



Businesses at Work



Table of contents

02	Introduction	40	Workflows
03	Summary of key findings	41	Growth in Workflows, by industry
05	Methodology	43	Most popular Workflow connectors
06	Categories at work	45	Growth of Workflows template categories
07	App category growth	48	Authentication and security
11	App category growth, by industry	49	Most popular security tool categories
13	App category growth, by country and region	51	Most popular types of factors
16	Fastest-growing apps	55	Factor groupings, by industry
18	The 50 most popular apps of 2023	57	Fastpass and device policies
21	Most popular apps, by company category	58	Passwordless authentication, by device type
23	Fastest-growing apps	59	Passwordless authentication, by country
25	Fastest-growing apps, by company category	61	Passwordless authentication, by industry
27	Fastest-growing apps, by industry and region	63	Risk, behavior, and device policies
32	The best tools for the job	66	Conclusion
33	Average number of apps		
36	Battle of the bundles		
37	The rise of best-in-breed apps		
39	Apps for Good		



A new era demands new tools

It's been quite a year for the workplace. AI became a mainstream tool with the rise of ChatGPT. Automation eased some (but certainly not all) routine work. And companies grappled with a rapidly evolving regulatory landscape. Organizations took all of this into account as they selected new tools to stay competitive and minimize risk. So, which apps ended up on top?

Enter Vanta and Drata, two of our fastest-growing apps this year, both of which support organizations in ensuring that their vast troves of data remain secure and compliant. This marks the first time data compliance tools have cracked our top 10 fastest-growing apps. Their remarkable growth makes sense as companies navigate new regulations to keep data secure.

Also noteworthy? We see that companies are ramping up Okta Workflows for operational maintenance, lifecycle management, and security tasks. The average number of apps per company is on the rise again after a multi-year pause. And organizations are doubling down on security by adopting higher-assurance factors, such as security keys and biometrics.

For this report, as in years past, we analyzed anonymized data from Okta's more than 18,800 global customers and the [Okta Integration Network](#), which includes more than 7,000 integrations with cloud, mobile, web apps, and IT infrastructure providers. Each year, we slice this unique dataset in multiple ways, including by region, industry, and company size. This year includes a special look at top apps used by tech startups and Fortune 500 giants.

These are just a few of the top trends. Let's dive headfirst into our 2024 Businesses at Work report and take a good, long look at which apps and tools are succeeding and thriving (and why).

On to the data!

Summary of key findings

Categories at work

Which app categories are climbing in popularity? We have a couple of new champs this year. Legal tools grew the fastest by number of customers, with impressive 35% YoY growth. Business supplies, last year's second-fastest-growing category by number of unique users, grew 63% YoY to seize the gold medal.

Silver medals go to familiar faces. Travel, last year's top category, is still going places; the sector earns second place in year-over-year (YoY) growth by unique users with 38%. Second place by number of customers goes to design software, with 18% YoY growth.

While video conferencing tools have been hot over the past few years, that category is now cooling across the board. New entrants to the growth quadrant include electronic signature tools, posting 25% YoY growth in unique users, and content collaboration with 13%. Government, education, and nonprofit sectors all increased app deployment significantly this year. Cloud platforms, developer tools, and project management tools all show strong growth across multiple industry sectors.

Fastest-growing apps

For the first time, data compliance tools rock our world. Among the fastest-growing apps, Vanta takes the gold with a whopping 338% YoY growth in the number of customers deploying it through the OIN, and Drata claims sixth place with 91% YoY growth. Meanwhile, Twilio SendGrid (59% YoY growth) tops tech startups' fastest-growing list, and Okta's Fortune 500 customers are adding Zscaler (17% YoY growth).

Another first: Looking at our most popular apps by number of customers, Google Workspace has grabbed the No. 2 spot behind Microsoft 365. Tech startups rank Google Workspace as their most popular app, followed by AWS. Fortune 500 companies rank Salesforce No. 2, also behind Microsoft 365.

Among our 50 most popular apps by number of customers, our top-of-the-charts growth leaders are 1Password (39% YoY growth in customers) and Amazon Business (89% YoY growth in unique users). The growth quadrant, where overachieving apps show high growth by unique users and number of customers, gains some new entrants: Tableau, DocuSign, Oracle NetSuite, and Google Workspace. However, there's one notable winner: Snowflake is the only app to rank as a growth leader among tech startups, Fortune 500 companies, and all customers.

Best tools for the job

After a few years of slow growth in the average number of apps deployed by organizations, we're seeing a jump to 93 this year, up 4% from 89 a year ago. Large companies with ≥ 2000 employees lead the way, with an impressive average of 231 apps each.

Companies are continuing to add best-of-breed apps to their ecosystems. Among Okta's Microsoft 365 customers:

- 45% also deploy Google Workspace, up from 42% last year.
- 38% also deploy Slack, up from 36% last year.
- 61% of tech startups deploy AWS, a rate that's 13 percentage points higher than that of all companies.

In addition, the results are in for Okta's Apps for Good initiative, which is thriving despite the challenging economy. In all, 1.8 million users have been assigned to these apps that enable companies and employees to donate time, money, and expertise, representing a 13% YoY increase.

Workflows

We're seeing record growth in the use of Okta Workflows, which allow customers to automate Identity management processes at scale. The tech sector has the overall highest Workflows adoption, with 36% YoY growth in the number of accounts. Workflows connectors are especially popular for collaboration apps, and Slack is the most popular Workflows connector by number of customers.

Among Workflows templates, those that automate operational tasks and maintenance lead the way, with 78% YoY growth in number of customers.

Compliance and security

Over the past year, companies have substantially increased their deployment of data compliance tools (120% YoY growth). This category far outpaces the second fastest-growing category, security training tools (19% YoY growth). Organizations continue stepping up their authentication game, many ditching those unloved (and low-assurance) security questions in favor of higher-assurance factors like security keys and biometrics. Okta Verify use is growing across the board, especially among tech startups. Among companies using Okta's passwordless authenticator FastPass, the average number of authentications per account is higher on Windows than MacOS. However, passwordless authentications on Mac are more likely to include biometrics (23%) than Windows (16%).

We look at three buckets of policies: risk policies that focus on the network, behavior policies that focus on the user, and device trust policies. The YoY growth of device trust outpaces the growth of risk and behavior policies. The largest growth is among the tech sector, where the number of customers deploying device trust policies grew 33% YoY.

Methodology

How we created this report

To create our [Businesses at Work reports](#), we rely on aggregated, anonymized data from our customers. This data is based on a network of thousands of companies, applications, and IT infrastructure integrations and millions of daily authentications and verifications from countries worldwide. Our customers and their employees, contractors, partners, and customers use Okta to securely log in to devices, websites, apps, and services and to leverage security features to protect their sensitive data. They span every major industry and vary in size, from small businesses to some of the world's largest organizations, with hundreds of thousands of employees and millions of customers.

The data in this report only represents Okta's customers, the applications and integrations they authenticate to through the Okta Integration Network, and how users access these tools through our service. This report uses the terms “app” and “tool” to refer to applications, services, and integrations available through the Okta Integration Network. The trends we describe for Okta's Microsoft 365 customers may differ from those of Microsoft 365 customers that don't use Okta (i.e., those using Azure Active Directory or other Identity platforms that don't provide strong cross-app integration support).

Each year, we look at app popularity in three different ways. Most charts present the number of customers that have deployed apps from the Okta Integration Network. A few charts look at the number of active unique users, defined as users who have logged in to an app via Okta at least once in the past 30 days. In our [Apps for Good section](#), we count users assigned, defined as users with access to the application. Across all charts, apps must

meet a standardized minimum number of customers to be included.

We've worked carefully to standardize our data. Unless otherwise noted, this report presents and analyzes data from November 1, 2022, to October 31, 2023, which we refer to as “this year,” “today,” and “in 2023.” When we refer to “last year” or “in 2022” we mean data from November 1, 2021, to October 31, 2022. “2021” refers to the same period in its respective year.

When referring to company size, Okta uses the terms “tech startups” and “startups” to refer to companies in the technology sector with 100 or fewer employees. “Fortune 500 companies” refers to Okta customers on the Fortune 500 list of top companies.

We use the term “Workforce Identity” to signify Okta customers deploying Okta services to their employees. Okta also offers products that allow Workforce and Customer Identity use cases in the same environment. We exclude these products when we discuss Workforce Identity in isolation. In instances where our data is limited to Workforce Identity, we make note of this.

The authentication data shared in the [FastPass section](#) is based on one year of cumulative data from Workforce Identity customer device-based authentications through Okta FastPass.

Unless otherwise specified, the data included in this report is limited to Okta customers who have deployed at least one app to users through the Okta Integration Network. Also, unless otherwise noted, this report looks at apps deployed for corporate use. This report focuses exclusively on Okta data and does not include Auth0.

Categories at work

Looking at the year's most popular app categories provides a great snapshot of what companies are up to. The data makes it clear they're doing a lot: signing more deals, stocking up their home offices and office-offices, hitting the highway, and putting a whole lot of effort into making their products and businesses look great. And, of course, they're still making every effort to keep their businesses as safe as possible.



Legal, travel, and business tools fly high

In a tight economy, businesses need every edge they can get. There's no time for deals or contracts to get hung up in legal. So, as we look across the most popular app categories, it's no surprise that legal tools have locked up a win, claiming by far the highest growth by number of customers (35% YoY) and substantial 34% YoY growth by number of unique users. Apps including [Ironclad](#), [LexisNexis](#), and [LegalZoom](#) drive this remarkable growth story. (Fun fact: Ironclad contract management software was our eighth-fastest-growing app in 2022.)

We see businesses are still out there mingling with colleagues and clients. The post-pandemic bounce in travel is alive and well, with the travel category coming in at No. 2 for growth by number of customers. Travel was last year's top growth leader, with 43% YoY growth in customers and 197% YoY growth in unique users. And travel's still growing, posting a respectable 17% YoY growth in customers and 38% YoY growth in unique users. This marks four consecutive years of above-average growth for the travel category — a story that's definitely worth writing home about.

Business supplies, last year's second-fastest-growing category, slows a bit this year but reports a still-impressive 17% YoY growth in customers and 63% YoY growth in unique users. Likewise, design software, among the fastest-growing

app categories for the past six years, is tapering off. The category's growth has slowed to a more modest 18% YoY in customers and 23% YoY in users this year, down from last year's 31% YoY growth in customers and 60% YoY growth in users.

Some new entrants to the growth quadrant on this year's top categories chart demonstrate the ongoing success of categories that first blossomed during the pandemic remote-work era. New top category entries include electronic signature, with 12% YoY growth in customers, and content collaboration, with 9% YoY growth in customers. Acknowledging the constant need to keep systems running on-prem and remotely, we also see networking and infrastructure becoming a growth-leading category this year, with 9% YoY growth in number of customers and 15% growth in unique users. We're also thrilled that Apps for Good is rising to the occasion with 35% YoY growth in unique users. It's always refreshing to see more people forging a connection with their communities by donating and volunteering.

This year, for the first time, we look at how tech startups (defined as companies in the tech sector with 100 or fewer employees) and Fortune 500 companies behave.

Tech Startups

Last year, travel was the overall growth leader by number of customers and unique users. This year, tech startups rank travel in the same first-class seat. Travel posts 40% YoY growth in number of customers and 79% YoY growth in unique users. When they're not hitting the road, startups are ramping up business in the office, with business supplies, analytics, security, electronic signature, cloud platforms, and design software all placing in the growth quadrant this year, posting high growth rates in both numbers of customers and unique users.

Sales and marketing tools are growing more quickly among startups than among all companies, with 15% YoY growth by customers and 31% by unique users — a testament to the hard work required to help a growing young company stand out from the pack. E-learning posts an impressive 64% YoY growth in unique users, placing it second behind travel.

Fortune 500

Fortune 500 companies love developer tools and design software, which are the only app categories to make the growth quadrant for these larger companies.

Project management and video conferencing are the fastest-growing categories by number of customers and unique users, respectively. Project management comes in at 13% YoY growth in customers and 15% YoY growth in unique users. Video conferencing grew its customer base by just 1% YoY, but saw 34% YoY growth in unique users.

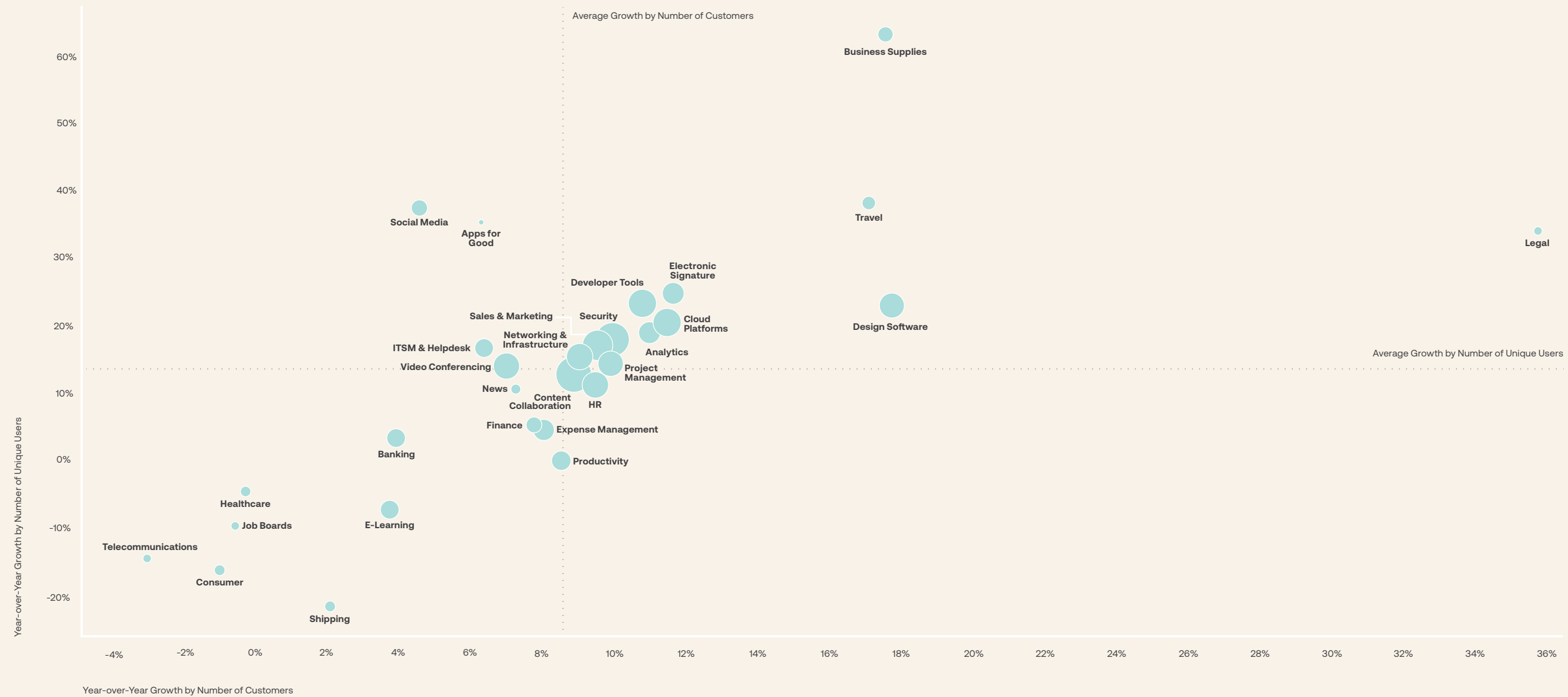
Fortune 500 companies are adding design software (9% YoY growth by number of customers), and IT and service management (ITSM) and helpdesk (8% YoY). These global firms are also increasing their reliance on cloud platforms and electronic signature tools, as evidenced by growth in unique users across those categories (32% and 27% YoY growth, respectively).

