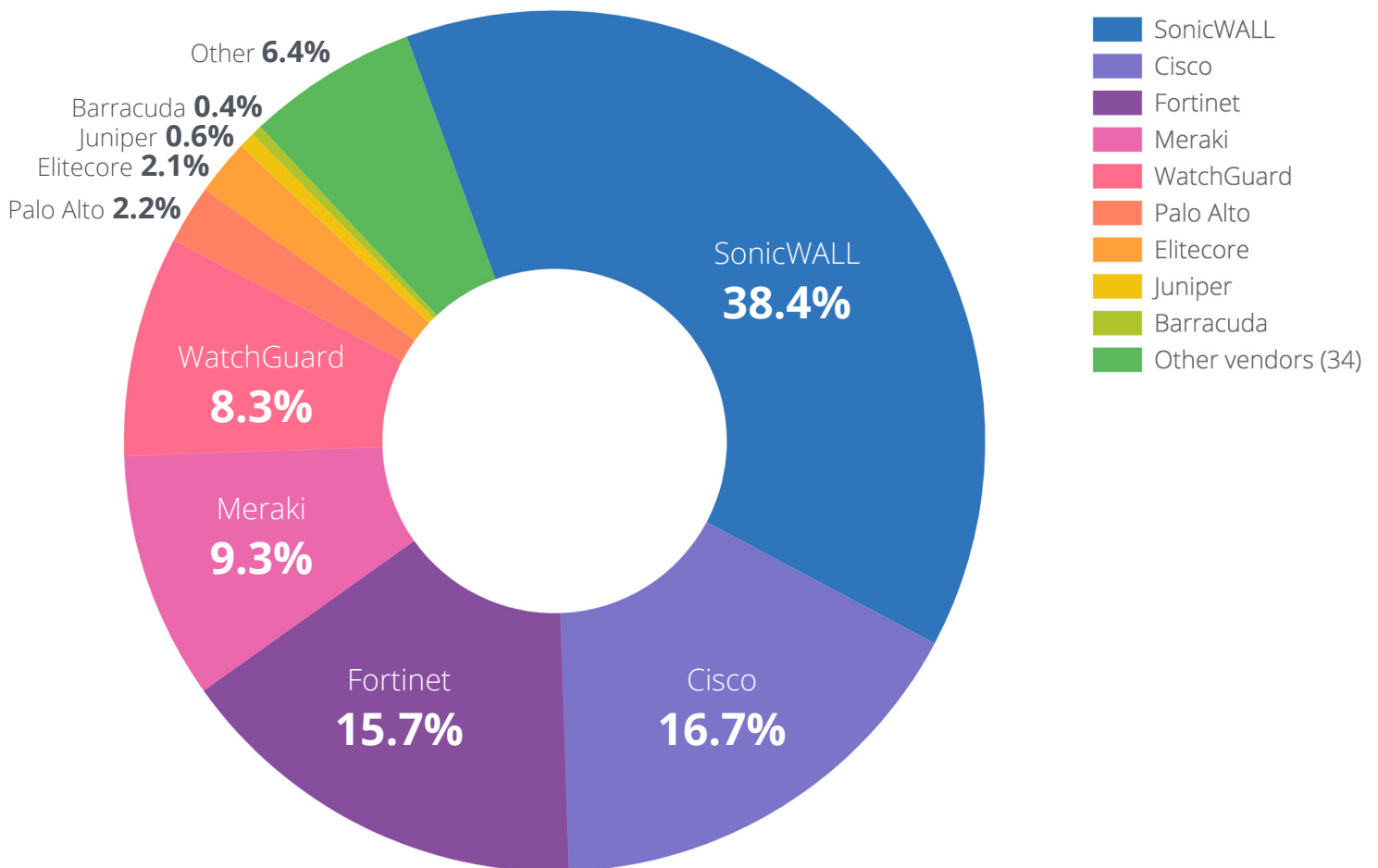
A similar evolution in perspective happens as an MSP grows. Large MSPs see the benefits of investing in, and selling, premium products because they bring ease of use for the MSP's technicians. Meraki, for example, offers a management portal that dramatically improves visibility and control for the MSP compared to traditional on-premises devices.



Most Common Firewall Vendors

deployed on networks managed by MSPs

Total number of vendors
represented: **43**



SonicWALL tops the firewall category, with more than double the deployment share of the second most common vendor, Cisco.

Cisco and Fortinet are very close in second and third positions overall. Cisco-owned Meraki takes fourth position with 9.3% of the firewall market. Added to the 16.7% for Cisco proper, the company claims 26% of firewalls managed by MSPs of all sizes.

Fortinet edges out Cisco for second place on small networks and among medium-sized MSPs.

Firewalls are the least fragmented network device market, with 43 vendors represented. Still, as with all the device categories, the bottom of the market is crowded. Thirty-four firewall vendors are currently divvying up 6.4% of the market.

It should be noted that several firewall vendors, such as Sophos and Zyxel, are lumped into the Other category because their SNMP implementation doesn't identify them as the device vendor.

Auvik Insights

In conversations with Auvik partners, we've heard lots of debate about who the "best" firewall vendor is. The most successful MSPs partner with vendors that play to their strengths. For highly technical users, the Cisco ASA provides a powerful platform, whereas SonicWALL is often the top choice for ease of deployment and usability.

The data we looked at for this report primarily covers the small to mid-sized business market, specifically managed by MSPs, so despite the overall success of firewall vendors like Palo Alto, we're not surprised by their small market share here.



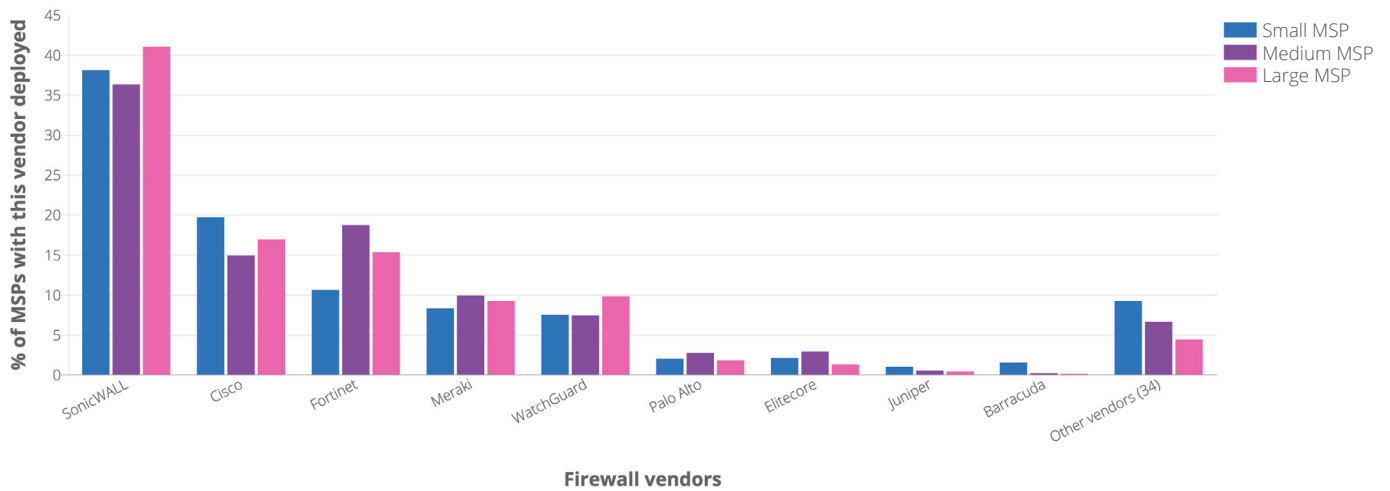
“In addition to incredible support, Cisco’s equipment is premium and well built. After installing over 500 ASA firewalls, I’ve only had one that needed repair. They’re very configurable, so you can **make magic happen.**

I know the equipment is going to work, it’s going to be fast, and the team’s there for support.”

