Todd Sanders' Resume
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Datacenter Architect and Sr. Network Engineer

OBJECTIVE

To lead a company to the forefront of technology by using cutting edge equipment such as HPC, Cloud computing, Virtualization, VoIP and engineering. In addition, I want to Architect and implement in an environment with visionaries by guiding an organization who exhibits strong management qualities and a willingness to embrace emerging technologies.

With a proven track record of being a champion in the world of enterprise computing, I have been involved in high level projects ranging from enterprise network cloud computing, network security, datacenter firewall implementation, telecommunications infrastructure design and maintenance. Perseverance, meticulous nature for detail and problem-solving are traits I exhibit during employment and contract tenure.

EXPERIENCE

8/09 – Present **ITOTS Networks, LLC** Silver Spring, MD

Chief Enterprise Architect – Storage, Virtualization, Cloud, Network (Contractor)

ITOTS Networks, LLC responsibilities included installing, configuring, designing and maintaining datacenter products but not limited to the following:

- Storage Systems - EMC CX Arrays, HP EVA 8X00 to HP 3Par Disk Arrays, FreedNAS 8.X NAS tool and Solaris 11 NFS exports. In addition, configured a virtual storage environment using FreeNAS 8.X RC1 (Beta Version) which integrated with EMC, 3Par and JBOD storage array environment. Developed relationships with Actifio (virtualized storage solution that uses IBM SVC to provide deduplication, compression, replication, backup among other things)
- Virtualization - Implemented and deployed VMware 4.1 – 5.1 ESXi servers and Virtual Center 4-5 (upgraded VSphere VC 4.1 to VSphere 5.1 on AMD x86_64 and Intel x86/x86_64 processors running Windows 2008 Server).
- Network Management - Setup Virtual Distributed Switches, Orchestrator, Operations Manager, vCloud Director, vApp (ThinApp), vDiscovery, SCCM, Solarwinds Virtual Manager and Storage Management for the virtual environment. Implemented OpenNMS (using PostgreSQL, iptables, Selinux, Apparmor) where the system monitors systems using IPv6/IPv4 networks from a remote location. Architected and implemented OpenNMS, Operations Manager 9.X, designed and configured vFoglight for Virtual and Physical environments. Implemented Hitachi Operations Manager or Director; worked with Symantec Operations Manager and others.
- Microsoft - Tested Microsoft Hyper-V 2012 (Hyper-V v3) to run on standalone machines, Hyper-V does not seem to work when we it is running on VMware, (extensive testing to ensure deployment does not affect other Virtualized environments).
- Cloud Apps - designed and tested environments using Hadoop and Chef clustering capability on virtual machines to implement proof of concept (used HP C7000 Blade Servers with HP 3Par storage using SSDs, Brocade VDX devices and NAND PCIe Flash on storage devices),
- IPv6 - Implemented 5x IPv6 networks for various locations in the DC, VA, NC and MD areas using tools from sixxs.net, tunnelbroker (Hurricane Electric – 2001:470:1f10:ea0::/64) and gogo6.com as a tunneling solution to IPv4 networks (prefix ranges 2001:1c0:b:0::/64, 2001:5c0:1117:2c00::/56. In addition, setup radvd (DHCPv6 for Linux), DHCPv6 to integrate with Active Directory and Citrix Xendesktop/VMware Horizon Virtual Desktop Solutions (Citrix IPv6 - http://ipv6-xen.itotsnetworks.com/) where the network was based on IPv4 and IPv6 address space (added module for IPv6 using modprobe or depmod).
- Storage/Fibre Channel Solutions - Configured and deployed Cisco MDS 9216 (fw: 3.3.4) and Brocade Fibre Channel Switches (all models). Designed better storage solutions for Citrix and VMware using open-source tools from various service providers. Configured Cisco 9216 to be clustered in a Virtualized SDV/CFS environment to provide High Availability (HA) at the fabric level. Zone configuration involved using
- VoIP - Configured and deployed Cisco Call Manager and UCS for VMware 4.1 – 5.1 servers (required to use versions 8.1 and higher). Configured Cisco 9216 to be clustered in a virtualized SDV/CFS environment to provide High Availability (HA) at the fabric level. Zone configuration involves using virtual device alias (conf term | device-alias database | device-alias name ESX5 pwwn 21:00:00:00:e0:8b:2e:80:93 | do copy run start.
- Linux/Unix - Installed and configured Linux/Unix servers running various flavors of Linux (Redhat 5.X-6.X, Ubuntu 12.10, 11.10-12.04, OpenSuse 11.X, Solaris 11 and ClearOs running kernel version 2.6.18-194.8.1v5). Currently there is a portal setup to give the user the ability to select an approved list of applications using Acronis 2013 Enterprise edition to deploy custom server images across the cloud to the

VMware environment. .

