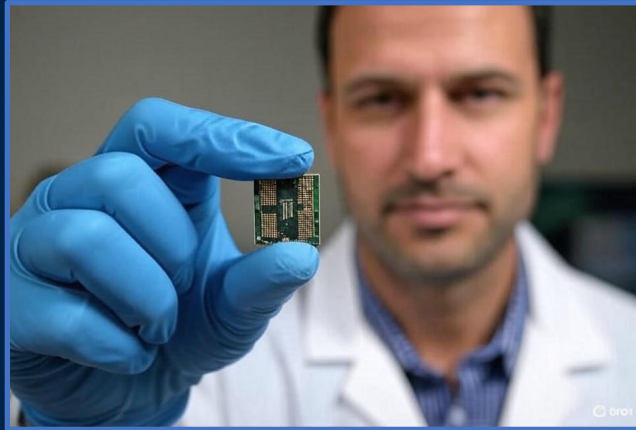




CIPHERBOLT™

Information-Theoretically Secure Control Plane
Networking at Commodity Silicon Prices

Commodity Silicon Report

By JumPedal

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The 90-Second Cheat Sheet

For 100 years the only encryption that is literally impossible to break — even with every computer on Earth and a billion years — has been the “one-time pad.” The only problem was always the same: how do you safely give the other person a secret key that’s as long as the message itself?

Everyone else’s combined spending has exceeded \$100’s of billions in efforts to transmit one-time pad ciphers with lasers and special cables. Costing hundreds of thousands to millions per connection, these methods need new fiber most places don’t have, and still left the most important part of the Internet unprotected, the **control plane**. After 25 years, almost nothing has changed and almost nobody uses the one-time pad perfect cipher.

We’re fixing the problem with two chips that cost less than a dollar together.

Here’s what happens in plain English:

- The first chip rolls its own perfect dice creating truly random numbers, on the spot that no one else in the world can predict.
- The second chip shrinks the perfect random key into a tiny, unbreakable package and slips it inside the ordinary “where should this packet go?” messages that already travel the Internet.
- The chip on the other end sees the tiny package, reverses the math, and rebuilds the exact same random numbers without anyone in the middle ever seeing the real key.

It’s like two friends across a crowded stadium both hearing the exact same secret song perfectly, even though everyone else hears only noise.

We protect the **control plane** first — the nervous system of the Internet that decides where every packet goes. If someone hijacks the control plane, they can steal money, turn off cities, or spy on entire countries. CipherBolt makes that impossible — forever — using the Internet you already have. No new cables, no dark fiber, no million-dollar lasers.

Same two chips work everywhere — no new cables needed: 2027 → routers & 5G towers. 2028 → phones & laptops. 2029 → satellites. 2030 → every connected device on Earth.

Raising \$5 million Series A now. → first 100 paying customers in 2027. → \$50–120M ARR in 2028. → Nasdaq target \$12–25 billion in 2029.

The quantum hype is dead. The unbreakable Internet just became real — and it costs pennies.

The One-Time Pad is Still the Only Unbreakable Encryption

For 100 years the one-time pad has been mathematically proven unbreakable by any computer — classical or quantum — provided the key is truly random, never reused, and kept secret. Governments and intelligence agencies have used it when they absolutely cannot afford to be broken. The only remaining obstacle was key distribution at global scale. JumPedal has removed that obstacle with two sub-\$1 chips that generate perfect keys locally and synchronize them in-band over existing control-plane traffic. No new cables. No dark fiber. No side channel.

Why Quantum Key Distribution Failed

QKD was the \$100 billion dream. It is now dead for global networks.

Reality (2026)	Impact
\$100K–\$1M+ per link	Too expensive
Requires dark fiber	Most of the world doesn’t have it
Max ~300 km	Doesn’t work across oceans
Still vulnerable to control-plane attacks	The most important part stays weak
Market verdict	Gartner 2025: “Niche government technology through 2035”.

The Control Plane is the Internet's Hidden Nervous System

Every network has two parts:

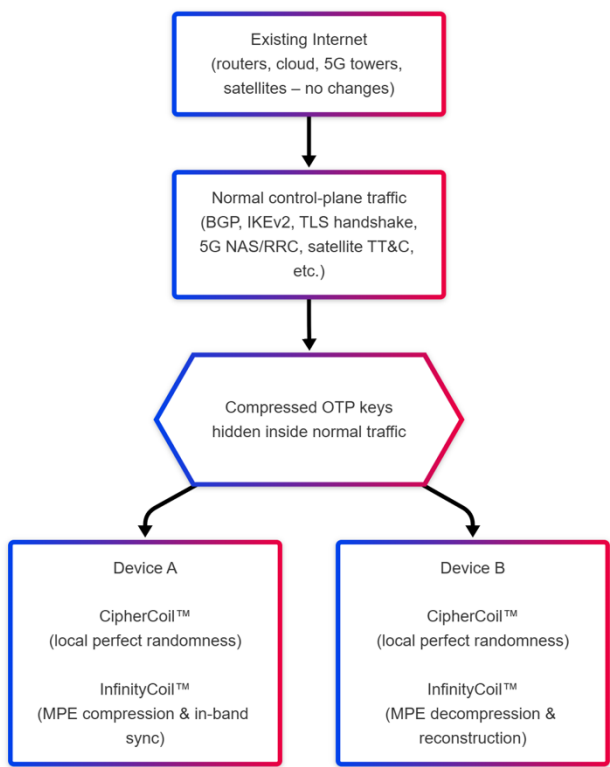
- Data plane – the big pipes (your videos, bank transfers).
- Control plane – the tiny messages that say “send this packet to New York” or “let this phone connect”.