And Okta's Fortune 500 customers are keeping their perimeters tight: Security tools rank as the most popular category by number of customers, despite being a mature category, increasing unique users by 15% YoY.

“

New top category entries include electronic signature, with 12% YoY growth in customers, and content collaboration, with 9% YoY growth in customers.”

Growth of app categories



Note: In this view of app usage, we count the number of customers deploying one or more apps or tools in each category.

This acceleration matrix captures the YoY percentage growth by number of customers (x-axis) and unique users (y-axis). The top-right quadrant is where our growth leaders sit. The top-left and bottom-right quadrants show above-average growth by number of unique users (top left) and by number of customers (bottom right). We rank categories by number of customers and reflect this in the relative sizes of the light blue circles.

App category growth, by industry

Government and nonprofits fill their toolboxes

When we review which industries are investing most heavily in specific app categories, some interesting stories start to take shape. Design software — last year’s hot category — continues trending this year. Design software boasts 29% YoY account growth among nonprofits and 27% YoY growth among the government and energy sectors. Last year, design software’s growth was driven largely by transportation and warehousing; insurance, healthcare, and pharmaceuticals; arts, entertainment, and recreation; and construction, engineering, and architecture. But it’s no surprise design software is making the rounds — good design is infectious!

Beyond design, cloud platforms, developer tools, and project management all show strong growth across multiple industry sectors. This year, education posted 23% YoY growth in cloud platforms, and the government sector racked up 21% YoY growth in project management. Developer tools showed solid growth across education, government, and energy.

Looking across industries, the government sector stands out for increasing app deployment in multiple categories at a higher-than-average rate. Government investments in HR tools claim the highest increase of any individual category on this chart, with 30% YoY growth. Education is similarly adding apps across categories at a higher rate than other industries, while retail and construction, engineering, and architecture are adding apps at a slower pace.

Interestingly, the infatuation with video conferencing tools, which had grown significantly since our 2021 report, is finally waning. Fewer industries are posting growth in deployment of these tools this year, perhaps reflecting a return-to-office movement that’s finally taking hold across industries. The construction, engineering, and architecture category, in fact, shows a 2% decline YoY in its use of video conferencing. The peak YoY growth for video conferencing comes from education at 16% and nonprofits at 12%. This leaves video conferencing as the only category that doesn’t break 17% YoY growth within any sector.



Government investments in HR tools claim the highest increase of any individual category ... with 30% YoY growth.”

App category growth, by industry

	Cloud Platforms	Content Collaboration	Design Software	Developer Tools	HR	Networking and Infrastructure	Project Management	Sales and Marketing	Security	Video Conferencing
Arts, Entertainment, and Recreation	15%	18%	20%	14%	15%	6%	19%	12%	11%	4%
Construction, Engineering, and Architecture	9%	2%	10%	-4%	2%	1%	3%	9%	9%	-2%
Education	23%	11%	18%	18%	11%	18%	14%	8%	14%	16%
Energy, Mining, Oil, and Gas	9%	5%	27%	23%	5%	8%	22%	2%	-4%	8%
Finance and Banking	9%	7%	20%	7%	7%	7%	13%	7%	6%	2%
Government	19%	18%	27%	18%	30%	18%	21%	18%	14%	10%
Healthcare and Pharmaceuticals	15%	8%	19%	9%	14%	11%	12%	9%	10%	5%
Insurance	9%	8%	20%	16%	20%	8%	10%	11%	9%	3%
Manufacturing	12%	8%	15%	17%	4%	11%	10%	8%	10%	4%
Media and Communications	10%	7%	15%	10%	11%	11%	11%	10%	7%	5%
Nonprofit	12%	18%	29%	17%	17%	16%	19%	13%	18%	12%
Professional Services	13%	6%	16%	10%	7%	7%	7%	10%	9%	7%
Real Estate, Rental, and Leasing	7%	-2%	11%	10%	3%	5%	8%	3%	3%	0%
Retail	5%	4%	12%	3%	5%	5%	6%	5%	5%	5%
Technology	9%	7%	16%	8%	8%	5%	7%	9%	9%	6%
Transportation and Warehousing	24%	8%	23%	15%	16%	13%	8%	9%	9%	8%
Wholesale Trade	8%	8%	11%	12%	7%	19%	12%	7%	10%	5%

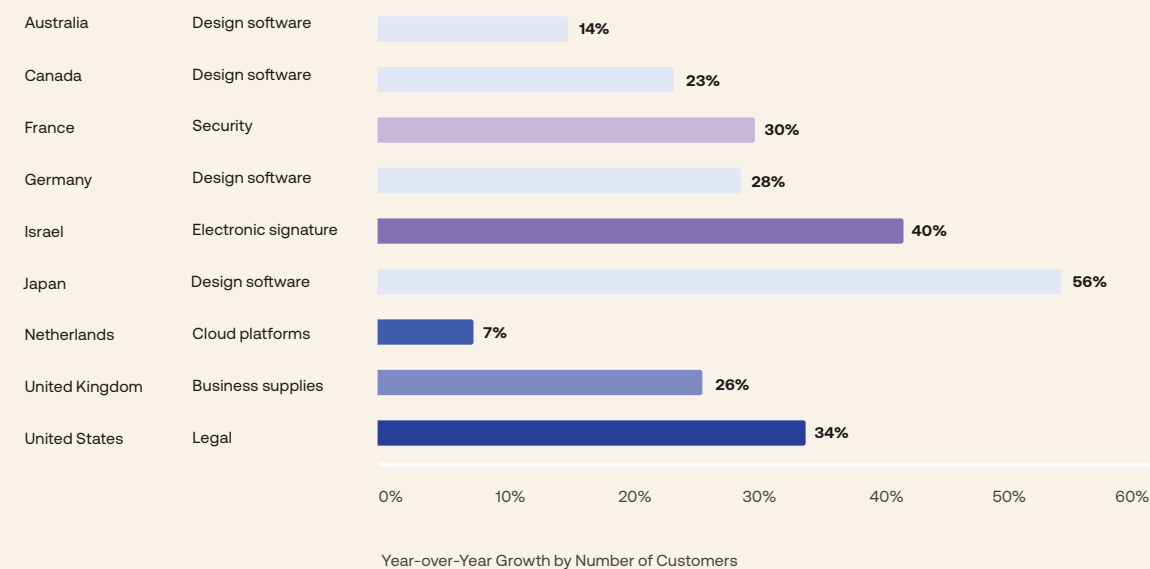


App category growth, by country and region

Design software is trending around the world

It's a virtual game of musical chairs for the fastest-growing app categories by country. Last year, design software was the fastest-growing app category in Australia and the UK. This year, it's the fastest-growing category for Japan (with 56% YoY growth), Canada, Germany, and Australia (again). Design software has the highest growth rate among all app categories here. Last year, the Netherlands, France, and Japan made developer tools their fastest-growing category. This year, developer tools didn't earn a spot on any country's list. On the flip side, business supplies, security, and cloud platforms didn't rank last year, but they're on the list this year. In fact, business supplies is the fastest-growing app category for the UK, with 26% YoY growth. France is all in on security, with 30% YoY growth, and the Netherlands favors cloud platforms, with 7% YoY growth.

Fastest-growing app categories by country





Fastest-growing apps

For years, we've ranked apps based on their popularity by number of customers. The top of our list tends to stay consistent over time as great apps find their groove and dig in in a way that's hard to displace. So, you can imagine our surprise seeing [Google Workspace](#) bust a big move in 2023 and leapfrog [AWS](#) to seize the No. 2 spot in the app popularity ranks. (Google Workspace had risen up the list but hovered at third overall by number of users for two years, behind AWS and leader [Microsoft 365](#).)



“

Among our 50 most popular apps by number of customers, our top-of-the-charts growth leaders are 1Password and Amazon Business — the fastest-growing apps by number of customers and number of unique users, respectively.”

The 50 most popular apps of 2023

Top of the charts

You know those countdowns of the top songs of the year that annoyingly start at the bottom and make you listen forever to get to No. 1? Well, we're a lot more considerate than that, and we're not going to keep you in suspense. Among our 50 most popular apps by number of customers, our top-of-the-charts growth leaders are 1Password and [Amazon Business](#) — the fastest-growing apps by number of customers and number of unique users, respectively. 1Password logged 39% YoY growth in customers, while Amazon Business racked up 89% YoY growth in unique users.

Last year, [Figma](#) (80% YoY growth by customers) and [Sentry](#) (128% YoY growth by unique users) held those top spots. Interestingly, the rate of growth in app adoption across the board this year is only about half of that in last year's report, whether measured by number of customers or number of unique users. Good news for Figma and Sentry: They maintain enough YoY growth to feature prominently in the growth acceleration quadrant.

While the overall rate of growth in app uptake may have slowed among our top 50 apps, the growth quadrant this year has gained a number of new entrants: [Tableau](#), [DocuSign](#), and [Oracle NetSuite](#) are each making their first appearance in the top right. And one unexpected guest crashing the growth quadrant party is Google Workspace. We're not used to a cloud-based productivity suite with a large user base showing up as a growth leader, but Google Workspace found a way to grow its customers by 15% YoY and its unique users by 16% YoY. (As we mentioned, Google Workspace climbed the app popularity ranks to claim the No. 2 overall spot by number of users, behind only Microsoft 365, which explains its appearance as a growth leader).

Tech startups and Fortune 500

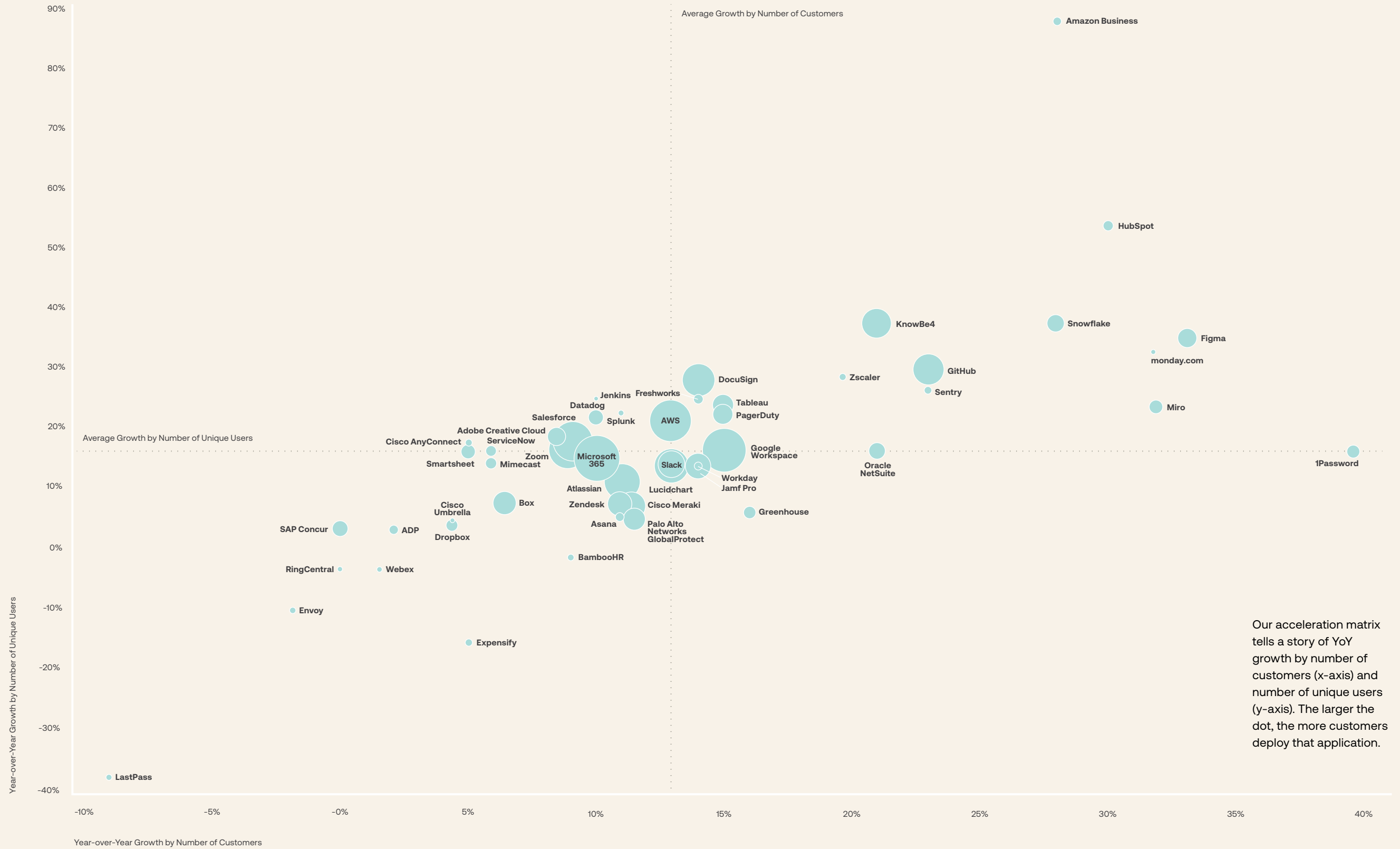
When we slice the data by these two categories, we see more major differences. Among tech startups, [Twilio SendGrid](#) leads in YoY growth by number of customers (61% growth); this is a much higher growth rate than we see among the growth leaders when we look at all customers. [Snowflake](#) ranks No. 2 here this year, racking up 53% YoY growth in customers. [HubSpot](#) is our leader in growth by unique users, with 106% YoY growth.