- VMware - Finalized VMware Operations Manager, vFoglight, VMTurbo, Xengati and Veeam to provide statistical support on how the environment fairs and what changes we need to take to optimize the environment (infrastructure optimization).
- Kernel optimization - Made recommended tunable system changes to various systems to improve performance at the kernel level to allow for peak/optimal performance. VMware best practices were followed by patching the VMware ESX 4.1-5.X using VMware Update Manager (plugin), in addition, security scripts were created from this process to improve our patched and security environment. Security compliance was paramount among known security agencies where we followed various NIST security standards (NIST 800-53, 800-144 – 800-146, 800-92 - 800-94) ; Dept. of Treasury, TSA, Constellation Energy, State of Rhode Island, Census Bureau and AO US Court are to name a few.
- Wireless - configured Wireless devices DAP-2553 (3 point antennas, upgraded fw: 1.12) using multiple SSIDs to overlap creating an extended wireless network using WPA/WPA2 Personal and Enterprise (Radius Authentication/Accounting). Designed wireless networks using D-Link, Aruba, Juniper and Cisco APs (Access Points); while managing the environment using "Unified Access & Secured Remote Access" from Aruba, Google Device Management and Airwatch for MDM/AP device management.
- Security - Configured SIEM Systems for various organizations (SNMP Security and Eastern Avenue, SIEM = Security Information and Event Management) which involved HP Arcsight, Enterasys SIEM, Solarwinds SIEM and others; most of which included NIDS, HIDS solutions from Enterasys Netsight Atlas, McAfee EPO, Tripwire Security Suite, TrendMicro, Security Onion and VMware Endpoint security. Provided leadership by orchestrating schedules with key-personnel from the building management personnel to office tenants. Tested various wireless networks using LanRover, Xirrus Wireless Scanner and other COTS products along with configured Wireless Camera systems from Foscam and Blue Iris Software. Answered a number of questions and tickets using Mantis (web-ticketing system – http://www.itotsnetworks.com/mantis2) while providing updates to customers within the building. Maintained budgets and while keeping schedules in line with the project. Configured various network monitoring tools (Base – Intrusion Detection System, OpenVas/Nessus, IBM Appscan/Optimization, Iptables, Selinux, Nmap, Logwatch, using ClearOS & Ubuntu – Linux Variant) to help with analyzing and identifying network and security anomalies. Monitored two 25 Mb Comcast circuits that terminated into two demarc points (designed if disaster occurs so to not take out the network from ingress and egress points).
- Project Management - oversaw cabling and power contractors who were hired to wire various sections of the building. Oversaw all network connections in the building, connections converged back to the various wiring closets (floor 1-6).
- Application/databases - Implemented an e-ticketing system for ITOTS http://www.itotsnetworks.com/ticketing and Helpdesk tracking http://www.itotsnetworks.com/hesk (Sendmail, MySQL 5.1, Apache 2.x, IPtables, PHP 4.X/5.X and RHEL 5.3-5.4). Provided VMware products, quotes or support (vCenter, vCloud Director, Endpoint) to various customers some of which include the State of Rhode Island, SNMP Security, Noraye LLC and APS Security LLC. Implemented three storage environments ITOTS Networks LLC, one of which involved backup, 2nd involved Network Monitoring and management using IPv6 protocols for state-to-state management, final cloud environment was used for testing of CloudStack and Openstack.
- Openflow - Implemented testing procedures for Openflow v1.3 protocols using HP Procurve 5500, IBM 10GB Blade Switches and Cisco switches that support the Openflow v1.3 protocols (SDN = Software Defined Network). The environment currently consists of Fedora v20 servers running Open vSwitch, the project is based on sending multiple packets across disparate networks using Openflow vSwitches to route data IPv4/IPv6 packets (touted that IPv6 is supported using Openflow v1.3) across the backbone to improve performance and reliability at the server and storage virtualization layers (project: Openflow).

October 2010 – June 2012 Dept. of Treasury/IRS Lanham, MD

Responsibilities included providing leadership on various projects involving storage/backup, classification, network and virtualization initiatives. Provided the customer (Dept. of Treasury/IRS) with an Architectural roadmap and implementation strategy in developing cloud computing process/procedures, virtualization models/strategy while implementing, Enterprise Storage Resource & Management tools and directing D2D/VTL solutions for the Enterprise. Provided BigData solutions to Treasury by suggesting and implementing Greenplumb database and Flash Storage System solutions using Hadoop and Splunk, the solution would perform data-mining solutions for disparate storage systems ranging from IBM DS8X00, EMC DMX and HP 3par/EVA (inventory of existing system included 10PB of raw data in their West Virginia Datacenter facility). In addition, the customer is currently using a myriad of storage systems ranging from but not limited to IBM, Hitachi and EMC disk arrays. Storage,

Backup, Process and File services are provided to internal business units using applications from a tiered method of data classification. Provided solutions to the enterprise ranging from but not limited to and Enterprise Storage Resource and Management tools, 'Storage as a Service', 'Backup as a Service', Clouding computing models using chargeback methods (using Radius as the accounting system), Hierarchical Storage Management (HSM), server security methods and 'Infrastructure as a Service' methodologies. The primary work involved architecting and designing environments to improve the existing IRS virtualization, storage and backup environments. Guidelines were implemented and followed from NIST, IRS, FEDRAMP and FISMA to ensure security and operational awareness.

