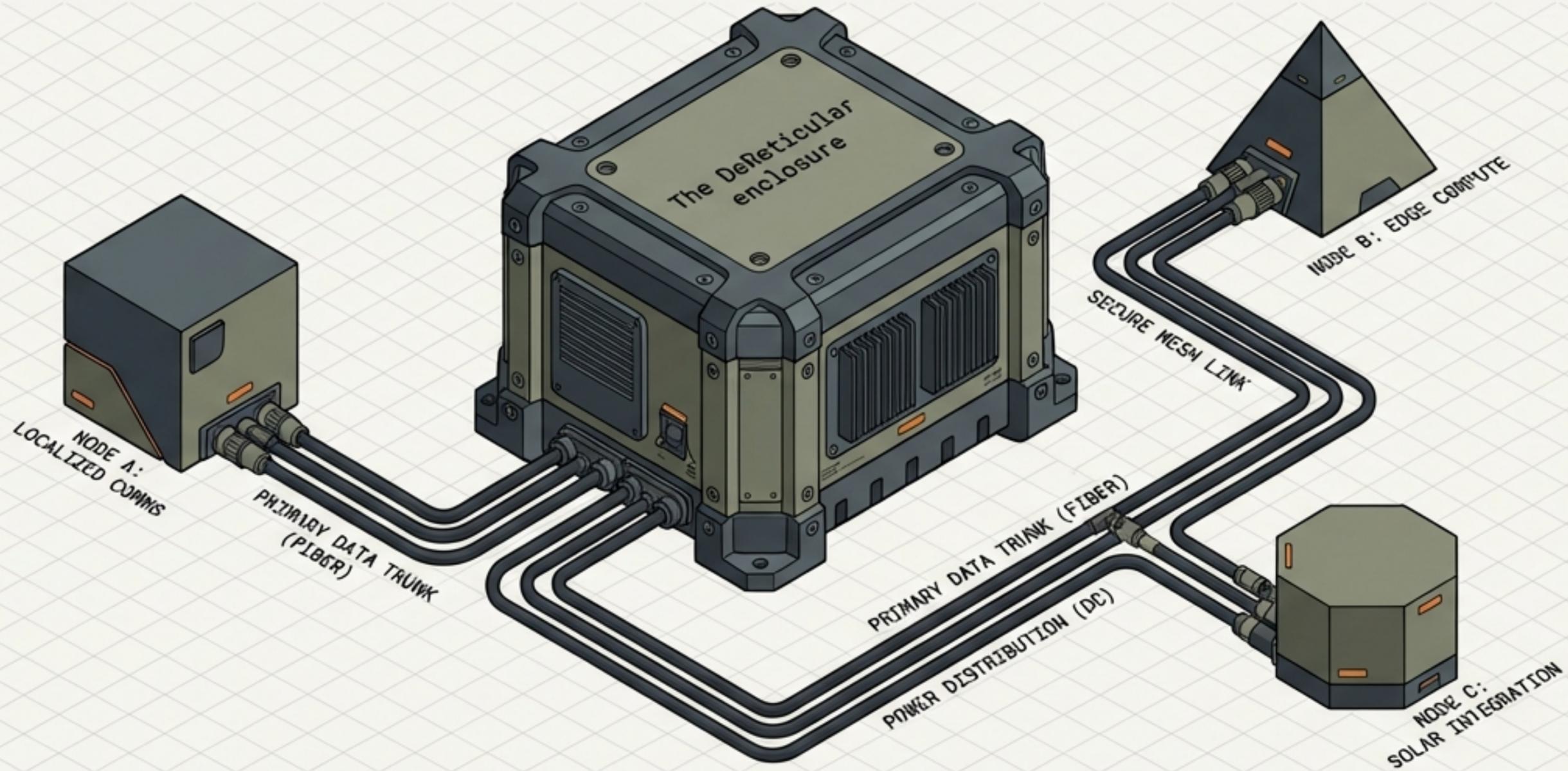
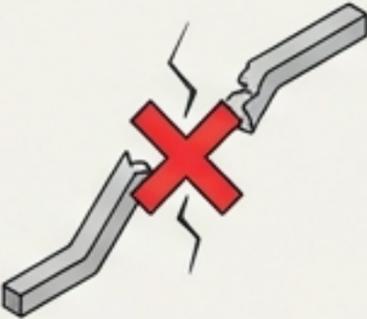
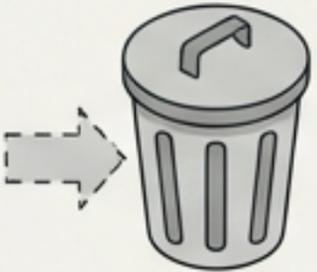
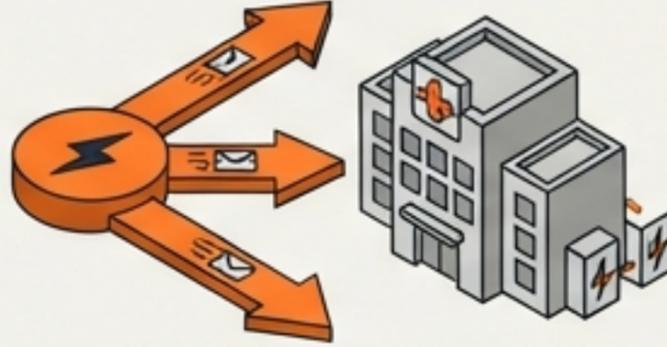
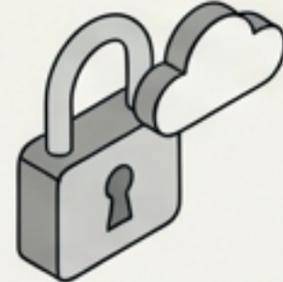
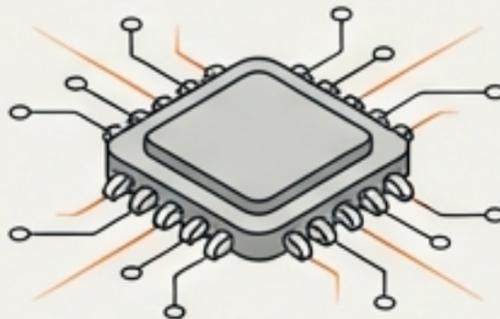


