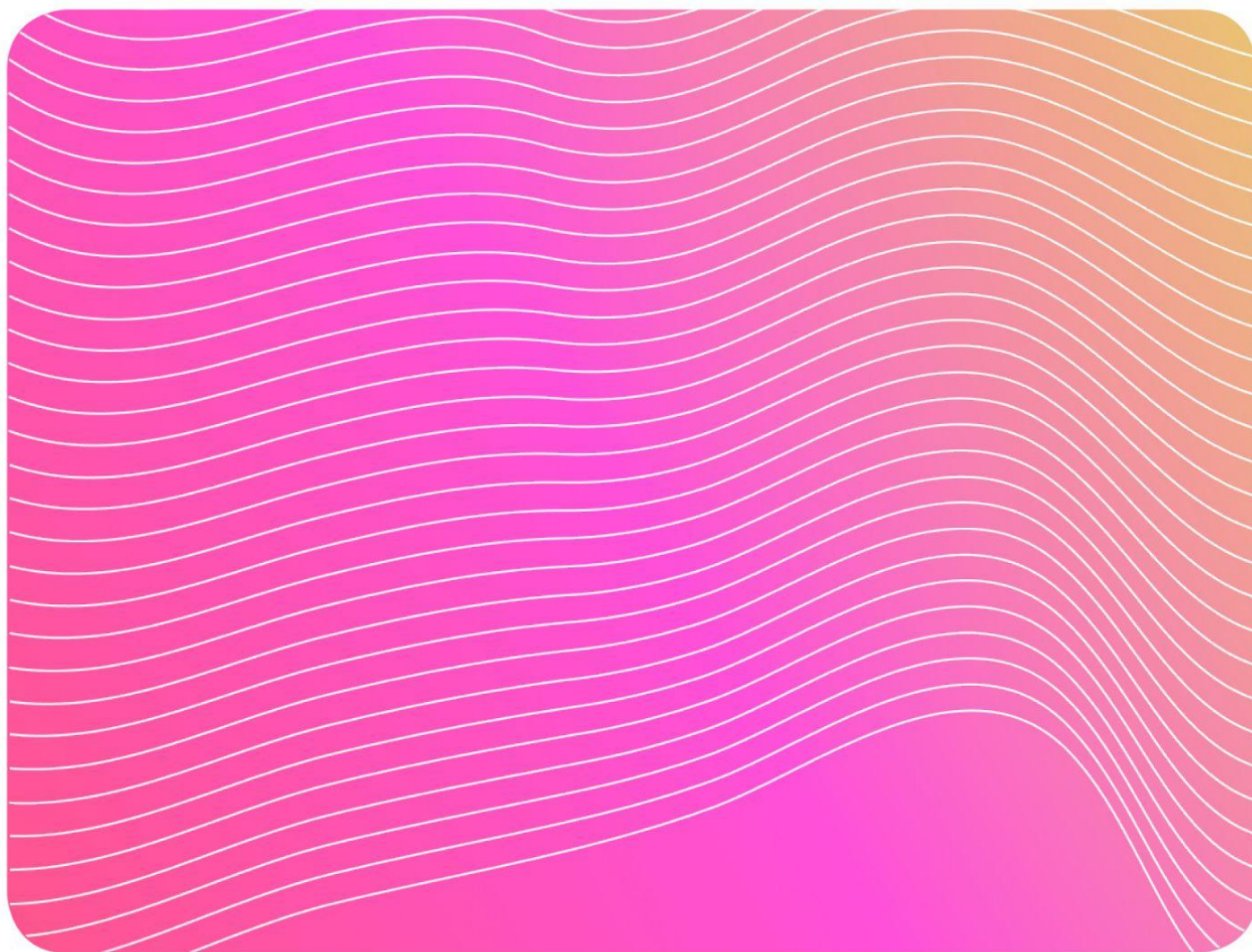




7 Things You Need to Know About Passwordless Authentication

How passwordless authentication enables a secure, seamless CX



Understanding Passwordless

Passwordless authentication can yield major, business-wide benefits. In this paper, we'll explain what passwordless means, explore the different types of passwordless authentication, and examine how this approach enables a secure yet seamless customer experience.

As its name suggests, passwordless authentication involves verifying a user's identity with something other than a password. This might be a push notification sent to a secondary device or a unique biometric like the user's face or fingerprint.