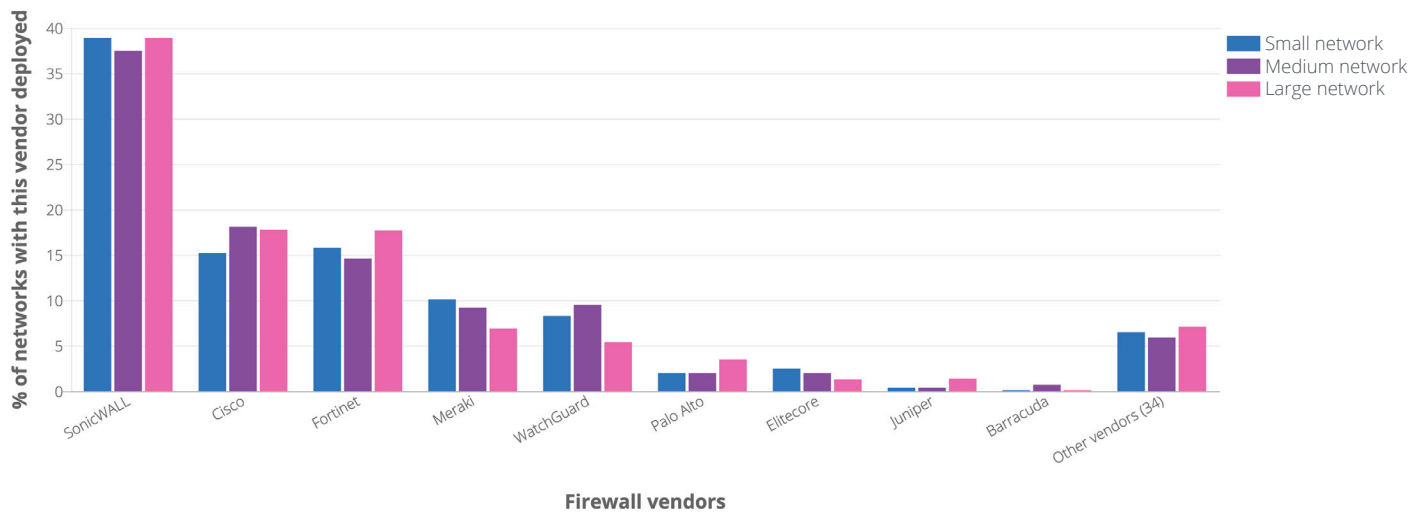
Henrique Reis

Founder, Reis Information Systems

Most Commonly Deployed Firewall Vendors by MSP Size



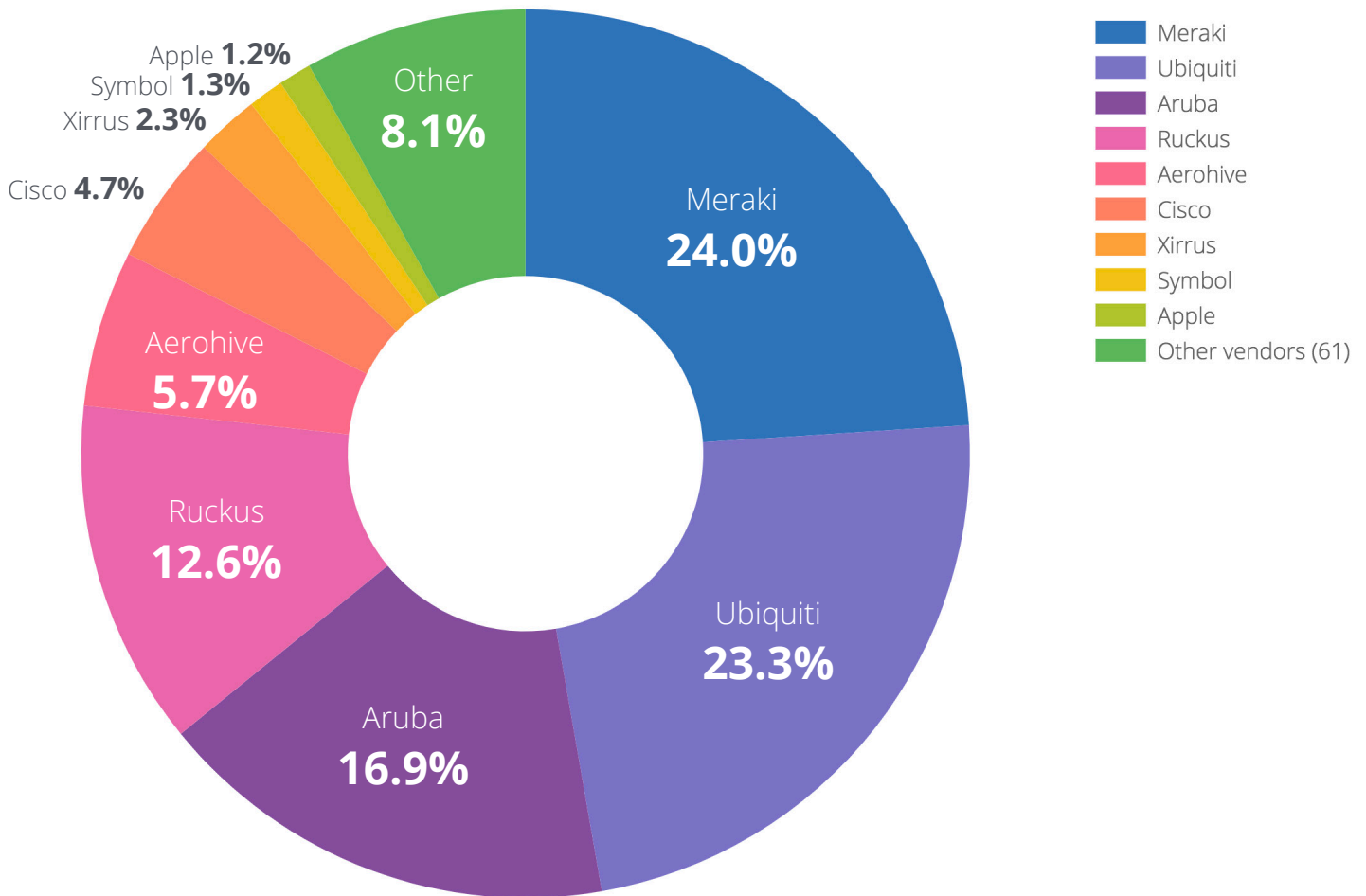
Most Commonly Deployed Firewall Vendors by Network Size



Most Common Access Point Vendors

deployed on networks managed by MSPs

Total number of vendors represented: **70**



Cisco-owned Meraki and Ubiquiti are in a tight race for top spot in the access point category for networks managed by MSPs of all sizes.

Meraki claims the number one spot on large networks and with large MSPs, while Ubiquiti is number one on small and medium networks, and with small MSPs.

HP-owned Aruba, third place overall, is the top access point choice for medium-sized MSPs.

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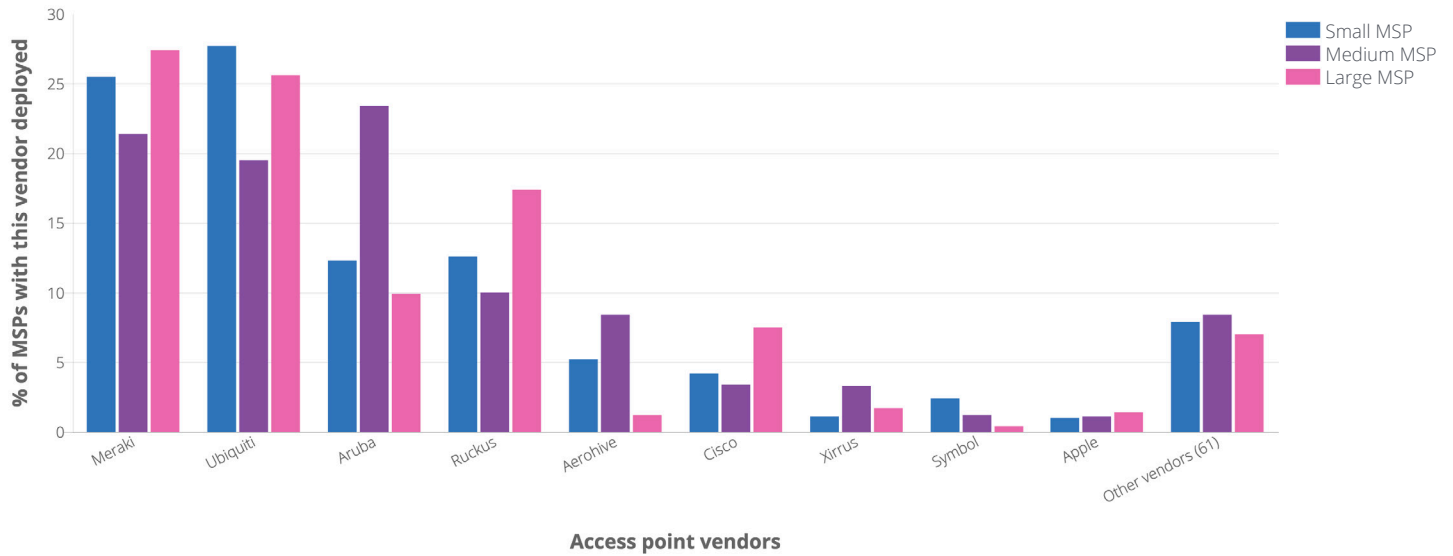
The market appears to be divided between the need for easy to configure, affordable Wi-Fi and enterprise-grade Wi-Fi. In simpler environments, vendors like Ubiquiti tend to be a good choice to balance cost and manageability. In more challenging client environments with complex buildings, lots of walls, high RF noise, and a desire for captive portals, the enterprise vendors prevail.

