

# Andrew J. Caines

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## Professional Experience

October 2006 – Present

### Systems Architect

[H.A.L. Plant](#), Vienna VA

- Evaluated Email Service Provider (ESP) platforms [Sendgrid](#), [Mailgun](#), and [Postmark](#)
- Implemented strict SPF, DMARC, DKIM, and TLS for all mail with full reporting
- Deployed asset discovery and vulnerability detection platform [runZero](#) covering all on-premise and cloud systems
- Researched vulnerability detection platforms and evaluated Greenbone [OPENVAS SCAN](#)
- Secured internal and cloud services as exclusive TLS/SSL using [Let's Encrypt](#) certificates with corresponding CAA records
- Monitored and reported physical and virtual host performance metrics and aggregated systemd logs with AI anomaly analytics using [Netdata](#)
- Hosted mail and other services on [Linode](#) / [Akamai Cloud](#)
- Enhanced devops team efficiency using multiple AI/GPT/LLM platforms including [Proton Lumo](#), [OpenAI ChatGPT](#), [Google Gemini](#), [Anthropic Claude](#), [xAI Grok](#), and others via [Quora Poe](#)
- Developed and deployed web content with git version control migrated from CVS using Continuous Integration / Continuous Deployment (CI/CD) pipelines and publishing with [Netlify](#) and [Github Pages](#)
- Deployed multiple desktop systems running [Ubuntu](#), [Fedora](#), [Manjaro](#), and [Linux Mint](#) on x86\_64 and [Arch Linux on ARM 7 \(Raspberry Pi 2\)](#) with EFI boot with multiple desktop environments (Unity, LXDM, Cinnamon), full disk encryption ([LUKS](#))
- Set up and managed services including web servers ([thttpd](#), [mini\\_httpd](#) and [nginx](#)) and proxies on multiple platforms, mail relay ([Postfix](#) 2.9) and archive ([Dovecot](#) 2.0), IRC proxy ([ZNC](#) 1.4)
- Built local gigabit Ethernet and wireless 802.11ac/n network employing distributed switches, Ethernet over powerline, multiple access points, concentric firewalls, VoIP service and network printing ([CUPS](#))
- Managed public and private (RFC1918) hosted DNS zones for multiple domains, DHCP and DNS relay, resolution backed by [OpenDNS](#)
- Installed and configured [nginx](#) 1.4 web server for public web site and [Privoxy](#) 3 filtering proxy on [OpenWRT](#)
- Created virtual machines running [CentOS](#) and [Oracle Linux](#) 6 and 7, [Debian Linux](#) 7, [Ubuntu](#) 12.04 and 14.04 LTS, [Arch Linux](#) 4 and [FreeBSD](#) 9 and 10 on Oracle

[VirtualBox](#) 4 and 5

- Installed, configured and upgraded [OpenWRT 15.05](#) on [TP-LINK TL-WR1043ND V1](#) router/switch/wireless devices and set up isolated 802.11n wireless networks for local and guest clients
- Created media server running Ubuntu 14.04 providing HTTP (nginx 1.8) and DLNA ([minidlna](#) 1.1) with RAID 1 storage
- Configured redundant and backup disk storage (SATA III, eSATA, USB 3.0, SSD, NFS, etc.) using RAID 1 and 5 including Linux software RAID ([MD](#)), logical volume manager ([LVM](#)) and [btrfs](#)
- Deployed media clients including [OSMC](#) on [Raspberry Pi 2](#), [Roku 3500](#), [Intel Atom](#) based media PC running Ubuntu 14.04
- Advised on setup of shared colocated mail server ([Postfix](#) and [Dovecot](#) on [FreeBSD](#)) and evaluated Amazon Web Services Elastic Compute Cloud ([AWS EC2](#)) hosting
- Set up multiple fully networked and power protected home theaters

