Frank Stuart

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About

Information technology engineer with more than twenty-five years experience developing and implementing creative solutions to complex problems. A strategic thinker who can operate at depth across a wide range of technology silos without losing focus on the problems that most impact the organization as a whole. An accomplished consultant who has worked for a variety of clients in the public and private sectors. Willing to relocate globally and open to remote work opportunities.

Core Strengths

Red Hat Enterprise Linux (RHEL) • Systems Administration • NFS • LDAP • LVM	Sun/Oracle Solaris • Zones • LDom/Oracle VM for SPARC • ZFS • DTrace
Amazon Web Services (AWS) • VPC • EC2 • S3 • CloudFormation	F5 BIG-IP • LTM • ASM • APM • GTM/DNS • Firewall
Cybersecurity • CISSP • Network and host-based firewalls • Vulnerability discovery and analysis with multiple CVE credits • DISA STIG compliance	Disaster Recovery • Multiple successful (planned and unplanned) data center recoveries • Dell/EMC NetWorker • Veritas/Symantec NetBackup • Dell/EMC Data Domain
Automation • CFEngine • Ansible • Scripting (Python/shell) • Solaris JumpStart	Public Key Infrastructure (PKI) • x.509 server and client certificates • Break/inspect/re-encrypt • OCSP/CRLs
VMware • vCenter • ESXi • Distributed switches • vMotion • VMFS datastores	Storage Area Networking (SAN) • Mapping and masking • Brocade fibre-channel switches • Multipathing • EMC Storage Arrays • Sun/Oracle Storage Arrays

Education

Bachelor of Science (BS) Degree in Computer Science
Auburn University, Auburn, AL

Additional Information

Active DoD security clearance (additional information available upon request)

Conversational Portuguese

Florida licensed real estate broker

Certifications

Certified Information Systems Security Professional (CISSP)
AWS Certified Solutions Architect – Associate (SSA)
AWS Certified Developer – Associate (DVA)
AWS Certified SysOps Administrator - Associate (SOA)

F5 Certified Administrator, BIG-IP (F5-CA, BIG-IP) (expired)
Oracle Certified Associate, Oracle Solaris 11 System Administration (expired)
Certified Ethical Hacker (CeHv7) (expired)
VMware Certified Associate - Data Center Virtualization (expired)
VMware Certified Professional 5 - Data Center Virtualization (expired)

Previous Clients

Alltel	Louisiana Technology Group (LATG)	Red Hat Professional Services
Cox Communications	Litton Marine	Science Applications International Corporation (SAIC)
Digex, Incorporated	Lockheed Martin	Solectron Corporation
Dell Professional Services	LTC Solutions	Sun Microsystems Client Solutions
Electronic Data Systems	Morgan Stanley, Dean Witter	United States Air Force Legal Operations Agency (AFLOA)
Federal Bureau of Investigation (FBI)	Morgan Stanley do Brasil	United States Army Logistics Support Activity (LOGSA)
General Dynamics Information Technology (GDIT)	Myriad Genetics	United States Department of Defense, Defense Information Systems Agency (DISA)
General Electric Capital, Information Technology Solutions	National Associate of Securities Dealers	United States Navy, NMCI
General Electric Employers Reinsurance Corporation	Oracle Corporation	United States Navy, Personnel Command
HP/HPE/DXC/Perspecta	Raytheon Company	United States Navy, SPAWAR/NIWC

Experience Details

As owner of Infigo Consulting, LLC from May 2018 to present

Senior Professional System Administrator for General Dynamics Information Technology (through LTC Solutions):

- Helped the Navy Standard Integrated Personnel System (NSIPS) plan and successfully complete a migration from Solaris/SPARC systems housed in two data centers to Red Hat Enterprise Linux (RHEL) systems running in Amazon Web Services (AWS).
- Worked to find effective solutions to balance the program's desire to take advantage of cloud computing features while staying within the bounds of its cybersecurity and compliance obligations.
- Worked to modernize and improve the architecture by adopting an “infrastructure as code” (IaC) philosophy for AWS resources using revision controlled CloudFormation templates.
- Worked to find or create secure, fault-tolerant solutions for infrastructure services previously provided by the data centers that were not readily available in AWS.
- Provided post-migration infrastructure engineering and support. Areas of responsibility include:
  - AWS (CloudFormation, VPC, EC2, S3)
  - Application Content Delivery (F5 BIG-IP, x.509 certificates, break/inspect/re-encrypt)
  - Configuration Management and Automation (CFEngine/Ansible/Python/shell scripting)
  - Operating System (Red Had Linux)
  - Backup and Recovery (EMC NetWorker/Data Domain)
  - Firewall (Palo Alto and F5/BIG-IP)
  - Information Assurance (STIGs/CTOs/F5-ASM/PKI/customized solutions)