The first wave of Cisco access points were command line interface (CLI)-driven, and weren't easy for MSPs to manage and maintain. This is perhaps why Cisco now claims less than 5% of the MSP-managed market for access points, and why players such as Meraki and Ubiquiti, that have focused on ease of use, now dominate. Ubiquiti access points also appeal because they are feature-rich at a relatively low cost.

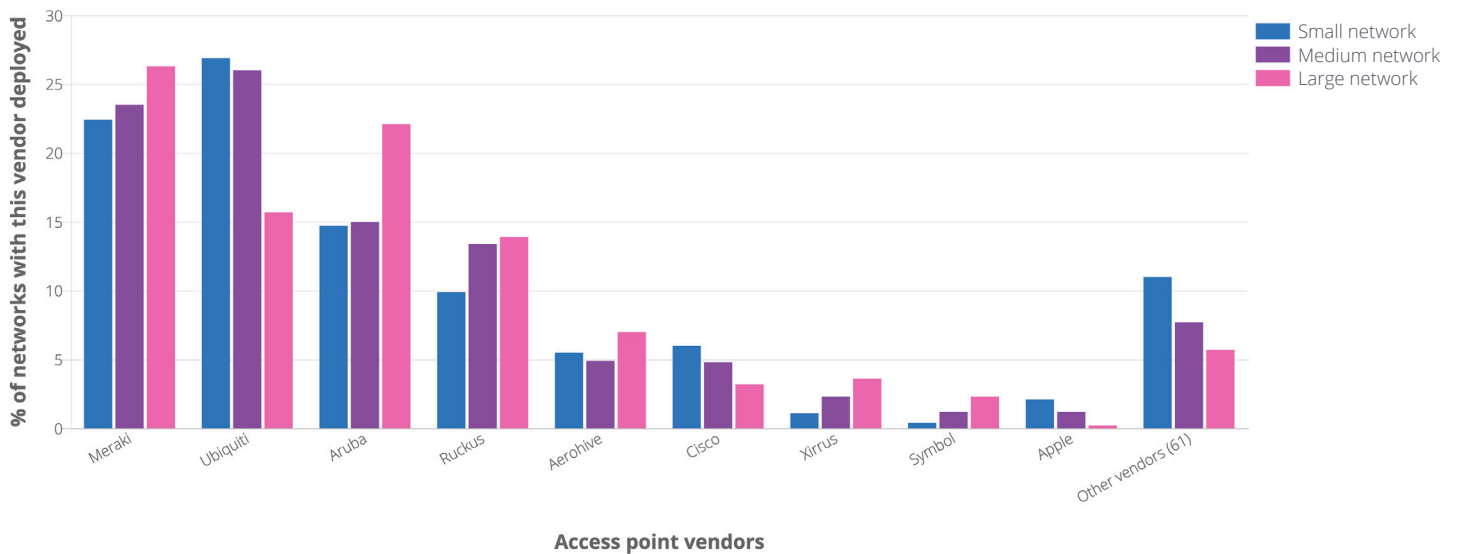
It will be interesting to see how the hardware refresh cycle for access points changes over time. The migration from 802.11n to 802.11ac and now 802.11ac Wave 2 is attempting to solve the unquenchable thirst for wireless throughput. Is 1Gb/s enough? Will we see a slowdown in refresh cycles once the migration to Wave 2 is complete, similar to that of the slowdown in switching? Time will tell.



Most Commonly Deployed Access Point Vendors by MSP Size



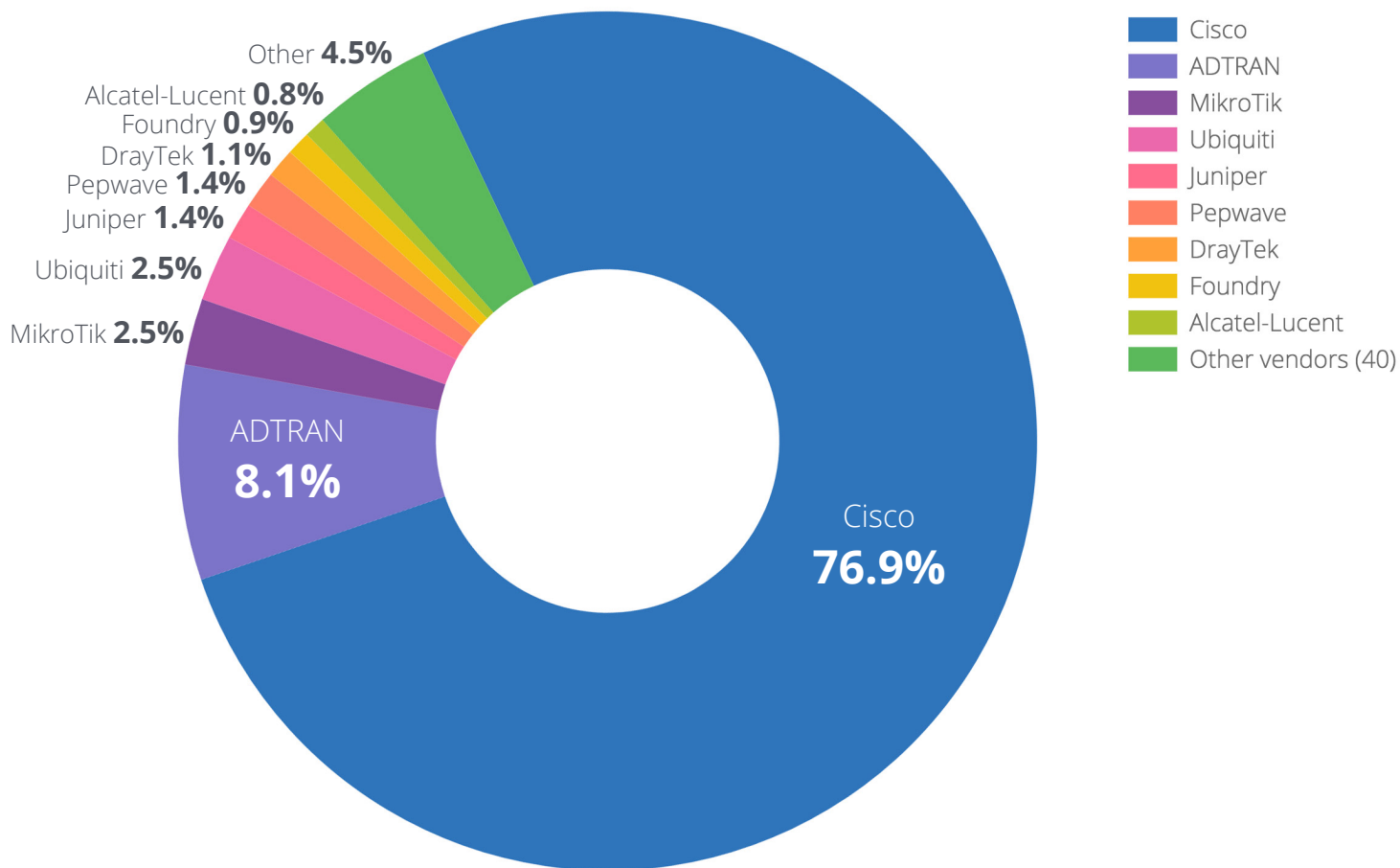
Most Commonly Deployed Access Point Vendors by Network Size



