

The Zoho integrated solutions stack

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Zoho is a privately-owned technology company that was founded in 1996 as Adventnet, Inc. and has quietly evolved into an ambitious global player that serves the SMB and enterprise markets with cloud applications. The company offers a suite of more than 55 business, collaboration, and productivity applications. These include applications for CRM, project management, finance, human resource management, analytics, and support.

The company is headquartered in Chennai, India. It has eleven offices in India, five in the United States, and has offices in Brazil, Canada, Mexico, Australia, Japan, Singapore, China, Egypt, South Africa, United Arab Emirates, and the Netherlands. Offices in France and Germany are in preparation. Zoho has more than 15,000 employees as of mid-2024. Zoho is present in more than 150 countries with more than 750,000 customers and 100 million users.

Zoho is led by its co-founder and CEO Sridhar Vembu. Being a privately held company, Zoho is not obliged to, and does not publish revenue or profit numbers. However, the company indicates a track record of profitable growth that is well in the double digits. In 2022, the company reported that it exceeded an annual revenue of \$1bn US.

The company manages its growth organically, i.e. without acquisitions. Zoho builds all applications in house, using one single hard- and software stack. They are deployed and delivered via Zoho owned data centers in the United States, Europe, India, China, and Australia. Following this unique approach, the company has built a solid platform with a unified data model that allows it to grow and deliver software at high speed.

Core values of Zoho include corporate self-determination, privacy as a principle, and a commitment to delivering high value.

The Zoho integrated security solutions stack

Zoho's integrated security solutions stack consists of four core solutions, namely

- Ulaa, the company's privacy first browser,
- Zoho Directory, Zoho's workforce identity and access management (IAM) solution,
- Zoho Vault, Zoho's enterprise password manager.
- OneAuth, Zoho's multi-factor authentication solution.

Ulaa

Ulaa is Zoho's privacy-first browser. It is built around data privacy and security and enhances productivity while blocking web surveillance and tracking. Ulaa protects users by identifying and blocking phishing sites with advanced ML-based phishing detection algorithms. It enhances security by preventing unauthorized crypto mining. It further offers seamless access to Zoho apps

through single sign-on. Its built-in ad blocking system protects user privacy by eliminating intrusive ads and tracking scripts. Ulaa provides centralized identity and access management, behavior threat analytics, and automated security policy updates through its integration to Zoho Directory. Ulaa integrates with Zoho Vault to ensure secure password management via Vault's encrypted storage and easy password management. This minimizes breach risks.

Zoho Directory

Zoho Directory is Zoho's workforce identity and access management (IAM) platform. It helps businesses manage their users, apps, devices, and networks securely and from one single console with one secure credential. With conditional access and routing policies, IT admins can also automate access management without the fear of security breaches.

Users can upload their own encryption keys from an external key manager to encrypt their data. This way, they ensure that only they have access to it using the Bring Your Own Key (BYOK). With Zoho Directory Cloud RADIUS, businesses can also now authenticate enterprise WiFi networks and VPNs.

Vault

Zoho Vault is Zoho's enterprise password manager. It enables businesses to store, share, and manage workforce passwords from anywhere. It features a password generator, policies, breached password detection, compliance reports, browser extensions, and mobile apps. Additionally, Vault provides storage of confidential data, including credit card information, private notes, and software licenses. This allows administrators to set and maintain access privileges for employees based on need and compliance. Vault offers browser extensions, mobile apps, and desktop apps for all popular platforms including Chrome, Firefox, Safari, Edge, Vivaldi, Brave, and Opera.

OneAuth

OneAuth is Zoho's multi-factor authentication solution. It provides users a fast way to log into their Zoho accounts by scanning a secure QR code. OneAuth's passwordless feature allows Zoho users to enter only their username and biometric verification. In case of MFA-fatigue attacks, users can enable sign-in restrictions and lock accounts from further attempts. Combining OneAuth with App-Lock, adds an additional layer of security by enabling to remotely kill unauthorized sessions via remote logout. Encrypted cloud sync makes it possible to use OneAuth across devices. Users can recover lost or stolen devices via a passphrase, which is known only to them. This adds an additional security layer for sync and recovery. OneAuth is available for Android, iOS, macOS, iPadOS, watchOS, Wear OS & Windows.

