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THE PASSWORDLESS FUTURE STARTS NOW: HOW OFFPAD+ ALIGNS WITH MICROSOFT'S VISION

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Passwordless Shift

THE END OF PASSWORDS AS WE KNOW THEM

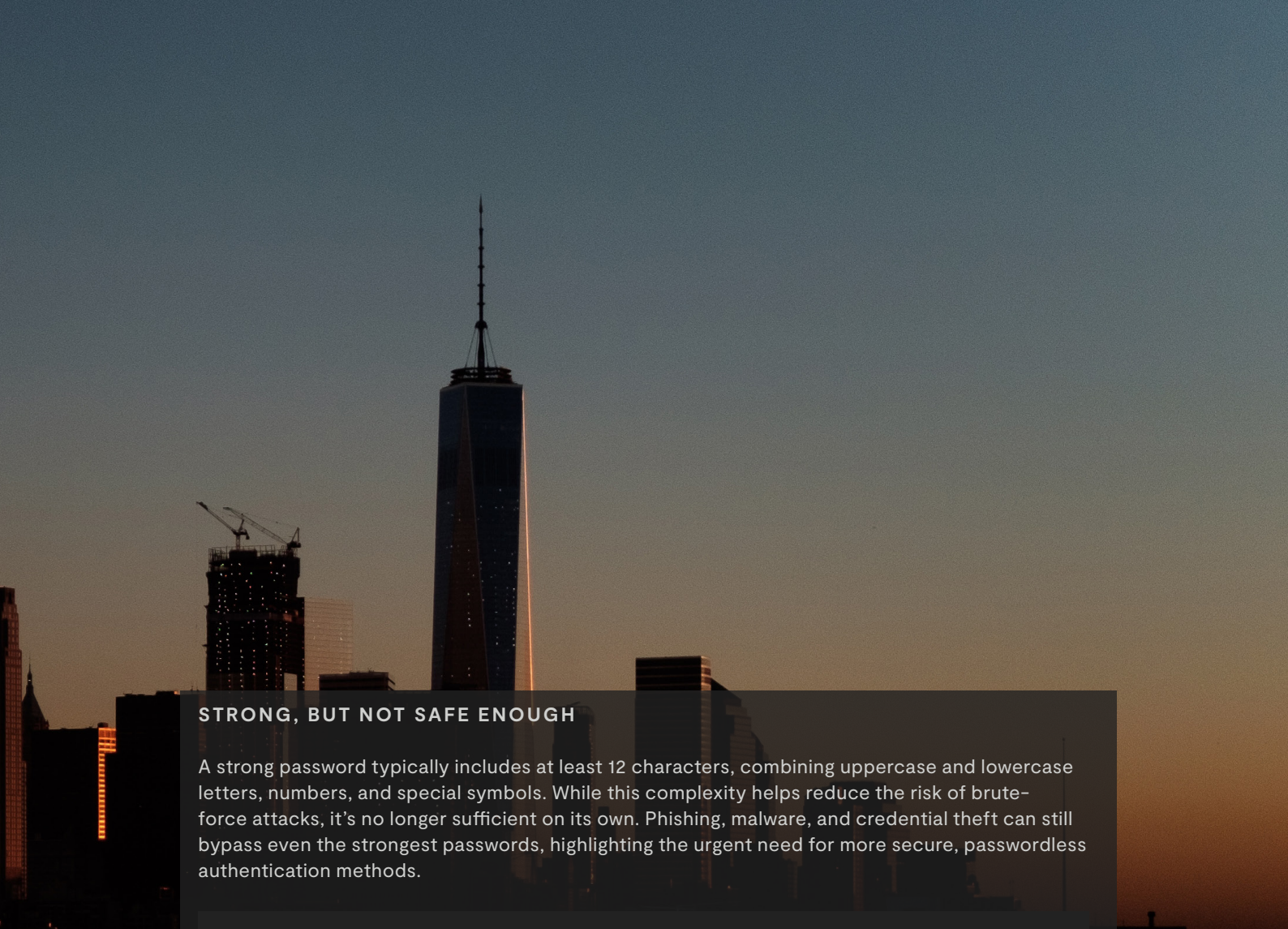
For decades, passwords have been the cornerstone of digital access—yet they've become increasingly inadequate in today's complex threat environment. Reused, weak, and often compromised, passwords now pose more risk than protection. As organizations seek stronger, more user-friendly alternatives, a major shift is underway.for robust security[1] measures,

INTRODUCTION TO A CHANGING SECURITY LANDSCAPE

As digital threats escalate and user expectations evolve, the limitations of password-based security have become more evident than ever.