Most Common Router Vendors

deployed on networks managed by MSPs

Total number of vendors represented: **49**



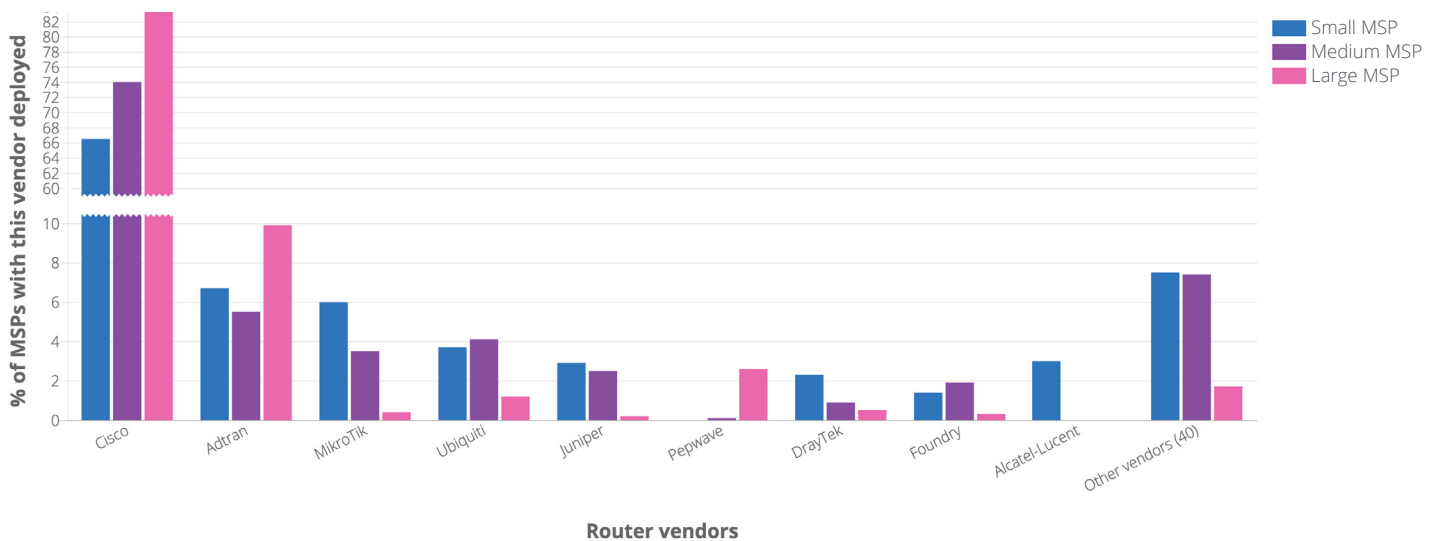
Cisco dominates the router category, representing more than 75% of the routers managed by MSPs of all sizes. Cisco routers are more popular among medium and large MSPs but, even on networks managed by smaller MSPs, still make up 66% of deployed routers.

Again at the smaller end of the market, many vendors compete for a very tiny slice of the pie—in this case, 40 vendors are battling for 4.5% of the market.

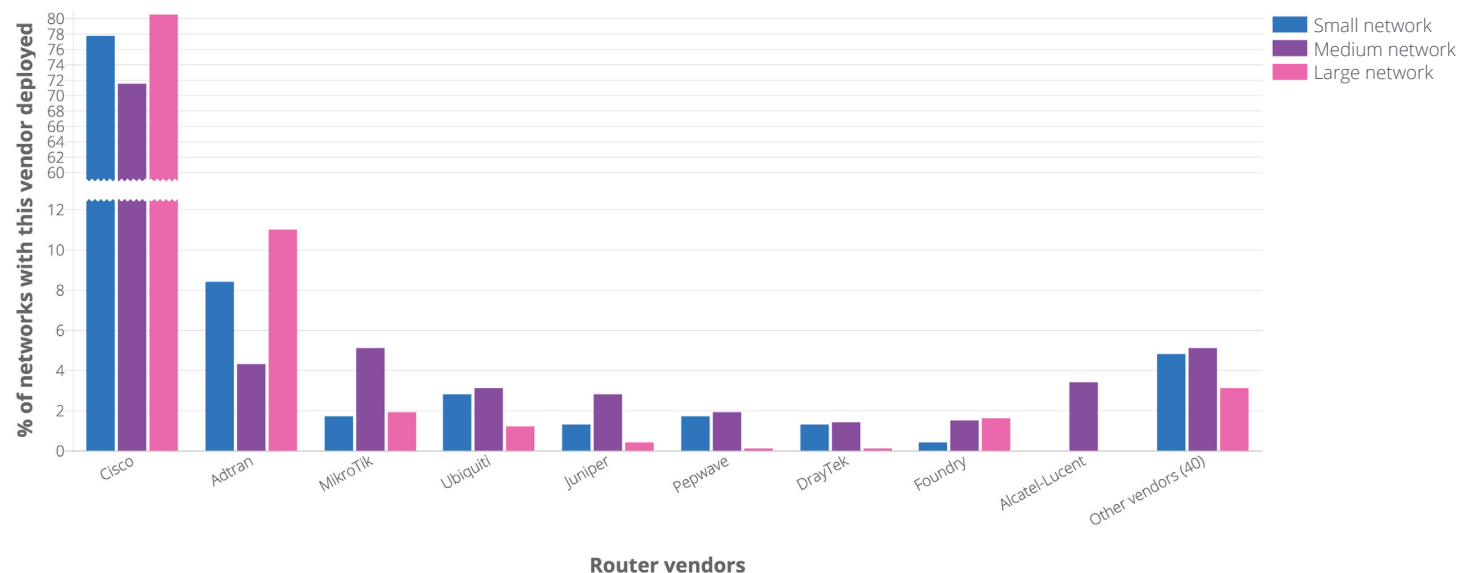
Top 3 Most Commonly Deployed Cisco Router Models

Cisco router model	% of Cisco routers deployed
ISR 2911	19.7%
ISR 891	15.8%
ISR 4331	13.2%

Most Commonly Deployed Router Vendors by MSP Size

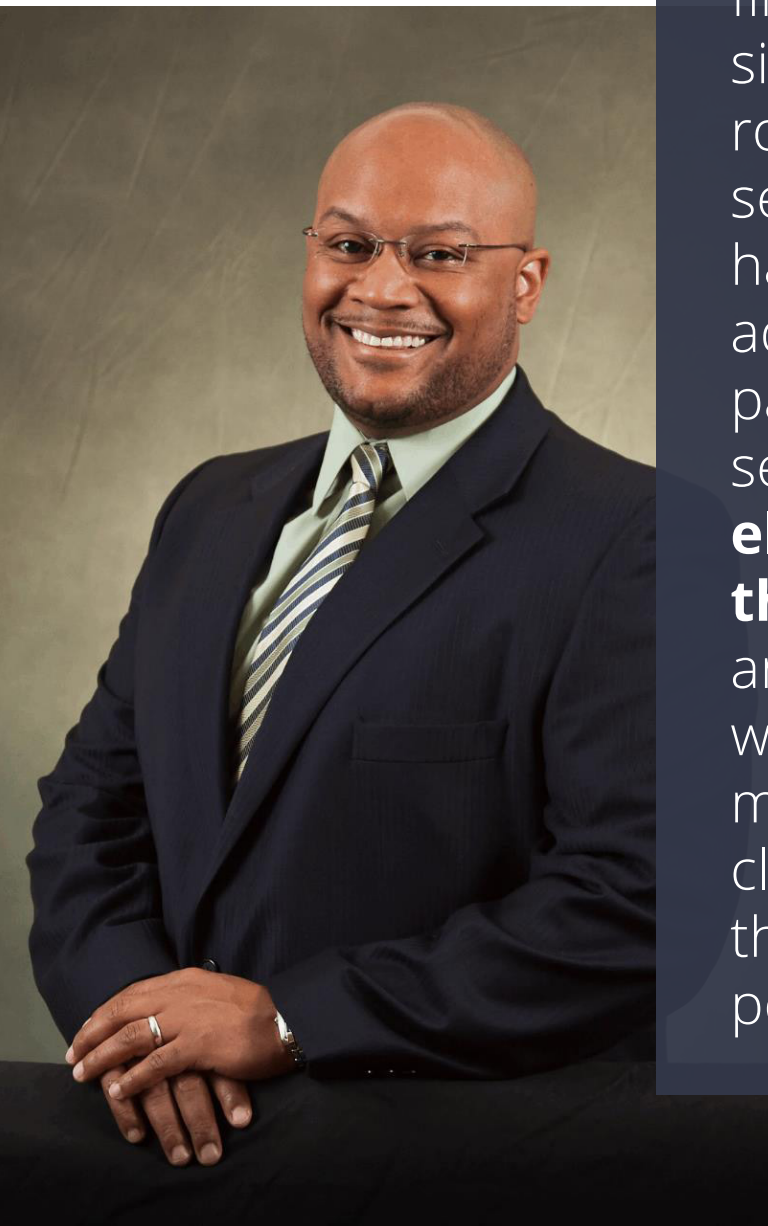


Most Commonly Deployed Router Vendors by Network Size



Auvik Insights

Most routers are probably deployed by ISPs for offices to access the internet—they aren't necessarily customer devices on the networks. Typically, the only reason an MSP-managed network would have a router on it is to access remote locations. Firewalls can essentially replace routers and also include protection features, so MSPs commonly opt for firewalls over routers.



