

# NOEL ASHFORD

## Infrastructure Leadership & Expert-Level Infrastructure Engineer

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### SUMMARY

#### Passionate Infrastructure Expert with Proven Technical Leadership

Dynamic and innovative technology expert specializing in IT Infrastructure, HPC, FPGA Management, Linux, Cloud, Kubernetes, Compute, Network, Storage, and Full Stack Development. Skilled in IT Leadership, DevOps, SRE, and Infrastructure as Code (IaC). Adept at leading global teams and executing large-scale projects, datacenter moves, migrations, and infrastructure upgrades. Committed to continuous learning and building complex products and infrastructures. Ready to leverage extensive experience and skills to drive innovation and corporate value in the next phase of my career.

### EXPERIENCE

#### TEAM LEAD (HPC STORAGE)

01/2023 - 01/2024

##### MILLENNIUM PARTNERS/WORLD QUANT (HEDGE FUND)

New York, NY, USA

- End to End migration of a large datacenter & upgrade to Rocky8 to enable native GPFS
- Deployed a new Windows DFS & Linux name space for World Quant w strategic planning
- Lead & mentored 5 staff, team building, scrum, vendor MGMT & liaised w. internal clients
- Refreshed & migrated legacy systems, storage, network plus worked w AWS & GCP burst
- Diagnosed simulator code, improved performance in an SRE capacity w tactical fixes
- Created a commodity HW strategy & budget via SDS & IAC - POC'd Weka, Vast & MinIO
- Implemented WORM, GPFS, Caching, Lightbits NVME, PURE, Netapp, S3 & Other
- Built out API driven infrastructure for improved infra Metadata & SLA's w swagger docs
- Aligned business needs to the correct technologies with focus on Low Latency Trading
- Deployed new configs, hardware & code via Gitlab, Ansible & SALT for CI/CD automation
- Various workflows & API's to speed up HW deployments w markdown & confluence docs
- Solved improved monitoring, alarming & config management for FPGA's / Infra
- Responsible for vision, a senior escalation point and Liaison for PMO & IT CTO
- Worked w. Cloud, Docker, Kubernetes, Openstack/Openshift, AI/GPU, HPC, Linux & Slurm
- Assisted w Gen. AI training for our own in house GPT to speed up problem resolution
- Worked with event driven infrastructure, Kafka Streaming & Pub Sub Architectures + ETL

#### SENIOR DEVOPS/SRE ENGINEER

01/2019 - 01/2023

##### BLOOMBERG LP (FINTECH)

New York, NY, USA

- Created complex Linux Solutions, integrations w. IAM, Secrets Stores, Bloomberg's Stack
- Worked with AWS, GCP, Openstack, CEPH and other opensource SDS solutions + APIs
- Migrated 160+ nodes of EMC, Netapp + Worm (~250Pb & 70M\$) to multi tenancy clusters
- Refreshed and consolidated SAN Fabric & Arrays (~400Pb & 100's of switches)
- Object Storage tooling and programmatic abstraction (EMC ECS & IBM CEPH)
- Deployed Software Defined NVMeoTCP / Lightbits (30 PB Effective & ~30 Nodes)
- Decommissioned legacy PURE Storage for VM's still using it & migrated them (~25 PB)
- End to End Creation and deployment of Airflow DAG's for 'Infra as a Service' IaaS
- Daily oversight & joint responsibility for ~1.6 EB of data globally & PaaS shared services
- Design of an Abstracted Python driver & rest API development w. unit & integration testing
- Integrated storage products with Bloomberg Terminal, SP/IDP & API driven Secret stores
- Solved software using Perl, Ansible, Jingo2, DB's, Python, Airflow & Jenkins CI/CD
- Senior resource for Networking, Cloud, K8S Microservices, compute & Linux Solutions
- Wrote Abstract Drivers for Storage MGMT, created SDS Load Balancers, TLS, PKI & more
- Created Custom Time Series Telemetry & alarming via Grafana, Metric tank & Prometheus