The Resilient Microgrid Utility Bundle

Decentralizing Energy Architecture through Autonomous Edge Compute



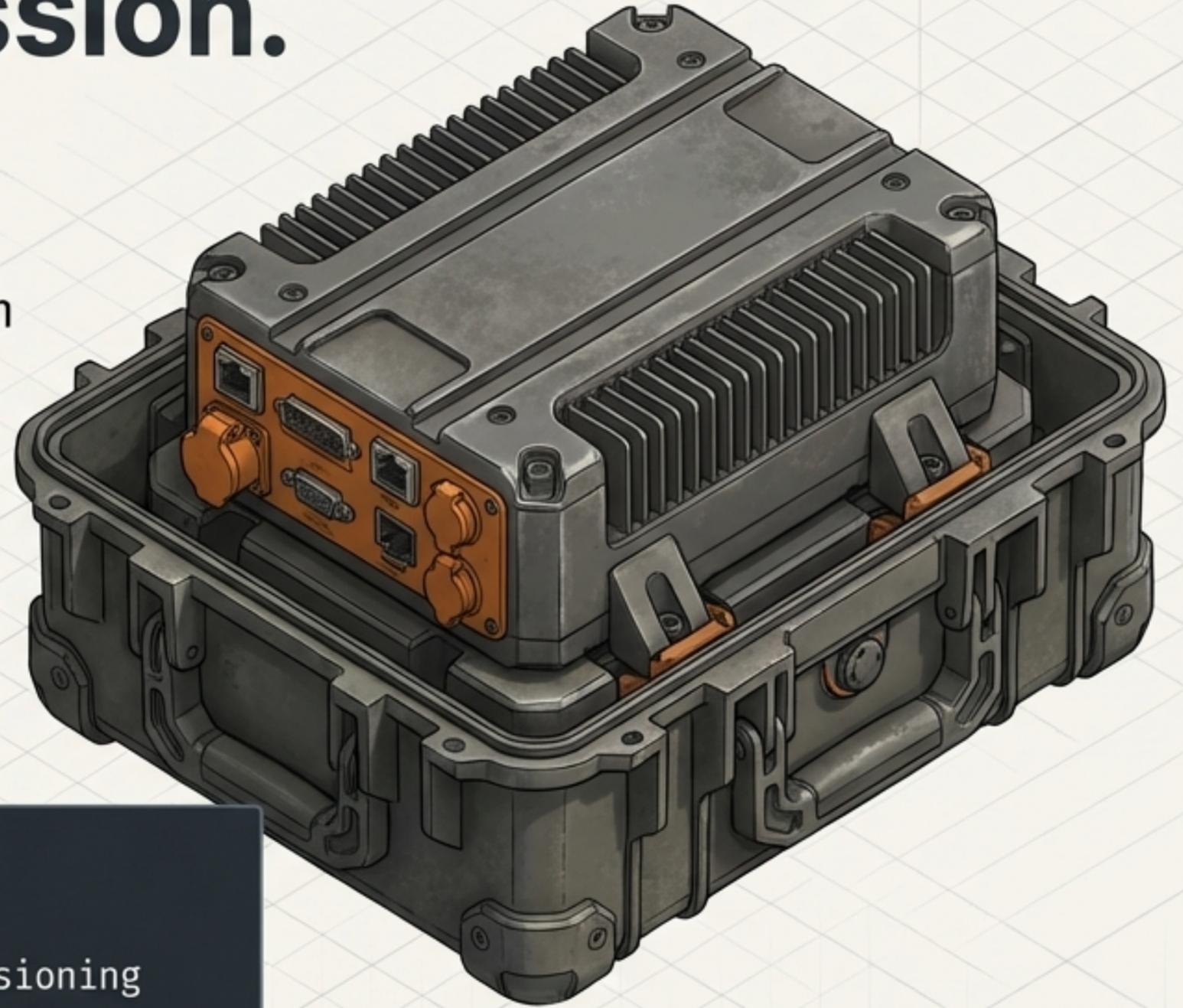
The Paradigm Shift

Legacy Solar Setup		Sovereign Microgrid Node
Grid Dependency	 <p>Grid-tied; fails entirely during macro blackouts.</p>	 <p>Autonomous Islanding; instantly isolates from macro-grid brownouts.</p>
