Carlos D. Herrera Rojas

Senior Infrastructure Engineer | Virtualization, Automation, DR & Enterprise Platforms

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PROFILE

Infrastructure engineer with experience designing, implementing, and operating physical, virtual, and hybrid platforms for critical environments. Specialized in VMware, Proxmox, Ceph, networking, storage, backup, disaster recovery, automation, Docker containers, and internal tool development. I combine technical depth with business-oriented execution to build stable, scalable platforms focused on operational continuity, cost optimization, and enterprise efficiency.

I combine infrastructure operations, platform architecture, automation, internal development, and AI integration to solve complex business and technology challenges in production environments.

- Specialized in enterprise virtualization with VMware, Proxmox, Virtuozzo, OpenStack, and Azure.
- Advanced VMware administration: vCenter, ESXi, vSAN, NSX-T, clusters, HA, VMkernel networking, vmnic, upgrades, and production operations.
- Design and implementation of Proxmox infrastructures with Ceph, ZFS, HA, backups, replication, and automation.
- Implementation of distributed and enterprise storage with Ceph, vSAN, ZFS, SAN, NAS, NFS, and S3.
- Design of BaaS, DR, and operational continuity solutions for VMware, Hyper-V, and Proxmox using Veeam, Acronis, and Proxmox Backup Server.
- Deployment and administration of Docker containers, Node.js applications, PM2-managed processes, and centralized environment management with Portainer.
- Development of internal systems, administrative dashboards, REST APIs, and operational tools using PHP, Laravel, and SQL databases.
- Implementation of RBD-Mirror with an interactive dashboard for VM management and deployment across datacenters using native Ceph capabilities.
- Database administration for MySQL, MariaDB, Percona, and SQL Server, including migrations, replication, optimization, and troubleshooting.
- Network administration with Mikrotik, Dell, Cisco, and Endian UTM, covering switching, routing, VLANs, VPNs, firewalls, LACP, MLAG, and layered troubleshooting.
- Administration and configuration of Cloudflare for DNS, SSL, CDN, CAPTCHA, WAF, and anti-DDoS protection.
- Integration of artificial intelligence solutions, local LLMs, OpenAI API, Ollama, external APIs, and intelligent automation workflows.
- Physical server support, hardware diagnostics, component replacement, and full datacenter deployments.
- Advanced Linux and Windows Server administration, production services, hardening, tuning, monitoring, and complex failure resolution.

PROFESSIONAL VALUE MODEL

I design, implement, and operate complete technology solutions for organizations that require high availability, operational continuity, disaster recovery, and cost optimization. My approach integrates infrastructure, virtualization, storage, networking, automation, internal development, APIs, and artificial intelligence to transform complex technical needs into productive, stable, and manageable platforms.

- Architecture and implementation of complete infrastructures from scratch: nodes, networking, storage, virtualization, backups, and core services.
- Modernization and migration of enterprise platforms across VMware, Virtuozzo, Proxmox, and hybrid solutions.
- Design of operational continuity, backup, replication, RTO, RPO, high availability, and disaster recovery strategies.
- Automation of critical processes through scripts, APIs, internal dashboards, n8n workflows, and AI integrations.
- Operational cost reduction through architecture redesign, open-source adoption, and platform optimization.
- Critical incident response and advanced troubleshooting across infrastructure, networking, storage, databases, and operating systems.

AREAS OF EXPERTISE

Infrastructure architecture

Design and implementation of complete platforms from scratch, integrating compute, networking, storage, virtualization, backup, and core services.

Enterprise virtualization

Advanced administration of VMware, Proxmox, Virtuozzo, and OpenStack for production, critical, and high-availability environments.

Storage & Disaster Recovery

Implementation of Ceph, vSAN, ZFS, SAN, NAS, backups, replication, RBD-Mirror, and disaster recovery strategies.

Containers & Services

Deployment and administration of Docker containers, Node.js applications, PM2-managed processes, and centralized management with Portainer.