Passwordless takes the guesswork out of secure, frictionless authentication — an increasingly urgent priority as customer experience moves online. Seamless authentication cultivates customer trust and can improve conversion rates, since a user frustrated by a clunky login or checkout process is likely to abandon their shopping cart without making a purchase.

Eliminating passwords also makes your data more secure by frustrating malicious attacks on the login box. Customers can be confident that you'll protect their information and you can be confident that you've taken proactive steps to avoid data breaches.

Here are seven things you need to understand about passwordless to make an educated decision about how to roll it out to your customers.

1. Companies have good reasons for investing in passwordless.

There are many advantages to going passwordless. Among the most compelling ones:

- **An effortless login/checkout experience:** Passwordless authentication delivers a seamless digital experience: Users aren't stymied by forgotten passwords, and they can access your platform securely in seconds.
- **Reduce long-term costs:** Password management is expensive, largely because people forget their passwords and need help resetting them. Industry experts generally agree that each password reset costs a company \$70.

- **Higher conversion rates:** A superior customer experience yields more customer loyalty, higher conversion rates, and ultimately more revenue. For some companies, eliminating passwords has improved conversion rates [by more than 50%](#).

2. Implementing passwordless reduces login friction.

For most organizations, the biggest benefit of going passwordless is that it reduces login friction.

Keep in mind that the average person has to keep track of [about 100 passwords](#) and spends almost 13 minutes every week resetting those passwords — often through a call to a help desk, which not only takes up their time but also costs your company money. According to industry wisdom, it costs \$70 to reset a password, but Auth0 has seen costs as high as \$120 per password. Passwordless authentication alleviates this login friction without weakening your security posture.

A frictionless user experience can be a [powerful competitive advantage](#) for businesses [at every level](#). Often, B2C companies are particularly concerned about the negative impact of login friction on conversion/retention rates and revenue, since consumers have so many service providers to choose from. Customers aren't a captive audience like employees, who are more or less stuck with whatever workforce identity solution you give them. By enabling a frictionless customer experience, your investment in passwordless supports customer retention and revenue growth.

3. There are different types of passwordless authentication for different users/use cases.

With traditional username-password authentication, users must input something they know (a password) to verify their identity. Passwordless authentication, in contrast, requires users to demonstrate that they have something (sometimes called a **possession factor**) or that they

are something (referred to as an **inherence factor**). These factors are much harder for bad actors to circumvent than knowledge-based factors.

Biometrics

Instead of a password, [biometric authentication](#) uses unique physical traits to verify a user's identity. You've probably used facial recognition to unlock your smartphone without entering your passcode or your fingerprint to access your laptop without typing in a password.

Biometric authentication is more secure than a password because no one has your exact fingerprint (even if you are an identical twin) or your exact face (the chances of two faces being similar enough to bypass facial recognition is [extremely unlikely](#), even in the case of identical twins).

Biometrics rely on inherence factors: something that is inherent to the user, like their facial features, fingerprint, or voice.

Magic links

Magic links are another method of passwordless authentication in which users are prompted to enter their email address instead of a username-password combination. The user then receives an email containing a "magic link" they can click to be instantly logged in. This process is repeated every time the user needs access to the platform.

One-time passwords

One-time passwords (OTP), sometimes called one-time codes (OTC), work similarly to magic links. Customers receive a password or code via email or SMS text message that they use to log in. As their name suggests, one-time passwords are good for one use only; every time a user logs in, the process is repeated with a different single-use password.

One-time passwords and magic links sent through email are **knowledge factors**: you need to know the password for the email account to access the magic links.

One-time passwords and magic links sent via SMS are **possession factors**: they rely on something the user has, like a secondary device, to validate identity.

Push notifications

Push notifications are a mobile-centric form of passwordless authentication. To access an app on a mobile device, users receive a push notification that allows them to open the app and verify their identity. This is how [Auth0 Guardian](#) works.

All of the types of passwordless authentication we've discussed here, from biometrics to push notifications, can be deployed as part of [multi-factor authentication \(MFA\)](#). We'll talk more about MFA in the next few pages.