The growth quadrant among tech startups looks much different from that of all companies. [Notion](#) and [Lattice](#) join Twilio SendGrid in the growth quadrant among startups, though they don't appear yet in the overall customer growth quadrant.

The rates of app-adoption growth among Fortune 500 companies tend not to be as high as among startups: These large global companies are typically well armed with the specific tool sets they need and can be quite selective when choosing apps to add. The entrants to the Fortune 500 growth quadrant this year are [Zscaler](#), [GitHub](#), [Snowflake](#), [Zoom](#), and [Splunk](#). Among the Fortune 500, Zscaler reports 17% YoY growth in customers and 30% YoY growth in unique users, while GitHub reports 11% YoY growth in customers and 49% YoY growth in unique users.

Snowflake is special indeed — it's the only tool to rank as a growth leader among all customers, startups (53% YoY growth in customers, 85% in unique users), and Fortune 500 companies (8% YoY growth in customers, 43% YoY growth in unique users). A trifecta!

Growth of the 50 most popular apps



Most popular apps, by company category

Startups' top tools are Google Workspace and AWS

It's a question as old as time: If you were stranded on a desert island and could only bring three apps, which three would you bring? Judging by our top 15 results, your chosen survival tools depend on what stage of growth your company is in. There's a good deal of variation in the top 15 most popular apps, depending on whether we're looking at tech startups, Fortune 500 companies, or the general all-companies view.

Tech startups sail their own course: Startups' two most popular apps are Google Workspace and AWS, putting long-time overall leader Microsoft 365 in third. [Slack](#) and [Zendesk](#) rank much higher among tech startups than among all companies, and [Figma](#) joins the startups' top apps list as well. No surprise there; it's a cloud-collaboration world for startups.

The Fortune 500 rely heavily on tools that don't register on the all-companies top 15 list, including [ServiceNow](#), [Snowflake](#), [Workday](#), [Splunk](#), [Palo Alto Networks GlobalProtect](#), and [Zscaler](#). For the Fortune 500, the most popular app is Microsoft 365, followed by [Salesforce](#) and AWS. Meanwhile, Google Workspace and Zoom rank higher among all companies and startups than they do among the Fortune 500s.

Developer tools appear among the top 15 across the board, with the Atlassian Product Suite and GitHub ranking as the two most popular developer tools in all three views. Not surprisingly, developer tools rank higher on the tech startup list than on the lists of more established companies. (After all, every startup is born swaddled in a warm blanket of bright, shiny new code.) Startups add [PagerDuty](#) and [Datadog](#) to their top apps list, while the Fortune 500 prefer Splunk.

Each of these segments has some security tools on their list. While [KnowBe4](#) makes its appearance in the overall list, [1Password](#) is the top security app among startups. Fortune 500 companies, on the other hand, favor [Palo Alto Networks GlobalProtect](#) and [Zscaler](#).

Most popular apps

Overall	Tech Startups	Fortune 500
1 Microsoft 365	1 Google Workspace ▲	1 Microsoft 365
2 Google Workspace	2 AWS ▲	2 Salesforce ▲
3 Amazon Web Services (AWS)	3 Microsoft 365 ▼	3 AWS
4 Salesforce	4 Slack ▲	4 ServiceNow ▲
5 Zoom	5 Atlassian Product Suite ▲	5 Atlassian Product Suite ▲
6 Atlassian Product Suite	6 Zoom ▼	6 Workday ▲
7 Slack	7 Salesforce ▼	7 Snowflake ▲
8 DocuSign	8 GitHub ▼	8 GitHub ▲
9 GitHub	9 Zendesk ▲	9 Splunk ▲
10 KnowBe4	10 DocuSign ▼	10 Palo Alto Networks GlobalProtect ▲
11 Cisco Meraki	11 Datadog ▲	11 Zscaler ▲
12 Lucidchart	12 PagerDuty ▲	12 Zoom ▼
13 Jamf Pro	13 1Password ▲	13 Slack ▼
14 Zendesk	14 HubSpot ▲	14 Google Workspace ▼
15 Box	15 Figma ▲	15 Lucidchart ▼

▲ Higher Rank than Overall ▼ Lower Rank than Overall

Data compliance tools top the list of must-have apps

Fastest-growing apps by customers

For the first time, data compliance tools join our list of fastest-growing apps, with two entrants.

- [Vanta](#) is the overall leader, reporting 338% YoY growth in customer deployments. This is the highest growth rate since Jamf’s 389% YoY growth in 2017.
- [Drata](#) ranks 6th on our list with 91% YoY growth. (Drata is an [Okta Ventures](#) portfolio company.)

Why is the data compliance category suddenly jumping into the fastest-growing list? Organizations must navigate an increasingly complex and ever-evolving regulatory landscape. We also see a possible connection to the wide-scale deployment of automation and AI tools, which generate exponentially large volumes of data.

Other fastest-growing apps come from sales and marketing ([ZoomInfo](#)), expense management ([Ramp](#)), design software ([Canva](#)), and travel ([TravelPerk](#)). Prospecting tool ZoomInfo is the first sales and marketing tool we’ve had since [Gong](#) appeared on our charts in 2022, bringing us to a grand total of only two sales and marketing tools ever to grace the fastest-growing list. The travel category continues to be on the move: This is the third year with a travel app in our top 10 — [Navan](#) took that honor for the past two years, and this year TravelPerk has its moment in the sun.

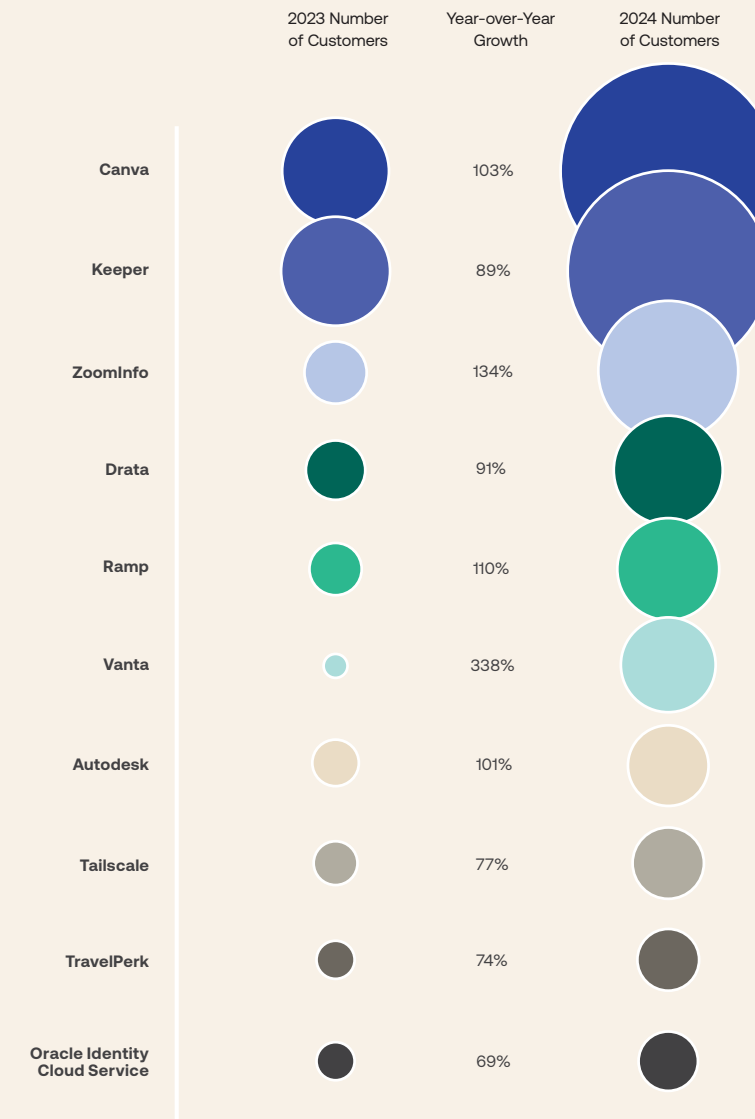
Three security tools rank among the top 10 fastest-growing apps: Password manager Keeper, network manager [Tailscale](#), and ID-proofing solution [Oracle Identity Cloud](#). Keeper is the only app to have ranked in our top 10 previously (two years ago), giving us nine apps that reflect companies’ changing priorities.

Fastest-growing apps by unique users

The growth story changes a bit when we consider growth by unique users, where all 10 top apps at least doubled their unique user base, and some grew by quite a bit more. Many of the tools on this list appear on the growth by customers list. Design tool Canva leads the list, with 853% YoY growth by unique users. Sales and marketing tool ZoomInfo comes in second with 680% YoY growth, and Vanta takes third with 602% YoY growth.

[Vimeo](#) makes an appearance in the ranks of growth by unique users, arriving in fifth place with 186% YoY growth. This is the highest growth in unique users among social media apps. Other apps that appear exclusively on our unique users chart include endpoint management and security tool [VMWare Workspace ONE](#), coming in at No. 8 with 175% YoY growth in unique users, and developer tool [Grafana](#) in ninth with 173% YoY growth.

Fastest-growing apps by number of customers



Note: The original chart was updated to contextualize growth rates with each app's customer base, represented by circle size.

Fastest-growing apps, by company category

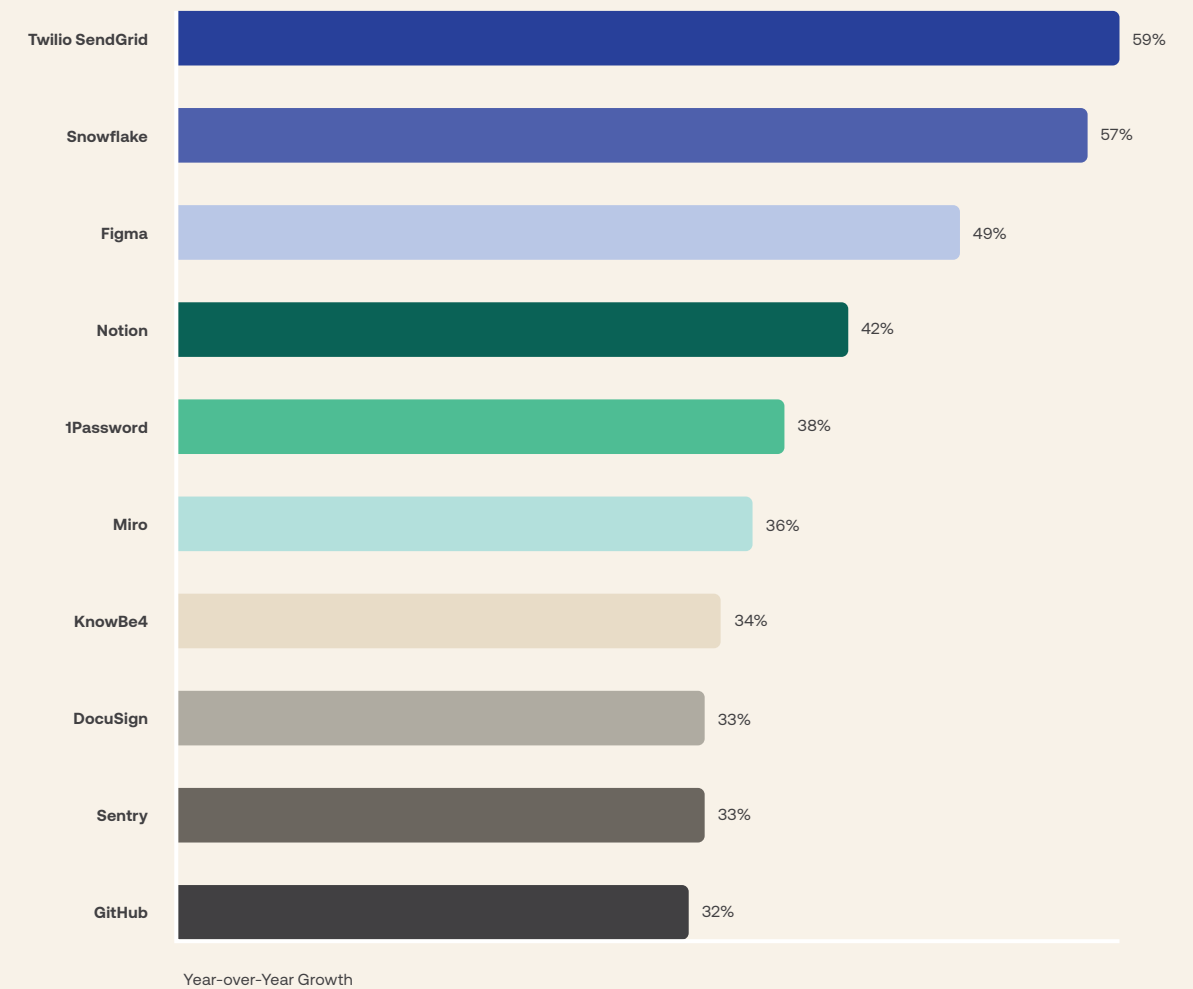
Tech startups reach for email while the Fortune 500 scale up security

Looking at the fastest-growing apps for narrower slices of the all-companies list — specifically for tech startups and Fortune 500 companies — reveals some intriguing differences. This year, startups are primarily focused on expanding their marketing, data analytics, collaboration, security, and app development tool stacks. Interestingly, there's no overlap between the apps in startups' fastest-growing apps list and the all-companies list. However, 80% of the fastest-growing startup tools appear in the growth quadrant of the top 50 apps among all customers.

Among startups, two of the top 10 are security apps: 1Password and KnowBe4. Among Fortune 500 companies, security tool Zscaler, which grew by 17% YoY, is the overall fastest-growing app.

