James Small

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OBJECTIVE

To become your definitive technical resource for your cloud development toolset of today, and for your toolset of tomorrow. To design and automate the processes that will help your enterprise-wide development teams succeed in their goals. To learn and master new tools as they become available. To streamline the use of emergent tools as they mature. To leverage existing vmware and kvm resources and embrace Amazon Web Services.

EDUCATION

Bachelors and Masters Degrees in Engineering obtained simultaneously under the departmental scholar program from University of California, Los Angeles (1993). Member of Tau Beta Pi, Engineering Honor Society.

TECHNICAL SKILLS

- **Amazon Web Services: Solutions Architect, Developer, and SysOps Administrator Associate Level**
- **Openstack: Heat (yml), Cinder (kvm and vmware backend), Neutron (private and bridged), Keystone (integration with legacy apps)**
- **ClearCase and Subversion Administration**
- **Unix: Aix/HP-UX/Linux/Mac OS-X/Solaris**
- **Python, C++, Java, Visual Basic, Shell Scripting**
- **Internet Protocols and Network Security**
- **Managed Software Development Process: CMM/6 Sigma**
- **NT/XP: Microsoft Certified NT Server and NT Workstation**
- **Oracle DBA**
- **Radio and basic electronics**

EXPERIENCE

Sysops Engineer for Virginia Tech Cyberrange May 2017 to present

- Executing, testing, and rolling-out solutions to support the infrastructure of the Virginia Cyber Range, as well as infrastructure for individual exercise and scenarios in the Cloud.,
- Amazon Web Services
    - Automated generation of Datapipeline backups and restores of dynamoDB.
    - Formalized adhoc legacy scenario deployment into repeatable and scalable cloudformation templates and ansible playbooks
    - Decoupled backend and middleware processes using Simple Queue Service (SQS)
    - Formalize ‘Pet’ development workstations into ‘Cattle’ Docker images
- Trello (for agile scrum methodologies). Github for build processes. Gitlab

Consultant for Collabera at IBM Dynamic Hybrid Cloud Services May 2015 to present

- Worked as a permanent offsite remote telecommuter.
- **Openstack and VMware based cloud**
    - Production support of IBM Cloud Orchestrator (ICO): Openstack based system
    - Account lead for steady-state support for ICO for Anthem.
    - Work with the Design, Implementation, and Development teams to resolve issues related to underlying patterns or pattern extensions. Using orchestration engines, such as ICO (IBM Cloud Orchestrator), Openstack Heat, VMware vCloud Orchestrator (vCO), or VMware vCloud Automation Center (vCAC) Using automation scripting technologies, such as Python, Shell-Script, or Chef for Cloud Orchestration and VMware Virtualization.
    - Cloud security using Vault to maintain vital areas of client installations.
    - Work within client environments to troubleshoot and resolve issues relating to the client’s hybrid cloud using industry standard tools such Python, YAML, bash, PowerShell and PowerCLI programming languages
    - Ongoing implementation of security and product and application updates
- **Special Projects Amazon Web Services**

- AWS triple certified: Solutions Architect, Developer, SysOps Administrator Associate Level
- CloudFormation version control limitation review
- Scalable Dynamic web hosting with serverless architecture using AWS S3
- Security Analysis proof of concept: self-replicating Lambda Functions
- Projects include AWS Autoscaling, CloudFormation, CloudFront, Cloudwatch, CodeDeploy, CodePipeline, DynamoDB, EC2, Elasticache, Elasticbeanstalk, Lambda/API-Gateway, Route53, S3, and VPC

Consultant for NextSource,, Inc at Capital One, Richmond, VA June 2014 to March 2015

- Worked as a permanent offsite remote telecommuter.
- Production support of Vmware vCenter Orchestrator and vCloud Automation Center
- Development of vCenter Orchestrator (VCO) workflows, including use of RESTful APIs for integration, unit and operational testing.
- Automated post-provisioning system configuration of vCloud Automation Center (VCAC) provisioned systems.
- Cisco Intelligent Automation for Cloud (CIAC) develop workflows for process orchestrator integrating with HP Service Manager to create incidents for enterprise tracking for failed and incomplete provision requests

