ZKX: THE FOUNDATION FOR A ZERO TRUST ARCHITECTURE

ZKX AT-A-GLANCE

ZKX is security software that enables zero-knowledge multi-factor authentication to help meet requirements for Zero Trust.

ZKX brings next-generation multi-factor authentication (MFA) to networks of any kind, from tactical DIL environments to zero-trust, cloud-based enterprises. ZKX handles simultaneous user and device authentication through an iterative, trust-building process that continuously and transparently authenticates the end user.

Security and usability are of utmost importance to ZKX. The architecture of ZKX is of such a form that no one piece controls the entirety of the authentication transaction, drastically reducing its value as a target for cyber attackers.

ZKX increases security using zero-knowledge proofs — a mathematical framework of authentication that never exposes secrets anywhere in the network. Messages transmitted in ZKX appear random, even if a user is constantly supplying the same MFA artifacts. This means that adversaries mining network traffic for potential offline breaches will gain nothing useful from ZKX message data.

ZKX is a public key-based system that enables small units to detach themselves from larger organizational structures, bringing their ZKX data with them to sustain zero-knowledge MFA even in deployment scenarios. With ZKX's minimal bandwidth consumption, any communicative path can be used to authenticate users and their devices. A typical ZKX authentication session takes just over one millisecond and about 1.5 kB to complete.

ZKX KEY BENEFITS

No stored secrets
User information is never disclosed to the authenticating server

No single point of failure
Security is shared amongst multiple components

Flexible on token types
Works with any static data: passwords, RFID, NFC, CAC, etc.

Adaptable to any policy
Customizable to fit different trust scores or policy considerations

Fully interoperable
Compatible with any network, from the tactical edge to the enterprise

Validated & proven
Vetted by third-party experts that developed cybersecurity projects for DISA and DARPA