Fortune 500 companies have spent years building up their toolboxes, so it's no surprise they aren't adding apps as quickly. It turns out the apps they're adding are popular across companies of all sizes. No. 1 Zscaler is followed by developer tool [GitHub](#) (11% YoY growth) and data warehousing app [Snowflake](#) (8% YoY growth). [Workday](#) (6%), Zoom (5%), and Splunk (5%) round out the Fortune 500's fastest-growing apps.

Fastest-growing apps among tech startups



Fastest-growing apps, by industry and region

Collaboration and security lead the way among industries, regions, and countries

Industries' focus can change faster than you think: Only three apps — KnowBe4, AWS, and Microsoft 365 — rejoin our fastest-growing apps by industry list this year. Here, as with the all-companies rankings, tech is putting an emphasis on data compliance with Vanta and on sales and marketing with ZoomInfo.

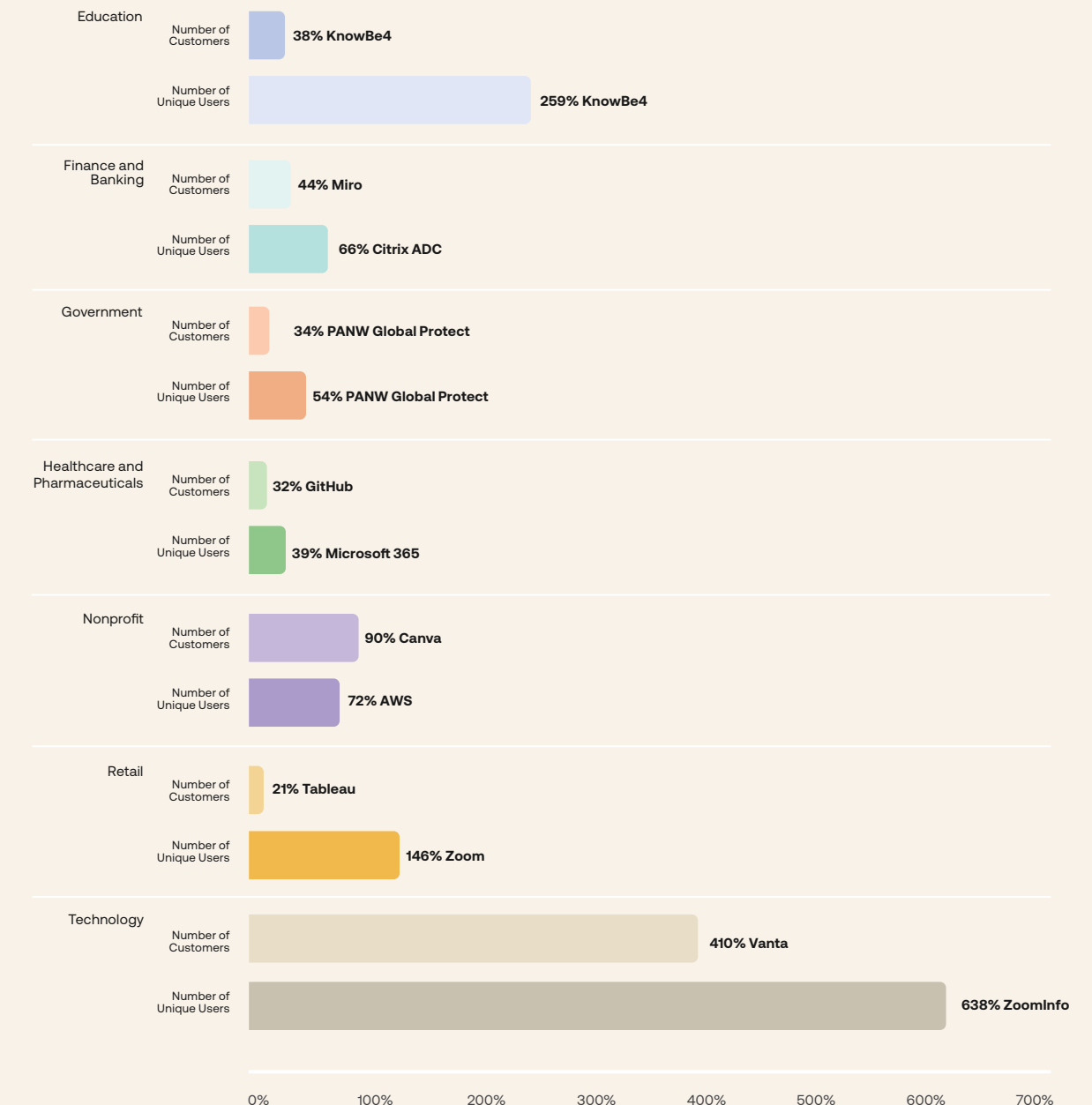
Specifically, we're seeing a renewed emphasis on collaboration among our featured industries, with five apps that help teams work together. Nonprofits and finance and banking are both designing a better future, with design tools Canva and Miro, respectively, as their fastest-growing apps by number of customers. And unique users among nonprofits are jumping into AWS. Retail is conferencing more via Zoom, and exploring their data with Tableau. Healthcare and pharmaceuticals professionals are leveraging Microsoft 365.

Meanwhile, different industries are investing in different security tools. Education is putting a people-first spin on security, with training tool KnowBe4 taking the top spot by number of customers and unique users. And government organizations are securing mobile workforces with Palo Alto Networks GlobalProtect, the growth leader both by number of customers and by unique users.

“

We're seeing a renewed emphasis on collaboration among our featured industries, with five apps that help teams work together.”

Fastest-growing apps by industry



Fastest-growing apps, by region

Region	Year-over-Year Growth by Number of Customers	Year-over-Year Growth by Number of Unique Users
--------	--	---

AMER	Vanta 339%	ZoomInfo 647%
------	-------------------	----------------------



EMEA	Keeper 83%	Hubspot 83%
------	-------------------	--------------------



APJ	Snowflake 60%	Slack 25%
-----	----------------------	------------------



This year's list of fastest-growing apps by region has virtually nothing in common with last year's list. Last year, two security apps ([Netskope](#) and [Zscaler](#)) led the way by number of unique users in North America and APJ, respectively. This year, only EMEA ranks a security tool as their fastest-growing app by number of customers.

Vanta is North America's fastest-growing app, with 339% YoY growth by number of customers. EMEA ranks Keeper at the top of its list, with 83% YoY growth. Users in North America and EMEA share a focus on sales tools, with North America choosing ZoomInfo (647% YoY growth by unique users) and EMEA choosing Hubspot (83% YoY growth).

APJ is focused more on data and collaboration. Snowflake leads the way by number of customers, with 60% YoY growth, while collaboration app Slack is growing by 25% YoY by unique users.

The fastest-growing apps by country list serves up an intriguing smorgasbord of delights. Last year, four countries (France, the Netherlands, Germany, and Japan) ranked Google Workspace as their fastest-growing app by number of customers. This year, all but the Netherlands have moved on to favor other tasty apps.

Vanta places highest in the U.S., with 320% YoY growth, while 1Password leads with 63% YoY growth in the UK. Salesforce is this year's most popular tool in Israel and Japan. AWS leads the way in France, while neighboring Germany is leaning into the [Atlassian Product Suite](#). Australia, ever the nonconformist, selects collaboration tool [Miro](#) as its top app, with 43% YoY growth, making it easier than ever to say, "G'day, mate!" to everyone on your virtual team at once.

Fastest-growing apps, by country

Country	Year-over-Year Growth by Number of Customers
---------	--

United States	Vanta 320%
---------------	-------------------



Country	Year-over-Year Growth by Number of Customers
---------	--

France	AWS 40%
--------	----------------



Canada	GitHub 30%
--------	-------------------



Germany	Atlassian Product Suite 24%
---------	------------------------------------



Australia	Miro 43%
-----------	-----------------



Netherlands	Google Workspace 9%
-------------	----------------------------



Japan	Salesforce 34%
-------	-----------------------



United Kingdom	1Password 63%
----------------	----------------------





The best tools for the job

The “So, can we work from home or not?” discussion rages on. While many companies still happily support remote and hybrid work, the tide is shifting in some quarters. According to an August 2023 [report from Resume Builder](#), Goldman Sachs wants employees in the office five days a week, while Google is considering employees’ in-office attendance as part of their performance reviews. Their data tells us that 90% of companies will require employees to return to the office by the end of 2024, but most will not require workers to be in the office five days a week. So, no need to hang up those work PJs yet.

Whether their employees are chatting around the water cooler again or resisting the return-to-office movement, companies need to sweeten the deal to keep top talent happy. And giving employees the best tools to accomplish their tasks is a great place to start. As this year’s data shows, companies are deploying more apps than ever, and an increasing number are deploying best-of-breed apps alongside standard office productivity suites. Employees are gaining increasingly powerful digital tool belts. Many companies are even deploying multiple productivity suites to give workers freedom of choice and supporting work-life balance by offering charitable giving apps to help employees embrace social responsibility.

Average number of apps

Raising the app bar

Call us data nerds — go ahead, we can take it — but when we see a jump in the numbers in a historically quiet category, we get excited. And we're super excited about the average number of apps deployed per company, which grew 4% YoY to 93. A 4% lift may not sound like much, but this figure was 88 based on 2019 data and stalled at 89 for the past two years. The return to growth means companies continue building out their toolboxes, choosing an expanding array of specific best-of-breed tools rather than just making do.

Parsing the data by company size, we can see that large companies (those with 2,000 or more employees) continue to deploy the most apps, with a current average of 231. That's a 10% YoY increase over last year's 211 average. Smaller companies (those with 2,000 or fewer employees) racked up a more modest 4% YoY increase in the average number of apps, rising to 72 apps this year from 69 last year. Tech startups went in hard with 15% YoY growth, deploying an average of 47 apps now vs. last year's 41. (Note

that this data may show apparent year-on-year inconsistencies because companies change in size and move from one designation to another.)

App usage grows across all regions, with EMEA edging out the others with 6% YoY growth. This year, we also dig into country-specific data: Companies in the U.S. and the Netherlands currently deploy the most apps, at an average of 105 and 108 apps, respectively. We see growth across most countries, including double-digit growth in Israel (13%) and Australia (11%). Interestingly, neighboring nations don't always share the same app habits: For example, in the U.S., the average number of apps is 105, but in Canada, it's only 66. French companies deploy 67 apps, up 5% from last year. Meanwhile, across the border in Germany, they're making do with just 55, up 8% over last year. France and Germany have much lower averages than neighboring Netherlands — the only country to show a slight YoY decline in the average number of apps they deploy.



Average number of apps, by region

Region	Average Number of Apps	YoY Change	Region	Average Number of Apps	YoY Change
--------	------------------------	------------	--------	------------------------	------------

ALL	93	4%
-----	----	----



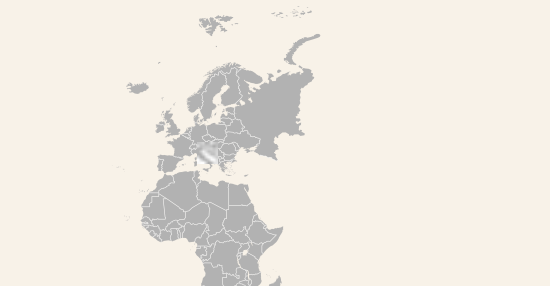
APJ	58	5%
-----	----	----



AMER	103	5%
------	-----	----



EMEA	69	6%
------	----	----



Tech startups

Average Number of Apps	YoY Change
------------------------	------------

47	15%
----	-----

Average number of apps, by country

Country	Average Number of Apps	YoY Change	Country	Average Number of Apps	YoY Change
United States	105	5%	France	67	5%
Canada	66	6%	Germany	55	8%
Australia	80	11%	Netherlands	108	-1%
Japan	35	9%	United Kingdom	70	6%

Battle of the bundles

Google Workspace growth outpaces Microsoft 365

Just as the sun rises in the east and sets in the west, the battle of the bundles continues. This year, the growth of Google’s productivity suite outstrips that of its chief rival, Microsoft 365 (still the leader in overall customer popularity), narrowing the gap between these heavyweights.

Specifically, Google Workspace leads the way in growth by number of customers — as it has in recent years — raking in 15% YoY growth compared to Microsoft 365’s 10% YoY growth. It’s a closer margin than we saw last year, when Google Workspace led Microsoft in customer growth by 11 percentage points. The two bundles are tied for growth by unique users, with both Microsoft 365 and Google Workspace posting 16% YoY growth.

Tech Startups and Fortune 500 Companies

When we examine the companies driving growth for these two premier cloud bundles, it’s no surprise tech startups lead the way. Among startups, Google Workspace is growing more quickly by a small but significant margin, with 18% YoY growth in customers to Microsoft 365’s 14%. The race is tighter among Fortune 500 companies, where both Google Workspace and Microsoft 365 posted 2% YoY growth in customers.

“

We see growth across most countries, including double-digit growth in Israel (13%) and Australia (11%).”

When a bundle just isn't enough

Productivity suites offer a wide range of apps, broad compatibility, and solid, dependable functionality. But for many enterprises, that's not enough to base a business on. And when these companies need more — more functionality, more specialized tools — they turn to more specialized apps that can augment their basic software suites. Our data shows companies continue to deploy best-of-breed apps (apps that dominate their categories for a particular standalone functionality) to expand the capabilities of their productivity suites.

And best-of-breed usage is on the rise. This year, 37% of Okta's customers that use Microsoft 365 also deploy four or more best-of-breed apps — that number's up from 28% just four years ago. AWS, Salesforce, and Zoom, in particular, have reached 47% or higher deployment among Okta customers that deploy Microsoft 365. [Slack](#) usage is also rising, with 38% of Okta customers deploying the app alongside Microsoft 365.

Among our best-of-breed solutions, Zoom and Google Workspace have registered the most impressive growth over time. Zoom deployment by Okta's Microsoft 365 customers has increased 16 points over the past four years, from 32% in 2019 to 48% this year. Popular among Microsoft-running companies of all sizes, Zoom is being deployed by 47% of tech startups and 47% of Fortune 500 companies. Google Workspace deployment has grown nearly as quickly, from 33% four years ago to 45% now. If this rate of growth continues, it won't be long before half of all Okta customers that deploy Microsoft 365 also deploy Google Workspace and/or Zoom. Talk about doubling down!