Consultant for Configuration Management, Inc at Capital One, Richmond, VA August 2011 to June 2014

- Worked as a permanent offsite remote telecommuter.
- Implemented rollout of Subversion with active directory authentication to supplement and eventually replace Clearcase as the primary version control tool.
- Provided DevOps support for maintaining heterogeneous architecture version control environments, support for software builds, and support for deployment in the context of corporate merger of Capital One with ING and subsequent internal infrastructure reorganization along with identifying process gaps incurred with the new roles and responsibilities.
- Promoted use of virtual machines for testing new operating systems and applications without disrupting the production environment.
- Implemented upgrade of Clearcase through various flavors of version 7.1.x on the assortment of architectures available at Capital One: HPUX, Aix, SunOS, Linux (RHEL 4, 5, and 6), and Windows XP/ 2003/7.
- Assisted continuous integration efforts limited by tool maturity/availability, corporate security concerns, geographic dispersion, and introduction of mobile devices into the development process. Current tool set includes Clearcase, Chef, Subversion, Nexus, and Hudson.

Consultant for Apollo Consulting at Capital One, Richmond VA March 2006 to August 2011

- Assigned to IBM Global Services for Capital One in Richmond, Virginia. Transitioned to CMI as support contract vendor changed..
- Administered ClearCase/Multisite applications providing access to users worldwide. The systems supported 60-70 simultaneous Unix servers with hundreds of Unix and Windows based clients. Unix architecture included HP, AIX, Sun, and Linux based platforms. Windows architecture included XP, Windows 2000, and Windows 2000 advanced virtual servers. Over 300 VOBs, 700 views (on the primary network), and 35 separate multisite UNIX servers were supported in both LAN and firewalled WAN configurations.
- Duties included.
    - Support of ClearCase application in a secured environment entrenched with the concept of ‘separation of rolls and responsibilities’ and strict adherence to change management policies.
    - Ksh, Perl, and PHP scripting.
    - Creation/maintenance/support of views and VOBs in a mixed and very fluid Unix domain and Windows Active Directory environment.
    - Apache webserver application development and maintenance.
    - Inferred firewall policy debugging with respect to Windows based file systems, ClearCase applications, and integrations with other rational products.

    - Installation of ClearCase on Unix platforms for on-site development, as well as installation for firewalled development using Multisite for VOB replication.
    - Installation of ClearCase on Windows platforms, including debugging when issues found because of non-standard software.
    - Support of special projects including: server consolidation, promotion of code through Capital One's production process, and offshore ClearCase UNIX use.
    - Trained offshore resources to assist with ClearCase support.
- Provided secondary Oracle support when primary DBAs were unavailable.

Senior Analyst for Centra Technology/AVID LLC August 2001 to June 2005

- Ported legacy FORTRAN aircraft design codes (ACSYNT) from SGI to Linux. Replaced PHIGS UI with Trolltech's Qt libraries and OpenGL.
- Performed Object Oriented Design for a multidisciplinary optimization code for the design and analysis of Ducted-Fan VTOL UAV (Vertical Take-Off/Landing Unmanned Air Vehicles) using Rational Rose.
- Coded application in C++ using Trolltech's Qt libraries and OpenGL. Features personally written:
    - Human readable XML-esque formatted data files
    - Result output in HTML, easily importable into other applications
    - Trade studies based on independent inputs
    - Genetic Algorithm optimized design
    - Generalized Genetic Algorithm solver for code re-use in other non-linear concave solution space problems
    - Conjugate Gradient and other linear method solvers
    - Tracking electric battery power on multiple independent circuits
    - Generalized aerodynamics of components to 3-dimensional vector form to facilitate analysis of components of revolution with parent/child relationships and at high angle-of-attack
    - Time limiting encryption license key to help ensure timely contract renewals
    - Ported Linux based g++ codes to Windows Visual C++ and MacOS-X c++/g++
    - Designed detailed replacement for electric motor model that would integrate with propeller maps to provide more accurate thrust/power usage for electric and hybrid aircraft
- Functioned as 'Lead Developer' as additional staff was hired. Supervised between four and six developers concurrently. Established coding standards, enforced documentation standards, and performed peer and critical review of submitted codes. Used Microsoft Project to maintain contractually mandated development schedule.
- Championed Change/Defect Tracking to manage development and product quality as company grew.
- Implemented SEI/CMM (Managed Software Development) Processes to ensure quality, increase productivity, and meet contractual requirements.
- Managed concurrent development of OAV, and several other projects using Rational/IBM ClearCase.
- Installed and maintained ClearCase on RedHat Linux 8.x. Installed and maintained Redhat 7.x,8.x,9.x, and RedHat Enterprise Linux. Maintained network security on Linux, Microsoft XP/Server 2000, and Mac OS-X.
- Installed and maintained Replicon's WebTimeSheet timecard/project management application. Also maintained Microsoft IIS and MS SQL handled integration with Microsoft Project and WebTimeSheet. Configured Microsoft IIS for use with multiple virtual hosts and multiple ASP applications, including the web interface for MS Project and Replicon's WebTimeSheet products.

