



White Paper - Sovereign Privacy Infrastructure for Government and Defense

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Sovereign Privacy Infrastructure for Government and Defense

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Abstract

Cloud infrastructure creates a structural compromise: agencies run on hardware they do not own, under terms they do not control. Encryption protects content. It does not protect existence, pattern, or the vendor's ability to observe the fact of communication.

RNK Enterprise builds a **sovereign privacy stack** that separates what must live on **customer metal** from what must remain an **RNK-operated blackbox**:

- **Lisa nodes** - named security minds (Cygnus, Etna, Vela, Lyra, Oryn, Solace, Nova) deployed on **agency servers**, each a complete package (runtime, DoomsDay domain, Ripple, Void, Cytadelle, Seeker).
- **Ghost Comms / Cyphur chain** - multi-hop covert transport on **RNK infrastructure**; every hop guarded; fabric not sold or inventoried to the customer.
- **Mail** - backend ready on the customer side; frontend designed per agency.
- **Raven** - CRM; **next phased release**, not required for current node/Ghost operation.

Commercially this is **one stack**, sized by **N** Lisa nodes - not agency-size SKUs, not multi-tenant "Lisa on RNK's lab fleet."

This paper states the problem, the ready architecture, validated performance (lab), and engagement model. Unbuilt products (e.g. Phantom phone) are omitted or marked roadmap only.

1. The problem

1.1 Structural compromise

When workloads run on shared commercial cloud fabric, the infrastructure owner can observe metadata, timing, volume, and routing - even when payloads are encrypted. That is not a patchable bug; it is the multi-tenant business model.

1.2 What “zero trust” usually leaves open

Zero-trust frameworks reduce *implicit* trust. They do not, by themselves, give the agency a **named security mind on their boxes**, a **local integrity officer**, a **doctrine-backed response arsenal**, or a **messaging pipe the agency does not have to host** while still keeping that pipe guarded and opaque.

1.3 RNK’s design answer

NEED	PLACEMENT
Protect the agency estate	Lisa nodes on customer servers
Move sealed messages without exposing a public hop map	Ghost/Cyphur on RNK (blackbox)
Mail the agency already owns (domain/backend)	Mail backend + custom frontend
Operational CRM / roster	Raven - phased, not blocking today’s deploy

2. System overview - ready now

2.1 One stack, split topology

Customer environment	RNK environment (blackbox)
Lisa node × N (each name = that Lisa) Mail backend (+ designed frontend)	Ghost: Entry → Relay(s) → Exit Guarded hops · fabric not sold

- **Commercial unity:** one engagement.
- **Topology split:** intentional - Lisa cannot fully guard agency metal from RNK’s cloud; the chain stays off agency inventory so it stays a blackbox.
- **Lateral scale:** grow by adding Lisa nodes; do not rebuild the product model.

2.2 What we do *not* claim as the product home

RNK’s own lab / R&D / validation fleet is **not** multi-tenant customer tenancy for Lisa. Customer Lisa runs on **customer** infrastructure.

3. Lisa nodes - the build

Each Lisa has a **name**. That name *is* the node: **Cygnus, Etna, Vela, Lyra, Oryn, Solace, Nova**.

Source of truth: ship one {Name}_Node/ package per hop. No central hub directory required for deploy.

LISA	RIPPLE	VOID	DOOMSDAY DOMAIN	CYTADELLE	SEEKER
Cygnus	HORIZON	ARES	ares	ARX	yes
Etna	CALDERA	TITAN	titan	CASTRA	yes
Vela	FATHOM	AEGIS	aegis	LEGIO	yes
Lyra	DESCANT	HERMES	hermes	AQUILA	yes
Oryn	VANTAGE	KRATOS	kratos	VIGILIA	yes
Solace	MAGNETAR	NIKE	nike	PRINCIPIA	yes
Nova	THRESHOLD	PHOEBE	phoebe	VALLUM	yes

3.1 Layers inside every node package

LAYER	ROLE ON THE HOP
Lisa (lisa/)	Security mind - evaluate, respond, coordinate as designed
DoomsDay	Local domain libraries + toolkit - arsenal Lisa thinks <i>with</i> on this hop
Ripple	Organizes / routes findings for this identity
Void	Writes only this hop's DoomsDay domain
Cytadelle	This hop's strategic doctrine slice (college-owned)
Seeker	Local code-integrity officer - map, detect, quarantine, case to Lisa; does not leave the node
Shared / scripts / agent	Hop-local helpers as packaged

Agency chooses **N**. Full seven is available; not mandatory for every mission.