#### SENIOR INFRASTRUCTURE ARCHITECT

07/2011 - 12/2018

##### WEBHOUSE INC & Netapp (Integrator & Storage Vendor)

New York, NY, USA

- Netapp professional services staff augmentation for SLED & Enterprise projects & clients
- Bloomberg L.P. (2017-2019) - Automation & Architecture, converted to an employee
- BNY Mellon (2019) - Assisted to Create BNY Mellon extreme Platform (BXP) 2.0 Cloud
- New York Life Insurance (2018) - PowerShell Based Storage Disaster Recovery (DR)
- Prudential Financial (2018) - Storage Workflow Automation via Netapp WFA
- ING Financial (2018) - Storage Workflow Automation via Netapp WFA
- White House & Verizon (2017) - Healthcare.gov storage implementation & design
- WVNET (2017) - Workflow Automation
- Supreme Court (2016) - Data Forensics & System Overhaul
- FCA (2016) - Data Protection Automation / AWS Tiered backup (Fabric Pool)
- NBIB / NIH (2016) - Data Migration, maintenance & workflow efforts
- OCEC / NYC E911 (2015) - Systems Maintenance & Automation
- NY MTA (2012-2015) - Migrated to Multi-Tenancy Clusters, DR, Automation & Telemetry
- FDNY (2012) - Implemented Multi-Tenancy Clusters & DR Solutions
- NYC DoITT (2011-2014) - Migration, WORM, DR, Management, Architecture & Automation

### NATIONALITIES

American · Canadian · British · Bermudian

### STRENGTHS

#### Hands-On Leadership

Demonstrated ability to lead diverse teams, provide mentorship, and oversee projects hands on/off

#### Technical Expertise

Expert level w. data storage, Linux, programming, cloud, networking, Security, HPC, K8S/Compute & more

#### Vision, Innovation & Delivery

Effective issue resolution; finding and executing on long term viable solutions from vision to inception

### INDUSTRY EXPERTISE

Financial, Re-Insurance, Insurance, Technology & Gov.

### CERTIFICATIONS

#### Hacker Rank

Python Problem Solving, Rest API, Software Engineer

#### Miscellaneous

Fortinet Security NSE & Netapp Certified

### TRAINING / COURSES

IBM GPFS, Lightbits, EMC, AI Courses, GCP, AWS & AZURE

### SKILLS

#### Data Storage

GPFS · Netapp · EMC · PURE · Lightbits · CEPH · S3 Object · NFS · WORM · CDN · SAN · Block · RDMA · NVMeoTCP · ISCSI

#### Cloud Microservices & Compute

GCP · AWS · Openstack · Azure · HPC · Slurm · Kubernetes · VMWare · IAM · Kube Scheduler · Cloud Architecture · AWS Lambda · Cloud Computing

## EXPERIENCE

FOUNDER & ENGINEERING MANAGER (Personal Project) 01/2022 - Present

### TUNNINET INC

New York, NY, USA

- Founder, digital strategy principle and engineer of a next generation IaC / IaaS technology
- Mastery of IPv6, Auth, Encryption, Linux, Network, Storage, Coding & Mobile OS required
- The Technology has two main use cases; (IT security | Cybersecurity | Cloud Security) and decentralized cloud infrastructure and applications
- The cloud aspect portion of this technology aims to create a marketplace allowing ISP's and suitable consumers to participate in it, with the intent of building large Cloud Services, Cloud Storage & an HPC compute grid capable of serving software defined workloads (+ AI/ML) for data science applications
- The cybersecurity aspect of this project uses the same core SDS network technology & operates by dynamically connecting secured clients to a private Internet facing Network
- A securely authenticated proxy sits inside this zone serving secured resources to reduce national threats to critical infrastructure
- Created a Custom Secured Software Defined Debian Linux Router with configuration Management via IaC using custom code & services
- Design & Testing of upstream services for Bare Metal, Amazon Web Services (AWS), Google Cloud (GCP), Microsoft Azure & Product innovation with Terraform IaC
- Built API Gateways, Security, Firewall, Network apps, containerization & all programming
- Took a complex idea from zero to POC / Fruition of a personal vision
- Built a multi node OpenStack cloud, global mesh & purpose-built storage
- Created regional Kubernetes K8S microservices with Jenkins integration for CI/CD, also worked with Terraform as well + IAM in each cloud + SSO / OATH for React/Native Apps
- Integration with Blockchain / Ethereum Smart Contracts for cloud consumption tracking
- End-to-End Monitoring Integration (Examining DataDog, New Relic, Dynatrace & Others)