As a Systems Engineer for HP/HPE/DXC/Perspecta (through Apex Systems) from May 2014 to May 2018

Provided infrastructure engineering and support for the Navy Standard Integrated Personnel System (NSIPS). Areas of responsibility included:

- Operating System (Solaris 11/Red Had Linux)
- OS Virtualization (VMware vSphere/Solaris LDOMs)
- Application Content Delivery (F5/BIG-IP)
- Storage Area Networking (EMC VMAX/Unity)
- Backup and Recovery (EMC NetWorker/Data Domain)
- Information Assurance (STIGs/CTOs/F5-ASM/PKI/customized solutions)
- Configuration Management and Automation (CFEngine/scripting)

As a functional analyst for Scientific Research Corporation (SRC) from February 2012 to April 2014

- Lead an eight-member contractor team of Subject Matter Experts (SMEs) in support of the United States Navy's data center consolidation effort. The goals of the consolidation effort were to transition disparate legacy systems from remote sites, standardize the operating system, software stacks, and configurations to meet data center requirements in a highly-virtualized environment and to improve the overall security-posture of systems that were brought in.
- The team conducted engineering reviews of legacy systems, architected technical solutions to migrate them to Navy Enterprise Data Centers (NEDCs), planned for data migration while minimizing down-time, developed security documentation and mitigated risks, built out and tested the systems in the new environment with their application owners, and performed the data migration and cutover tasks required to make them operational.
- The team also supported the production systems for a period of time post-migration while any cutover issues were worked through, system documentation was finalized, and the systems were turned over to a sustainment team. During this time, the team was also responsible for promptly addressing any emergent security incidents and implementing new security requirements.
- I was also responsible for working closely with the project managers to create and provide updates to the project plans, communicate resource and dependency constraints, identify critical paths, and make adjustments when necessary to help keep the projects on track.
- The operating systems and technologies I personally worked with extensively on this project include: VMware, Microsoft Windows, Solaris (using LDOMs, zones, and ZFS), Red Hat Linux, Oracle databases (including Oracle RAC), iSCSI and Fibre-channel SANs, F5 BIG-IP load balancers, Apache HTTP and Tomcat servers, NetWorker, and Retina.

As owner of F. Stuart Consulting, LLC from September 2008 to February 2012

- Representing Sun Microsystems/Oracle Corporation (through Louisiana Technology Group) developed a seven major milestone project plan to improve the resiliency of the Air Force Legal Operations Agency computer systems to support their Continuity of Operations (COOP) planning. Architected a solution using Solaris 10 containers, Solaris Cluster, ZFS, IP Filter, IPsec, and SAN technology to support application failover both locally and to a remote site. Implemented milestones one through five of the COOP plan. Developed and implemented a monitoring infrastructure using Hobbit/Xymon. Made incremental technology and process recommendations to support AFLOA's resiliency goals. Planned for consolidating remaining production Windows applications within Virtualbox containers. Mentored and provided training to AFLOA's technical staff.
- Independent Security Research resulting in discovery, reporting, and ethical publication of security vulnerabilities, including:
  - CVE-2009-4211 – Vulnerability in DISA Security Readiness Review software
  - CVE-2010-2382 – Vulnerability in Solaris flash archive software
  - CVE-2010-2383 – Vulnerability in Solaris NFS software
  - CVE-2010-2384 – Vulnerability in Solaris WBEM software

As a consultant for Sun Microsystems (through TEKsystems) from April 2003 to September 2008

Assisted the United States Navy's Space and Naval Warfare Systems Command (SPAWAR) Information Technology Center (ITC) in New Orleans, Louisiana as they developed standardized, virtualized platforms (E25K domains, Solaris 10 containers, Sun T-series LDoms, and VMware) for their internal Navy customers. Ensured Service Level Agreement (SLAs) time frames could be met, developed methods for resource allocation per container, worked with the EMC SAN engineer on storage issues (ZFS and virtual tape library), worked with the backup engineer to ensure adequate backup/recovery of the containers, worked with the System Administrators on standardized administration methods that fit within the framework of the DISA UNIX STIG. Assisted with the COOP to and return from the disaster recovery site resulting from hurricane Gustav.