Energy Efficiency	 <p>Wastes excess or sells at a loss.</p>	 <p>Community P2P Routing; diverts excess to local town infrastructure.</p>
Ecosystem Control	 <p>Single-brand locked, cloud-dependent APIs.</p>	 <p>Hardware-agnostic, 100% locally hosted via OpenClaw Foreman.</p>

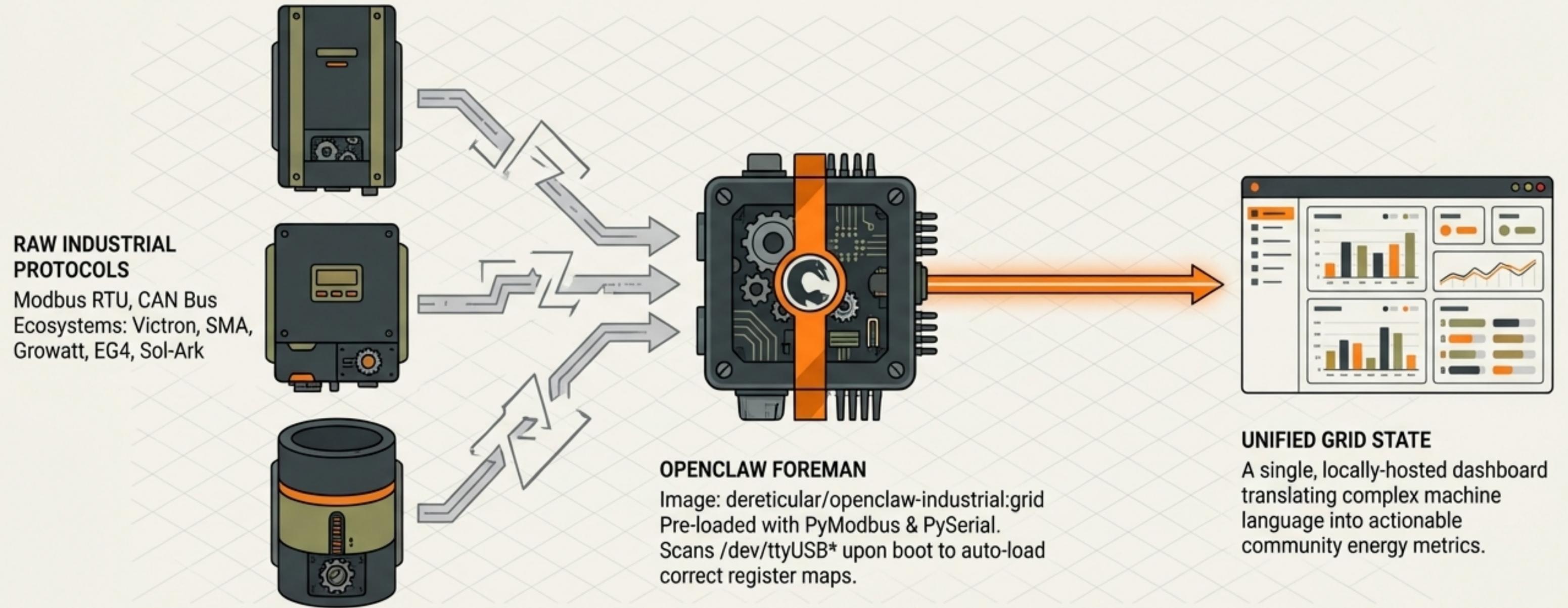
Energy Independence is No Longer a Solo Mission.