Dec 2019 – May 2022

## Linux Systems and Storage Architect

[Manufacturing Techniques, Inc. \(MTEQ\)](#) / [QinetiQ](#), Lorton, VA

- Managed machine learning / deep learning (ML/DL) environment
- Doubled [NVIDIA Tesla V100](#) GPU capacity
- Maintained [NVIDIA CUDA](#) software and applications including JetBrains [PyCharm](#), [PyTorch](#), [TensorFlow](#)
- Upgraded and expanded storage to redundant hardware-accelerated all flash (SSD)
- Integrated RHEL and CentOS systems and users into proprietary directory service
- Evolved and managed [VMware vSphere](#) ESXi and vCenter environment hosting almost all on-premise applications and services
- Supported full lifecycle of server hardware, virtual systems, and [Docker](#) containers running Linux and BSD platforms
- Supported full lifecycle of applications including [Android Studio](#), [Atlassian Confluence](#) and [Jira](#), [Gitlab Enterprise](#), [HAProxy](#), [Jenkins](#), [Mathworks MATLAB](#), [Nginx](#), [Red Hat Satellite](#), [Spacewalk](#), [Tenable Security Center](#), [Ubiquiti UniFi Network Server](#)
- Secured entire Linux and FreeBSD platform environments and applications running on them against all known security vulnerabilities including complete remediation of the [Apache Log4j Log4Shell](#) vulnerability in platforms, open source, COTS, and embedded products
- Deployed and managed security products and infrastructure including [ClamAV](#) anti-virus, [Red Canary](#) and [Carbon Black](#) endpoint detection and response (EDR)
- Implemented Defense Information Systems Agency ([DISA](#)) Security Technical Implementation Guide ([STIG](#)) on RHEL and Ubuntu servers including a minimised and hardened platform for remote offline operations
- Completed Linux platform transformation for Defense Contract Management Agency ([DCMA](#)) certification and worked on US Army Command, Control, Communication, Computers, Cyber, Intelligence, Surveillance and Reconnaissance ([C5ISR](#)) project

- Participated in complete local data center migration and consolidation of remote data centers and migrated multiple legacy servers to virtual infrastructure
- Overhauled [Dell PowerEdge FX2](#) modular server with full firmware upgrades and storage configuration with basic compliant OS install for shipment to remote site
- Retired [Google Cloud](#) web hosting environments
- Assisted with company migration from [Google Workspace](#) to alternative hosting platform, including setup of collaboration environment for the IT department and support for the company
- Recovered systems, storage, and applications after multiple sitewide power outages
- Installed and supported configuration of new office Cisco, Dell, and Ubiquiti hardware
- Lead the transformation and migration from ad hoc amateur storage to Enterprise class storage using [iX Systems TrueNAS CORE](#) and Zettabyte File System ([ZFS](#)) on multiple Supermicro file servers providing securely accessed, encrypted, segregated data in multiple categories including For Official Use Only (FOUO)
- Designed and deployed scheduled dataset snapshot and replication scheme to provide redundancy, user data backups, and resilience to ransomware
- Spearheaded deployment of individual private encrypted network storage to entire company
- Integrated TrueNAS CORE systems and users into proprietary directory service
- Rescued failed third party migration of Google Cloud data to on premise storage
- Recovered from catastrophic storage failure without assistance from staff, vendor or community
- Supported deployment of [Dell EMC Isilon](#) hardware and [OneFS platform](#)
- Completed US Department of Defense (DoD) training and certification programs with perfect scores
- Trained junior systems administrator, IT helpdesk, hardware technicians, application administrators, and other staff to support applications, platforms, and storage, created and lead several metateams
- Provided comprehensive workflow, project, and issue tracking and documentation using Atlassian Jira and Confluence
- Supported staff reorganisation on and off site during the COVID19 pandemic and integration of company into new parent company
- Managed relationships with vendors including Red Hat, Dell, Atlassian, iX Systems, Tenable, Gitlab, Red Canary, and Carbon Black

April 2017 – October 2019

## Senior Linux Systems Engineer

[NIAID](#) / [CSRA Inc.](#) / [GDIT](#), Bethesda, MD

- 2019 Merit Award winner for individual work on a major project
- NIAID CIO Award winner 2017, twice winner 2018
- Collaborated on developing and operating hosting environment on [Amazon Web Service](#) (AWS) employing containers ([Docker](#)), Microservices, Infrastructure as Code provisioning ([Terraform](#)), CI/CD ([GoCD](#)) and a variety of cloud services

