

Justin Knox, CISSP

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SUMMARY:

- Network & Cyber Security Engineer with 20 years of experience in the tech industry.
- 10+ years of professional experience in automation, support and development.
- Demonstrated leadership and adaptability, with expertise in mentoring and project delivery.

EXPERIENCE:

IT/OT Infrastructure Administrator, Cyber Security September 2023 - Present

Great Lakes Water Authority, Operational Technology, Cyber & Information Systems Security

Direct-Hire | Onsite to 20% Remote | Detroit, MI

- Extensively used the AWWA, NIST 800-153 & CSF 2.0 frameworks to assist in the development of the cyber security infrastructure, laying the foundation for a robust and compliance ready program.
- Utilizing TLS 1.2 and x509 certificates, our team piloted the implementation of DNS for Purdue Level 4 and DMZ systems for an increased usage of encryption measured by 10-20%.
- Converged legacy IP address datasets into a singular IP Address Management (IPAM) system utilizing PostgreSQL, Redis and Jenkins web-based technologies. Tested, deployed and automated server lifecycle management using PowerShell and Bash.
- Developed and implemented internal Cisco network analysis tools, for gathering topology information and engineering change management.
- Designed and constructed M365 Change Management tools for Active Directory, with vendor facing Network Change Management system in line with Discretionary Access Control principles.
- Piloted a credential management system, increasing department's password complexity by ~8%.

Systems Engineer June 2023 – Sep 2023

Corewell Health, Critical Environment Engineering (CEE)

Contract-to-Hire | Ma-Tech Resources | Onsite to %20 Remote | Grand Rapids, MI

- Built and deployed production infrastructure within a 40% faster than estimated delivery time.
- Provided experienced deployment methodologies using industry best practices.

Network Engineer March 2023 – June 2023

jPeg Design | Research & Development, Deployment, Support & Maintenance

Direct-Hire | 100% Onsite | Dundee, MI

- Deployed layer 1-3 network infrastructure, as well as security cameras, electronic door strikes, keycard and biometric physical barrier protection devices.
- Developed in-house password management, reports automation and customer deployment monitoring solutions using Python Scapy, Git on a mixed Azure and AWS cloud infrastructure.

Freelance Technical Consultant, Dumpt'd Startup CTO December 2021 – March 2023

Alchemy Computing, Dumpt'd | Research & Development, Systems Architecture

Multi-Contract | 100% Remote | Washington DC

- Provided L3-4 topology network engineering support, maintenance and deployment for Juniper-based network clients; with infrastructure consisting of primarily AMEA networks.
- Led engineering team in prototyping on Laravel, PostgreSQL, and cloud deployment infrastructure.

Operations Engineer II / Data Center Technician III

December 2018 – December 2021

Google | Network Operations, Hardware Operations, Server Operations, Engineering Field Services, New Product Integration

Direct-Hire | 100% On-site | Charleston, SC; Reston, VA

- Deployed, configured and provided support for every architecture and type of data center connected system within the Google (production and corporate) infrastructure and server fleet.
- Implemented, deployed, and configured the mixed Cisco and Juniper infrastructure for the GCVE East-Coast deployment; from the truck to the cloud (GCP, Kubernetes & internal CI/CD), during the pandemic.
- Provided the physical pen-testing for the datacenter 3rd party environments, including multiple aspects of the environment including fencing, cameras, “server-external” and internal motion detection, with internal cryptographic devices.
- Led the GCVE East-Coast deployment project team; completed the project 75% ahead of schedule.
- Built a repairs automation software using Bash and protocol buffers to automate 80% of server diagnosis, repairs and ticket closure. The software was built and ran on the internal CI/CD platform (Borg / Kubernetes) and when used, measured an 800% decrease in server repair for each geographical region deployed.
- Received 19 Peer Bonuses and 2 Challenge Coins; one for Hurricane Dorian Support and a second for Enduring Pandemic Support.

Network Operations & Data Center Technician

July 2017 – December 2018

Switch LTD | Network & Data Center Operations

Contract-to-Hire | TekSystems | 100% On-site | Las Vegas, NV

Worked in one of the largest datacenters on earth, with customer deployments ranging from 1RU to multi-campus WAN networks.

- Provided and conducted routine Security audits, data destruction, ‘rack and stack’ activities for around 2000 customer infrastructure deployments in an ISO 27000, LEED -certified, world-class datacenter.
- Conducted physical deployment pen-testing activities for customer deployments.
- Implemented Power, Thermal, and Network topology audits on hundreds of customer deployments including 1-2RU to Multi-Campus layouts.
- Developed AutoHotKey and PowerShell automation of using lexical analysis to automate ticket handling, saving approximately 65% of time spent.

Systems Administrator IV

October 2016 – June 2017

Pinnacle Community Services | Information Technology

Direct-Hire | 100% On-site | Las Vegas, NV

Worked in a two-person team for in-home care provider for over 200 regional sites.

- Using the HIPAA compliance framework, implemented network-wide security solutions including firewalls; IPsec over GRE tunneling, encrypted (in transit and rest) storage, and State-portal access solutions combining Active Directory, Windows Server 2012, Samba, Porteus, RedHat Linux and in-house BSD servers.
- Secured the companies multi-campus Cisco network using IPsec over GRE on 3rd party and Avaya infrastructure.
- Engineered and deployed remote campus network with fiber (SM) and encrypted paths.
- Conducted internal digital forensics investigations for Human Resources using the Sleuth toolkit in compliance with all legal statutes.