Cybersecurity experts and leading tech companies, including Microsoft, now advocate a pivot towards passwordless authentication. This shift isn't just a trend but a fundamental evolution in how we secure digital identities.

Microsoft recently urged over a billion users to transition from passwords to modern alternatives like passkeys, which offer enhanced security and simplicity. This white paper explores the growing movement away from passwords, Microsoft's leading role in this transformation, and how PONE Biometrics' OFFPAD+ aligns with and supports these evolving standards.



STRONG, BUT NOT SAFE ENOUGH

A strong password typically includes at least 12 characters, combining uppercase and lowercase letters, numbers, and special symbols. While this complexity helps reduce the risk of brute-force attacks, it's no longer sufficient on its own. Phishing, malware, and credential theft can still bypass even the strongest passwords, highlighting the urgent need for more secure, passwordless authentication methods.

Number of characters	Numbers only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper, Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	1 sec	5 secs
7	Instantly	Instantly	25 secs	1 min	6 mins
8	Instantly	5 secs	22 mins	1 hour	8 hours
9	Instantly	2 mins	19 hours	3 days	3 weeks
10	Instantly	58 mins	1 month	7 months	5 years
11	2 secs	1 day	5 years	41 years	400 years
12	25 secs	3 weeks	300 years	2k years	34k years
13	4 mins	1 year	16k years	100k years	2m years
14	41 mins	51 years	800k years	9m years	200m years
15	6 hours	1k years	43m years	600m years	15bn years
16	2 days	34k years	2bn years	37bn years	1 tn years
17	4 weeks	800k years	100bn years	2tn years	93tn years
18	9 months	23m years	6th years	100tn years	7qd years

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Passwordless Future

THE RISE OF PASSWORDLESS

As digital threats grow more sophisticated, organizations are rethinking how they protect user access. Passwords, once the cornerstone of online security, are now seen as a liability—driving a global shift toward faster, safer, and more user-friendly authentication methods.

WHY THE INDUSTRY IS MOVING ON:

Passwords are increasingly recognized as the weakest link in digital security. Despite years of improvements and best practices, such as enforcing complexity, expiration cycles, and multi-factor authentication, passwords remain vulnerable to a wide range of attacks. Phishing, credential stuffing, brute-force attacks, and social engineering continue to exploit the human element behind password use. Moreover, managing passwords is burdensome for users and costly for organizations, from forgotten credentials to helpdesk overload and security breaches.

In contrast, passwordless authentication offers a new paradigm, one that dramatically improves both security and usability. Instead of relying on something the user knows (a password), this approach authenticates users through what they are (biometrics) or what they have (a trusted device or key). Techniques such as fingerprint recognition, facial ID, cryptographic security keys, and device-bound passkeys minimize the risks of human error and eliminate the most common entry point for attackers.

Beyond improving protection, passwordless methods offer a smoother, faster, and more intuitive user experience, reducing friction in access without compromising safety. Major tech leaders like Apple, Google, and Microsoft are investing heavily in this transformation, embedding passwordless capabilities into their ecosystems and pushing the industry toward a new


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Seamless
authentication

PASSKEYS AND A VISION FOR SAFER ACCESS

Passwordless authentication isn't just a trend, it's a transformational shift led by the world's largest tech companies. Microsoft's rollout of passkeys marks a decisive step toward a future where digital access is both more secure and more user-friendly.

THE RISE OF PASSKEYS AND FRICTIONLESS SECURITY:

Microsoft is taking decisive action to accelerate the transition to passwordless authentication, recognizing it as a cornerstone of modern digital security. With the rollout of passkeys, cryptographic key pairs designed to eliminate the need for traditional usernames and passwords, the company is reshaping how over one billion users securely access its platforms and services.