The Resilient Microgrid Utility Bundle replaces fragile power dependencies with an anti-fragile, community-driven network. It packages the physical compute power of the Sovereign Sentry hardware with the industrial translation AI of the OpenClaw Foreman agent.

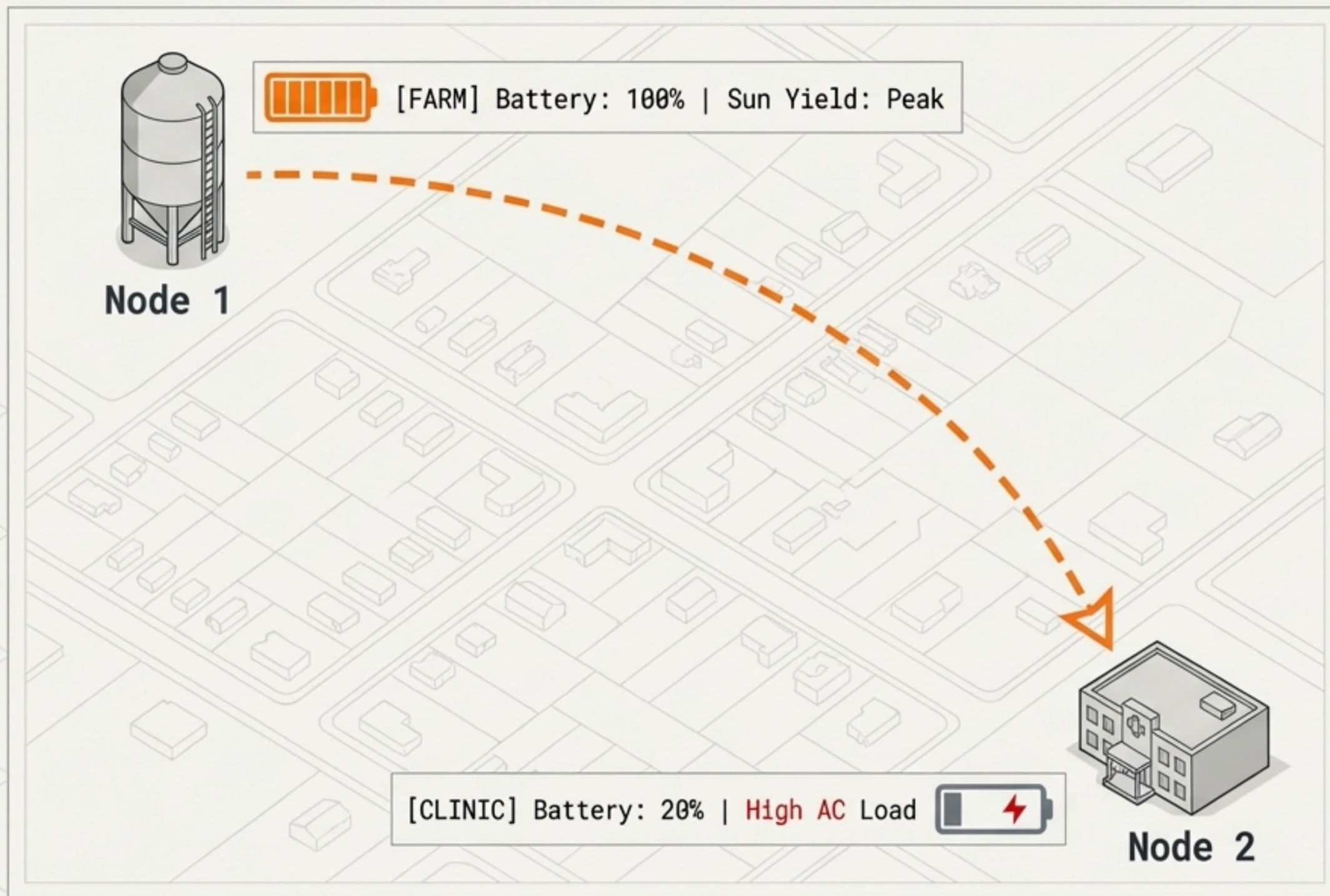
SKU : SOV-BNDL-GRID
ROLE : Autonomous P2P Energy Negotiator
FORMAT : Physical Edge Server + Digital Software Provisioning
PRICE : \$999.00 (One-Time Perpetual License. Zero Monthly Fees.)



