

Jeremy Bryan Smith

Senior Linux Infrastructure & Automation Engineer

PROFESSIONAL SUMMARY

Senior Linux infrastructure, systems, and software engineer with 20+ years of experience architecting, automating, securing, operating, and troubleshooting production platforms. Extensive hands-on experience with Puppet-managed Linux fleets, automated bare-metal provisioning, custom Linux environments, Python/Bash/Go systems tooling, containers and virtualization, networking, databases, observability, storage, and security. Particularly effective in autonomous environments requiring first-principles reasoning, deep research, source-level investigation, and rigorous root-cause analysis across hardware, kernel, operating-system, network, storage, database, and application layers.

TECHNICAL EXPERTISE

Linux & Kernel: Ubuntu, Debian, RHEL/CentOS-family Linux; systemd, boot/initramfs, processes/threads, memory, filesystems, networking stack, package management, kernel/userspace debugging and performance analysis

Infrastructure Automation: Puppet, PXE, DHCP/TFTP, automated bare-metal provisioning, configuration orchestration, Ansible experience, Python, Bash, Go, Git and repeatable deployment workflows

Software Engineering: Python, Go, Bash, C, C++, Perl, Java, PHP, SQL; systems utilities, daemons/services, APIs, deployment, diagnostics, monitoring and operational tooling

Networking & Security: TCP/IP, IPv4/IPv6, DNS, DHCP, routing, VLANs, VPNs, WireGuard/OpenVPN, iptables/firewalls, TLS/SSH, reverse proxies, WAF design, load balancing and network segmentation

Containers & Virtualization: Docker, LXC/LXD, KVM/QEMU, Proxmox VE, libvirt, VMware and Xen

Databases & Search: PostgreSQL, MySQL, SQL, Redis familiarity, Elasticsearch familiarity, indexing/query analysis and database/application performance troubleshooting

Monitoring & Observability: Prometheus, Grafana, Nagios/Icinga, metrics, dashboards, alerting, logging, custom event-driven monitoring and diagnostic tooling

Reliability & Operations: Incident response, rigorous RCA, patching/hardening, capacity/performance analysis, change planning, backup/DR, architecture documentation, runbooks and operational procedures

PROFESSIONAL EXPERIENCE

eSilo - Senior Infrastructure Engineer

May 2007 - May 2026

Architected, built, automated, secured, and operated the platform behind a distributed Linux backup and data-protection service. Owned the infrastructure from bare-metal hardware and custom Linux environments through centralized configuration, networking, storage, virtualization, monitoring, databases, security, backup/recovery, and supporting software.

- Built and operated distributed Linux appliances on Dell and Supermicro hardware, with centralized provisioning, configuration, secure connectivity, monitoring, maintenance, and lifecycle management.
- Designed centralized configuration orchestration using Puppet and custom tooling, managing system configuration as structured, repeatable infrastructure rather than one-off administrative changes.
- Built automated bare-metal provisioning using PXE, DHCP, TFTP, custom/minimized Linux distributions, configuration management, and deterministic post-install automation.
- Developed infrastructure and systems software in Python, Bash, Go, Perl, C/C++, and other languages for provisioning, deployment, monitoring, diagnostics, security, networking, maintenance, storage, backup, and recovery.
- Created custom minimized Linux distributions for production appliances, requiring detailed understanding of boot behavior, packages/dependencies, services, networking, storage, and hardware integration.
- Designed and operated Docker/Linux containers plus KVM/QEMU, Proxmox VE, LXC/LXD, VMware, and related virtualization technologies.
- Designed and troubleshot production networking including TCP/IP, DNS, DHCP, routing, VLANs, VPNs, firewalls, TLS/SSH, reverse proxies, load balancing, secure remote access, and network segmentation.
- Implemented Linux and network security controls including system hardening, patch management, firewall policy, VPNs, TLS/SSH, restrictive service exposure, and application-layer request filtering.
- Designed positive-model web application firewall and request-validation mechanisms using OpenResty/Nginx/Lua to constrain HTTP traffic to explicitly permitted application behavior.
- Built Prometheus/Grafana and other monitoring, metrics, dashboards, alerting, logging, and diagnostic systems spanning Linux, networks, storage, databases, and applications.

- Administered PostgreSQL and MySQL systems and developed database-backed tooling, including schema design, indexing, query analysis, content search, and performance troubleshooting.
- Performed methodical root-cause analysis of complex production failures spanning physical hardware, kernel/userspace Linux, networking, storage, virtualization, databases, and applications.
- Investigated low-level and poorly documented behavior through experiments, tracing, source-code analysis, and modification of open-source components when existing interfaces were insufficient.
- Designed storage and recovery systems using Linux RAID, LVM, ZFS, snapshots, replication, restoration, integrity validation, and disaster-recovery procedures.
- Created architecture documentation, deployment procedures, troubleshooting guides, operational runbooks, recovery plans, and technical knowledge-transfer materials.
- Worked with substantial autonomy, identifying architectural and operational problems, researching alternatives, implementing solutions, and validating their behavior in production.

True Automation - Software Engineer

August 2005 - May 2007 | Plano, Texas

- Developed and maintained PACS, a production enterprise property appraisal and tax administration platform backed by relational databases.
- Designed, implemented, tested, debugged, and maintained application and database functionality throughout the software development lifecycle.
- Diagnosed problems spanning application code, SQL/databases, operating systems, and supporting infrastructure.

Freelance - PC Technician

May 2000 - August 2005

- Installed, configured, networked, repaired, and troubleshoot computer hardware, operating systems, applications, and networks.

SELECTED INFRASTRUCTURE & RESEARCH WORK

- Puppet-orchestrated distributed Linux platform with automated bare-metal provisioning, custom Linux images, secure networking, monitoring, updates, storage, backup, and recovery.
- Deep Linux troubleshooting using tracing, kernel/system interfaces, source-code investigation, controlled experiments, and custom diagnostic tools.
- OpenZFS source-level investigation and modification work to explore functionality unavailable through existing administrative interfaces.
- OpenResty/Nginx/Lua security engineering, including restrictive positive-model WAF designs and detailed HTTP protocol/request validation.
- Prometheus/Grafana monitoring plus custom event-driven dashboards, metrics, alerts, and operational automation.
- Python/Go/Bash systems software for infrastructure provisioning, administration, diagnostics, networking, monitoring, storage, and recovery.

EDUCATION

Bachelor of Science, Computer Science — The University of Texas at Dallas, 2005