

WILLIAM JAMES

Systems Architect | AI Engineer | Enterprise Infrastructure Engineer | Linux & Network Design and Sr Infrastructure Development and Implementation Engineer

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<https://bchicbcow.com> • Fully Remote (US Citizen)

PROFESSIONAL SUMMARY

Systems architect and infrastructure engineer with 35+ years of hands-on expertise spanning Linux administration, enterprise networking, hosting operations, and technical business ownership. Specializes in building secure-by-design systems from the physical hardware layer up through virtualization, containerization, and model-agnostic AI gateways. Known for documentation-first diagnostics, structural isolation boundaries, and resolving complex failure domains.

CORE TECHNICAL COMPETENCIES

- **Virtualization & Compute:** Proxmox VE, LXC containerization, systemd service management, service isolation, Linux security hardening.
- **Networking & Security:** OPNsense/pfSense firewalls, custom VLAN micro-segmentation, WireGuard VPN mesh topologies, encrypted tunnels, automated TLS lifecycles.
- **High-Throughput Architecture:** LACP Link Aggregation (Layer 3+4 Hashing Policy), 10G SFP+ optical interlinks, managed hardware switches (RealHD, Aruba).
- **Storage & Systems:** ZFS mirrored arrays, automated snapshot policies, rclone parity, checksum-verified release procedures.
- **AI Engineering:** Model-agnostic API gateways, OpenAI-compatible APIs, request serialization, fallback analysis, multi-agent context handoffs.
- **Languages & Tooling:** Python, Bash/Shell, Perl, PowerShell, Git, REST APIs, JSON.

SELECTED ENGINEERING PROJECTS

BCBC Technologies | May 2001 – Present

Independent Engineering & Systems Infrastructure

- **PRISM AI Evidence Lab:** Architected an evaluation framework establishing observable technical evidence boundaries between model claims, provider gateways, and execution platforms using structured capability test suites and a Python-backed web console.
- **FreeLLMAPI Gateway Operations:** Administered multi-provider LLM API gateways in Proxmox LXC; executed controlled containerized upgrades (v0.13.10) with systemd drop-ins and verified SQLite migrations (schemas 34–39) to ensure zero-downtime rollbacks.
- **Proxmox Secure-by-Design Infrastructure:** Architected multi-node Proxmox environments using hardware-level multi-NIC segmentation (isolating public ingress, internal subnets, and overlay paths prior to installation). Deployed kernel-level WireGuard mesh routing to strip default Layer 2 bridge exposure and eliminate LXC lateral movement, backed by ZERO Trust LACP L3+L4 storage backbones.

PRODUCTION PLATFORM LEADERSHIP & HISTORY

- **HeliFreak.com — Founder & SysAdmin (2000 – 2015 | Acquired):** Architected end-to-end Linux hosting infrastructure, managing full-lifecycle reliability, LAMP performance, MySQL optimization, and security hardening through successful acquisition.
- **Co-Founder & Technical Operations:** Co-architected **FreakTab.com** tech developer infrastructure, led commercial ops for **FlightPowerUSA**, and configured multi-line serial communications and storage arrays Infrastructure design and implementation.
- **Altered Reality BBS — Co-SysOp / Systems Operator | Approx. 5 Years:** Configured and maintained multi-line serial modems, storage arrays, networking protocols, and user access permissions on Amiga Platform 8 USR Courier HST then DS Modems.

EDUCATION & CREDENTIALS

- **AAS in Programming** — Keiser College (GPA: 3.75)
- **Certifications:** MCSE, CCNA, CNE, CompTIA A+, Network+, i-Net+
- **Aviation:** FAA Commercial Pilot Certificate (*Active flight currency not implied*)

CORE ENGINEERING METHODOLOGY

Isolate the true failure domain • Change one variable at a time • Preserve atomic rollback paths • Verify runtime reality over labels • Keep systems documented, observable, and reproducible.