Steven R. Hettrich

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SUMMARY:

* 9+ years as an Architect for Storage solutions around virtualization using SAN hardware vendor’s best practices. Delivering on systems administration tasks configuring, implementing and testing backup/restore configurations, performing complex SAN architecting, collecting SAN requirements and translating them into a SAN solution and implementing the solution.
* 11+ years of experience in Project management engagements with third party vendors and clients engaged as Lead technical expert, track lead, and Resource pool manager.
* 16+ years of experience in management of Systems/SAN/NAS infrastructure, Disk arrays, Backup infrastructure in Heterogeneous Environment.
* Experience troubleshooting advanced SAN, OS, database, and application interrelated problems, and configuring SAN booting.
* Extensive knowledge of NAS and SAN Storage, including managing major migrations and deployments, maintenance and troubleshooting solutions.
* Proficient in NetApp storage systems (FAS6040, FAS3140, FAS3070, FAS3040, FAS3020, FAS2050, V6040, V6280), EMC Unisphere CX, Symmetrix , IBM DS, and Hitachi Enterprise USPV/VSP and AMS2500/500 storage systems.
* Experience working on Linux/Solaris/HP/AIX-NPIV-VIOS/Windows O.S platforms.
* Experience working with VMware ESX Server Environment
* Implemented multiple assignments, installed and configured Data ontap storage, application software and hardware.
* Proficient in Experienced in the entire FAS series of NetApp Storage Systems, NetApp Snapshot, Snapmirror, SnapManager, Snapdrive, MPIO, Flexclones, Snap Restore and Thin Provisioning technologies.
* Exceptional knowledge and working experience on NetApp Storage, VMware and Back-up Skills.
* Resolved multiple issues on Data OnTap, Back-up applications.
* Experience in working on Hitachi SAN Storage USPV,AMS500 provisioned storage to Servers using Storage Navigator Modular2 (SNM2).
* Knowledge of updating drivers, firmwares and BIOS for Qlogic/Emulex HBAs using SANSurfer and HBAAnywhere.
* Experienced in configuring and managing HDLM, MPIO solution for path failover, load balancing, path management and automatic I/O failure detections.
* Experience in attaching Tape drives for Implementing NDMP backups.
* Capability of installation, set up and maintenance of backup environment, backup software and work along with Sr. storage engineer and array vendors to keep SAN environment.
* Proficient in working on storage protocols including ISCSI, Fiber Channel, CIFS, NFS, NDMP protocols.
* Experience in performing Ontap Upgrades(NDU), Disk firmware, Shelf module, RLM and Bios.
* Managed day to day storage activities by using NetApp System manager/Filerview and CLI.
* Experienced in ONTAP 7.x, 8.x 7-mode, CF clustering, NDU and takeover/giveback procedures with minimal disruption to a running production environment.
* Experience in configuration and management of Cisco switches using CiscoCLI, Fabric Manager, Brocade switches using CMCNE 12.1.5, LSAN/VSAN in large Data SAN Fabric over 26K physical ports, BrocadeCLI and WebTools.
* Expert in troubleshooting RCA using CMNE (eg., BOTTLENECKMON enabled)
* Experience in Storage migration for VMs using VMware Storage vMotion.
* Experience in Monitoring NetApp Systems using Operation Manager(DFM)
* Assisted System Administrator in installing and configuring VMware ESX clusters and managing using Virtual Center.
* Effective Interpersonal skills to co-ordinate and participate in a team environment
* Excellent Communication skills and a quick learner

