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# Network Security through Netmaker

A high level overview

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**ISSUED BY**  
Gravitl

## Industry leading standards

Gravitl utilizes industry-leading standards in security and cryptography, so you can create large-scale zero-trust network topologies with the click of a button.

Utilizing WireGuard as the fundamental building block, Netmaker extends the peer-reviewed and formally verified[1] work done by Jason Donenfeld and team to enable secure, low-latency network topologies with state-of-the-art cryptography.

## Cryptographic Primitives

Utilizing the Noise Protocol framework, Curve25519, ChaCha20, Poly1305, BLAKE2 SipHash24 HKDF and secure constructions, WireGuard specializes in peer-reviewed, conservative and reasonable decisions that effectively secure networks at the protocol level. [2]

## Less is more

WireGuard focuses on solving a handful of the most difficult problems in modern network protocols with a level of simplicity, quality and high-bar of security making it the ultimate building block from which numerous systems can be built upon.

Netmaker takes WireGuard's well-designed solutions to fundamental problems and extends a usability and user experience layer that enables one-click creation of a diverse set of network topologies.

Often we see applications adding unnecessary complexity that increases scope, widens attack surfaces and produces vulnerabilities. We recognize the quality work that's solved a handful of low-level concerns, and constantly ensure the cryptographic primitives defined in WireGuard are not negated by unnecessary abstractions or cryptographic primitives that could potentially render the underlying work negligible.

[1] <https://www.wireguard.com/papers/wireguard-formal-verification.pdf>

[2] <https://www.wireguard.com/>