June 2012 – Mar 2013 Dept. of Treasury/IRS/CI Alexandria, VA

Department of Treasury/IRS/CI (Criminal Investigation) include providing installation, configuration and leadership using VMware 4.1, NetApp 3050-6080 Disk Arrays, HP Fibre Channel Switches, Cisco MDS 9000 Fibre Channel Switches, Cisco ASA Firewalls, Cisco ASC (Tacacs/Radius/Active Directory/Syslog, etc.) while using Dynamic Ops 4.0 to configure cloud computing paradigms for the Criminal Investigation division of the IRS. Setup and maintained Netapp 6X00 and 3X00 model storage arrays for the VMware DoT Virtualization Security project, this project allowed the Treasury agents to create virtualized environments to analyze Justice Department data from asset seizure cases. SnapMirror was used to replicate this data to other sites for DoJ analysis purposes while SnapVault was used to backup VMs allocated for specific purposes while DoJ data would be sent to other filers for analysis by other agents (this client/server and agent configuration used qtrees as a way to sort through the data using different operating file systems). In addition, wrote Powershell scripts to manage the Virtual Hosts, Netapp storage arrays and Windows servers. Worked with CI and Booz Allen staff to put together PowerShell scripts for reporting purposes and automated installation/configuration of the VMware ESXi server 4.1.0 and later design of VMware 5.1.0 was later implemented as part of phase 2 of the design.

Oct 2013 – Jan 2014 Los Angeles Dept. of Water & Power Los Angeles, CA

Completed proposals for various entities such as Los Angeles Department of Water and Power for their Security Information and Event Management (i.e. SIEM) solution (SIEM is designed and setup to capture information from a myriad of different sources some of which but not limited to logs, real-time data feeds, CIM – Computer Information Model, WMI (Windows Management Information), SNMP (Simple Network Management Protocol v1-3), Openssh, WEBES (Web Based Enterprise Services), etc. The documents have been uploaded to www.itotsnetworks.com/utility/final/ for review (NIST SP 800-92, Guide to Computer Security Log Management). In addition, just completed a 25 page proposal for US Dept. of Justice/Federal Bureau of Prisons. The proposal encompasses Security Authorization (known before as Certification and Accreditation) process where the organization has to ensure that a number of controls have been implemented correctly, if not, then a POA&M (i.e. Plan of Action and Milestones) has to be completed by the security auditor. The audit goes through a number of steps to address DoJ's security requirements which are entered into a CSAM (i.e. Cyber Security Assessment and Management) system for reporting purposes. The reports are sent to Congress for review and analysis (i.e. OMB A-123 for financial systems) to ensure controls are put in place. The Security Authorization process goes through 4 steps which include "Pre-certification, Certification, Pre-Accreditation, and Post-Accreditation" phases (e.g. NIST SP 800-53 to 800-53A, 800-37, 800-115). The documents can be found at www.itotsnetworks.com/DoJ/final/.

Feb 2014 – June 2014 Armed Forces Services Corporation Arlington, VA

Currently, forklifting Armed Forces Services Corporation (AFSC) existing network to run their existing 5+ office locations on Junos SRX firewalls, the existing network runs on Cisco ASA 5510 firewalls, HP/Dell Switches, the existing design will be run on Juniper Firewalls (SRX240H2), EX4200-48T/P switches and MAG SSL/IPSec/VPN device to be used as site to site and end-user tunnel over IPv4 protocols. Future plans are in place to address some of the connectivity issues using IPv6, this capability will give the users the ability to connect directly to the sites without involving an intermediary device (IPv6 with Juniper gives us the ability to establish Site-to-Site VPN connections IPsec/SSL capability built into the protocol (RFC 2402, 2406, 2407) along with AES256 ESP/AH IPSec VPN IPv6 cryptographic capability. The internal design is based on OSPF and static routes to allow connectivity from external locations using trust and untrusted zones. Natting (convert private to public addressing and back) will be configured to allow for internal traffic to traverse zones using Comcast and Covad network connections. The IP address range 10.10.0.0/16 has been identified as being problematic so 192.168.[10-50].0/24 will be carved out to allow for vlan design and implementation using VLAN 10,20,30,40,50 as the subnet range making the architectural design easier to manage (improved root-cause analysis and troubleshooting) -