4. Eliminating passwords makes your data — and your users — more secure.

Here's the bad news: Passwords are relatively easy for bad actors to guess, steal, or buy. Verizon's 2020 Data Breach Investigations Report (DBIR) found that [credential vulnerabilities accounted for more than 80% of all data breaches](#). And because [so many people reuse passwords across platforms](#), a single compromised password can endanger multiple accounts. Password managers like LastPass are effective against [brute force attacks](#), [credential stuffing](#), [phishing](#), and other threats that target the login box. But adoption rates for password managers remain low: You can't count on your customers availing themselves of these resources.

While you can't control customer behavior, you can lower your risk of a data breach by going passwordless.

Multi-factor authentication and passwordless

You might be wondering where multi-factor authentication (MFA) comes in. Passwordless authentication can be used as the first factor in MFA, then combined with secondary authentication factors for enhanced security. This approach helps you balance security and convenience for your customers.

In actuality, passwordless authentication methods like WebAuthn are two factors in one. If you use device biometrics, you're actually using both a possession factor (the device) and an

inherence factor (the biometric factor). In this case, you don't necessarily need to demand another authentication method.

It's a good idea to ask for multiple authentication factors [when context suggests](#) a higher-risk interaction. People expect and appreciate MFA at moments that call for increased security: when they enter payment information, update their subscription settings, or try to access your platform from an unfamiliar time or location. Using passwordless as part of the process speeds and streamlines the experience for users without compromising a high security standard.

5. Going passwordless conserves resources in the long term.

As we've established, password management is expensive (in terms of time and resources) for IT teams. When users have to call your help desk to reset their passwords, they're unhappy and you're spending money you could be directing at value-add projects. Industry consensus puts the cost of a password reset at \$70 per password, but at Auth0, we've seen costs as high as \$120 per password. Some enterprise companies spend as much as \$1 million a year just on staffing and infrastructure costs around password management.

Going passwordless requires an upfront infrastructure investment, but over time it can reduce costs associated with password management. And when your IT and customer support teams aren't distracted by password resets, they can focus on adding more value for your customers.

Even more expensive than constant password resets is a data breach. According to a [2020 IBM-Ponemon study](#), data breaches cost an average of \$3.86 million per incident globally. In the United States, that number rises to \$8.64 million per incident. Data breaches result not only in actual fines, but also in reputation erosion and lost revenue as customers decide they feel safer with your competitors.

6. Passwordless authentication helps drive more conversions.

Reducing login friction is key to customer satisfaction, but it also boosts conversion rates. A substantial number of shopping carts are abandoned at login time, when users decide the login process is too cumbersome or time-consuming for the purchase to be worth it. Going passwordless can boost conversions [by as much as 54%](#) by removing friction from the login process. Imagine the impact on your bottom line over time.

Not even industry pros are immune to password headaches. [A recent survey](#) conducted by Yubico and the Ponemon Institute found that almost half of more than 1,700 IT professionals could not complete a personal transaction because they had forgotten their password.

A cardinal rule of online commerce is: Make it as easy as possible for the customer to make a purchase. Passwordless checks that box.

7. A third-party provider is the best pick for passwordless.

As you probably know, implementing passwordless can be a bit more involved than simply swapping out the login box. How complex it will be largely depends on the [identity and access management \(IAM\)](#) framework you currently use to verify users' identities and control their access to information. Going passwordless can require dedicated development resources over a sustained period of time, along with scaling, updates, and maintenance after the initial implementation.

That's why organizations often choose an expert identity provider like Auth0 to reduce the time-to-value of their passwordless implementation. Entrusting passwordless to a third-party provider isn't just faster; it also allows you to offload future maintenance costs. Perhaps most importantly, it gives you peace of mind: You don't have to keep track of emerging threats, software updates, and new legislation, because you'll know your identity provider is on it.

Where do I go from here?

Ready to learn more about implementing passwordless authentication with Auth0? [Start here](#). You can also [reach out directly to our experts](#) to understand how going passwordless can help you provide the secure, friction-free experience your customers want.



Auth0 provides a platform to authenticate, authorize, and secure access for applications, devices, and users. Security and development teams rely on Auth0's simplicity, extensibility, and expertise to make identity work for everyone. Safeguarding more than 4.5 billion login transactions each month, Auth0 secures identities so innovators can innovate, and empowers global enterprises to deliver trusted, superior digital experiences to their customers around the world.

For more information, visit <https://auth0.com> or follow [@auth0](https://twitter.com/auth0) on Twitter.

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