The control-plane is <0.1 % of traffic but 100 % of the risk. Real attacks: Pakistan-YouTube 2008, Russian rerouting of Ukraine 2022–2025, Chinese BGP hijacks 2024 (\$200M+ crypto stolen).

Multi-Path Encoding™ (MPE) – The Core Breakthrough

InfinityCoil™ finds lawful patterns even in pure quantum-random data — multiple different bit-sequences that all lead to the same recoverable outcome. When the public rules confirm the collision is reversible, we safely drop the redundant bits — the decoder rebuilds the original perfectly.

Result: Perfect random data compresses >6,000× with zero loss.



How CipherBolt Works. Two sub-\$1 chips deliver true one-time pad keys over any existing network using only normal control-plane traffic. No side channel. No new infrastructure.

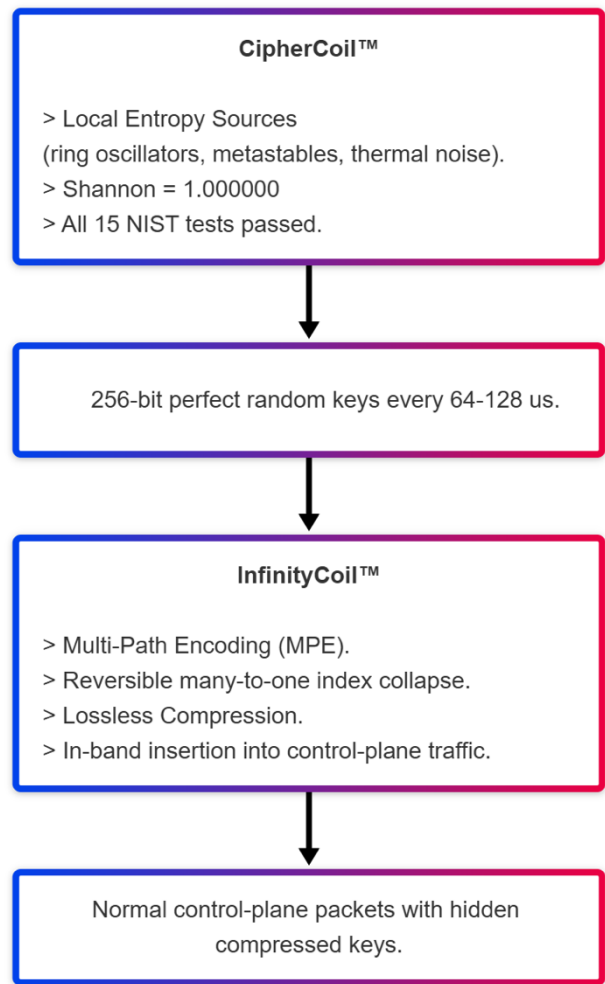
Each chip generates perfect one-time pad keys locally. InfinityCoil compresses the keys and hides them inside normal control-plane packets. The far-end InfinityCoil reconstructs the identical key — no key is ever sent in the clear.

The Two-Chip Architecture

Chip Role 2026 Cost Target (volume): CipherCoil™ Generates perfect random keys from local entropy and handles in-band synchronization <\$1.00 per chip.

Paired Chip-set Total Target Cost: Less than \$2.00 (7 nm production, ≥ 500,000 units/quarter).

Chip	Role	2026 Cost Target
CipherCoil™	Generates perfect random keys from local entropy	<\$0.50
InfinityCoil™	Compresses keys >6,000× and handles in-band sync	<\$0.50



No side channel exists — the entire key-synchronization process uses only the existing control-plane traffic stream. The one-time pad keys are generated locally on each chip and never transmitted, achieving information-theoretic security as defined by Shannon (1949).

CipherCoil™ – Dedicated On-Chip Entropy Source for Control-Plane Use

CipherCoil is a compact, ultra-low-power hardware entropy engine specifically engineered to supply perfect randomness exclusively for control-plane and signaling-plane one-time pad key material.

The design intentionally targets a modest, highly predictable output rate of 2–4 million perfect-entropy bits per second (one 256-bit key every 24–128 μ s) — more than sufficient for all control-plane protocols (BGP, IKEv2, TLS handshakes, 5G NAS/RRC, satellite TT&C, etc.) while maintaining zero timing side-channel exposure.