Automation & Platform Engineering

Creation of scripts, APIs, internal dashboards, and automated workflows to reduce manual operations and accelerate technical processes.

Networking & Security

Configuration and troubleshooting of switching, routing, VLANs, VPNs, firewalls, Cloudflare, DNS, SSL, CDN, CAPTCHA, WAF, anti-DDoS protection, segmentation, LACP, MLAG, and layered operations.

Internal development

Development of web systems, REST APIs, administrative dashboards, and operational tools with PHP, Laravel, and SQL databases.

AI applied to infrastructure

Integration of local LLMs, OpenAI API, Ollama, and external APIs to optimize operations, automations, and technical integrations.

Advanced troubleshooting

Diagnosis and resolution of complex failures across infrastructure, virtualization, networking, storage, databases, Linux, and Windows.

EXPERIENCE

Infrastructure Administrator & Technical Support

April 2023 – May 2026

Cyberfuel

- Designed, implemented, and administered complete enterprise infrastructures across VMware, Proxmox, Virtuozzo, OpenStack, and hybrid environments.
- Provided advanced VMware administration, including vCenter, ESXi, vSAN, NSX-T, SAN, clusters, HA, VMkernel networking, vmnic, upgrades, and production operations.
- Upgraded critical VMware infrastructure to meet enterprise requirements and support VMware Cloud Foundation certification renewal.
- Led large-scale migrations across VMware, Virtuozzo, and Proxmox, including the conversion and relocation of more than 2,200 virtual machines with minimal downtime.
- Designed custom migration methods when enterprise migration tools were not available, reducing execution time while maintaining business continuity.
- Implemented and administered Proxmox with Ceph, ZFS, HA, clusters, snapshots, backups, replication, and operational automation.
- Implemented distributed and enterprise storage using Ceph, vSAN, ZFS, SAN, NAS, NFS, and S3.
- Implemented RBD-Mirror with an interactive dashboard for managing and deploying virtual machines across datacenters using native Ceph capabilities.
- Designed and implemented BaaS, backup, replication, and disaster recovery solutions for VMware, Hyper-V, and Proxmox using Veeam, Acronis Cyber Backup, and Proxmox Backup Server.
- Implemented backup strategies for virtual machines, bare-metal servers, files, databases, and critical services.
- Deployed and administered services in Docker containers, including Node.js applications, PM2 process management, and centralized administration through Portainer.
- Developed internal systems, administrative dashboards, operational tools, and REST APIs using PHP, Laravel, and SQL databases.
- Automated critical infrastructure processes using Bash, Python, APIs, Linux services, n8n, and internal tools.
- Integrated artificial intelligence solutions, local LLMs, OpenAI API, Ollama, and external APIs to optimize technical processes.
- Managed enterprise networks with Mikrotik, Dell, Cisco, and Endian UTM, including switching, routing, VLANs, VPNs, firewalls, LACP, MLAG, and L1-L4 troubleshooting.
- Provided advanced Linux and Windows server administration, including provisioning, hardening, tuning, monitoring, upgrades, and troubleshooting.
- Deployed and operated infrastructure services such as DHCP, DNS, email, hosting, web, databases, firewalls, and production services.
- Administered and configured Cloudflare for DNS, SSL certificates, CDN, CAPTCHA, WAF, and anti-DDoS protection mechanisms for internet-facing services and platforms.
- Administered MySQL, MariaDB, Percona Server, and SQL Server databases, including migrations, replication, optimization, high availability, and failure resolution.
- Managed websites, hosting, domains, SSL certificates, and related services through Plesk and cPanel.
- Leader in complete data center deployments: node installation, cabling, switching, storage, virtualization and basic services.

- Provided physical server support, hardware diagnostics, component replacement, and production equipment incident handling.
- Recovered from critical infrastructure incidents, including high-impact outages, general service failures, and operation restoration under pressure.
- Performed advanced troubleshooting in production environments across infrastructure, virtualization, storage, networking, databases, Linux, Windows, and applications.
- Optimized operational costs through architecture redesign, platform migrations, automation, and adoption of efficient technologies.