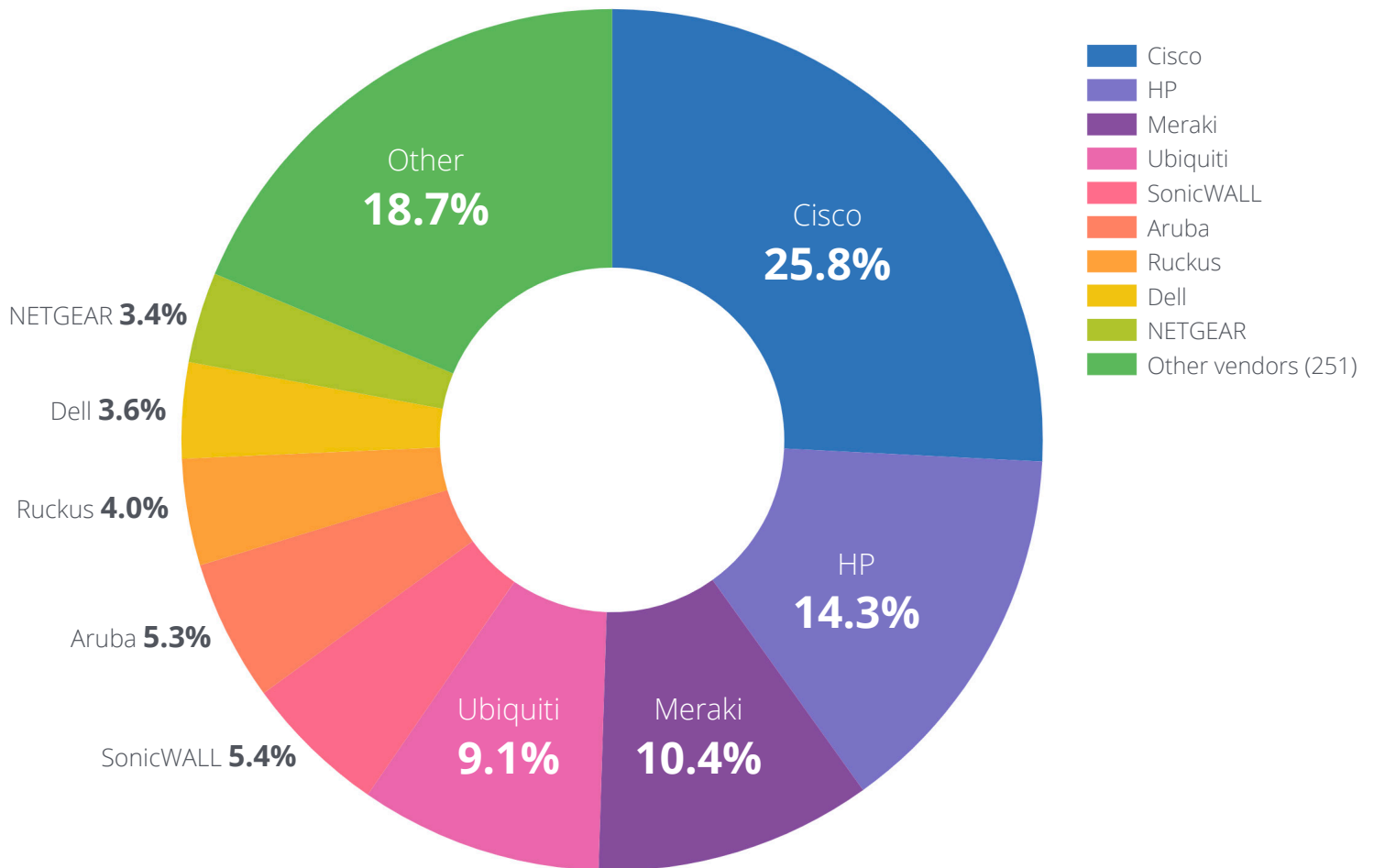
“Here at 5K Tech, we put firewalls on our client sites to perform our basic routing. It makes more sense to use one box to handle multiple tasks and added security rather than paying for an extra device to serve a single purpose. This **eliminates complexity in the customer's network** and, in many cases, helps with performance and maintenance. It gets our clients the most bang for their buck, and it eliminates a point of failure for us.”

Corey Kirkendoll

President & CEO, 5K Technical Services

Most Common Vendors Across All Network Devices

deployed on networks managed by MSPs



When we look at all four network devices—switches, routers, firewalls, and access points—deployed across networks managed by MSPs of all sizes, the dominant players clearly emerge.

Cisco is the most deployed vendor in routers and switches. Cisco-owned Meraki tops the access point category. And Cisco is second for deployment numbers in firewalls. When you combine numbers for Cisco with those for Meraki, Cisco makes up 36.2% of the hardware deployed on today's MSP-managed networks.

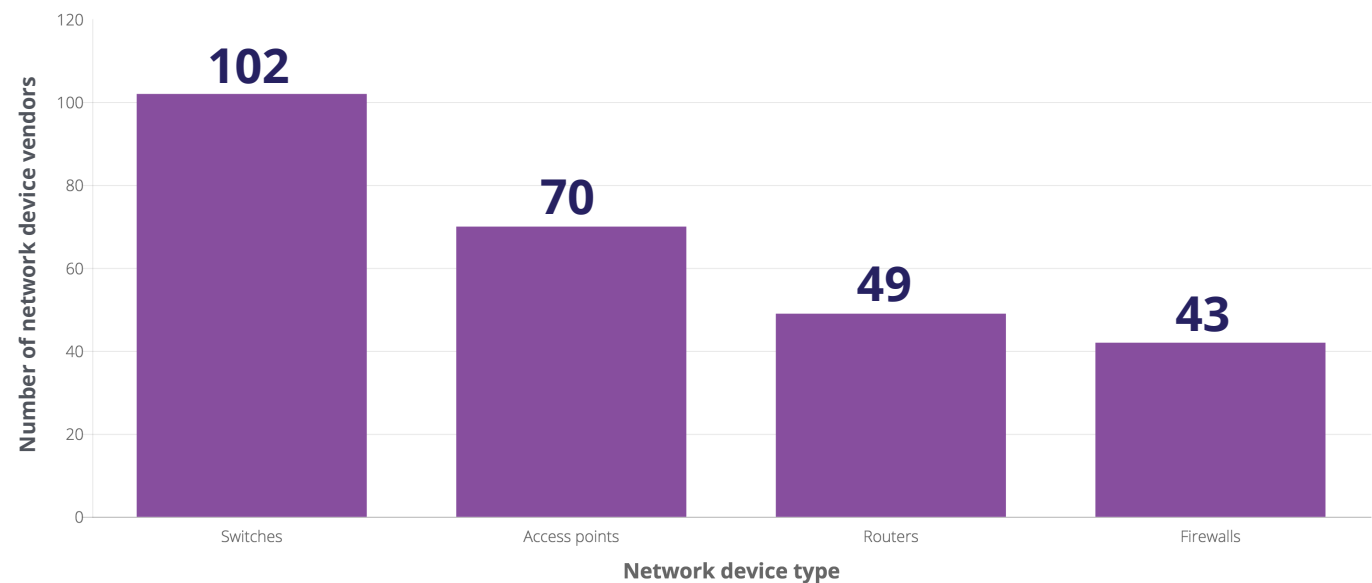
Based purely off its share of the switch market, HP holds second place. HP-owned Aruba grabs sixth place with 5.3% of deployed devices. Combined, these figures give HP 19.6% of today's MSP-managed networks.

Ubiquiti combines its switch and access point numbers to claim fourth place with 9.1% of the total network device market.