- Managed full life cycle of and supporting infrastructure for [Red Hat Enterprise Linux](#) (RHEL) 5, 6, 7 and 8 virtual and physical hosts, including local repository mirrors
- Deployed VMs ([VMware](#)) from CI-CD ([GoCD](#), [Packer](#)) built templates with managed configurations ([Puppet Enterprise](#), [Hiera](#))
- Provided full life cycle support for all applications (including [Elasticsearch](#), Apache [Hadoop](#), [Spark](#), [Tomcat](#) and [HTTP Server](#), [nginx](#), [MongoDB](#), [MySQL](#) and [PostgreSQL](#)) on supported hosts in development, test, QA and production environments in collaboration with developers, administrators and scientists
- Devised and implemented policy and process for Linux VM storage, saving significant capacity, cost and administrative overhead
- Re-engineered authentication services and management ([OpenLDAP](#), [Webmin](#), Red Hat Enterprise [IPA](#)) for NIAID Linux and HPC environments for security and compliance
- Deployed and managed [Puppet Enterprise](#) LTS with [Hiera](#) service and migrated all environments to it
- Managed code repository, wiki and issue tracking service ([GitHub Enterprise](#)) for cloud and on-premise systems
- Migrated monitoring of all environments to [SolarWinds Network Performance Monitor](#)
- Secured and improved standards compliance of all RHEL hosts to levels exceeding requirements in preparation for [GAO](#) audit
- Built multiple custom RHEL platforms on HP and Dell servers including firmware and service processors for network management, security and storage services with varying levels of integration into the NIAID environment
- Devised and provided procedure, documentation and training for VM administration with [vSphere](#) and related tools for other NIAID teams
- Evaluated and/or deployed several endpoint security solutions for RHEL hosts

June 2012 – April 2015

## Senior Unix Systems Engineer

[Neovera](#), Reston VA

- Supported inhomogeneous hosting environments for customers including major US newspaper and bank, multinational educational institution, investment company, nonprofit and streaming provider
- Built and supported environments running [Red Hat Enterprise Linux](#) (RHEL 4, 5, 6 and 7), [CentOS](#) 5, 6 and 7, [Oracle Linux](#) 6 and 7, Debian Linux 5, 6 and 7 on [VMware ESXi](#) 4 and 5, Dell and HP servers
- Lead adoption, deployment and support of RHEL 7 based platforms on physical and virtual hosts
- Designed and created VMware host templates for CentOS, Oracle Linux and [Debian Linux](#) for deployment to customer environment
- Evaluated and deployed [Cisco UCS](#) for [VMware ESXi](#) hosting platform employing [B-Series Blade Servers](#) in a [5100 Series Blade Server Chassis](#)
- Managed configurations for customer and Neovera environments with shared and dedicated [Puppet](#) (including [Puppet Enterprise](#)) service
- Was Architect and engineer for multinational educational institution's public and private web services, employing redundant web servers with third party managed

dynamic and static content on a three-tier LAMP stack of [nginx](#), [PHP](#) and [MySQL](#) running [WordPress](#), Atlassian [Jira](#), [Confluence](#) and [Stash](#)

- Migrated production and DR web based investment site to [Apache httpd](#) on RHEL with [SELinux](#) Enforcing and from NetApp to EMC NAS
- Installed Information Builders [WebFOCUS](#) and [iWay](#) products in multiple environments for customer data warehouse project
- Maintained highly available clustered web, application and mail services using [Pacemaker](#), [Corosync](#) and [DRDB](#)
- Set up multiple [Oracle RACs](#) for customers
- Managed Neovera and customer DNS zones and services
- Lead or contributed to projects including kernel tuning for Oracle databases, mass mail delivery, whois migration

July 2010 – May 2012

## Senior Lead Unix Engineer

[U.S. Federal Trade Commission](#) / [HireStrategy](#) / [AAC](#) / [Digicon](#), Washington DC

- Contracted to the United States Federal Trade Commission supporting all unix systems, federal government workers, contractors and suppliers
- Deployed and supported Sun/Fujitsu/Oracle M5000, M4000, Sun/Oracle Blade T6130 and X6240 servers, X6000 chassis and Sun V series systems
- Supported NetApp and Sun StorEdge SAN storage, IronPort mail gateways
- Installed, configured and supported software including Solaris 8, 9 and 10, Apache httpd and Tomcat, various web applications including EMC Documentum, Micropact entellitrak, ISC BIND and Sun Java Desktop (Gnome)