Freelance Technical Consultant, DBA Alchemy Computing

April 2016 – October 2016

Alchemy Computing | Information Technology

Multi-Contract | 100% On-site | Las Vegas, NV

- Worked primarily with SMBs in the legal and financial fields. Services included expert witness, hourly consulting, data recovery and forensics, full-service in-house IT, Network Engineering, Network design, deployment and support, Windows Server deployment, Active Directory management, Server-to-cloud virtualization, server migration (Windows to SAMBA), Workstation and phones provisioning (VOIP and mobile), full-stack website development, and electronics monitoring device prototyping.

Technical Specialist II

November 2013 – April 2015

Bally Technologies, Scientific Games | Technical Training and Documentation

Direct-Hire | 100% On-site | Las Vegas, NV

- Built the Proof of Concept prototype of the company's first internal training web-portal using a triple mem-cached Arch Linux architecture on PHPFM, NGINX, WordPress site.
- Brought travel expenditures down by 95% through creating training videos.

Freelance Technical Consultant

September 2009 – November 2013

Alchemy Computing | Information Technology | Las Vegas, NV

- Focused specialties included small to medium business PC Repair, website development, electronics prototyping, malware removal & data recovery.

Network Event Management Technician III

May 2008 – September 2009

Infonet, British Telecom | Converged Services Management Center

Contract-to-Hire | TekSystems | 100% On-site | El Segundo CA

Assisted with the internal acquisition of Infonet's global NOC to the UK's infrastructure.

- Provided incident management for OSI L1-3 on the MPLS & BGP, Cisco, Juniper & Alcatel-Lucent platforms.
- With the assistance of the security and network engineering teams, our team built and deployed the system images for the Network Operations Center using security best practices.
- Our team oversaw the conversion and transfer of the previous UK NOC consisting of over 1500 individuals to our team of 500.

Junior Electronics Engineer

June 2006 – November 2007

Synetcom Digital | Research and Development

Direct-Hire | 100% On-site | El Segundo, CA

Worked in the engineering team developing industrial SCADA radios for (in-house developed) industrial video, monitoring digital IO, 4-20ma sensor loops, and PWM.

- Secured the internal LAN using IPSEC between machines in a mesh LAN topology.
- Assisted in the development of AES-128 encrypted radio links using FHSS, BASIC Stamp radios built using EagleCAD, EWB, Embedded Linux and Windows CE using C++, and Ladder Logic.

Academic Tutor, Faculty Assistant & Lab Technician

March 2004 - June 2006

DeVry University | Electronics, Network & Development Laboratory

Direct-Hire | 100% On-site | Long Beach, CA

Tutored students in the network security and advanced micro peripheral courses. Focused specialties included:

- Network & Systems Security
- Linux, MacOS & Operating Systems interfacing.

EDUCATION:

(IN PROGRESS) M.S.C.S. Data Science and Intelligent Systems (PROJECTED) December 2025
University of Tennessee, Knoxville (ONLINE) Knoxville, TN

B.Sc. Computer Engineering Technology, Cum Laude, GPA: 3.6 March 2008
DeVry University, Long Beach Long Beach, CA

- Best Senior Project, 2008, "Fingertip Effects". Machine vision Java, C++ & Assembly application.
- Associated Student Body President, Spring 2005 – Fall 2005, Spring 2006-Fall 2007

CERTIFICATIONS/PUBLICATIONS/PROFESSIONAL ASSOCIATIONS:

CISSP / Certified Information Systems Security Professional
International Information System Security Certification Consortium, ISC2, Member ID: 954626
Active as of: March 2024

SEC+ / Security+
Computing Technology Industry Association, CompTIA, Candidate ID: COMP001022411475
Active as of: December 2023

ISACA Member
Information Systems Audit and Control Association, ISACA, Member ID: 2063351
Active as of: August 2024

Amateur Radio Technician Class License
Federal Communications Commission, FCC, Callsign: KF8BVZ
Active as of: July 2024

SKILLS:

- Languages: C, C++, Java, JavaScript, Shellcode, LaTeX, PowerShell, Ruby, Python, Assembly
- Type I Hypervisors: Hyper-V, KVM, ESXi, BSD
- Type II Hypervisors: Docker, VirtualBox, VMWare
- Cloud Environments: Azure, Google Cloud Platform, Amazon / AWS

PROJECTS:

"Homelab"

Palo-Alto PA-500 FW, VM Environment on ProxMox, w/ TrueNAS. ~40 VMs for applications testing and development. Windows AD 2019, w/ PiHole DNS, OPNSense (dual) firewalls, w/ Monero full-nodes. No mining (yet).

Machines: Cisco 1841, Palo-Alto PA-500, MacMini, Windows 10 Pro (AD & PowerShell).

"Cyboard" - Longboard Security System and Datalogger

Raspberry Pi "Smart skateboard", with on-device weather detection, key fob, motion and GPS.

Technologies: Python, SQLite, GPS PA1616S, Raspbian, NeoPixel LED, Remote Control Encoder PT2262, SHT30 Sensor, ADXL343 - Triple-Axis Accelerometer

VOLUNTEER/LANGUAGES/AWARDS:

Languages: Studying Spanish, German (Pre-A1) and Portuguese, Awards: Best Senior Project 2008.