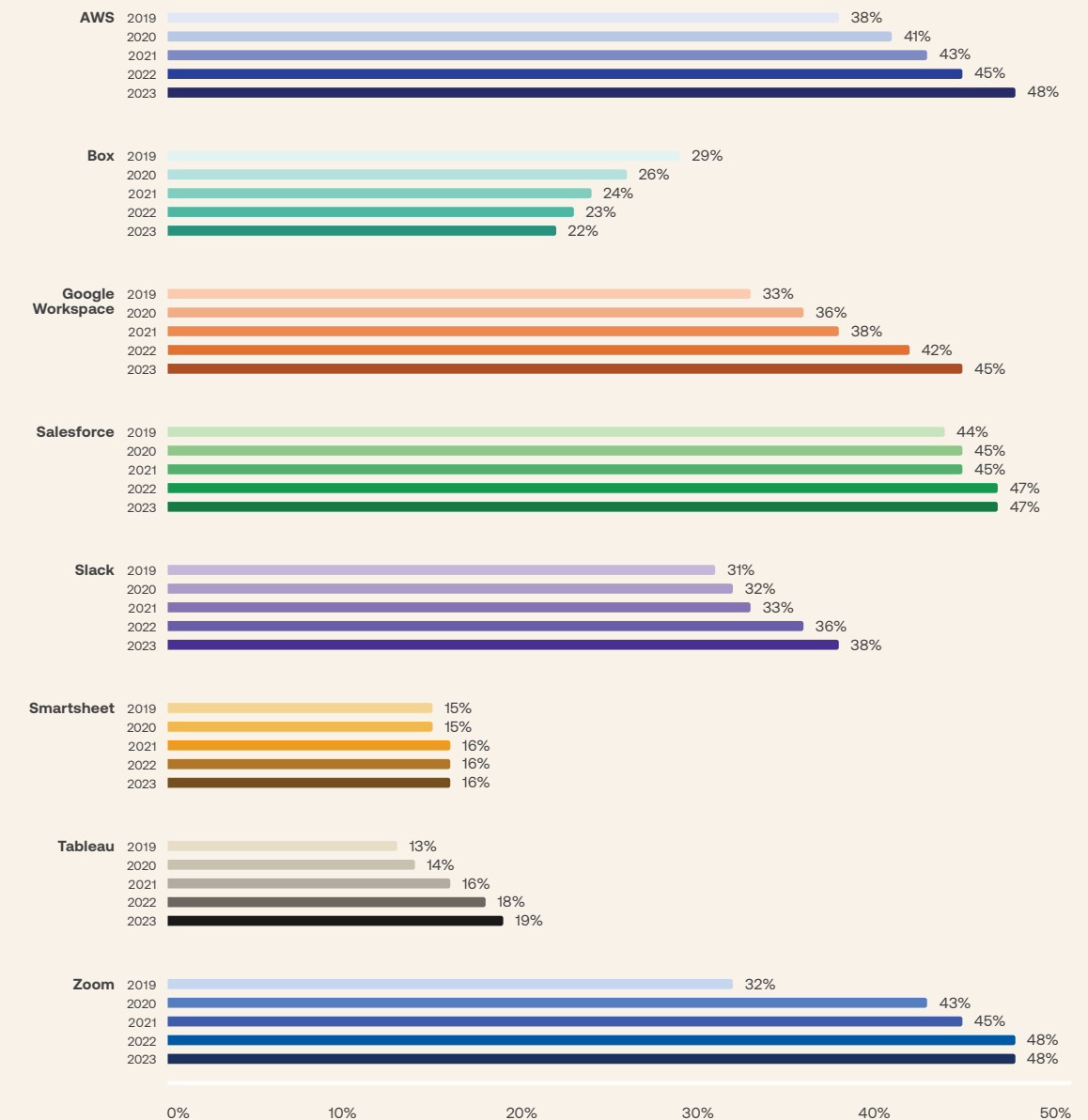
Tech startups and Fortune 500

How does company size affect best-of-breed choices? A full 61% of tech startups deploy AWS alongside Microsoft 365, a rate 14 points higher than that of all companies. The practice of double-bundling — deploying more than one productivity suite — varies among company sizes. Tech startups are double-bundling at a higher rate than any other segment: 64% of startups deploying Microsoft 365 are also deploying Google Workspace. In contrast, Fortune 500 companies are double-bundling at the lowest rate: Only 42% of Fortune 500 companies are deploying both.

Tech startups deploy Slack at a higher-than-average rate: 53% of startups supplement their Microsoft 365 with Slack, while only 44% of Fortune 500 companies do so. Among Fortune 500 companies deploying Microsoft 365, Salesforce is the most popular best-of-breed app. Salesforce boasts a 74% deployment rate, far outstripping the app's 47% deployment rate among all companies.



Okta's Microsoft 365 customers with best-of-breed apps



Hopeful trends in giving, volunteering

Okta's Apps for Good initiative, which makes it easy for companies and employees to donate time, money, and expertise, is thriving. In all, 1.8 million users have access to these apps this year, representing a 13% YoY increase. (Our totals include users assigned at the organizational level and those who chose to add the apps to their Okta dashboards.)

This growth is even more impressive when you consider the trend for the rest of the world, mired in difficult economic conditions, seems to be moving the other way. According to Giving USA's "Annual Report on Philanthropy," individuals, bequests, foundations, and corporations gave nearly \$500 billion to U.S. charities in 2022. That's a large number, to be sure, but a decrease of 3.4% in charitable giving YoY, according to the report.

Volunteering, too, seems to be on the decline. According to the biennial "Volunteering and Civic Life in America" report from the U.S. Census Bureau and AmeriCorps, more than 60.7 million Americans (nearly one in four of us) formally volunteered with organizations between September 2020 and 2021, donating an estimated 4.1 billion hours and an economic value of \$122.9 billion. That's a lot of generosity, but it represents a 7% decrease over the previous year's total.

With Apps for Good on the rise, let's look into the specifics.

Benevity claims the top spot on our list for the third consecutive year. This charitable donation and grant management platform increased the total users assigned by 18% YoY. More than one in four (26%) Okta customers that deploy any App

for Good deploy Benevity. Employee giving and volunteering app YourCause takes second place by number of users assigned. Our third-place app, CareerVillage (which connects high school students to real-world professionals for career advice), grew the number of users assigned by 8% YoY. Impressively, 43% of Okta customers that deploy any App for Good deploy CareerVillage.

While the apps in our Top 10 haven't changed, there has been movement among them. Visit.org, a corporate social responsibility app that emphasizes volunteering, moved up from No. 6 on last year's list to No. 5 this year. The number of users assigned to the app grew by 52% YoY. Meanwhile, Vote.gov, the official voter registration site of the U.S. federal government, is another app on the rise. Vote.gov moved from No. 8 on last year's list to No. 7 this year, and 33% of Okta customers that deploy any App for Good deploy it — perhaps not surprising in an active election cycle.

Most popular giving apps by users assigned

- | | |
|------------------|-------------------|
| 1. Benevity | 6. VolunteerMatch |
| 2. YourCause | 7. Vote.gov |
| 3. CareerVillage | 8. KindLink |
| 4. Bright Funds | 9. Ovio |
| 5. Visit.org | 10. Kiva |



Workflows

As enterprise ecosystems grow more complex, organizations are on the hunt for efficiency solutions they can immediately leverage. Each new hire, vendor, or partner needs to safely access multiple systems and collaborate from any device. Strained HR, IT, and security staff need ways to safely automate functions like customizing employee lifecycles, responding to suspicious behavior, and simplifying IT operations. Automating routine processes takes the burden off team members and enables secure, efficient, seamless collaboration at scale so teams can adeptly tackle more projects.

Workflows have quickly caught on, and this year's data shows deployment growing more quickly than ever. There's a big payoff for getting this right: Bain & Company finds that companies that invest heavily in automation reduce costs and free up staff to do higher-value work. Looking at this year's Okta Workflows data, here's what we discovered.

Growth in Workflows, by industry

Tech leads Workflows adoption

The tech sector always wants to play with the coolest toys, and it's unsurprising they boast the highest adoption of Workflows overall. Tech reports 36% YoY growth in the number of accounts deploying Workflows this year, and the average number of Workflows deployed per account rose from 38 last year to 56 this year. The professional services industry takes second place in the number of accounts deploying Workflows and reports 65% YoY growth and an average of 36 Workflows.

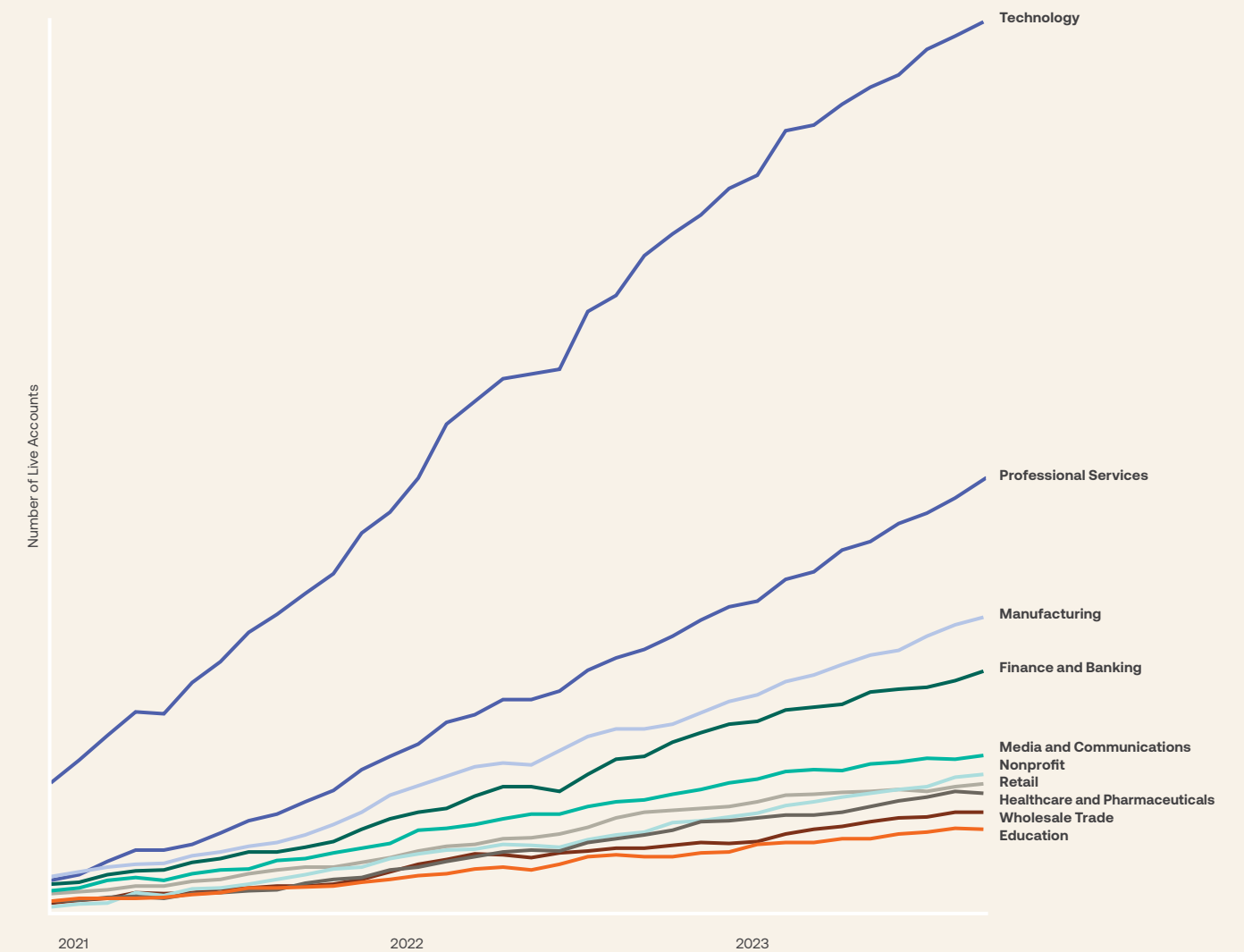
Nonprofits, ranking in the middle of the pack by the number of accounts deploying Workflows, grew an impressive 71% YoY. Finance and banking, healthcare and pharmaceuticals, and education increased the number of accounts deploying

Workflows, by 54%, 53%, and 48% YoY growth, respectively. The ambitious insurance sector is growing faster than all of these top deployers, with a 91% YoY increase in sector companies deploying Workflows. Insurance is also growing in the number of Workflows deployed per account, averaging 45 (up from 40 last year), but the sector didn't quite crack the leading Workflow industries featured in the chart.

Ranking just behind the tech sector in the average number of Workflows per account, media and communications takes second place with 52. The arts, entertainment, and recreation sector averages 51.



Workflows adoption by industry



Most popular Workflows connectors

Workflows are finding connections

Workflows have already become quite popular tools for automating routine processes. Workflows connectors represent the next step in automation by enabling enterprises to build increasingly powerful Workflows that leverage public-facing APIs to automate connectors between tools and services.

So, which pre-built connectors are companies currently relying on the most?