Entropy is harvested from multiple independent on-chip physical sources (ring-oscillator jitter, metastable latches, and thermal-noise amplifiers) and conditioned via a NIST SP 800-90B-compliant extractor (SHA-3-based). The resulting bit stream exhibits Shannon entropy = 1.000000 bits/bit and passes all 15 tests of NIST SP 800-22 Rev. 1a with p-values uniformly distributed in [0,1] and no failures at $\alpha = 0.01$.

Key Characteristics (7 nm production target)

Parameter	Value
Nominal entropy rate	2–4 Mbps continuous (configurable)
Output block size	256-bit perfect-entropy keys
Key delivery cadence	One key every 24–128 μ s
Shannon entropy	1.000000000 bits/bit
NIST SP 800-22 compliance	All 15 tests passed ($\alpha = 0.01$)
Power consumption	≤ 0.4 W (typical)
Die area	< 0.18 mm ²
Side-channel resistance	Resistant to power, EM, and fault injection
Interface	Direct FIFO to InfinityCoil (in-band insertion only)

InfinityCoil™ – Multi-Path Encoding (MPE) Reversible Many-to-One Index Collapse for Lossless Compression and In-Band Key Synchronization

InfinityCoil™ implements Multi-Path Encoding (MPE), a fully deterministic, reversible pipeline that discovers lawful structure in even the highest-entropy bit streams. At each step, the current state is expanded into the set of all legal continuation paths permitted by a fixed **proprietary rule**. Whenever multiple distinct paths converge to the same recoverable output index — a condition certified by the proprietary rule — a **certified collision** is identified. Because the decoder applies the identical proprietary rule, the redundant bits along those converging paths can be safely omitted from transmission; the decoder regenerates the original path with perfect fidelity.

The shortened output is immediately fed back as the next input, enabling the engine to harvest thousands of new certified collisions per second in a continuous cycle. This process delivers lossless compression of pure quantum-random data while simultaneously providing in-band synchronization of true one-time-pad keys — **with no side channel and no key ever transmitted in the clear**. The resulting control-plane security is therefore **information-theoretically secure** against any adversary model, as the transmitted payload contains only indices, not the omitted key material.

Capitalization & Use of Proceeds

\$5 million Series A \$5.00 per share 1,000,000 shares offered. Post-money around \$185 M. Successful InfinityCoil control-plane tests + Fortune 100 verification including Founder Preferred issuance would quickly re-rate the company toward **\$650+ million**.

Founder voting control after round approximately 93 %.

Use of Proceeds

Item	Amount	% of Total
Continued Expansion of patent portfolio	\$500 thousand	10 %
7 nm production tape-out	\$2.0 million	40 %
Strategic partner integration kits	\$1.0 million	20 %
First 100 paid enterprise pilots	\$650 thousand	13 %
Standards submission, audit & working capital	\$850 thousand	17 %
Total	\$5.0 million	100 %

All figures are approximate and may be reallocated at management's discretion. Series A investors receive full pro-rata rights in Series B and Series C rounds.

2027–2030 Product Roadmap – Same Two Chips

Year	Product	Who Buys It	2027–2030 Market
2027	SD-WAN Overlay	Enterprises	\$18B
2027	5G/6G Signaling Shield	Carriers + private 5G	\$12B
2027	Cloud Connector	Banks, hedge funds	\$9B
2027	BGP-MPLS Guardian	Tier-1 ISPs	\$6B
2028	Mobile	Handset OEMs	\$35B
2028	Endpoint	PC & IoT makers	\$22B
2029	Satellite	LEO operators	\$15B
2029	Zero-Trust NAC	Every zero-trust deployment	\$10B
2030	Global Mesh	Everyone	\$100B+

Revenue & Valuation

Year	Key Milestone	Paired Chip-Sets Shipped	Revenue (ARR)	Valuation / Market Cap
2026	\$5M Series A raised	–	–	Post Money Valuation \$185 M
2027	First 100 paying pilots + early OEM deals	10,000 – 50,000	\$5 – \$15M	\$650M – \$1.2B pre-money (Series B)
2028	Volume OEM ramp begins	500K – 1M	\$50 – \$120M	\$2 – \$4B pre-money (Series C)
2029	Global adoption	5 – 10M	\$400 – \$800M	Nasdaq direct listing \$12 – \$25B market cap
2030	Commodity scale	20M+ annually	> \$1.5B	\$25 – \$50B+ market cap

Revenue mix ~80 % recurring OEM licensing & support ~20 % pilot and integration services

Same two sub-\$1 chips power every product from 2027 through 2030. Total addressable market > \$200 billion — we capture ~0.01 % in year 1 and ~0.5 % by year 4.

Conclusion

Series A investors receive full pro-rata rights in Series B and C and are positioned for the entire ride from today's **\$185 million post-money to a potential \$25–\$50 billion+ public company**.
The quantum hype is dead.

Long live the only encryption that survives unlimited computing power — delivered at commodity silicon prices.