TECHNICAL SKILLS

Virtualization & Platforms

VMware, Proxmox, Virtuozzo, OpenStack, Azure, HA Clusters, vCenter, ESXi, vSAN, NSX-T

Storage & Replication

Ceph, RBD-Mirror, ZFS, vSAN, SAN, NAS, NFS, S3, Snapshots, Storage HA

Backup & Disaster Recovery

Veeam, Acronis, Proxmox Backup Server, BaaS, DRaaS, RPO, RTO, Bare Metal Backup, File Level Restore

Networking & Security

Mikrotik, Cisco, Dell, Endian UTM, Cloudflare, VLANs, VPNs, Firewalls, WAF, Anti-DDoS, LACP, MLAG, Switching, Routing, L1-L4 Troubleshooting

Linux & Windows Server

Linux, Windows Server, Hardening, Performance Tuning, Linux Services, Upgrades, Troubleshooting

Containers & Runtime

Docker, Node.js, PM2, Portainer

Databases

MySQL, MariaDB, Percona, SQL Server, Replication, Migrations, Optimization, High Availability

Software & APIs

PHP, Laravel, REST APIs, SQL, Internal dashboards, Web systems, Integrations, Backend services

Automation & Scripting

Bash, Python, n8n, APIs, Operational automation, Migration scripts, Backup scripts

AI & Intelligent Automation

OpenAI API, Ollama, Local LLMs, External APIs, AI Integration, Process Optimization

Cloud & Hosting

Azure, OpenStack, Cloudflare, Plesk, cPanel, Enterprise hosting, Domains, DNS, SSL, CDN, CAPTCHA, Email

Monitoring & Observability

Zabbix, Grafana, PRTG, Alerts, Metrics, Performance analysis

Hardware & Datacenter

Physical servers, Component replacement, Cabling, Nodes, Rack & Stack, Hardware diagnostics

Productivity

Microsoft 365, Office 365, Office applications

Languages

Spanish, English

KEY ACHIEVEMENTS

- Migrated more than 2,200 virtual machines across VMware, Virtuozzo, and Proxmox with minimal downtime and no data loss.
- Completed a full upgrade of critical VMware infrastructure, including vCenter, ESXi, vSAN, and related services, without critical production outages.
- Provided key support for VMware Cloud Foundation certification renewal through platform stabilization and upgrades.
- Designed custom migration methods when official enterprise tools were not available.
- Completed reverse migration from Virtuozzo back to VMware in reduced time while maintaining operational continuity.
- Led Proxmox adoption as a primary platform to reduce costs while maintaining production operations.
- Implemented Ceph in production, resolving critical networking, performance, and stability issues.
- Implemented RBD-Mirror with an interactive dashboard for replication management and VM deployment across datacenters.
- Designed an in-house Proxmox replication solution with snapshots, automation, and a PHP administrative dashboard.
- Designed and implemented BaaS and DR strategies for VMware, Hyper-V, and Proxmox using Veeam, Acronis, and PBS.
- Recovered from critical infrastructure incidents and restored services under extreme pressure.
- Led complete datacenter installations covering nodes, networking, storage, virtualization, and core services.
- Developed internal systems, APIs, and web dashboards in PHP/Laravel to improve technical operations.
- Integrated AI solutions, local LLMs, OpenAI API, Ollama, and intelligent automation workflows.
- Resolved complex failures across infrastructure, networking, storage, databases, Linux, Windows, and production applications.

EDUCATION AND CERTIFICATIONS

High School Diploma

2017

Systems Engineering

In Progress

Technical Degree in Telematics – INA

2023

Veeam Certified Engineer (VMCE)

2025

Office Applications / Office 365

Knowledge of Microsoft 365 and office productivity tools