June 2009 – April 2010

## Linux Systems Administrator

[OPOWER](#), Arlington VA

- As first and only systems administrator, grew hosted environment supporting company's entire business from a few ad-hoc servers to approx. twenty servers in production, QA, development and other environments
- Supported all office systems and networking including
  - [Juniper SSG20](#) router / firewall with [Verizon FiOS](#) uplink and automatic failover to [SpeakEasy DSL](#)
  - Managed [D-Link DES-3010PA](#) PoE switch with multiple [Proxim AP-700](#) WiFi access points, [HP Procurve 408](#) switch
  - Various printers, laptops, wired and wireless devices
  - All employees' IT needs and vendor relations
  - Troubleshooting, escalation and resolution of all connectivity problems
- Provisioned, configured, secured and maintained [CentOS](#) 5.x and [Red Hat Enterprise Linux](#) 5.x servers on a variety of x86\_64 hardware
- Managed production, QA and development web, application and database systems
- Supported [Apache httpd](#) 2.x, [Eclipse Jetty](#) 6.x Java http/servlet server, [MySQL Enterprise](#) and Community 5.0 and 5.1 using InnoDB and MyISAM, [Apache Maven](#),

[Subversion](#), [R](#) and other products

- Managed rapidly growing storage requirements across multiple environments:
  - Increased local storage by adding disks to RAID and non-RAID sets including [Adaptec SATA/SAS](#) controllers
  - Distributed data across nodes in each environment
  - Designed and deployed geographically distributed segmented NAS solution across all environments using NFS over private gigabit network with jumbo frames
  - Designed storage solutions using SATA, 15 krpm SAS and SSD disks
  - Redesigned data and database backup solution including local disk staging, storage server online archive, configured and deployed MySQL-ZRM
- Supported developer, integration engineer and QA groups; entire company for server, hosting and general technical issues
- Administered entire company's mail, messaging, calendars, shared documents hosted on [Google Apps \(Premier\)](#)
- Migrated entire company's technical resources to new company name including all hosting
- Supported managed web hosting and technical vendor relations for public web site
- Provided all hostmaster (DNS) services for the company including domain registration and management, migration of zone hosting provider and moving resolution to [OpenDNS](#)
- Provided all postmaster (mail) services for the company including addressing delivery issues and email service provider (ESP) relations
- Research and reported on international server hosting options and costs
- Consulted on and worked with vendors to provide Internet connectivity for new office, troubleshooting and escalating connectivity problems, managed service changes

November 2007 – April 2009

## Senior Unix and Linux Systems Administrator

[Georgetown University](#), Washington DC

- Built, deployed and managed a console and service processor management service using [Avocent DSVIEW 3](#), [MergePoint 5200](#), Cyclades [ACS48](#) and [ACS6048](#) systems with
  - Web (HTTPS) and ssh access employing single sign-on via LDAPS and sophisticated access control
  - Control of ALOM, ILOM, DRAC and other service processor functions
  - Serial-over-LAN and serial access with configurable speed
  - Dial-in service for serial connected devices
  - iPDU management
- Installed, configured, updated and/or managed
  - Solaris 10 on Sun Fire [T5120](#), [T2000](#) and [T1000](#) [CoolThreads](#) systems
  - Solaris 10 on Sun Enterprise [M5000](#) and [M3000](#) SPARC64 systems
  - Sun ALOM, ILOM and XSCF service processors
  - Red Hat Enterprise Linux (RHEL) 5 server and desktop including VMware virtual machines
  - Ubuntu 8 desktops and laptops including [LUKS](#) full disk encryption



- Emulex HBAs including firmware and fcode
- EMC PowerPath for redundant access to EMC [CLARiiON](#) SAN and NFSv4 for [Celerra](#) NAS
- Upgraded and reconfigured BIND 9 master, slave and cache name servers in response to [cache poisoning threat](#)
- Created and managed multiple full root zones (containers) for application hosting
- Deployed applications including SunGard [Banner](#), [BlackBoard](#) products
- Employed [IPFilter](#) for default deny IP host firewall filtering
- Consulted on load balancing architecture for applications using [F5 BigIP](#) switches
- Performed security review of Red Hat AS4 NetBackup Server
- Installed, patched and configured NetBackup 6 clients
- Administered, developed content for and trained users on departmental wiki using [Altissian Confluence](#)
- Supported and consulted for application developers, users, consultants and colleagues