Installed, configured and maintained the following devices:

Routers/Switches/Firewalls	D-link Switches, Netgear and Cisco Switches, Juniper Firewalls, Routers, Switches (SRX240H2, EX-4200-48T/P)
Cisco Call Manager/UCS	Cisco Call Manager8.6 and higher/Unified Communications using HP DL380 G5-8 servers using 79XX series phones, provided support to customer from VA to DE.
Servers	HP, Dell, Sun and Alienware Servers
SAN Storage	Emulex HBAs, CX600 EMC Storage Array, MSSQL and MySQL application management, Sun NA devices, Actifio
Fibre Channel Switches	All Brands of HP Fibre Channel Switches – Cisco and Brocade
Tape Devices	Sun StoragTek and HP Tape Devices
UPS	APC UPS
Virtual Backup Devices	D2D/VTL, Online Backup Environment using HP 9-12K devices (i.e. D2D2T)
Operating Systems	Redhat, Centos, Ubuntu, All Windows Servers (2003 – 2008), Solaris, VMware 4-5.1 ESXi Servers
Clustering	Solaris, Linux and Windows Cluster Configurations
Interconnects	Fibre Channel Interconnects using GBICs and HBAs
Racks	HP and APC Racks
Wireless Management	Classified Mobile Networks (Aruba Network Management), Juniper, Cisco, Aruba and D-Link APs
Virtual Servers	VMware VSphere (i.e. Virtual Center) and ESXi Server versions (4.1 – 5.X), SRM, Vsphere 4.x – 5.x using DRS (Distributed Resource Scheduler) and HA (High Availability)

EDUCATION

Master's Degree

6/2005 Washington Capitol College US-MD-Laurel

Master's Degree in Network Security/Information technology

School Certifications

2/1996 Durham Technical Community College US-NC-Durham

Computer Programming and Network Management

Bachelor's Degree

6/1991 Wake Forest University US-NC-Winston Salem

B.A., Speech and Communications/Computer Science

Wake Forest University Men's Basketball

1987 - 1991 Wake Forest University US-NC-Winston Salem
Varsity Men's Basketball Team Division 1

PROFESSIONAL DEVELOPMENT

Hewlett Packard Blade, Brocade, XP and EVA product lines
Alpharetta, GA
01/06 – Present
Certified HP Engineer on Blade and EVA product lines (XP class in October)

Silver-Peak Wan Optimization Training
2013-Present
SCSP Certification Completed & Obtained

NetGear Enterprise Network Training

2013-Present
NetGear Powershift Certification (Wireless, Enterprise, Mid-level)

Digium Phone System Training
April 2013 – Present
VoIP Training for Digium Phone Systems using Asterisk

IBM Storage, Blade Server and Tape Training
2011 – Present
XIV, DS8800, IBM Blade Server, V7000, SVC, TS Mid-level Devices

Citrix 6.X Enterprise Training
Mar 2013 – Present
VDI, XenDesktop/XenServer Implementation (Silver Designation)

VMware 5.1 Vsphere/Cloud Architect Training
October 2012
US Federal Government VMware Certification (Certified)
Certified VSP, VTSP Engineer (VCP-DA -Datacenter Architect coming)

VMware 5.0 Vsphere
March 2012
Completed Coursework and Training

VMware Virtualization Coursework
Online courseware
June 2002 and Nov 2007 - 2008
Completed Coursework and Training

Smart Certify
Largo, MD
May 1998-Jan. 2001
Completed Coursework on Windows & Cisco Systems

Microsoft Corporation
Reston, VA
Oct. 2007 – Jan 2008
Windows Server 2008

Computer Education Services,
Crystal City, VA
Oct. 1997-Apr. 1998
Completed Novell CNE Coursework

ISMART, Reston VA
Reston, VA
Apr. 2004
Certified Incharge SNMP Engineer

APRISMA, Inc.
New Hampshire, NH
Apr. 2005
Aprisma Network Management Training

BLUECOAT, inc
Marriottsville, MD
June 2008
Bluecoat Proxy SG & Proxy AV Training

USARMY Reserve Project
Peachtree City
Aug. 2003
US Army Intelligence/Security Training

SNMP3 Security – Network Management Tools
Alexandria, VA
June 2004
Certified SNMPc Training

Cisco Systems, Inc.
Online Courseware
January 1999

Certified Cisco Inter-network Engineer (CCIE) Training

Enterasys Networks, Inc
Reston, VA
September 2005
Certified Enterasys Engineer

REFERENCES

Available upon request