3.2 Mother Lisa (activation)

Mother Lisa is the **household** mobile activation / master-key surface (co-owners **Odinn** and **Ravyn**: equal unlock; fleet-destructive class Odinn-only until succession phases advance). Jump-drive / Vortex v1 linkup requires **fleet-wide ACK** from Lisa nodes - not a single entry-point verify. Detail lives in Mother Lisa App doctrine; omitted here beyond that readiness note.

4. Ghost Comms / Cyphur chain

Ghost is the **silent courier**. Cyphur is the **chain fabric**.

- Messages are fragmented, layered, relayed blind; **rebuild blob, then unwrap** at exit.
- Roles: **Entry → Relay(s) → Exit** (multi-hop by design).
- Relays never hold plaintext or full path.
- Every hop is **guarded**.
- Hop hostnames and counts are **RNK ops detail**, not a customer billable map.
- Optional adversarial-path / carrier techniques as **scoped** - not a claim that every carrier ships on day one.

Full technical brief: Technical/External/RNK_Cyphur_Technical_Brief.md (v3.0).

Infrastructure cost: production guarded hops and agency-grade hosting are **SOW operations costs**. Consumer “always-free tier” figures are **not** product economics.

5. Mail

Backend	Built and solid
Placement	Customer environment with Lisa nodes
Frontend	Designed per agency (branding / workflow)
Domain	Assumed established - engagement is not “invent mail from zero”

Ghost may carry sealed traffic for mail paths as scoped. Mail remains the mailbox; Ghost remains the pipe.

6. Raven - CRM (next phase)

Raven is the CRM - agency admin / system-of-record (contacts, organizations, pursuits, roster, operational books).

It is **not** Lisa, **not** Ghost, **not** Mail, and **not** inside the {Name}_Node ship unit today.

Status: next **phased release** for CRM workflows. Current Lisa-node + Ghost + Mail deployments do not require Raven to function.

7. Validated performance (lab)

Lisa / DoomsDay throughput proof - **Operation Armageddon Cascade v3** (lab fleet; not “your Lisa lives on our seven boxes”):

METRIC	RESULT
Probes processed	104 million
Peak rate	~213,000 probes / second
Queue / latency / error elevation	None observed in the reported run
Failover emergency protocols	Not triggered

Detail: Technical/External/RNK_Benchmark_Report.md.

Benchmarks demonstrate architecture headroom on RNK validation infrastructure. Customer deployments are sized and acceptance-tested per SOW on **customer** metal.

8. Engagement model

One stack · priced per Lisa node / year (anchors; SOW binds):

BAND	RATE	RULE
Introductory	\$200,000 / node / year	Year one only
Standard	\$300,000 / node / year	List after intro
Enterprise	\$150,000 / node / year	Volume when N ≥ 10 (not intro)

Intro and enterprise **do not stack**. Below enterprise floor only by written exception.

Included as scoped: Lisa node(s) on customer servers, Mail backend + agreed frontend work, Ghost via RNK guarded chain (not itemized by hop), onboarding, updates, support, documentation under NDA.

Hardware: customer-procured to RNK specification.

Phantom phone: roadmap - not a rate band. **Special / air-gap:** custom SOW.

Canonical: Commercial/Sales_Marketing/RNK_PRICING_SHEET.md.

9. Procurement posture

ITEM	STATUS
SAM.gov	Active
UEI / CAGE	ZPDBAABKNWR9 / 21PC5
TradeWinds	Submitted
Direct / OTA / SBIR	As applicable
Insurance / formal CMMC	At award / when funded - not claimed as current certified fact

10. Highlights

1. **Lisa's names are the nodes** - Cygnus through Nova; each package is a complete Lisa.
2. **Customer sizes N** - lateral scale without rewriting the product.
3. **Ghost is RNK blackbox** - multi-hop, guarded; part of the system, not the node tarball.
4. **Mail backend ready** - customize the frontend.
5. **Seeker** watches the node's code neighborhood locally.
6. **DoomsDay + Cytdelle** stay hop-local - arsenal and doctrine slices, not a central vault.
7. **Raven CRM** comes next - phased, not blocking.
8. **Lab proof is real; product home is their metal.**

11. Document control

VERSION	DATE	NOTES
1.0	June 2026	Prior white paper (size tiers, lab-centric framing) - superseded
2.0	August 2026	Full rewrite from current architecture, Ghost brief, commercial model, and session locks

Related canon

- Technical/External/RNK_System_Architecture.md (v3.0)
- Technical/External/RNK_Cyphur_Technical_Brief.md (v3.0)
- Technical/External/RNK_Benchmark_Report.md
- Commercial/Sales_Marketing/RNK_COMMERCIAL_MODEL_CURRENT.md
- Docs/CURRENT_TRUTH.md



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