Founder / Consultant Benjes Consulting, Inc. June 2001 to August 2001, and June 2005 – Feb 2006

- Founded and incorporated Benjes Consulting, Inc.
- **Consultant for Toyota via Volt (June 2001 – August 2001)**
    - Served as Lead Oracle DBA for Toyota's second phase of DMS (Document Management System). Developed and maintained application schema using ER-WIN. Commuted from Virginia to Los Angeles weekly
    - Oracle services include, but not limited to:
        - Scripted, RMAN, and special application backups
        - Tablespace allocation and maintenance
        - Performance tuning
        - Schema development.

- Provided FileNET expertise for second phase of development. Provided FileNET operational training for new Toyota staff. Developed tools in Visual Basic and Perl to modify FileNET internals for specific testing needs.
- Administered HP-UX Unix, Microsoft NT MTS, and FileNET BES Servers for development and test.

- **Networking Consultant (June 2005 – Feb 2006)**
  - Performed 100% remote upgrade/installations of RedHat Linux servers (9.x and Fedora) using kickstart and VNC. Replaced legacy web forums using Slashcode with modern, maintained phpBB forums. Configured servers as secure Internet mail relays using postfix and Openssl with signed certificates.
  - Evaluated Oracle 10g Enterprise and Express Edition, including HTML DB rapid web based database application product.
  - Developed defect tracking tool using Visual Basic and Oracle.

Staff Scientist at SAIC April 1993 to June 2001

Staff Scientist: IT – Software Systems & Design

- **Consultant**
  - Served as SAIC Representative to a joint SAIC/Deloitte Consulting Document Management project for Toyota Motor Credit Corporation. Evaluated several imaging systems, including, but not limited to Panagon Capture and KoFax Capture, identified weightings for evaluation and obtained consensus from Toyota stakeholders prior to final system selection.
  - Completed FileNET Image Management Services (IMS) training course.
  - Administered HP D Class HPUX Unix servers for development and testing phases of (Document Management System (DMS) project. Installed and administered multiple HP-UX Unix systems with FileNET IMS 3.4.2 co-existing with multiple site-controlled instances of Oracle 8. Configured 3 T-600 class HP servers for production use, including fibre channel to EMC storage array and optical platters. This work included backup/disaster recovery design, implementation, and monitored tests
  - Obtained Microsoft Professional certification for both NT Server and NT Workstation.
  - Served as intermediary between politically different technical fiefdoms: Unix Administrators, NT Administrators, and Oracle Database Application Administrators.
  - Championed “Change Control” for project development, testing, and eventual transition to Mission-Critical production use.
  - Administered NT Servers serving as Microsoft Transaction Servers (MTS) and FileNET Batch Entry Servers (BES)
  - Developed applications in Visual Basic using FileNET, Oracle, and MTS. Some applications used Visual Basic API for FileNET Panagon IDM Desktop and Panagon Capture.
  - Wrote web-based system monitoring application in Perl. Integrated DMS monitor into Toyota’s existing automated system monitoring infrastructure, Big Brother.
  - Became trained and proficient in Oracle Database Administration and application development. Completed Oracle University “Performance Tuning” Course.
  - Configured, maintained, and tested HP-UX MC Service Guard High Availability for use with Oracle and FileNET
- **Managed Software Development**
  - Became trained in the “Common Approach” Software Development Process as SAIC divisions strived towards SEI/CMM certification. Became proficient in DDTS, ClearCase, Softbench, Software Through Pictures, and WinRunner, and their integration as part of a complete development process.
  - Administrated Sun Solaris Unix Workstations and wrote several demo applications in Visual C++ as part of multiple heath-care proposals: Veteran’s Administration and Kaiser Permanente
  - Administered HP-UX workstations as part of the Composite Health Care System (CHCS). Administered ClearCase, mastered installation and implementation into software development projects.
  - Installed and Administered WinDD, a Citrix WinFrame based server product that enables Unix users to run Windows NT applications. Increased familiarity with PC-Windows/Unix file-sharing issues, both SMB/CIFS and NFS.