October 2006 – November 2007

## Freelance/Contract Systems Engineer

- Installed, configured and manage hosting environment
  - [thttpd](#) web server with local patches
  - [Postfix](#) mail relay
  - [Dovecot](#) IMAP/IMAPS mail server
  - NFS file server
  - [CUPS](#) print server
  - [dnscache](#) DNS caching name servers
  - [Privoxy](#) filtering web proxy server
  - [dircproxy](#) IRC proxy server
  - syslog log server
  - [NUT](#) UPS monitor
- Created and/or maintained FreeBSD ports for Postfix tools [pflogstats](#) and [postfinger](#) and all [BlackBox](#) ports – blackbox, boxtools, bbkeys and bbpager
- Created and operated support channels for [thttpd](#), [AWStats](#) and [Syslog-NG](#) and provided support for [Solaris](#), [FreeBSD](#), [Postfix](#), [SpamAssassin](#), [Dovecot](#), [Nagios](#), [CUPS](#) and other software
- Created and managed local network with pre-N wifi, router, firewall and NAT, Voice over IP (VoIP) service
- Added, upgraded and replaced hardware components
- Diagnosed and resolved failed server hardware
- Designed, built, installed, configured and managed advanced desktop system and multimedia laptop
- Designed, deployed and managed server and desktop backup solution

July 2005 – September 2006

## Senior Unix Systems Engineer, Internet Access Web Operations

- Managed web proxy complex in four domestic and five international data centers giving web access to all [AOL](#) and [Netscape](#) users
- Personally responsible for caching web proxy server clusters, compression server clusters, [TopSpeed](#)® server clusters, [Parental Controls](#) management
- Re-architected compression infrastructure to maximise efficiency and minimise hardware requirements, saving tens of thousands of dollars per year
- Administered thousands of HP and Dell servers running [Red Hat Enterprise Linux](#) (RHEL) Application Server (AS 2, 3 and 4), commercial, open source and custom applications through full life cycle
- Performed and directed clustered applications migrations
- Co-ordinated and oversaw ACL updates for data center switches
- Monitored, assessed and reported on performance of applications, servers, clusters and data centers, investigated and reported on anomalies
- Investigated abuse and security issues affecting various services, co-ordinated with Operations Security group
- Managed DNS servers, application and zone data
- Provided regular training and mentoring to NOC staff
- Configured managed servers for Kerberos authentication
- Installed, configured and managed mail services for Operations division
  - [Postfix](#) mail server with multi-layered spam filtering including SMTP restrictions and DNSBL lookups
  - [SpamAssassin](#) with [Bayes](#), [URIDNSBL](#) and collaborative databases ([Razor](#) and [Pyzor](#))
  - [ClamAV](#) virus checker run from [Amavis](#)
  - [Dovecot](#) IMAP, IMAPS and POP mail server
- Set up mail filtering reports for users and admins, provided support for mail issues
- Interviewed prospective team member and management candidates

June 2004 – July 2005

## **Freelance/Contract Systems Engineer**

- Analysed complex high volume and availability web and application hosting environment for time based constraints and conflicts
- Provided visualisation tools for data analysis, reports and other materials
- Advised on systems, network and storage performance issues in collaboration with project team
- Researched and advised on issues affecting mixed [Solaris](#) and [Red Hat](#) Linux platforms on Sun, Dell and IBM hardware running [WebLogic](#) Application Server and Cluster, [SunONE Web Server](#), [Oracle](#) databases and [NetApp](#) storage
- Set up shared system and application sources filesystem for multiple OS versions
- Contributed documentation to the [ProFTPD](#) and other projects
- Researched, designed and implemented integrated monitoring solution based on multiple monitoring tools
- Installed, configured and managed applications including [Nagios](#), [MRTG](#) and [Apache](#)



- Designed and implemented unified web interface to monitoring application, providing administrative and independent customer views of data
- Demonstrated software operation to customer
- Documented application and reference implementation

October 2003 – June 2004

## **Senior Unix Systems Engineer (Contract)**

[InfoStructures](#) / [Smithsonian Institution](#), Rockville MD / Washington DC

- Designed, built, configured and managed public FTP/FTPS server for the Institution
- Designed, built, configured and managed [CVS](#) server for code, configuration and document version management
- Designed, built and configured central logging server for Institution systems
- Hardened and secured Solaris production servers and network services
- Created and maintained comprehensive documentation of applications and operations
- Created flexible high performance mail delivery reporting tool
- Created customised packaged software
- Designed and configured redundant and resilient storage for systems and applications
- Consulted on mail server configuration, filtering and anti-spam measures
- Consulted on web server configuration and operation
- Consulted on DNS infrastructure, server configuration and operation
- Consulted on web hosting infrastructure
- Consulted on Oracle runtime environment issues
- Consulted on Solaris system build and configuration standards
- Consulted on security issues, access and authentication methods, legal compliance
- Trained and supported application administrators
- Configured [Cyclades](#) console server for Sun systems console access