The top 9 most commonly deployed vendors claim around 80% of the total market between them, leaving dozens and dozens of smaller vendors to fight over what's left.

The Crowded Network Device Market

Number of Vendors per Network Device Type



The network device market is very crowded, with upwards of 40 vendors competing in each category.

There appears to be a rough correlation between how common a device type is on a network (p 5) and how crowded the market for that device type is. This makes sense, as the larger the market opportunity, the more appealing it would be to new entrants.

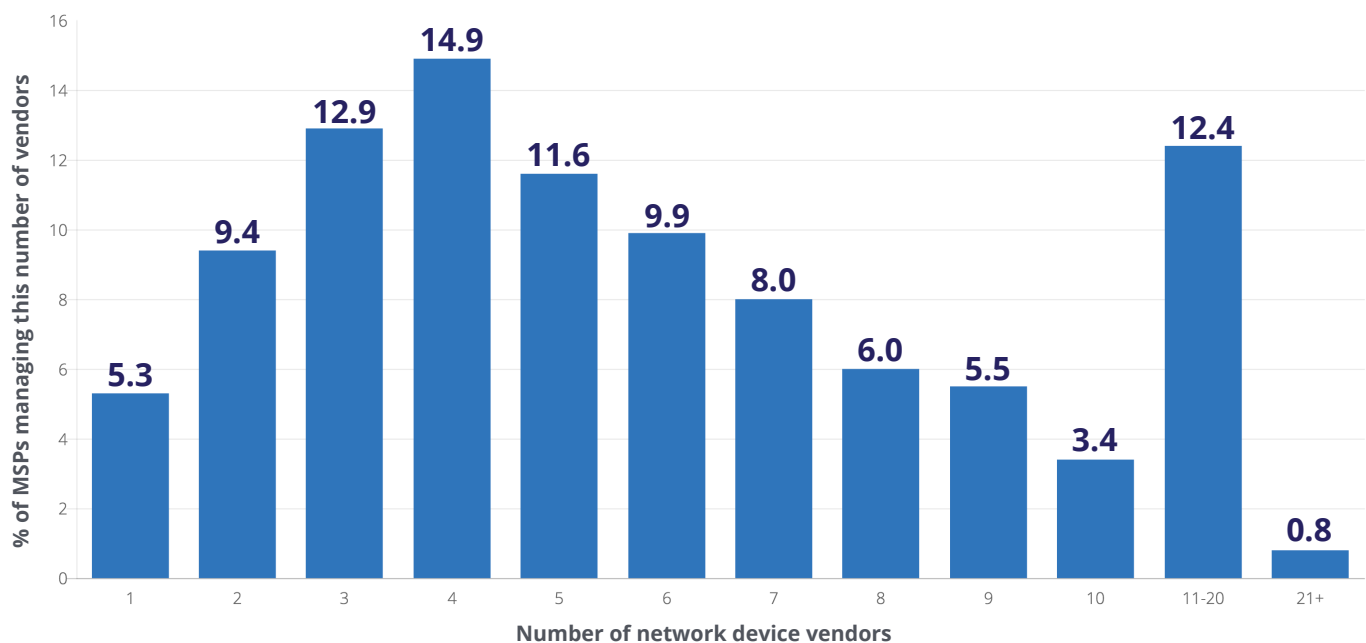
Device type	Vendors for this type	% of devices on a network that are of this type
Switches	102	48.1%
Access points	70	31.7%
Routers	49	5.9%
Firewalls	43	14.2%

Network Vendor Diversity Among MSPs

Number of Network Vendors Managed per MSP

across all network sizes and MSP sizes

The average number of network vendors managed by an MSP varies significantly by MSP size. The larger an MSP, the more likely they're dealing with a high number of network vendors.



Most MSPs (72.4%) are managing four or more network vendors for their clients. Fully a third are managing 6 to 10 different vendors. And some MSPs are managing upwards of a staggering 20 different network vendors.

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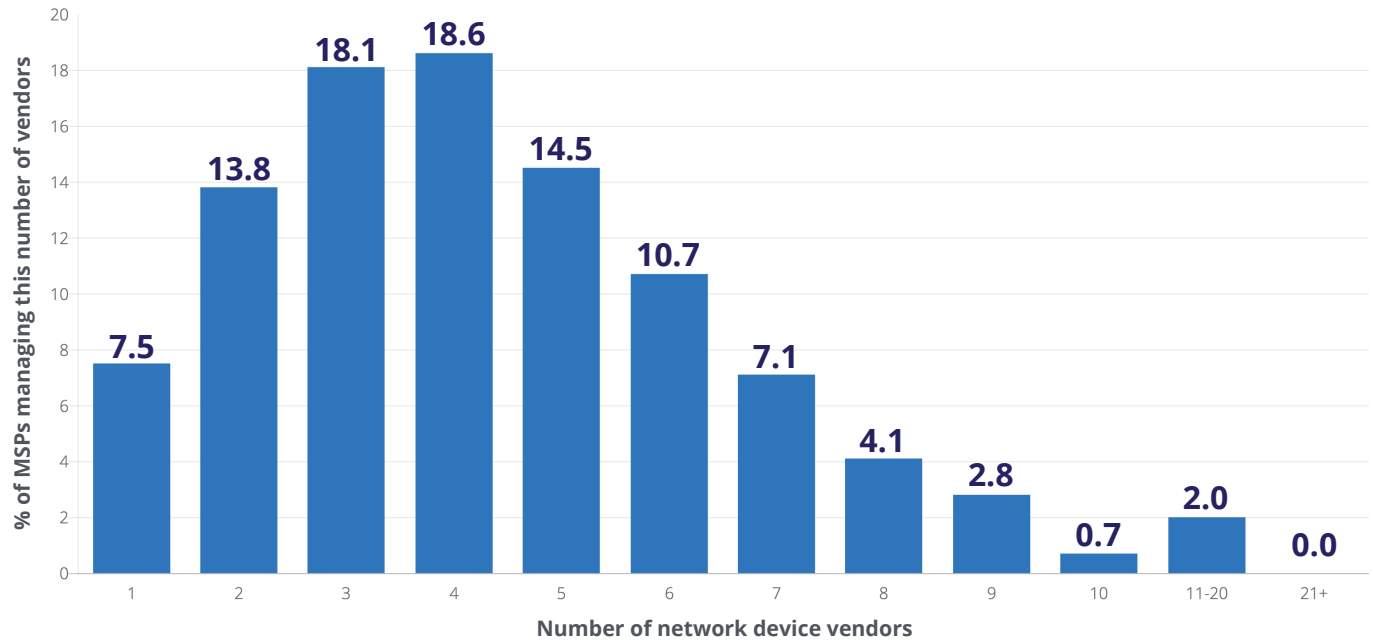
These numbers point to a lack of standardization across an MSP's client base. The data points also highlight potential support issues as MSPs grapple with finding and training staff to support many, many different products.

A great diversity of network vendors decreases an MSP's support efficiency. Though this is widely known, and standardization is frequently recommended to MSPs as a way to boost profitability, the data indicates standardization can be difficult to achieve. Clients are not inclined to write off a capital expense simply because an MSP wants to migrate them to something easier for the MSP to maintain.