Unlike passwords, passkeys are resistant to phishing and replay attacks. They function by pairing a private key, securely stored on the user's personal device (such as a smartphone, a FIDO2 security key like an OFFPAD or PC), with a public key held by the online service.

Authentication is completed through a simple biometric check or local device unlock, ensuring that only the legitimate user can gain access, even if credentials are intercepted or guessed.

Microsoft's strategy includes a comprehensive integration of passkey support across its ecosystem. By the end of April 2025, updated login pages and interfaces will fully support passkeys, making them the default method for authentication.

This move not only improves security but also enhances the user experience, removing the burden of password management, reducing login time, and streamlining access across devices.

This initiative is part of a broader industry shift. Tech leaders such as Apple and Google are also embedding passkey functionality across their platforms, reflecting a shared belief that passwordless authentication is no longer optional, it's essential. Microsoft's leadership signals a turning point where secure, frictionless access becomes the standard rather than the exception.

The solution

OFFPAD+ MEETING THE MOMENT

PONE Biometrics has created OFFPAD+, a FIDO2-certified biometric authentication device tailored to meet the modern security demands highlighted by Microsoft and others.

AN ALIGNED, ADVANCED SOLUTION FOR THE FUTURE:

PONE Biometrics has created OFFPAD+, a FIDO2-certified biometric authentication device designed to meet and exceed the evolving security requirements set by industry leaders. As organizations worldwide move toward passwordless authentication, OFFPAD+ offers a trusted, standalone solution that separates authentication from potentially compromised host devices, delivering true zero-trust access control.

Unlike traditional authentication tools that rely on software or OS-level integration, OFFPAD+ operates as an independent, secure hardware device, ensuring that biometric credentials are processed and stored entirely offline. This architecture minimizes attack surfaces and offers strong protection against phishing, credential theft, and malware.

With built-in support for fingerprint recognition, NFC, Bluetooth, and USB connectivity, OFFPAD+ provides seamless integration into existing infrastructures while maintaining high usability.

Whether for enterprise, government, or high-security environments, OFFPAD+ enables organizations to confidently transition into a passwordless, phishing-resistant future, in full alignment with the standards set by Microsoft, Apple, Google, and the FIDO Alliance.

KEY ADVANTAGES OF OFFPAD+:

→ Biometric Security: Authenticates users with fingerprint recognition, ensuring only verified access to systems and data.

→ Universal Connectivity: Compatible with NFC, BLE, and USB via an innovative card holder for flexible device integration.

→ Clear Visual Feedback: E Ink display provides intuitive feedback and verification during use.

→ Rechargeable and Reliable: Long-lasting battery charged by wireless or USB for uninterrupted service.

→ Data Privacy: Biometric credentials are securely stored on the device and never transmitted externally.

By combining these features, the OFFPAD+ serves as an ideal companion in the passwordless ecosystem, aligning seamlessly with the standards set by Microsoft's latest advancements. It empowers organizations to transition confidently to passwordless security while improving operational efficiency and user satisfaction.

Authentication
Reinvented

A FUTURE WITHOUT PASSWORDS IS HERE

The shift to passwordless authentication isn't optional, it's an essential evolution for any organization seeking to secure digital identities in a scalable, user-centric way.

AN ALIGNED, ADVANCED SOLUTION FOR THE FUTURE:

Passwordless authentication is not merely a technical upgrade, it's a strategic imperative. In a world where cyber threats are increasingly sophisticated and user experience is paramount, traditional credentials no longer suffice. Organizations must adopt solutions that balance security, usability, and compliance, and do so without adding friction to the end user.

With its OFFPAD+ solution, PONE Biometrics supports this pivotal industry transition by delivering a hardware-based authentication approach that is FIDO2-certified, phishing-resistant, and user-controlled. By separating the authentication process from the host device,

OFFPAD+ eliminates common attack vectors such as keyloggers, credential theft, and OS-level malware, providing true zero-trust authentication at the endpoint.

As Microsoft and others lead the charge toward a passwordless world, PONE Biometrics is proud to offer tools that support and accelerate this transformation. Our goal is to empower organizations to protect identities without compromising user experience or operational agility.

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