ADDITIONAL EMPLOYERS (Historical + Management) 07/1992 - 06/2011

### Pre-USA Experience

Hamilton, Bermuda

- **Endurance Specialty Insurance** Senior Engineer (2007-2011)
- **BHS Bermuda** Infrastructure Manager (2001-2007)
- **Zurich Insurance** Intern & Network Manager (School Summers & Pre-2001)
- **IBM** Systems Engineer (Summers Prior to University)

Extra Experience: Microsoft AD / Windows Server Bermuda & USA

### Employers Listed Below

- **General High Level:** I understand windows domains, exchange, storage concepts etc. very well, GPO etc & have no issue to manage or deploy this. This is listed as an extra section as systematic shop want Linux expertise in particular, SRE & DevOps
- **Millennium / World Quant (2023-2024)** Created a new WQ Namespace in both Linux & Windows (//wq/XYZ & /wq with multi protocol access) & integrated service now with AD to allow for ticket based CIFS provisioning of GPFS & Netapp SMB
- **Bloomberg (2019-2023)** Go to Team Windows expert, Migrated & Managed 1000s of CIFS / Shared NFS Storage (Isilon & Netapp) & integrated workflow wise with AD to provision. Monitored Windows Systems for related storage latency such as from AD lookups etcetera due to various systems relying on lookup times due to integrations of varying forms
- **NYC Consulting (2011-2018)** Fully Deployed NYC MTA & DoITT's DFS & CIFS/SMB & also to other Clients. Wrote for NYL Insurance (Prior to Netapp SVM-DR existing) for their large Windows environment in PowerShell, a true DR solution which handled DFS changes and full end-to-end storage failover and did similar projects for other Netapp clients
- **Endurance (2007-2011)** Managed Windows, Microsoft Exchange, SQL, DFS, AD & Netapp CIFS / SMB Storage
- **BHS (2001-2007)** Fully Deployed Greenfield Windows AD, Microsoft Exchange, GPO etc + the entire net new network, Cisco, firewalls, routers, windows proxies etc
- **Zurich Insurance (Pre-2001)** Managed Microsoft AD, Internet Proxies, AIX & More

## EDUCATION

Master's Degree in Business Administration & Technology Management (MBA/TM) 01/2006

### University of Phoenix

AZ, United States

Bachelor's Degree in Computer Science 01/2001

### Acadia University

NS, Canada

Diploma 06/1997

### Kings Edgehill - Boarding School

NS, Canada

Junior & Senior School 06/1996

### Saltus Grammar School - Private British School

Bermuda

## SKILLS

### Programming

Python · React.js · React Native · Github · node.js · Typescript · CSS · API Design · GOLANG · Java · C · JavaScript · C++ · PowerShell · Pandas · Haskell · ETL · Fast API / Flask · NumPy · Kafka · Haskell · Mobile Development · BASH · Front-end · Complex App Design · Github Actions

### Networking

IPV6 · IPV4 · OSI · Cisco · Load Balancer · Proxy · TCP/IP · Wireguard · VPN · VoIP · Cabling · Fortinet · Routing · Firewall · Network Monitoring · OpenVPN

### Management

Team Leadership · Vision · Execution · Project Management · Budgeting · Mentoring · Hiring · Reviews · Vendors · JIRA Service Desk · Agile · Team Sprint · Service Now · Due Diligence · Strategy

### Databases

MongoDB · MySQL · NoSql · Redis · SQL · PostgreSQL · FastAPI · Flask · JSON · YML

### Monitoring

Metric Tank · Splunk · Prometheus · Loki · Grafana · Custom Scrapers & Dashboard

### Miscellaneous

Encryption / PKI · Authentication · SSO · SP/IDP · Risk Modelling (RMS · AIRE · EQE) · Cloud Infrastructure · IOT · Router Design · VPC · EC2 · Cyber · Crypto - Ethereum smart contract · APP Hosting · Open Source · UNIX · Windows · Cybersecurity · TCPdump · Wi-Fi Deployment · iOS · Android · MDM · Advanced DNS Solutions · Debugging · Microsoft Windows Server · Slack · Linux Administration · Networking · Datacenter · Management · Vendors · VMWare · Active Directory · DFS · DHCP · Systems Installation · Re-Insurance · Hyper-V · Technical Writing · KYC · Product Management · Algorithms