January 2001 – November 2002

## **Team Lead, Web Hosting Unix Operations**

[WorldCom](#) / [UUNET](#), Ashburn / Reston VA

- Provided technical advice and direction to management and staff
- Oversaw the day-to-day operations work of my team
- Provided technical and systems support to Unix Operations group
- Created systems infrastructure to support the functions of Unix Operations group
- Created and delivered Solaris training course to Web Hosting staff
- Spearheaded cross-group initiatives to improve operational functions
- Facilitated integration of multiple groups in single support unit
- Continued active systems engineering and customer support

March 1999 – January 2001

## **Senior Systems Software Engineer, Web Hosting Unix Operations**

[UUNET Technologies](#), Reston VA

- Managed large-scale heterogeneous web hosting environments employing Sun systems
- Managed enterprise web hosting environments for multinational corporations, government departments, large non-profit organisations and e-commerce companies
- Planned, developed and deployed complex high availability web hosting architectures
- Provided 24x7 systems and software support to site owners
- Created secure Sun systems for web and application hosting
- Advised customers and employer on system design and management issues
- Devised and implemented advanced system and web server configurations
- Spearheaded incident investigations and security initiatives
- Interviewed job candidates and performed technical assessments

December 1998 – March 1999

## **Unix Systems and Security Administrator**

[National Association of Securities Dealers](#) (NASD), Rockville MD

- Managed mission-critical application and web production enterprise servers
- Managed security of Sun systems
- Managed QC/QA and development application and web servers
- Designed, built and managed new servers
- Performed OS and application installations, upgrades and patches
- Monitored systems status and resource utilisation
- Co-ordinated move of systems to new data center
- Performed on-call duties
- Worked on Y2k rollover team
- Diagnosed and fixed system and network problems
- Designed and implemented security policy for Sun systems
- Liaised with and advised corporate security office

March 1997 – October 1998

## **Support Engineer**

[Tracer Technologies](#), Lanham MD

- Installed, configured and maintained corporate web and FTP service
- Monitored, implemented and advised on computer and network security
- Assisted customers with all aspects of company's software and system issues
- Assisted other employees with computer and network related problems
- Advised customers on storage and other issues
- Designed, built and maintained corporate web site
- Created, designed, published and wrote for company's on-line newsletter

- Worked alongside company's sales and public relations teams
- Assisted systems administrator with routine administration and security
- Performed testing of software releases
- Wrote part of and advised on software interface
- Designed and wrote documentation for software

October 1996 – March 1997

## Computer Operations Analyst

[Panasonic UK](#), Berkshire, England

- Oversaw and advised on the operation of unix systems including a multi-node IBM SP/2 and several RS/6000 workstations
- Developed print management procedures for the company
- Devised and implemented backup policies and procedures
- Designed and implemented a program development and test environment using Source Code Control System
- Maintained existing scripts and programs

October 1995 – October 1996

## Research Student

[Queen Mary and Westfield College](#), London, England

- Analysed large sets of complex data collected by the OPAL detector using a range of sophisticated computer systems
- Assisted in the operation of the OPAL detector at the LEP collider
- Presented results of my and others' research at national and international conferences
- Wrote and developed analysis code to run on several platforms
- Installed and used code development software
- Wrote technical scientific documents
- Worked as part of a small group and international collaboration
- Designed personal web pages

## TRAINING AND CERTIFICATION

November 2008 Red Hat [Certified System Administrator #100-086-362](#)

April 1999 Sun Microsystems [Ultra Enterprise 10000 Administration](#)

October 2000 Sun Microsystems [Sun Cluster Administration](#)

## EDUCATION

1995–1996 [Queen Mary and Westfield College](#); London, England  
First year of [Ph.D. Particle Physics](#)

1994–1995 [University of Birmingham](#); Birmingham, England  
Master of Science, [Applied Radiation Physics](#)  
1990–1994 [University of Birmingham](#); Birmingham, England  
Bachelor of Science (Honours), [Physics](#)

## LANGUAGE SKILLS

**English:** Native speaker

**French:** Spoken and written

**German:** Spoken and written