The Universal Hardware Translator



Autonomous P2P Load Balancing



STEP 1:

The farm's battery hits peak capacity. To prevent solar yield waste, the local Foreman broadcasts a state-of-charge (SoC) metric via the P2P daemon.

STEP 2:

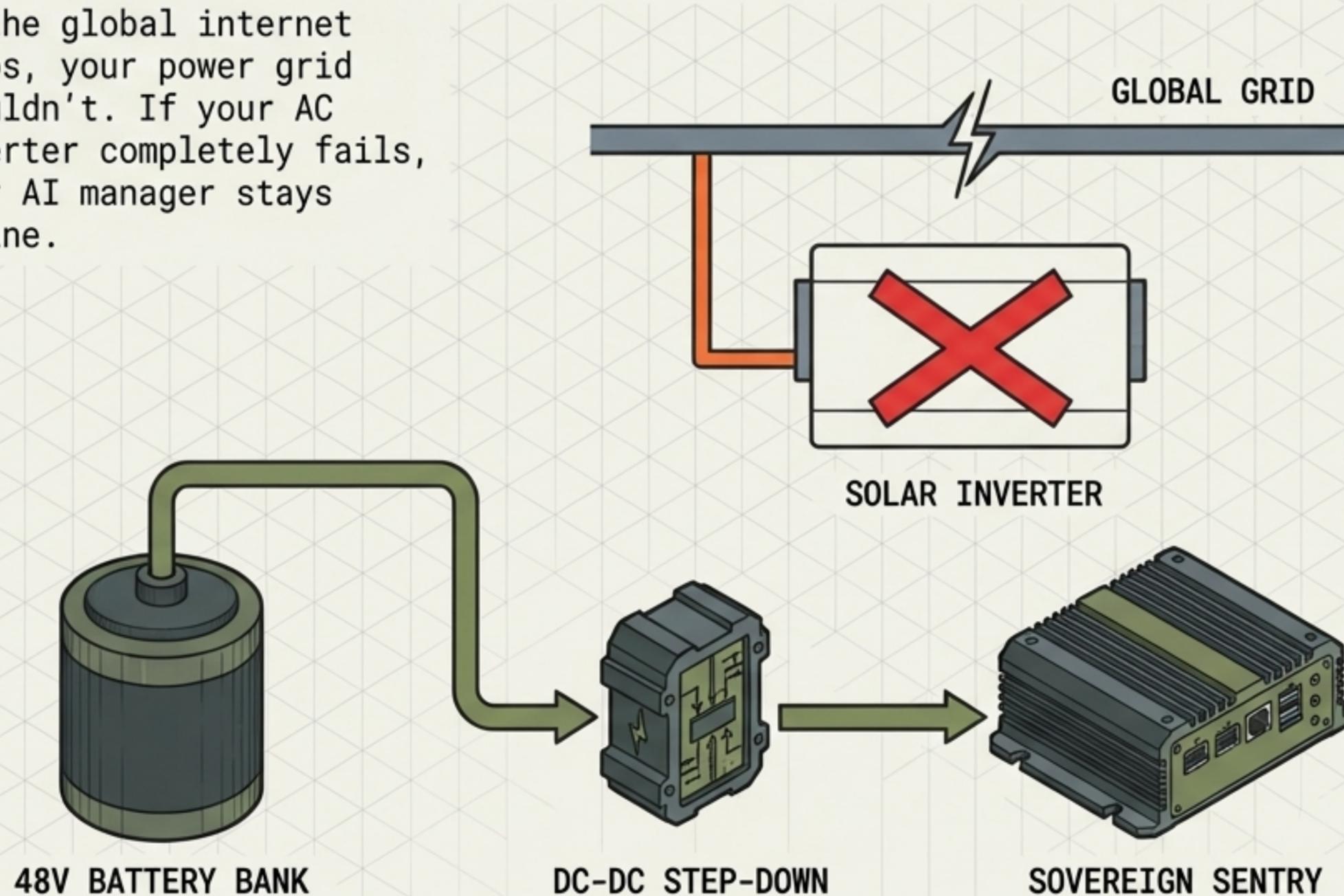
The clinic is running heavy AC loads on a draining battery. The mesh detects the imbalance.