In our Workflows data, we see connectors are widely used in the collaboration space. Slack is the most popular Workflows connector on our top 10 list by number of customers and

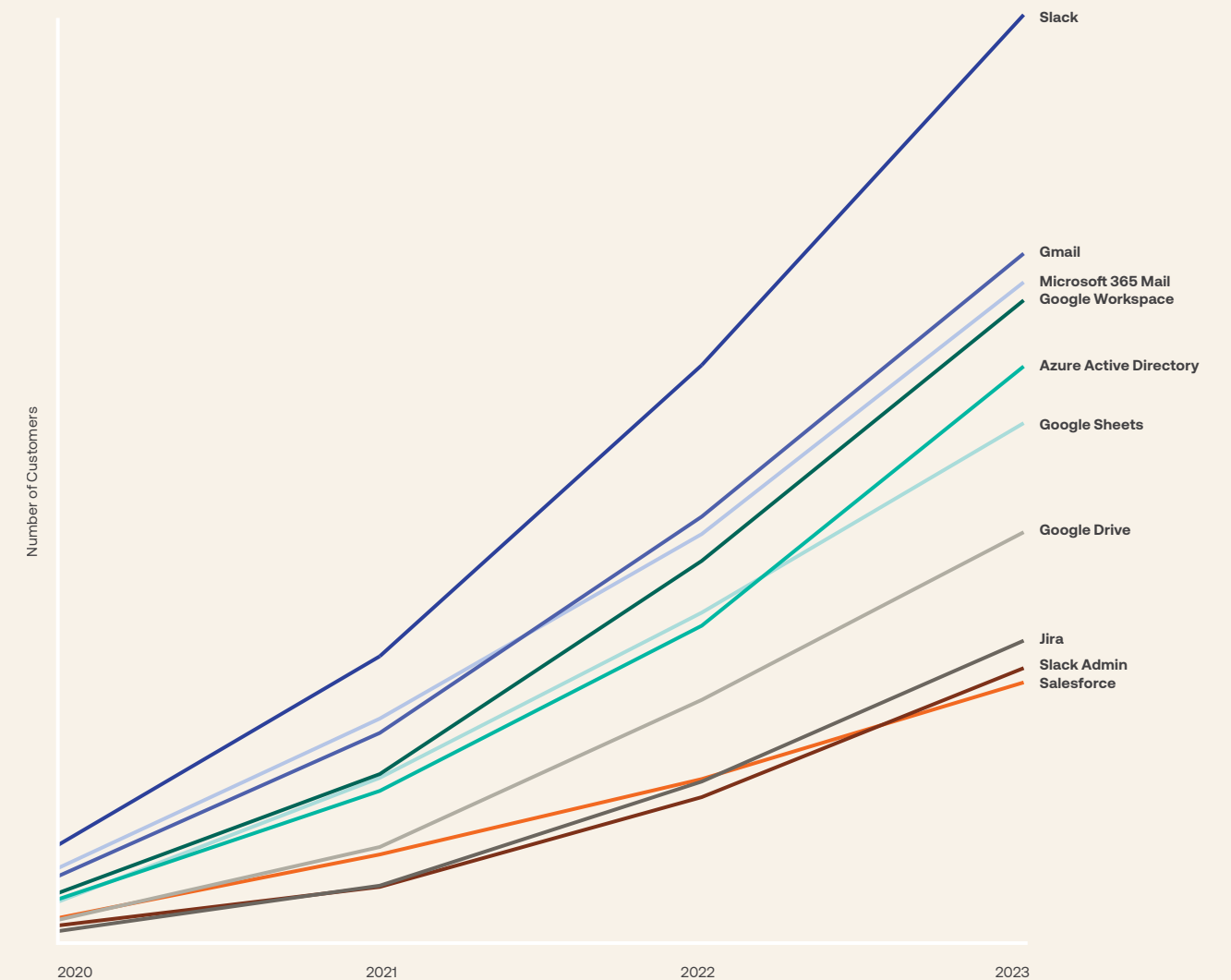
shows 33% YoY growth. Slack Admin joins the list at No. 9 and reports 44% YoY growth.

Google and Microsoft connectors make up the majority of the list, claiming spots two through seven. Among Google's Workflows connectors, we see the most growth in the number of customers adding the Google Workspace connector (39% YoY). Azure Active Directory has the most growth among Microsoft connectors, with 47% YoY.

Software project management tool Jira and customer relationship management juggernaut Salesforce fill out the top 10. Jira reports 55% YoY growth, and Salesforce reports 33%.



Most popular Workflows connectors



We're automating operational tasks, lifecycle management, and security

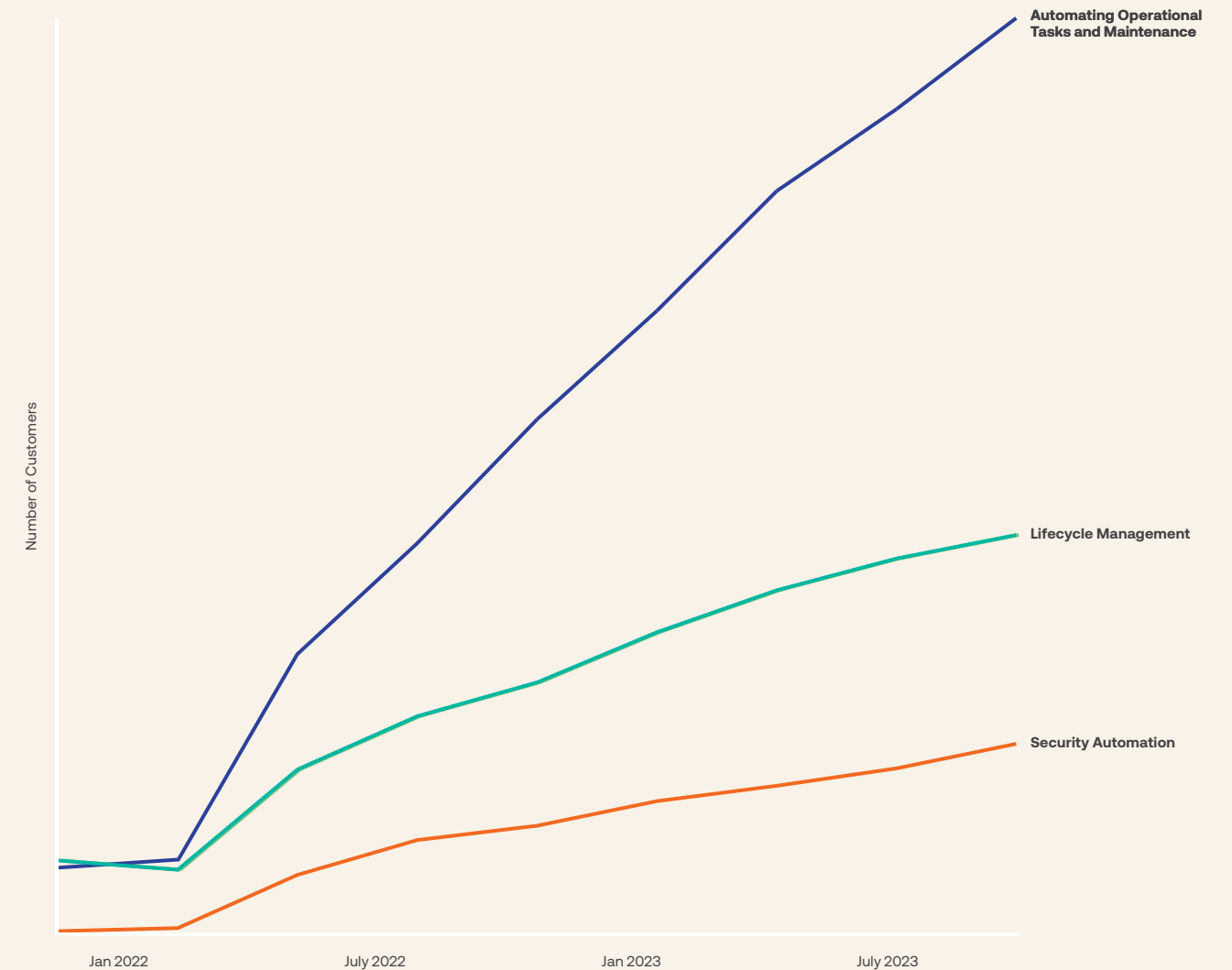
What's even easier than building your own Workflows to automate routine tasks? Using a template to automate creating a Workflow. A wide range of Workflows templates are in the field already, helping teams automate all sorts of tasks. We split these into three general categories.

- 1. Operational tasks and maintenance automation** — These Workflows templates automate routine tasks like identifying and suspending inactive users, creating IT and security reports, and sending communication alerts.
- 2. Lifecycle management customization** — These templates customize tasks around onboarding and offboarding. Use cases include creating a guest user for an app, sending a welcome email to a new user, and automatically transferring important assets when offboarding an employee.
- 3. Security automation** — These templates help organizations protect against cyberattacks by automating defined responses to potential threats as they arise, including automatically responding to suspicious activity, forcing re-authentication or clearing a user session to disrupt hackers, and tracking and alerting to prevent account takeover.

Looking at the Workflows template data, we see that all three categories had robust, double-digit growth this year. Automating operational tasks and maintenance leads the way, with 78% YoY growth in the number of customers. Lifecycle management ranks second by number of customers and reports 59% YoY growth. Security automation ranks third by number of customers and claims 75% YoY growth.

Delving deeper into specific Workflows templates, it's clear that "identify inactive Okta users" is the most popular individual template, showing tremendous growth over the past two years. The second and third most popular Workflows templates are "suspend inactive users" and "assign group memberships temporarily based on time." (Sadly, "double all holiday bonuses" didn't make the list this year.)

Workflows template categories





Authentication and security

Enterprise ecosystems have changed dramatically over the past few years. Organizations today need to find ways to embrace and support diverse work and distributed teams, and enterprise HR, IT, compliance, and security teams are under immense pressure to leverage just the right tools and techniques to stay one step ahead.

So, what are companies doing specifically to address today's expanding challenges?

This year, we're seeing organizations stepping up their authentication game, choosing higher-assurance factors like security keys and biometrics at an increasing rate. Use of [Okta Verify](#), which includes Push and FastPass, is growing across the board, especially among tech startups. Fortune 500 companies, too, are choosing higher-assurance factors, overcoming institutional resistance like legacy systems and antiquated technology that make change difficult.

We're also seeing an increased emphasis on compliance tools this year — not surprising in light of the sometimes confusing mix of government and industry regulations organizations must abide by at scale. As companies strive to understand the full scope their responsibilities, produce structured reporting, and stay within operating budgets, all without impacting employee productivity, the increase in compliance tools makes total sense.

The perimeter shifts

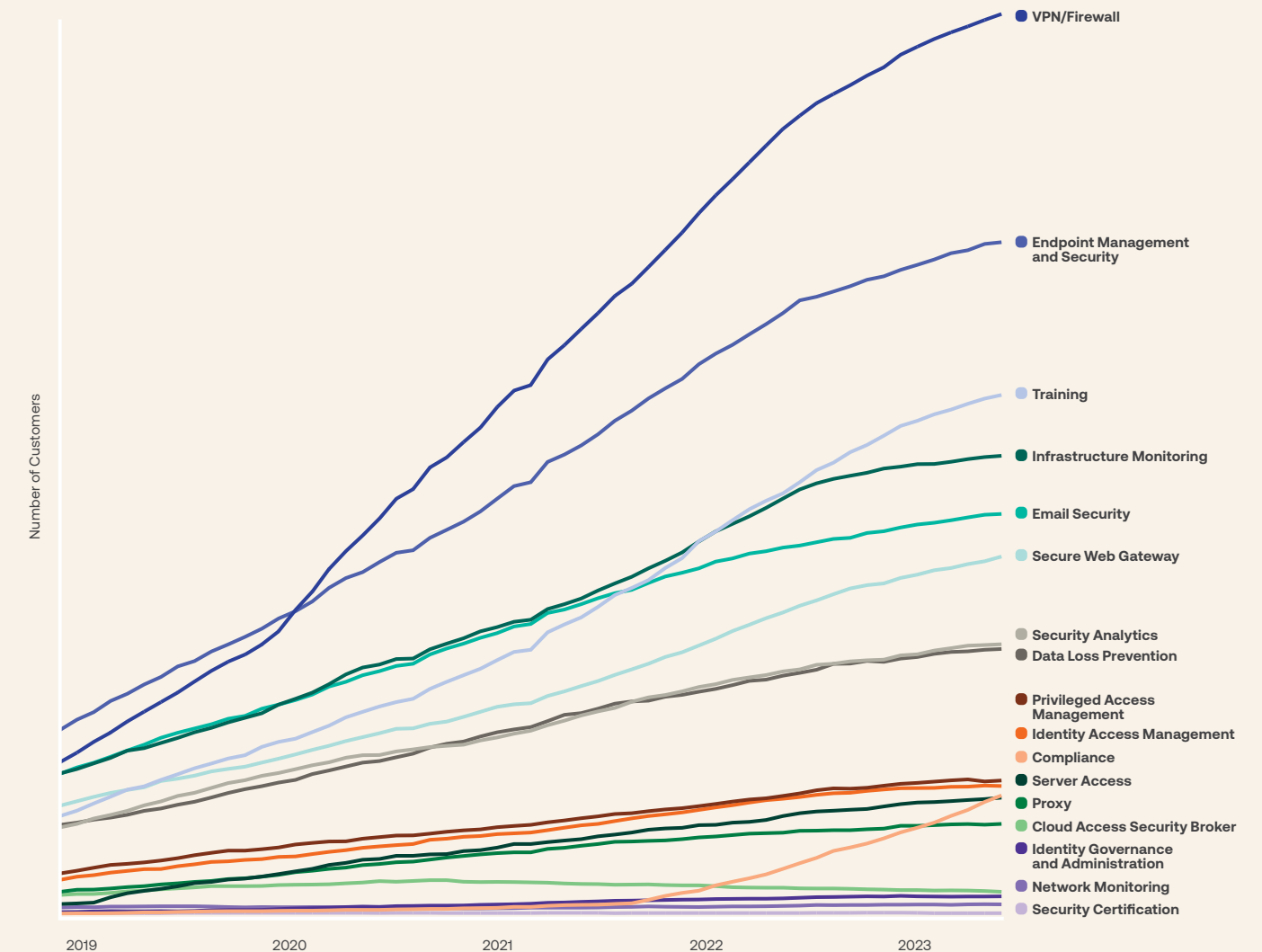
VPN/firewall continues to be the most popular security tool category, as it has been since 2020, though it's not growing as quickly as it has in recent years. Over half (57%) of customers have deployed VPN/firewall tools, but deployment of these tools grew just 12% YoY in this year's data, versus the 31% YoY growth the category enjoyed last year. We're seeing an increase in the use of Identity-aware integrations securing access to VPNs to create another layer of security.

With the rise in remote connectivity tools, organizations increasingly need to track and manage the diverse devices their dispersed workforces are using to access technologies and infrastructure. So it's not surprising that the second-most-popular category of security tools this year continues to be endpoint management and security, deployed by 43% of customers. We've seen growth in this category ever since work-from-home took off.

Last year's fastest-growing security category, training tools, is still very much a contender. The category's 19% YoY growth by number of customers is a solid showing, if not quite as impressive as last year's 39% YoY growth. This category continues to grow steadily, as many organizations emphasize user education as a key component to successful security programs.