Post hurricane Katrina, assisted the United States Navy Personnel Command and their contractor, Electronic Data Systems recover the NSIPS production environment from New Orleans, LA to Millington, TN. After the new production environment in Millington was complete, I assisted with COOP planning and the build-out of the new COOP site in Tulsa, OK. Supported the EMC SAN equipment, EMC software, ZFS filesystems, and backup infrastructure. I also developed, tested, and rolled out an LDAP naming service solution. After I left the NSIPS project, the Millington data center flooded and an unplanned COOP was required due to a flash flood in May, 2010. The failover to Tulsa was successfully completed within the expected Recovery Time Objective (RTO) / Recovery Point Objective (RPO).

Performed Application Readiness Assessments (ARS) and Cluster Implementations for Sun Microsystem’s customers in the government sector. Customers included Raytheon Company, U.S. Army Logistics Support Activity, and Science Applications International Corporation (SAIC).

An ARS is used to prepare a high-end Sun Server for production use in a specific customer’s environment. A Cluster Implementation prepares a platform of two or more Sun Servers with clustering software (Sun Cluster or Veritas Cluster Server) to run fault-tolerant applications.

Activities performed for both services include:

- Working with the customer’s technical representatives to finalize the system’s design

- Creating a Design Specification that documents the system's architecture at a detailed level
- Installing and customizing a "runbook" on a web server at the customer's site (the runbook includes system documentation as well as procedures for managing and maintaining the platform)
- Implementing the architecture (Hardware, Operating System, and Cluster Software) as designed and documented
- Thoroughly and formally testing the system with an emphasis on the fault-tolerant features of the platform
- Conducting a management review to explain at a high-level the features of the system as implemented in the customer's environment

As co-owner of Lightwave Data, Inc from December, 2002 to April 2003

Cox Communications (representing Dell Professional Services and Red Hat Professional Services)

- Worked with consultant from Red Hat Professional Services to survey Cox's IT environment for target migration areas to Red Hat Linux Advanced Server (RHLAS)
- Identified short-term, medium-term, and long-term migration opportunities to RHLAS on Intel/Dell architecture
- Created and presented a migration plan for port to RHLAS that included Linux migration prerequisites, such as a high-level work plan, training plan, and other considerations

As a consultant for Collective Technologies from June, 1997 to December, 2002 at:

Myriad Genetics (representing Coda Technologies)

- Consolidated three Veritas NetBackup 3.x servers into one Veritas NetBackup 4.5 master server and two SAN media servers
- Migrated existing Veritas NetBackup databases to ensure continuity of ability to restore previously-made backups

Dell Professional Services

- Created Backup & Recovery offerings for Dell Professional Services and its partners to deliver
- Service offerings created for Veritas NetBackup, Veritas Backup Exec, Legato Networker, CA ARCserver, CA Enterprise Backup, and CommVault Galaxy

United States Navy, Pearl Harbor (representing Dell Professional Services)

- Configured Veritas NetBackup and automated tape library to support Navy/Marine Corps Intranet project (NMCI) backups and recoveries
- Wrote audit methodology for Dell Technical Consulting to use to ensure backups are properly configured at other NMCI sites

General Electric Employers Reinsurance Corporation (representing General Electric Access)

- Served as Site Leader for Kansas City area
- Interviewed potential new Unix system administrators
- Made "best practices" recommendations for managing systems
- Initiated and participated in Change Control Board for coordinating changes across the enterprise
- Gave presentations to keep management and other groups informed
- Administered approximately 30 Solaris machines in 3-tiered architectures
- Worked with Sun Cluster
- Installed, configured, patched, iPlanet web servers and application servers
- Worked with Oracle DBAs, and application developers to fine-tune custom applications
- Troubleshot network/firewall problems and specified firewall rules for various applications
- Prepared for arrival of three E10000 systems

Alltel (representing Sun Professional Services)

- Ensured Sun computer systems were installed, tested, and running to meet project deadline
- Made "best practices" recommendations for managing systems
- Mentored full-time staff on managing systems using Solaris, Veritas products, and clustering software
- Provided assistance managing E10000 systems

General Electric Capital, Information Technology Solutions:

- Sized Sun Enterprise systems (E3500-E10000) for a variety of projects
- Prepared and coordinated arrival of E10000
- Planned and execute the moving of systems between data centers
- Made "best practices" recommendations for management of systems

Litton Marine (representing Ballantyne Consulting and Hitachi Limited):

- Configured and tested hot database backups using Oracle, RMAN, Legato Business Suite Module, and Legato NetWorker

Digex, Incorporated:

- Served as Site Leader for West Coast UNIX consultants
- Prepared the production of a new data center
- Assisted with data denter migration
- Helped backup group configure and use Veritas NetBackup
- Provided second- and third-level support for Solaris customers
- Automated aspects of support system and reporting using Oraperl, Gnuplot, and shell scripts

- Interviewed potential new system administrators

Solectron Corporation (representing Sun Professional Services):

- Assisted a Baan consultant to resolve a performance problem on an E10000
- Mentored full-time staff on the operation of their systems
- Documented the operation and configuration of their systems
- Improved availability by removing single points of failure
- Tested and re-configured backup solution using Veritas NetBackup

National Association of Securities Dealers (representing Sun Professional Services):

- Implemented and tested high-availability/failover systems using Veritas FirstWatch
- Identified risks to the production environment and suggested plans for eliminating or minimizing them
- Administered multiple domains across three Sun E10000 frames for a rollout of the Central Registration Depository (approximately a $50-million project)
- Administered 6 Terabytes of disk space on an EMC Symmetrix frame using EMC symmConsole, EMC PowerPath, EMC TimeFinder, Veritas VM, and Veritas File System
- Supported Veritas NetBackup
- Helped plan and implement Oracle and other performance-related kernel parameter changes
- Wrote a security audit script to identify deviations from NASD policy
- Assisted Oracle DBAs and network engineers to diagnose and resolve problems and plan project changes
- Wrote shell and Perl scripts to help automate system administration tasks
- Advised senior management of system performance using tools such as SAR, vmstat, iostat, mpstat, SymbEL (Virtual Adrian), top, TeamQuest, and Gnuplot
- Helped the DNS administrator respond to a DNS/BIND-related security incident

Federal Bureau of Investigation (representing Science Applications International Corporation):

- Administered IRIX servers and workstations for the FBI's National Instant Check System (NICS) for firearms purchases
- Wrote a monitoring application, using C, Tcl/Tk, SQL, and shell (ksh) scripts, to generate warning messages and to facilitate problem identification and resolution
- Performed the duties of an Oracle DBA
- Decreased risk of unplanned outages by removing production dependencies on non-production workstations.
- Improved security by installing Tripwire and administering Gauntlet TIS/FWTK
- Used IRIX FailSafe software to provide rapid resumption of services after an unplanned outage
- Recommended purchasing additional DLT drives and optimized the Legato NetWorker configuration to improve backup performance
- Maintained a switched 10Base-T/100Base-T Ethernet network running TCP/IP

Morgan Stanley do Brasil:

- Administered UNIX systems in the global environment
- Mentored a new UNIX systems administrator
- Helped maintain the PBX voice mail system, network, and communications room
- Served as a backup Novell NetWare and Windows NT administrator
- Wrote sh and ksh scripts to automate system administration tasks
- Supported a 10Base-T/100Base-T Ethernet network

Morgan Stanley, Dean Witter:

- Administered UNIX systems in the global environment
- Supported SPARC hardware running Solaris and SunOS and using AFS, Kerberos, CDE, DiskSuite, NIS, NFS, AMD, and Legato NetWorker
- Wrote shell and ksh scripts to automate system administration tasks
- Maintained a TCP/IP Ethernet network on a FDDI backbone

As a Network Specialist at Auburn University in the College of Veterinary Medicine, from June 1990 to June 1997:

- Administered a Solaris network with over 250 PC clients
- Performed server and client configuration, support, and training
- Assisted with designing, setting up, and supporting NIS+, DNS, FTP, NFS, and Apache Web servers
- Installed, configured, and maintained Sendmail, POP, and IMAP email server software and email clients
- Created and maintained a database of information for networked devices
- Advised the Dean and Computer Committee on policy issues affecting computer systems
- Assisted the database administrator with maintaining the database and supporting SQL and 4GL applications
- Wrote sh and ksh scripts to automate system administration tasks, and installed, modified, and wrote C programs for users
- Installed, configured, and maintained security programs, including TCP Wrappers, Crack, COPS, SATAN, Tripwire, and swatch, to protect systems from unauthorized access