STEP 3 (THE NEGOTIATOR):

Node-RED logic engine autonomously triggers a smart relay, dumping the farm's excess power into the clinic's shared water boiler to store energy thermally.

True Island Mode: Direct-DC Survival Architecture

If the global internet drops, your power grid shouldn't. If your AC inverter completely fails, your AI manager stays online.



No Cloud Dependency

Logic runs 100% locally on the Sovereign Sentry. No external servers, no latency.

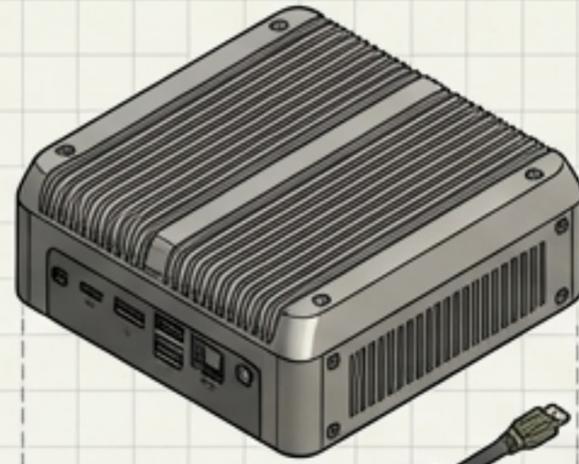
Direct-DC Power Bypass

The included DC-DC converter allows the Sentry to draw power directly from the 12V/24V/48V solar battery bank, avoiding massive AC inverter losses and ensuring continuity even during catastrophic hardware failures.

Hardware Anatomy: The Bill of Materials

01. SOVEREIGN SENTRY PRO

Standard Edition. Fanless Edge Compute Node (Intel N100 architecture, 16GB RAM, 500GB NVMe).



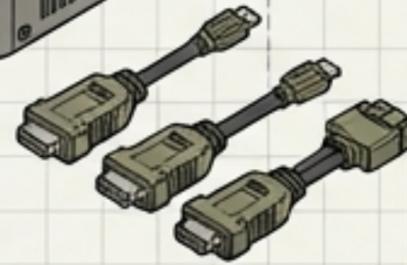
03. PHYSICAL INFRASTRUCTURE

Ruggedized DC-DC Step-Down Converter.



