

ION GUARD

Patent-Pending Hardware Security Architecture

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Brandon Giles Founder & Principal Architect, Iteration+

Background in electrical and civil engineering with hands-on experience in construction. I watched sensitive data move across networks that were never designed for security — so I built the solution myself.

Designed the architecture. Wrote the code. Filed the patent. Built the brand.

What's Established

- 32 / 32 security validation tests passed
- Sub-millisecond protocol validation
- Full architecture executed in sandboxed environment.
- Architecture designed and coded: message bus protocol, rules engine, cryptographic verification layer, core isolation logic
- Patent filed through CIPO while US filing in progress
- Accepted: MaRS Discovery District (Non-profit Innovation Network Membership in Canada)
- 25 deployment slots confirmed and ready for field validation (To date)

What's Patented

- **Claim 1:** The three-core asymmetric trust topology, three physically isolated processing cores with no shared bus, no shared memory, and no network bridge between them
- **Claim 2:** The unidirectional fire-and-forget protocol, a one-way hardware-enforced data channel from the Messenger core to the Primary Core
- **Claim 3:** The architectural prohibition of direct communication between the Primary Core and the Shadow Core — all transfers occur only through the hardware-controlled transfer mechanism

Three-Core Asymmetric Trust Topology

- **Core 1 — The Messenger:** The only core that touches the internet. Retrieves data, strips it, validates it, checks for threats, and sends it to the Primary Core through a one-way hardware-enforced channel. Fire and forget — one direction only.
- **Core 2 — The Primary Core:** Zero network access. Air-gapped completely. Receives only clean, validated data from the Messenger via the one-way bus. This is where sensitive work happens.
- **Core 3 — The Shadow:** Zero network access. Stores golden images, backups, and verification data. Communicates with other cores only through the hardware-controlled transfer mechanism covered in the patent.

If the Messenger is compromised it wipes and restores from the Shadow. The attacker has no lateral path to move through.

[▶ View Live Simulation](#)

What Is Ion Guard

- Ion Guard is a three-core air-gapped router activated by an encrypted USB security key
- What's in the box: the Ion Guard router, an encrypted USB security key, and cables
- All software is on the USB key (Spaces). The USB key contains your isolated environment with your encrypted accounts, credentials, and access tokens.
- The router connects to your existing modem on one end, and your pc on the other. The USB key and the router work together. You need both. That's by design.



Spaces — The Secured Environment

- On first setup, plug the USB into your computer, a setup wizard launches and introduces Spaces, the user interface for the air-gapped environment
- Select and authenticate accounts from a supported list (Google, Microsoft, banking, social, etc.) Ion Guard encrypts credentials into digital tokens stored on the USB. Raw passwords are never kept.
- Eject the USB, plug it into the router, create a master password which is stored on the router only, not on the USB and not on the computer (another by-design safety feature)
- Spaces activates on your device. Encrypted accounts appear as apps inside Spaces.
- Everything done inside Spaces runs through the air-gapped architecture.



nGUARDO
PERSONAL FINANCE

SPACES

banking

work

music

social

Why This Is Different

Product	What It Does	What It Can't Do
Firewalla / Ubiquiti	Filters traffic	No physical isolation
VPNs	Hides IP address	Doesn't isolate memory or operations
Enterprise Firewalls	Isolates traffic	Doesn't isolate memory
Data Diodes	One-way transfer (two-network model)	No integrated validation
Cross-Domain Solutions	Bidirectional by design	Cannot eliminate covert channels
Ion Guard	Three-core physical isolation + one-way validated messaging + integrated rules engine	N/A

What It's Solving

- Home/Home Offices operating on networks containing sensitive data
- VPNs hide an IP address but don't isolate memory or operations. Firewalls filter traffic but don't isolate memory.
- No hardware-level isolation exists at a consumer price point
- For families and schools: software parental controls and content filters, kids bypass them, and there is no architectural enforcement
- The problem is structural. The solution is architectural.

Who It's Solving For

- **Tier 1** — Remote Professionals: 50M+ in North America working from home networks with zero hardware-level protection. Lawyers, engineers, executives, and consultants protecting sensitive assets with consumer-grade hardware. Ion Guard at \$499 fills a gap no product currently addresses.
- **Tier 2** — Defense & Critical Infrastructure: Organizations that already have procurement channels and manufacturing capability. They license the architecture, build under their brand, Iteration+ collects royalties on the IP.
- **Tier 3** — Families & Schools: 130,000 K-12 schools in the US. 50M students. Ion Guard is the first solution where the restriction is architectural.



The Market Opportunity

Global Cybersecurity Market

Metric	Value
2025 Market Value	\$218.98B
2032 Projection	\$562.77B
CAGR (2025–2032)	14.4%
North America 2025	\$94.21B (43% share)

Defense Cybersecurity Market

Metric	Value
2024 Market Value	\$37.23B
2032 Projection	\$66.89B
CAGR	7.6%
North America Share	40%

Ion Guard Addressable Market

	Definition	Size
TAM	Global cybersecurity market	\$562B by 2032
SAM	Hardware + endpoint security segment	\$21.7B (2024)
SOM	50M remote professionals @ \$499/unit	\$24.95B total addressable
Year 3 Target	0.1% market penetration (conservative)	~\$25M

Unit Economics

Consumer Hardware — \$499 Retail

Scale	BOM / Unit	Gross Margin
Pilot units	~\$289	42%
5,000 units	~\$210	58%
25,000+ units	~\$165	67%

IP Licensing Tiers

Tier	Price Range
Enterprise (per deployment)	\$75K – \$150K
Defense / Gov (per deployment)	\$150K – \$300K
OEM Royalty (per unit shipped)	\$500 – \$2,000

Retail price is \$499 across all consumer tiers. Margins improve significantly as volume scales

Licensing revenue is additive.