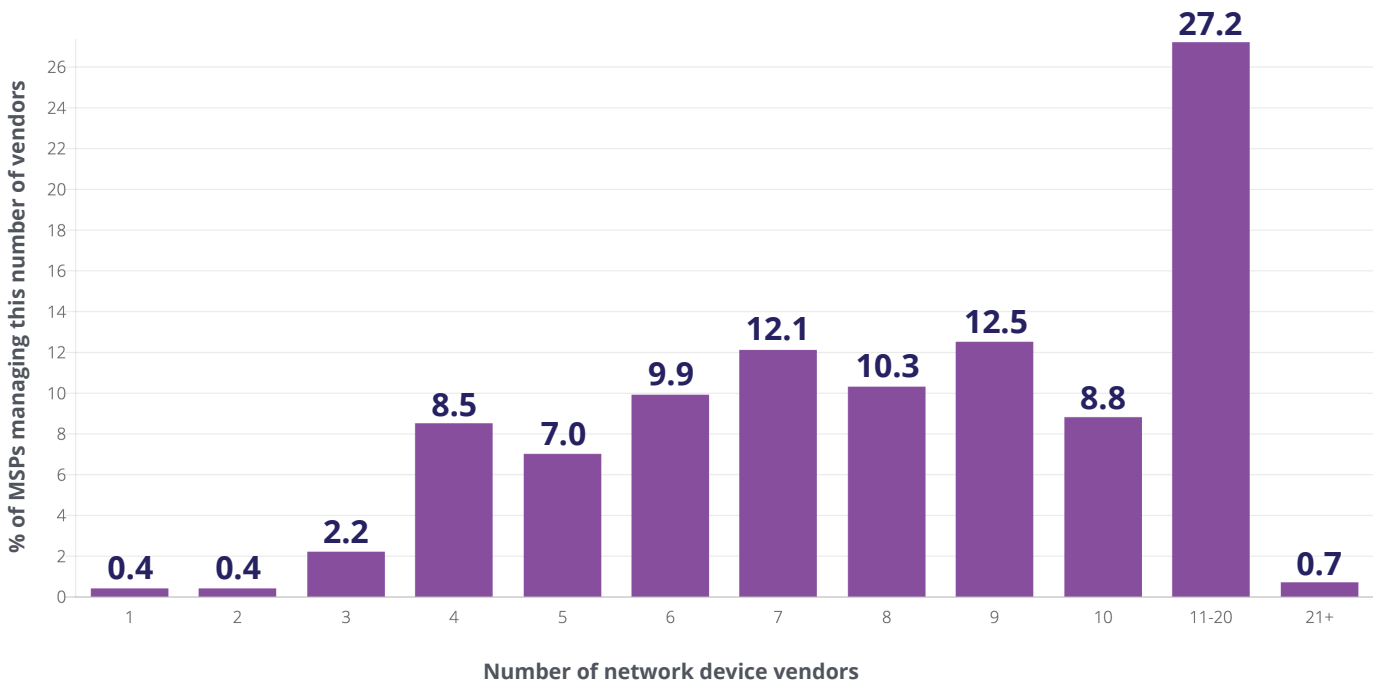
Keep in mind this report looks only at network devices. A wide variety of server and endpoint devices will ratchet up the total number of vendors and technologies an MSP must support.



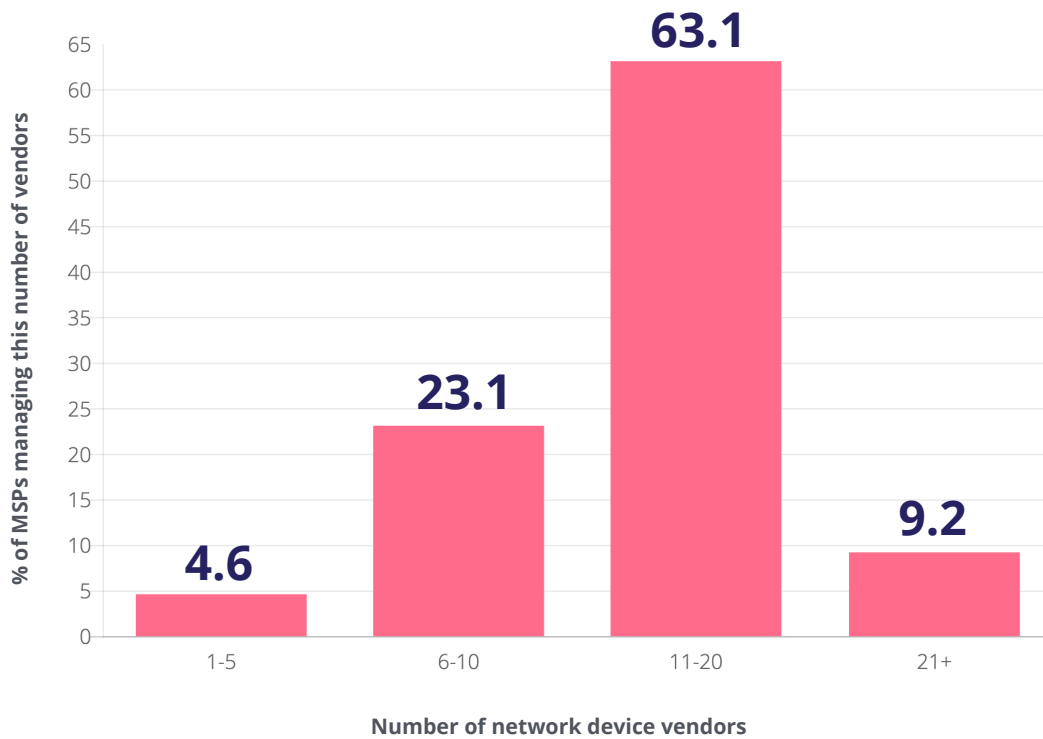
Number of Network Vendors Managed by Small MSPs



Number of Network Vendors Managed by Medium-Sized MSPs



Number of Network Vendors Managed by Large MSPs



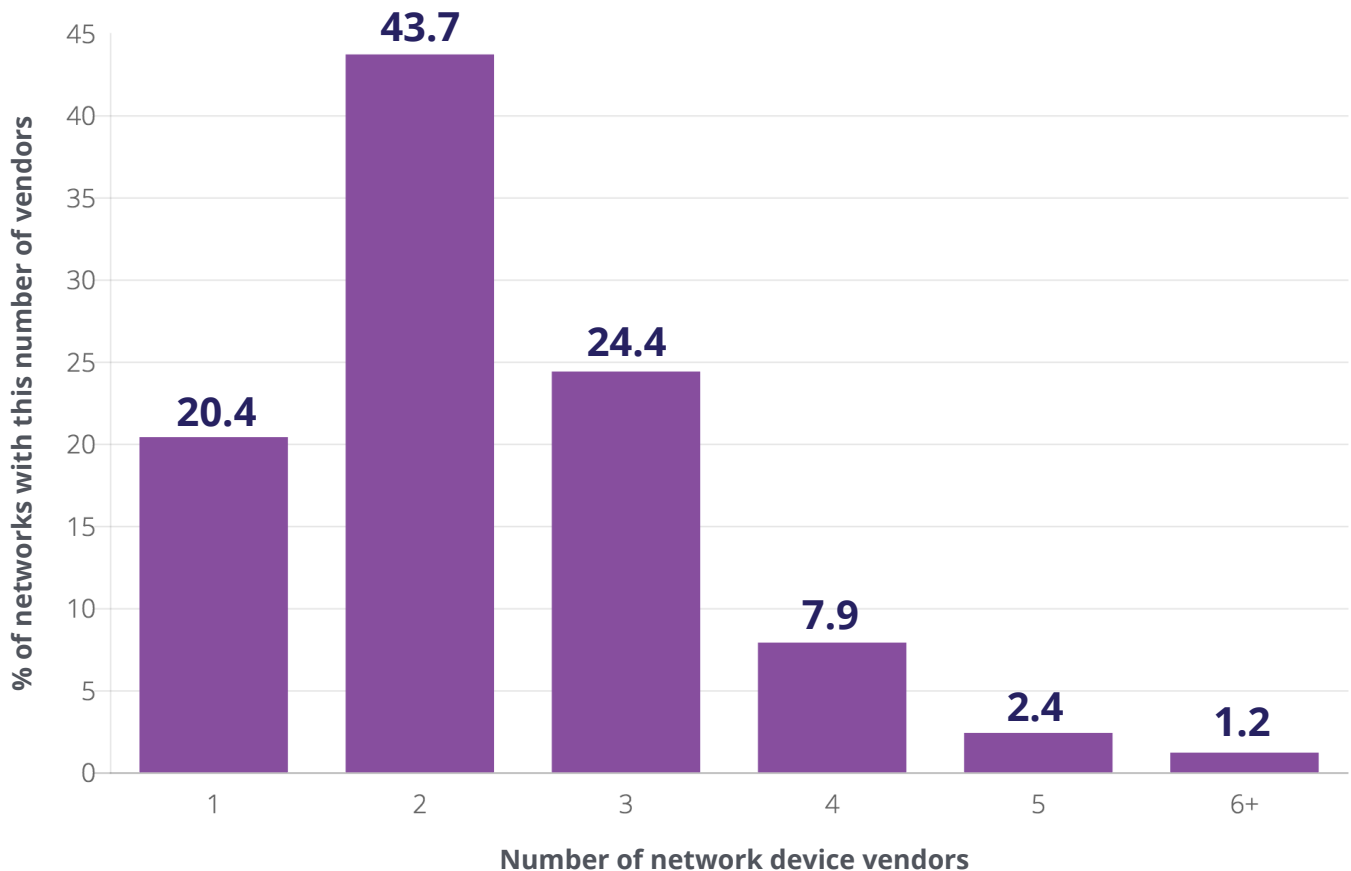
Median Average of Network Device Vendors Managed