- Served as troubleshooting consultant for Windows/Unix interoperability for CHCS divisions in: Torrance, CA, San Diego, CA, San Jose, CA, McClean, VA, and Hawaii.
- Developed web-based interface to ClearCase using Apache and C based CGI application.
- Re-used ClearCase CGI backend as initial client/server framework for a java client web based Change-Control Management application.
- Performed Microsoft NT and Change Control Application Administration services for Southern California Edison as part of the California Deregulation/Y-2K projects. Also administered IBM AIX platform serving as an outside-of-firewall web-server.
- Implemented DDTS (Defect Tracking Tool) and ClearCase Integration for SAIC's role in the Federal Bureau of Investigation's Interstate Identification Index software project in McClean VA. Development was performed on SGI Unix platforms. Trained existing system administrators in managed development processes. Championed use of ClearCase and DDTS in a high-stress/high-turnover environment.

- **White-Hat: Network Security**
  - Performed in-house "White-Hat" network security testing and remediation for CHCS resources.
  - *Independent of SAIC* Awarded Phase I: Small Business Innovative Research (SBIR): Protection of Naval Computers from Denial-of-Service Attacks
  - Performed "White-Hat" web-server security testing for joint SAIC/Boeing proposal website hosted by third party provider.
  - "Caught" SAIC Corporate testing security of Unix workstations as part of the Corporate-wide centralization of network security.
- **Heat Transfer**
  - Continued development of Legacy FORTRAN codes to research 'Gas Jet Diffusion Flames in Microgravity'. Added radiation approximations to existing methods. Code development originally on PC-Windows using Absoft FORTRAN eventually ported to FORTRAN on SunOS 4.1.x. Research expanded from quasi-static to periodically disturbed flames using Cham's Phoenix CFD software. Results from FORTRAN and Phoenix codes were visualized in 3-dimensions using open-source tools: Sed, Awk, Gnuplot, and flc (early video format).
  - Ported Thermal Radiation Analyzer System (TRASYS) and SINDA (Finite Difference Thermal Analyzer) software from Vax to SunOS FORTRAN. Performed thermal analysis for proposed Miniature Sensor Technology Integration (MSTI) Ballistic Missile Defense optical platform using TRASYS and SINDA.
  - Performed design for underwater chemical sensor using SINDA.

Department of the Navy – June 1990 – Sep 1992

Intern

- Modified public domain PC-based Internet mail client/server software by writing assembly language drivers to function with non-standard NAVY hardware. Wrote packet-driver layer for TCP/IP stack to function with POPMail, PC Eudora's predecessor. Modified POPMail to handle large mailings and aliases. User interface changes were coded in Turbo Pascal. Network driver changes were in C and 80x86 assembly language.
- Ported various small open-source client/server applications to AT&T 3B2 Unix variant.
- Became very familiar with TCP/IP, routing, DNS, and PC-windows file-sharing over WAN issues.
- Developed several record keeping database applications using dBase III+ and Clipper.