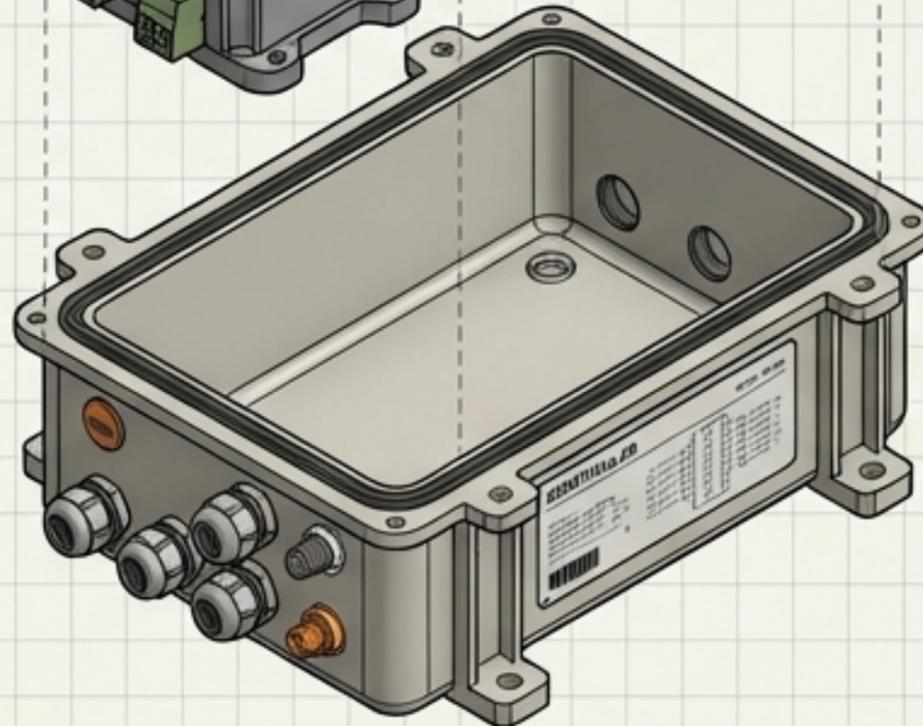
02. SOLAR/BATTERY BRIDGE KIT

Includes 2x Opto-isolated USB-to-RS485 Serial Adapters (for Inverters) and 1x USB-to-CAN Bus Interface Module (for smart BMS).