MSPs of all sizes: **5**
Small MSPs: **4**
Medium MSPs: **8**
Large MSPs: **13**

Number of Network Vendors per Managed Network

across all network sizes and MSP sizes

Number of Network Vendors per Network (Any Size)



Median Number of Different Network Device Vendors

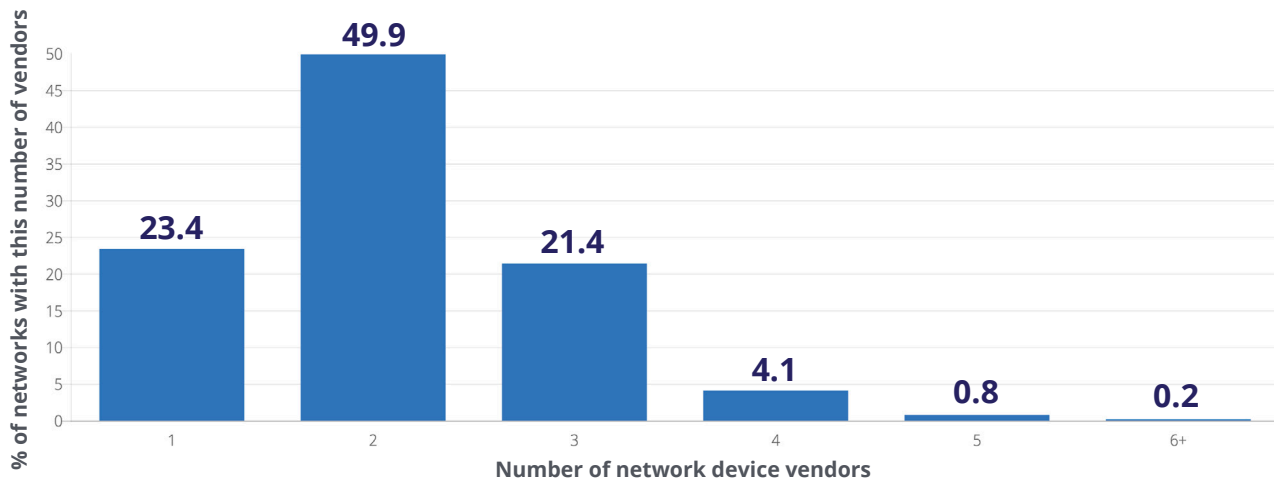
Networks of all sizes: **2**

Small networks: **2**

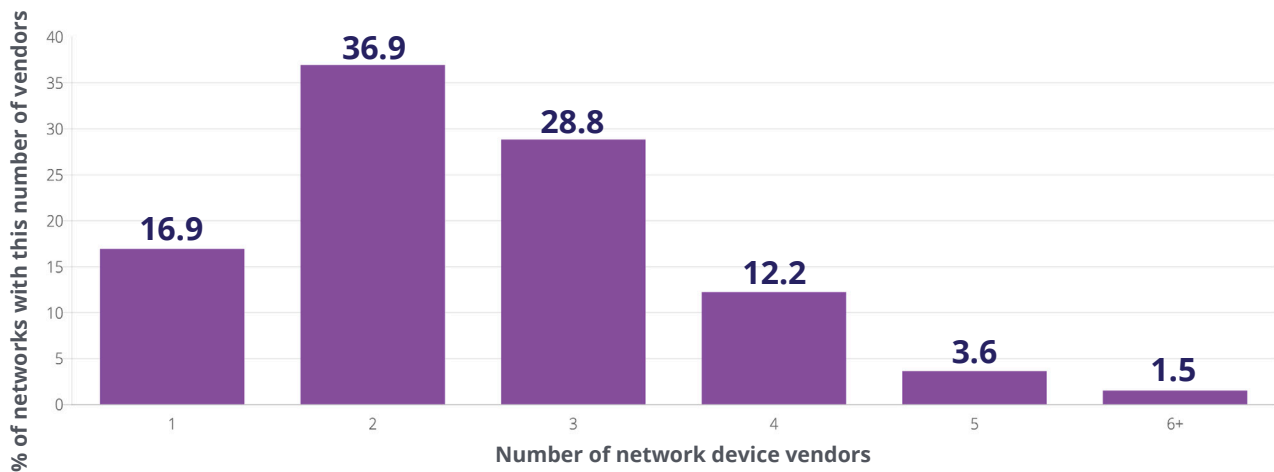
Medium networks: **2**

Large networks: **3**

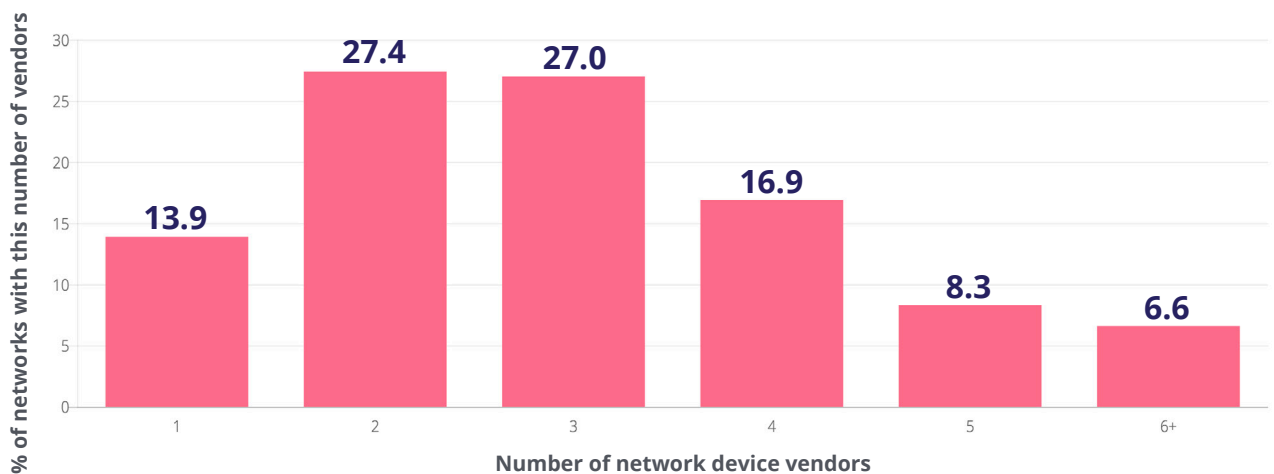
Number of Network Vendors Deployed on Small Networks



Number of Network Vendors Deployed on Medium Networks



Number of Network Vendors Deployed on Large Networks



Auvik Insights

The larger the network, the higher the number of vendors represented. While this may be logical, it also underscores the issues that arise with scaling a network and a lack of standardization across the managed services industry.

The diversity of network vendors by network size is relatively low, but is high when looking at numbers by MSP size. This seems to indicate that many MSPs don't have a standardized hardware stack they work to, and that MSPs typically take on new clients with whatever devices they have deployed.

The benefits of standardization are huge. MSPs supporting a smaller hardware stack are able to build deep expertise in specific vendors and define a set of standard operating procedures. For networks where standardization isn't practical, MSPs often look to third-party tools to get the visibility and management control they need.



About Auvik Networks

Today, businesses expect their IT networks to just work—kind of like electricity, silently functioning in the background.

When networks don't work, businesses grind to a halt. Because with everything in the cloud, networks are the gateway to what employees need to do their jobs.



To really own the responsibility of keeping the network running, there are three things a successful MSP needs to do:

- Know about network problems before their clients do.
- Provide strategic guidance to evolve the network to meet their client's business needs.
- Minimize network risk to the business.

Simple to say. Really hard to do in a way that doesn't kill your profit margins.

That's because network management is messy. It usually involves time-intensive manual tasks. Like typing commands into a CLI. Manually drawing network maps. Backing up device configs by hand.

What's worse, there are few standards—thousands of device models from hundreds of vendors, all running different operating systems and working in different ways.

And staff who can manage all that network complexity for you? They can be hard to find and keep.

But now... there's Auvik. Auvik's cloud-based software reduces the complexity of managing a network to simple, automated steps.

With Auvik, you'll know about network issues before your clients do. You can give clients strategic guidance to evolve their networks to meet their business needs. And you'll reduce network risk.

All in a way that's efficient, productive, and profitable for you.

Auvik is network management for MSPs. Own the network.

www.auvik.com/nv18