Analysis

Not only individuals, but more so businesses rely increasingly on IaaS, PaaS, and SaaS services. In this world of cloud services, with a still strong tendency for remote work and BYOD (bring your own device) scenarios, security is a top priority for businesses of all sizes.

This makes it paramount for vendors to be part of the solution that addresses this priority, which requires a strong cultural focus on both security and privacy as well as secure technology. Delivering secure services is not an easy endeavor. How important culture is as part of this, was explained in no uncertain terms in the Cyber Safety Review Board's (CSRB) review of the summer 2023 Microsoft Exchange Online breach when it found that the incident "pointed to a corporate culture that deprioritized enterprise security investments and rigorous risk management". The CSRB emphasized that "it is imperative that cloud service providers prioritize security and build it in by design".

Zoho is this type of security-minded cloud service provider. This is evidenced by the company's [privacy pledge](#), which is not only a lip service, which a group of analysts including me could witness during an in-depth visit to the Zoho HQ in Chennai.

Although Zoho announced this solution stack only now, some of the applications it comprises have been available since 2013 (Zoho Vault). Zoho OneAuth was released in 2019, Zoho Directory and the Ulaa browser were released in 2023. Ulaa is particularly remarkable, as it has been cleared of all trackers that the original Chromium engine had embedded. With this, it is likely one of the most private and secure browsers around.

Similarly, Zoho Vault. Its ability to be run on a diverse set of hosts, including embedded into the major browsers, smartly combines security with user comfort.

What sets Zoho apart from the business software competition is that it delivers business software and the security stack out of one hand. The only other company having this capability that comes to mind is Microsoft. Acknowledging the leading position of Microsoft's Active Directory, Zoho integrates with it, offering customers the possibility to reduce the dependency on the Microsoft stack over time. Further integrations allow for the seamless management of regularly used applications and provide customers with the choice of how far to use Zoho within their security solution stack. In particular, the ability to easily work with existing security information and event management (SIEM) tools, is important to avoid disruptions in the IT security landscape.

What is not so well known about Zoho is that the company has its own data centers and network infrastructure with nearly 150 points of presence and a dozen edges in its acceleration network. Given this, Zoho does support the complete security stack from data in rest, in transmission, within business applications, and up to the user interface.



With all its strengths, the solution is not yet enterprise-grade. It still lacks device authentication, enterprise browser management, and browser policy setting. RADIUS support is incomplete. According to Zoho, these are on the roadmap, along with more AI supported use cases, including anomaly detection, phishing detection, log analysis, malicious URL detection, and more, that increase IT and user security.

Still, Zoho's stack of integrated security solutions is something to strongly consider, in particular for businesses that already have a Zoho One license, but also those who have subscribed to individual Zoho solutions only. Using Ulaa myself, I can say that this browser is reliable and fast. The price points of the security apps are competitive.

SWOT





<p>Strengths</p> <ul style="list-style-type: none"> • Strong security- and privacy-minded culture • Ownership of the complete soft- and hardware-stack • Being privately held avoids investor pressure • Complete infrastructure is clear of trackers 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Proprietary code is not undergoing the scrutiny of the open-source community • Lacking device authentication • Yet incomplete RADIUS support • No browser policies or enterprise browser management yet
<p>Opportunities</p> <ul style="list-style-type: none"> • AI driven use cases for anomaly detection, maliciousness detection, log analysis, etc. • Reduction of a dependency on the Microsoft stack • Consolidation of security software from specialist vendors 	<p>Threats</p> <ul style="list-style-type: none"> • Limited visibility of the solution or of Zoho as a credible player • Undetected vulnerabilities



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