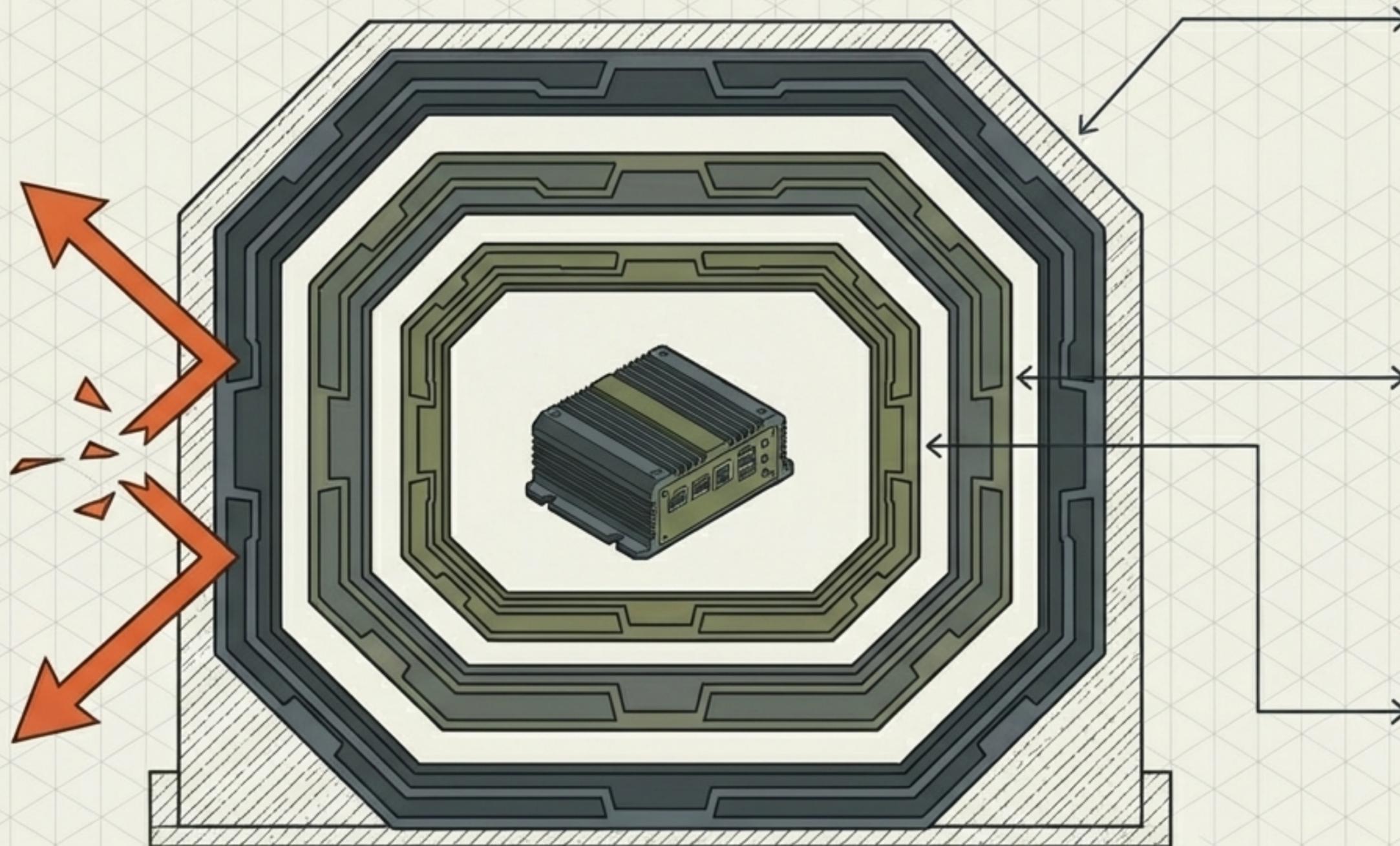


04. DERETICULAR FIELD BOX

Weather-resistant enclosure featuring SKU label and printed pinout diagrams.



Industrial-Grade Protection Matrix



THREAT: Ground Loops & High-Voltage Shorts (R-VOLT-01)

ARMOR LAYER: Physical Opto-Isolation

Included RS485 adapters feature physical opto-isolators blocking electrical surges up to 3kV.

THREAT: Mechanical Relay Chatter (R-LOG-01)

ARMOR LAYER: Hysteresis Enforcement

Node-RED logic enforces a strict 5-minute minimum state-hold before switching mechanical relays, preventing physical wear from rapid cloud cover.

THREAT: Grid Spoofing / Node Injection (R-SEC-01)

ARMOR LAYER: Hardware Roots of Trust

Only nodes holding a valid, DeReticular-signed X.509 certificate and SHA-256 Node Key can negotiate power loads on the mesh.

Hybrid Fulfillment & Deployment Workflow

DIGITAL PROVISIONING - IMMEDIATE

NODE MINTING: Backend generates cryptographic identity and SHA-256 License Key.

EMAIL DISPATCH: Customer receives Grid Initialization email with keys, RS485 wiki, and inverter matrix.

PHYSICAL FULFILLMENT - WAREHOUSE

PICK & FLASH: Warehouse pulls Sentry (N100) and flashes RIOS Core OS.

KIT ASSEMBLY: Sentry, Bridge Kit, and power supply packed into field box. Ship via ground.

USER INSTALLATION & CALIBRATION

- **Direct-DC Hookup & Data Bridging:** Wire Sentry to 48V bank and RS485/CAN adapters to BMS.

- **Discovery & Peering:** Foreman auto-detects hardware and pings local Wi-Fi/LoRaWAN to establish the P2P trading dashboard.

Turn Your Town Into a Sovereign Powerhouse

SYSTEM REQUIREMENTS:

- > Compatible Solar Inverter / Charge Controller with RS485/Modbus or CAN Bus output.
- > Local wireless mesh network (Wi-Fi or LoRaWAN) to connect with neighboring DeReticular nodes for P2P trading.

THE RESILIENT MICROGRID UTILITY BUNDLE

- [+] Compute Node
- [+] Industrial Adapters
- [+] Industrial Adapters
- [+] DC Power Infrastructure
- [+] Perpetual License: OpenClaw Foreman, Node-RED flows, X.509 Certificates.

TOTAL INVESTMENT: \$999.00
(Zero Monthly Fees)