Revenue Projections — Conservative

Hardware sales only — licensing revenue is additional and not included in these numbers.

	Year 1	Year 2	Year 3
Units Sold	1,000	3,500	8,000
Revenue	\$499K	\$1.75M	\$3.99M
COGS / Unit	\$289	\$210	\$165
Gross Margin	42%	58%	67%
Market Penetration	<0.01%	<0.01%	<0.1%

Less than 0.1% market penetration at Year 3.

Day-One Deployment Ready

- **25 deployment slots** confirmed across BDG Construction Group's business network, client offices, and client homes
- **Real environments:** contracts, bids, and financial data moving across networks
- **Accepted:** MaRS Discovery District
- **Patent filed:** CIPO — US filing in progress
- **32 / 32 security validation tests passed in sandboxed environment**

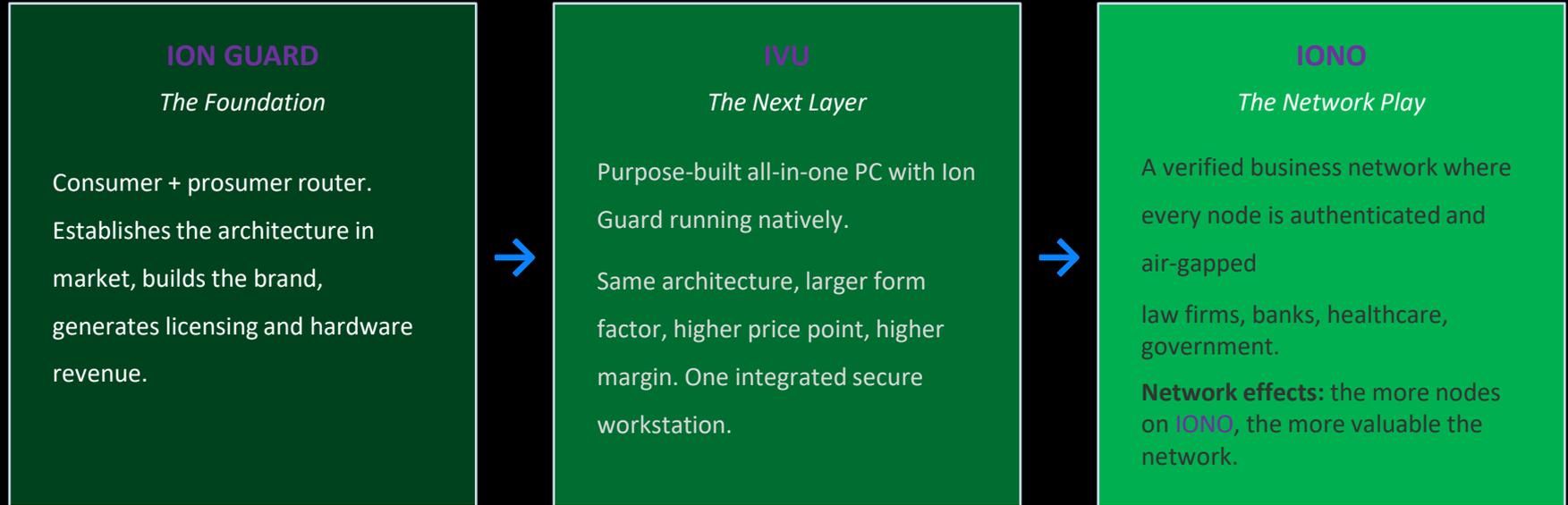
We Are Looking For Partners

- **The IP licensing model:** we deliver the architecture, blueprints, implementation specs, validated code, and product documentation. A manufacturing partner builds to spec.
- **What Iteration+ brings:** patent-pending IP, validated architecture, completed code, product design, branding, and a confirmed first deployment network
- **What a partner brings:** manufacturing relationships, GTM infrastructure, defense and enterprise channels, and the operational infrastructure to build a company around the IP
- **Open to:** seed investment, licensing, strategic partnership, or acquisition. Whatever structure makes sense for both sides

The Investment

- **What it produces:** a working hardware prototype built on a validated architecture with completed code, deployed across 25 real-world environments to generate documented field validation results
 - **An Engineering integration step:** taking validated architecture and completed code and putting it onto physical hardware
 - That moves the project from TRL 4 to **TRL 5–6**.
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- **Iteration+:** patent-pending IP, validated architecture, completed code, product design, branding, and a confirmed first deployment network

Scalability — One Architecture, Three Products, One Ecosystem



The Compounding Model

Ion Guard builds the install base · **IVU** deepens per-customer value · **IONO** monetizes the network

One IP portfolio · Three revenue streams · One ecosystem



The Architecture Is Real.
The Code Works.
We Need Hardware.

Patent-pending. 32/32 tests passed. MaRS accepted. 25 pilots confirmed.
Architecture designed. Code complete. Hardware integration is the next step.