In terms of YoY growth, though, compliance tools are this year's big winner. Deployment of these tools more than doubled, growing 120% YoY; today, 8% of all our customers deploy compliance tools through the OIN. Managing data compliance is becoming increasingly difficult for organizations in an era of heightened regulation, particularly in financial services and healthcare, and for providers of critical infrastructure. Compliance tools can automate or facilitate processes and procedures that businesses must have in place to comply with industry, legal, security, and regulatory requirements — and since penalties can be quite steep, this is an easily justified investment.

Slicing the data further, we can see that the VPN/firewall category is the No. 1 priority for Fortune 500 companies (as it is for companies of all sizes). For tech startups, though, endpoint management and security rank nearly as high. Infrastructure monitoring, the fourth-most-popular category of security tools when we look at all companies, ranks higher when we look at just Fortune 500 companies (where it's No. 2) and tech startups (where it's No. 3).



Note: In this view of app usage, we count the number of customers deploying one or more tool in this category.

Note: Data reporting the use of Okta products is not included in this chart.

Most popular types of factors

Higher-assurance factors are gaining steam

Multi-factor authentication's (MFA) additional layer of security makes it much more difficult for threat actors to access business systems. (Google, for example, claims that requiring two-step verification for YouTube accounts has cut their account compromises in half.) Attackers often look to exploit MFA-free accounts: The devastating Colonial Pipeline attack resulted from a break-in via an inactive account not protected by MFA. Deploying MFA to protect user accounts is like adding a second lock to your front door. But, like most home security systems, not all MFA is created equal.

MFA can be vulnerable to adversary-in-the-middle (AitM) attacks, SIM-swapping attacks, pass-the-cookie attacks, MFA fatigue, or MFA bombing attacks. MFA only makes sense if it is resilient against bypassing and hacking — cue the need for higher-assurance and phishing-resistant factors.

Higher-assurance factors like YubiKey are harder for threat actors to crack than lower-assurance factors like security questions, and companies are busily hardening their defenses by shifting to higher-assurance factors.

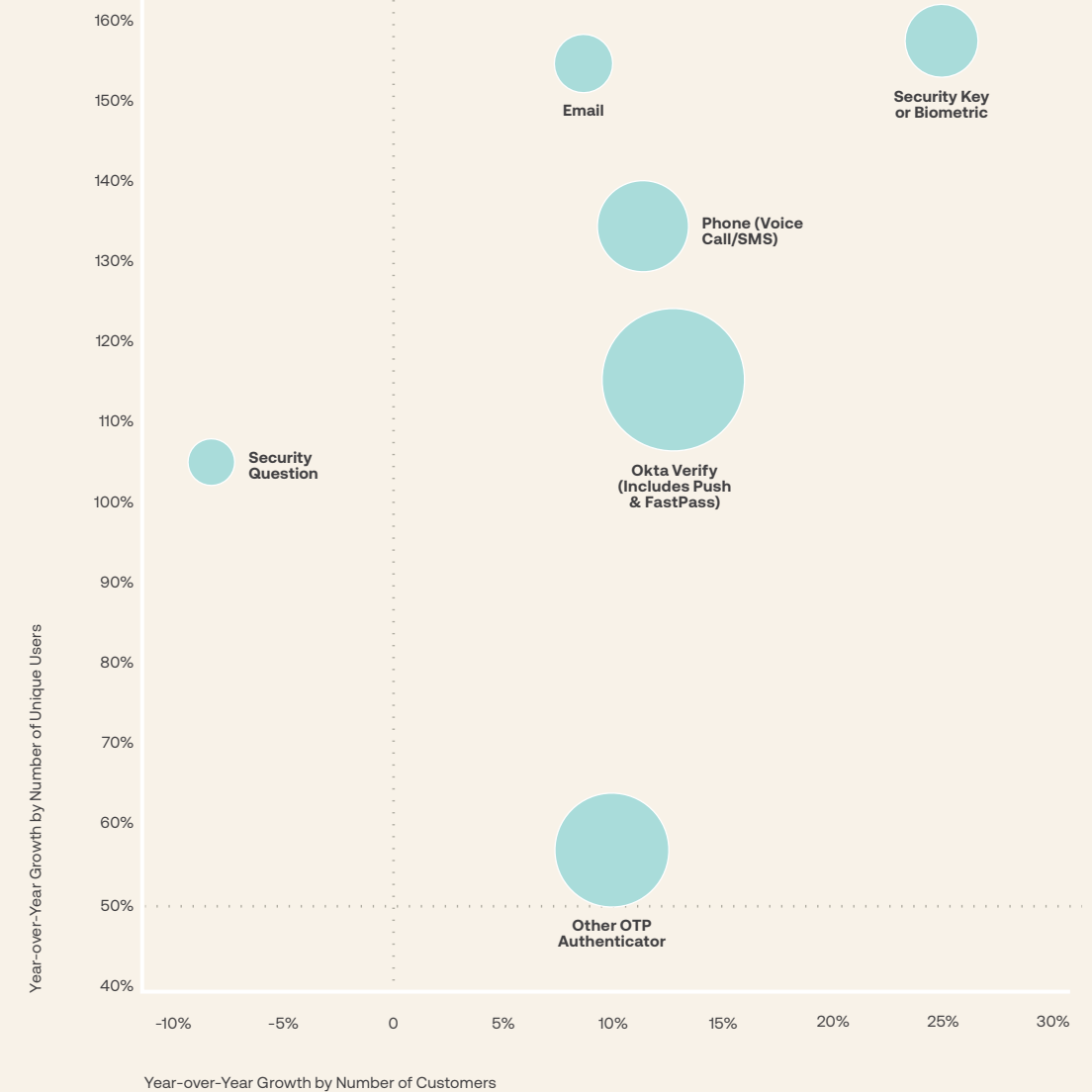
We're pleased to report that the factor category to show the highest growth this year was security keys/biometrics (including WebAuthn), growing 25% YoY by customers and 158% by unique users. Just as positively, the growth in usage of many lower-assurance factors has slowed considerably. Email shows only 9% YoY

growth in customers this year — a welcome drop from last year's 58% growth — and security questions, about as low in assurance as they are in user love, are finally declining this year. But there's an exception to every rule, and this year, the use of the low-assurance phone (voice call/SMS) factor is bucking the trend, with 134% YoY growth in number of unique users, nearly doubling last year's 69% YoY growth.

Okta Verify, which includes Push and FastPass, remains the most highly deployed factor grouping by number of customers; usage has grown 13% YoY by number of customers and 116% by unique users this year. FastPass has experienced 146% YoY growth in the number of accounts, and the total monthly FastPass authentications have grown 1244% since last year, an astounding jump that's second only to YubiKey's 1266% YoY growth. WebAuthn, another high-assurance factor, grew at 27% YoY by number of accounts and 118% YoY when looking at total monthly authentications. All encouraging news as we move further away from relying on passwords and toward authentication options that support a passwordless experience.

When we narrow our focus to tech startups only, the security keys/biometrics factor grouping is the clear growth leader, with 29% YoY growth by number of customers and 175% YoY growth by unique users. Startups are embracing Okta Verify as well; the factor grew 20% YoY by customers and 89% YoY by unique users.

Growth of factor groupings



Note: WebAuthn is rolled up with U2F and YubiKey in the grouping of "security key or biometric factors." One-time push (OTP) authenticators Google Authenticator, Duo Security, RSA SecurID, HMAC-based one-time passwords (HOTP), and Symantec VIP are rolled up as "other OTP authenticators." We group SMS with voice call authentication for a factor grouping of "phone."

Note: This data is limited to Workforce Identity customers.

Fortune 500 companies are also adopting higher-assurance factors, though they're hanging onto their lower-assurance factors, too. Among Fortune 500 companies, Okta Verify is growing 8% YoY by number of customers and 109% YoY by unique users; other OTP authenticators also scored 8% YoY growth by number of customers. Interestingly, the low-assurance phone (voice call/SMS) factor has an alarming 166% YoY growth in unique users at Fortune 500 companies. Clearly, old security factors die hard.



Factor grouping legend

Factoring group	Factors included	Assurance Level
Email	Email	Low
Okta Verify	Okta Verify	Medium
	Okta Verify Push with Number Challenge	High
	Okta Verify FastPass	Very High
Other OTP Authenticators	Duo Security, Google Authenticator, HOTP, RSA SecurID, Symantec VIP	Medium
Security Key or Biometric	WebAuthn (FIDO 2.0), U2F (FIDO 1.0), YubiKey	High
Security Question	Security Question	Low
Phone	SMS, Voice Call	Low



Factor groupings by industry

Industries identify with security keys and biometrics

We'll say it again for the folks at the back of the room: Not all authenticators are created equal. As industries shift quickly toward more secure options, for many, this means moving away from "something you know" (passwords and security questions) and toward "something you have" (a device) and "something you are" (biometrics). Why? Because passwords are reused and guessable, and your social media accounts probably reveal your answers to security questions like your favorite football team. But your fingerprints? Those are all you, baby. As this heat map demonstrates, organizations across industries are shifting to higher-assurance factors and inching us closer to a beautiful passwordless future.

Looking at factors by industry, security key/biometric is the hottest category across the board, showing growth in the government, nonprofit, retail, and healthcare and pharmaceuticals sectors. Government posted the highest growth here, with 52% YoY. Nonprofits; construction, engineering, and architecture; and government are leaning into other OTP authenticators as well. Nonprofits posted 26% YoY growth in this factor grouping, while construction, engineering, and architecture followed closely behind with 25% growth.

We're pleased to report that there's been another YoY decline in the deployment of low-assurance security questions, especially among the finance and banking, construction, professional services, and tech sectors. Finance and banking shrank by -29% YoY, followed by construction at -18%, professional services at -17%, and tech at -16%. We commend these industries for moving away from this low-assurance factor and congratulate them on their newly buff security postures.

While we're on the subject of low-assurance factors, tech has taken its first step away from the use of email (-9% YoY). Last year, the tech sector grew its use of email 61% YoY (the fourth fastest rate of growth for email), so this is an abrupt — and welcome — change of course. Unfortunately, not every industry seems to have gotten the "email, really?" memo. The transportation and warehousing sector posted 63% YoY growth in its use of email, while manufacturing grew its use of email by 21% YoY. We're hopeful manufacturing can take concrete steps to reverse this trend quickly because the heat is on. The sector was called out by [Security Magazine](#) as the industry most impacted by ransomware in 2023.

Factor grouping growth by industry

	Email	Okta Verify (Includes Push and FastPass)	Other OTP Authenticator	Phone (Voice Call or SMS)	Security Key or Biometric	Security Question
Arts, Entertainment, and Recreation	22%	15%	4%	17%	25%	0%
Construction, Engineering, and Architecture	-4%	15%	25%	5%	25%	-18%
Education		10%	17%	19%	18%	
Energy, Mining, Oil, and Gas		4%	6%	3%	23%	
Finance and Banking	7%	12%	1%	5%	17%	-29%
Government	17%	21%	20%	14%	52%	
Healthcare and Pharmaceuticals	8%	7%	10%	8%	26%	5%
Insurance	-2%	16%	11%	12%	24%	0%
Manufacturing	21%	12%	16%	9%	20%	-4%
Media and Communications	18%	14%	15%	5%	20%	-3%
Nonprofit	16%	24%	26%	30%	35%	4%
Professional Services	10%	9%	6%	11%	25%	-17%
Real Estate, Rental, and Leasing	0%	7%	-3%	5%	22%	0%
Retail	11%	13%	7%	16%	29%	9%
Technology	-9%	10%	6%	7%	20%	-16%
Transportation and Warehousing	63%	14%	7%	9%	10%	-3%
Wholesale Trade	-3%	10%	16%	5%	23%	-7%



Note: Empty cells indicate insufficient data to determine YoY growth.

Note: This data is limited to Workforce Identity customers.



Fastpass and device policies

In today's modern authentication age, organizations are moving toward a secure, frictionless user experience that doesn't rely on passwords. Passwordless authentication is easier for end users, and it reduces the burden on help desks, freeing them up to get other work done.

Organizations can leverage Okta FastPass, our phishing-resistant authenticator that companies can deploy with biometrics, to support the move away from passwords. The following data gives us insight into how companies are adopting passwordless authentication options for Workforce Identity across desktop and mobile devices, multiple operating systems, and in countries and industry sectors worldwide. (For more details, please see our [Methodology](#).)

Passwordless authentication, by device type

MFA at our fingertips

Smartphones may be ubiquitous, but most work still happens on laptop and desktop systems. This year, we see a higher proportion of passwordless authentications coming from MacOS and Windows devices rather than through iOS and Android.

The mix of registered devices among Workforce Identity customers has stayed fairly consistent over the past few years: 47% of registered devices are iOS and 26% Android. Windows devices make up another 17% of registered devices, and MacOS is used by another 10%.

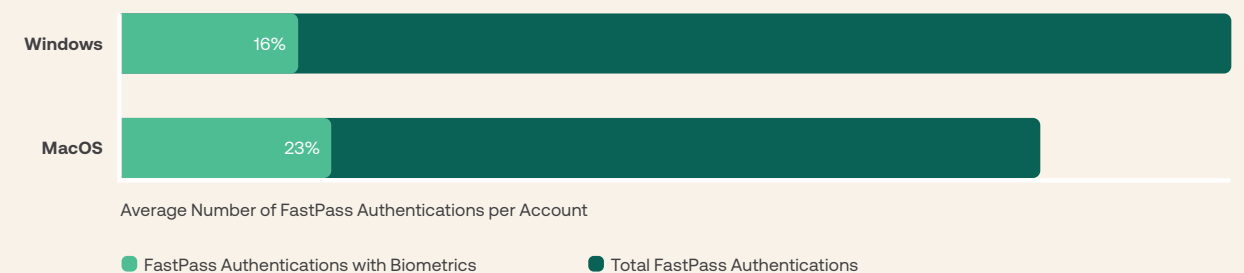
While passwordless authentication brings users one step toward frictionless access, adding biometrics offers an even higher level of security. Biometrics are unique to each user, include physical characteristics such as fingerprints or facial features, and don't rely on the user's

memory (or a sticky note taped to a monitor).

When we look at who's augmenting authentications with biometrics, we see some interesting patterns emerging. MacOS devices outpace Windows devices for biometric authentication at 23% to 16%, even though Windows users average more authentications overall.

Looking into authentication data by company size, it becomes clear that MacOS is the leader among tech startups. On average, startups register a higher number of passwordless authentications on MacOS than on Windows. Startups using MacOS also augment an extremely high percentage of passwordless authentication with biometrics, at 35%. In comparison, Windows-based startups leverage biometrics in just 10% of authentications.

Passwordless authentication with FastPass, by operating system



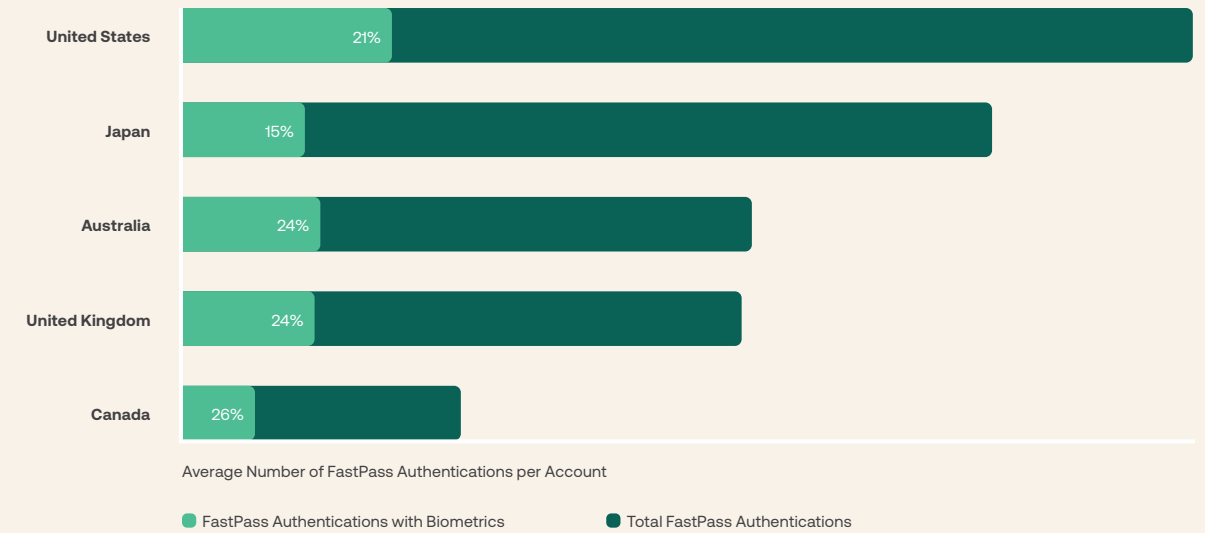
Note: This data is based on one year of cumulative FastPass data from Workforce Identity customers.

U.S. leads in passwordless authentications but lags in biometric use

Looking at the top five countries deploying passwordless authentications, we see that more authentications don't always equal more biometrics. The U.S. has the highest average number of passwordless authentications per account by a wide margin. However, the U.S. has one of the lower percentages of authentications with biometrics, at just 21%. Canada, by contrast, has the fewest authentications per account on average but the highest percentage of authentications with biometrics, at 26%. Japan comes in second in average number of authentications and fifth in biometric percentage, while Australia and the UK post nearly identical numbers for both metrics.

Tallying up passwordless authentications by region, EMEA leads the way in the average number of authentications per account, followed by the Americas and then APAC. The average percentage of authentications with biometrics is extremely similar across the board, ranging from 21% in APAC to 22% in EMEA and the Americas.

Passwordless authentication with FastPass, by country



Note: This data is based on one year of cumulative FastPass data from Workforce Identity customers.

“

Tallying up passwordless authentications by region, EMEA leads the way in the average number of authentications per account, followed by the Americas and then APAC.”

Tech travels in the fast lane

Shifting to an industry-level view of the average number of passwordless authentications by account, the tech sector leads the way in total authentications. On average, 27% of these employ biometrics as well. The wholesale trade sector comes in second by average number of authentications per account, but just 13% of those authentications use biometrics.

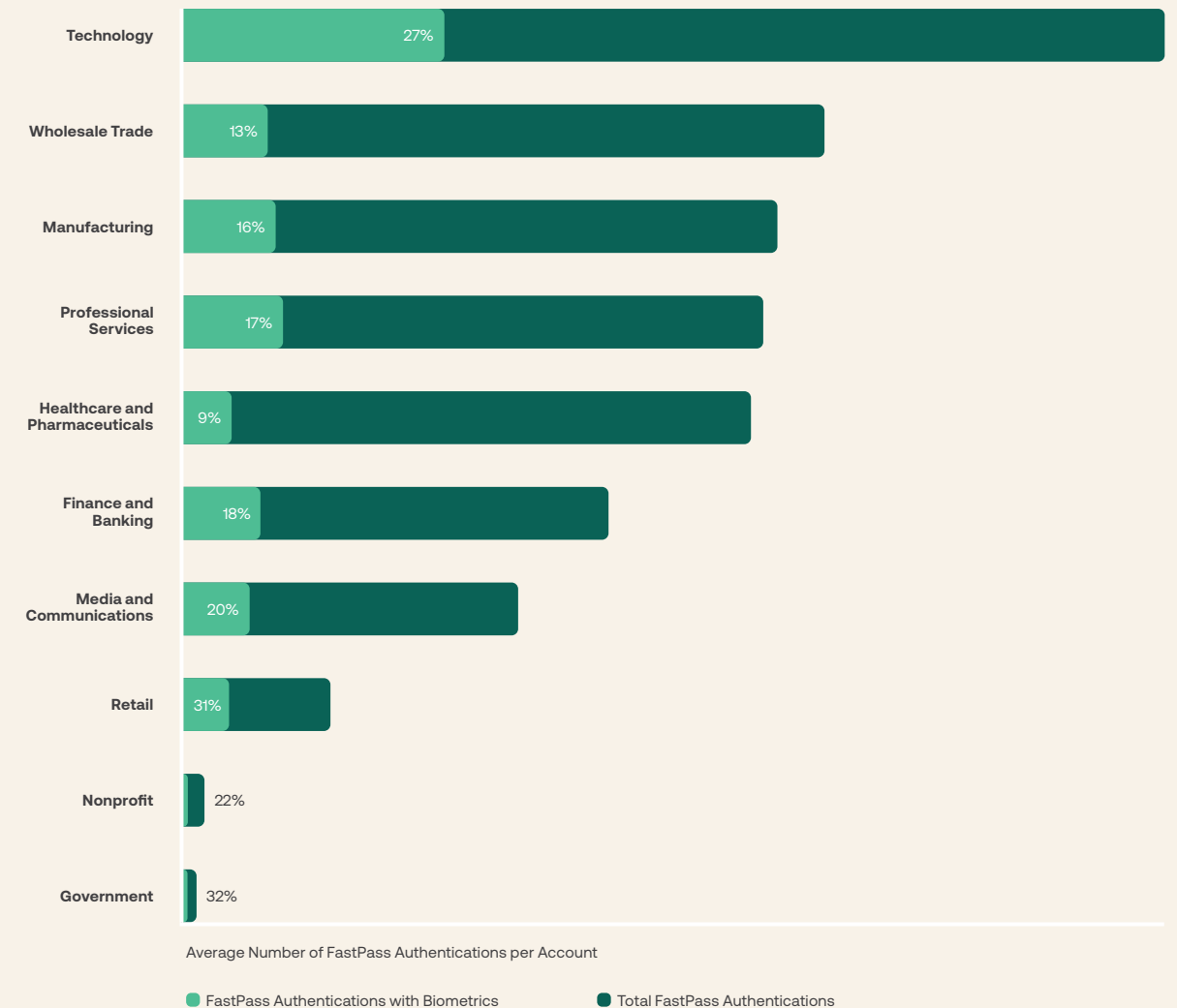
While the government sector has the lowest average number of passwordless authentications per account, it's our leader in biometrics-backed passwordless authentications, at 32%. Retail follows closely behind, with 31%. Healthcare and pharmaceuticals have a high average number

of authentications, but on average, just 9% of those authentications use biometrics — the lowest percentage among the industries shown.

In terms of growth, the government sector scores the highest YoY growth in number of accounts leveraging passwordless authentications (238% YoY), followed by finance and banking (199%). Wholesale trade takes the largest jump in the average number of authentications using biometrics per account, with a super-impressive 1707% YoY growth.



Passwordless authentication with FastPass, by industry



Note: This data is based on one year of cumulative FastPass data from Workforce Identity customers.

Devices are getting the most attention

As enterprises scale and automate, they develop policies to help them grow effectively while minimizing risk. Broadly speaking, these policies can be put in three buckets: Risk policies that focus on the network, behavior policies that focus on the user, and device trust policies. Device policies help ensure that devices being used for authentications aren't introducing any additional risk.

Looking at this year's data, we're seeing the most YoY growth in device trust. In fact, four of our five focus industries have deployed more device trust policies than risk or behavior

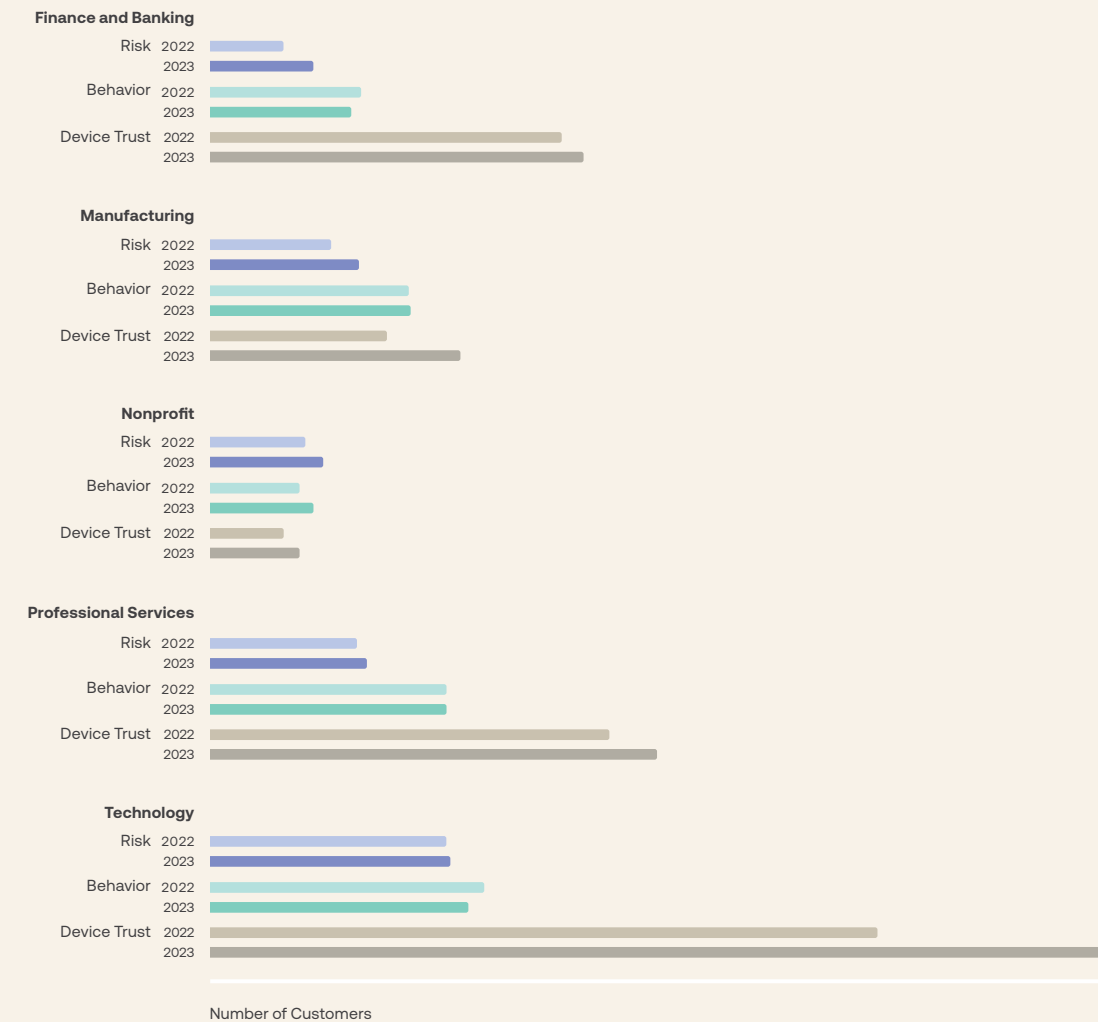
policies. Only nonprofits stray from this path, leaning more heavily into network and user behavior policies. Generally speaking, though, the YoY growth of device trust far outpaces the growth of risk and behavior policies.

The technology sector is experiencing extremely high growth in the number of customers deploying device trust policies, increasing 33% YoY, followed by professional services and finance and banking.

“

YoY growth of device trust far outpaces the growth of risk and behavior policies.”

Policy adoption



Note: This data is limited to Workforce Identity customers.



Riding off into the data sunset

As we come to the end of another year's report, it's clearer than ever that the app and tool trends shown in our data reflect the time we live in.

Organizations are confidently leaning into automation for better efficiency and business scalability. Automating routine tasks across the enterprise has become a rising priority, which we can see in the YoY growth of Workflows and connectors.

App adoption is generally up as companies deploy more of the tools they need and show an increased reliance on best-of-breed apps for collaboration. For the first time, organizations across the board are adding data compliance tools to secure vast volumes of data. And despite a global dip in charitable giving, we see continued growth in Apps for Good as people and companies strive to make a connection and help their fellow humans.

We don't have a crystal ball to predict what'll happen in the coming years. But extrapolating from this year's data, we expect to see organizations:

- **Lean heavily into automation**, including increasing their use of Workflows of all types to empower their teams to safely do more with less, and confidently scale their businesses
- **Continue to adopt best-of-breed apps**, picking the best tools for the job, even if it means going outside their existing software suite
- **Embrace higher-assurance authentication factors**, doubling down on options like security keys and biometrics, as weaker factors like security questions fall out of fashion
- **Say goodbye to passwords**, as companies increase their efforts to shift once and for all to frictionless, seamless authentication

For now, it's time for us to saddle up and ride off into the horizon. See you next year, pardner.



okta

Okta Inc.
100 First Street
San Francisco, CA 94105
info@okta.com
1-888-722-7871