TECHNICAL SKILLS

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| --- | --- |
| Operating System | AIX,NPIV,VIOS, Solaris 9/10, RHEL 4/5.x, Windows 2000/2003/2008 MSCS, OnTap 7.x/8.x |
| Storage Hardware | Array:EMC DMX 2/3/4/3000/4500,8530, Clariion CX4/CX3, CX500, VMAX40K,VMAX-1, VNX 5500-5600, Isilon , Data Domain D670, NetApp FAS3240, FAS3020, FAS3270, IBM DS3400, DS3512,4500,4700, 4800, DS3400, DS3512 FAStT700,DS8300, Hitachi HDS USPV/AMS500 Switch: Fibre: McData Intrepid, Brocade DCX,DCX-4S, Silkworm 3800/4100 and director class 24000/48000, i10K, plus Cisco’s newest MDS9509 Fiber switches, Brocade OEM’d switches 4020 (4 Gbps) /5470 (8Gbps) in all H/J Class IBM chassis, Dell 4424. Ether: Cisco 6509, 4506s, 3750X/G, 3012 ESM I/O modules |
| Storage Management | NetApp Filer View, Oncomand System Manager, Management Console  Brocade DCFM 10.4.2, CLI/WebTools, Cisco CLI/Fabric Manager/Device Manager, Replication Manager, IBM Storage Manager 10, Hitachi Storage Navigator Modular vs. 8.30a,RAID-Manager HORCM ver 01-26-03/02, CCI Raid Manager. Path management: Powerpath vs.4.5/5, HDLM 6.1/6.2/6.6, DMP, DSM |
| Storage Software | Backup/remote replication: Snapmirror (QSM/VSM), Snapvault, Snapmanager, Protection Manager, Flexclones, Data Fabric Manager(DFM), Snap Restore, SnapDrive; SRDF, Timefinder,BCV, SYMCLI,Mirrorview; Tivoli Storage Management server/client, Veritas NBUP, VxVM 4.5, VMSA, Logical Volume Manager (LVM), Sun Volume Manager (SVM), Veritas Cluster Server (VCS) Veritas NetBackup (NBUP) 5/6/6.x, Commvault Simpana8/9, Mimosa, Omniback, Solstice DiskSuite, Legato |
| Server/Blades | Server and Blade center hardware and blade server OS:IBM blades JS20/21:HS20/21/21XM/22,22V/HX5, Dell M600, HP c-Class Proliant. Standalone servers: IBM RS6000,S80,S7A,H50,B50; Pseries P630,P660,P690, NPIV,VIOS; SUN 25K,SS1000, E450, all small platforms; HP 9000/T500 all small platforms, HP DL582 G2 |
| Backup hardware | Fujitsu CentricStor VTLs, STK8500, SUN SPARC Storage arrays, IBM 7311 D20 Expansion Drawer, IBM Disk array 7133 Model D40 (SSA), Magstar MP 3575 Tape Library Dataserver, IBM 7337 SCSI Tape Library |
| Tools | BEM/SIM, Mercury, Remedy, PPMC, Netview 7.1, Tivoli Management Framework 4.1, Tivoli Enterprise Console 3.8, NIM,OnDemand server/client,Infoprint Manager, MVS Download, Easyspooler, Samba sudo, Autosys server/client, Best1 server/client, Oracle 9i, DB2, WebSM, HMC console 3v2.1 |
| Applications | Exchange, MSCS, SQLserver,Lotus.Remedy,Oracle Financials 8i,9i,11i, DB2, SAP/R3, Vantage, Unix Print Composition, Statement Express, ProfitNOW |
| Programming / Scripting | Shell Script (Bash, Korn), C, C++, Html,Visualage C++,IBM C,Microfocus COBOL, Autosys JIL, Perl, C, Shell Script, MQM, Tuxedo |
| File Systems | ufs, swapfs, tmpfs, vxfs, zfs, ext3, jfs2, ntfs, wafl, gpfs, mms |

EDUCATION

2012 -NetApp University Data OnTap 7-Mode Administration

2005       -Brocade Training and troubleshooting techniques, Bentonville, AR

2004       -EMC ControlCenter Management 5.2  Seattle, WA

2002       -LPAR for AIX5L, CSG systems, Omaha, Nebraska

2002       -AIX HACMP Systems Admin 1/2, IBM, Englewood, Colorado

2001       -AIX for Solaris Professionals, IBM, Omaha, Nebraska

2000/01  -CISCO program Certification for CCNA at Metro Community College

1999       -College of Information Science & Technology, UNO, Omaha, Nebraska

1994       -SAP AG, Regensdorf, Switzerland and Walldorf, Germany

1993       -Hewlett Packard Training Center, Zurich, Switzerland

1991       -Bull Training Centers International, Europe

1984       -Bachelor of Science, Psychology, University of Houston, Houston, Texas

1981       -Certificate from Institute Computer Science, Omaha, Nebraska

1977       -Graduate from Burke high school, Omaha, Nebraska

WORK EXPERIENCE

Client: Infosys Limited, Fremont CA

Duration: May 13 – present

Role: Lead Consultant, Sustained Engineering account VISA, FTE

Responsibilities:

* Storage array consultant for the Finance Division to VISA, America in Foster City, CA
* EMC San virtualization and Array migration using San Copy and FTS between CX and VNX/VMAX as targets
* Specializing in Hitachi SAN disk replication solutions and designs
* Consulting role on Disaster Recovery and Enterprise class solutions using Hitachi
* Focused on disk array replication using True Copy, HUR, and Hitachi’s VSP storage platform
* Brocade LSAN and Cisco VSAN exposure

Client: Gulfstream (General Dynamics), Savannah. GA

Duration: Jun-12 – Dec-12

Role: Storage Architect, contract

Responsibilities:

* Installed, configured, and managed FAS3020, FAS3240, FAS3270, and Vseries 6280.
* Created Aggregates, volumes (Traditional and Flexvol), Qtrees and Quotas in NetApp FAS series Filers using Ontap Command Line and FilerView.
* Configured CIFS, NFS share and exported it to Windows and UNIX environment.
* Created Luns and provisioned the storage to ESX Servers for the VMware environment.
* Configured SnapMirror, Snapvault and Snapshots on NetApp Filers.
* Managed and monitored Snapvault and open systems for Snapvault disk-to-disk backups.
* Performed data recovery on NetApp filers using NetApp SnapRestore.
* Migrated data between NetApp filers using NetApp Sync Mirror.
* Scheduled snapshots using NetApp SnapMirror for replication and disaster recovery.
* Created hourly, nightly, weekly and monthly snapshots to maintain online backup to recover from accidental deletions, corruptions or modifications of the data.
* Created reports using Operations manager on NetApp filers in the environment.
* Maintained NetApp filers which include FAS 3040, FAS 3020 using Command line and Filer iew.
* Assisted the VMware systems engineer in installing VMware ESX 4.0 on HP ProLiant DL360 G3. Created several virtual machines on the ESX server and installed different guest operating systems like Windows Server 2008, Windows XP.
* Hands on Experience with NetApp Release ONTAP 7.3.1/2/3P3, 8.02P6, 8.1
* Installed and Configured Data Fabric Manager (DFM)/Operations Manager for NetApp Environment.
* Created Aggregates, Volumes, Qtree, and configured CIFS, & NFS for Windows/Unix/Mac hosts
* Configured and modified Quotas as per the user request
* Migrated data in between NAS Volumes using Vol Copy and NDMP Copy
* Configured NAS Aggregates (RAID4, RAID-DP), Volumes and file systems
* Used Snapvault and SnapMirror for data replication and for backup
* Scheduled snapshots on Flex Volumes as per the customers requirement
* Upgraded Q-Logic HBA Firmware, Bios and Drivers to the EMC recommended latest version and also upgraded Powerpath Multipathing Software
* Involved in Zoning Servers to Hitachi AMS2500 using Brocade Webtools and Cisco Fabric Manager.
* Created hostgroups, and mapped Luns to the host groups using Storage Navigator Modular2 SNM2.
* Monitored Performance of NetApp systems using Operations Manager(DFM)
* Involved with Clients (System Admins/Application team) in day to day activities of provisioning Storage, doing Knowledge Transfer and for troubleshooting issues.
* Setup Snapmirror and Snapvault to replicate data to the nearstore and to the DR systems.
* Used Protection Manager to manage Snapvault and Snapmirror relations.
* Clone the volumes using Flexclone for DR tests.
* Performed data recovery on NetApp filers using NetApp SnapRestore
* Configured multi-mode/Virtual interfaces (vifs) config on NetApp Systems including Link Aggregation Control Protocol (LACP).
* Setup De-duplication on Flex-volumes to save the space.
* Setup snapshot schedules for Snapvault volumes and regular volumes for Disaster recovery
* Worked closely with customers, partners and vendors to effectively plan, implement and maintain NetApp storage.
* Performed numerous storage controller head and disk shelf upgrades, including ONTAP 7.x/8.0 7-Mode upgrades, system controller, disk shelf, and shelf upgrades using CLI/Unix Mode.

Environment: NetApp V-Series (6000), FAS3240, FAS3270, FAS6080, OnTap 7.x/8.x, SnapVault, SnapMirror, SnapManager, FlexClones, DFM (Operations Manager Ver-5.0), LACP, NPIV, VIOS.

Client: Dept. of Labor, State of GA, Atlanta, GA

Duration: July 09- June 12

Role: virtualization SAN Storage Architect, contract

Responsibilities:

* Managed and supported all hardware upgrade and software changes around their IBM, Hitachi, Vmware ESX environment.
* Production storage was migrated to the new USPV as Tier1 and AMS/DS3400 as Tier2 using Svmotion for ESX. Qlogic (QME/QMC) has been used for HBAs in most of the Blade chassis.
* Production email was migrated from legacy Groupwise to Microsoft Exchange with the target storage built on HDS’s newest USPV following positive JetStress results. Using the USPV’s controller based virtualization both IBM and HDS’s AMS arrays were externally virtualized; UVM was used to migrate block storage to the new target.
* Upgraded blade chassis using IBM’s BOMC (FW flash) to support Cisco IOS 12.2 (53) SE1 3012 switches these replaced older copper pass thru modules (CPM).
* Updated the fabric FOS to 6.4.0b.Core switches were replaced with DCX4S and blade switches were replaced with 5470s to support 8Gbps throughout the fabric.
* Implemented the VAAI/VADR storage APIs which is now supported with ESXi 4.1on the USPV using options in Host mode for hardware accelerated Xcopy
* Rolled out VMware View 5 VDI using IBM’s DS3500 array having a 6Gbps interface to SAS 6Gbps 3.5” disk drives on HX5 IBM blades having embedded hypervisors.
* Updated Broadcom Netxtreme drivers from 1.4.51b to 1.5.10b
* Configured SNMP and Syslog to be sent to Microsoft’s SCOM from Blade chassis and Fabric switches.

Environment: IBM blades JS20/21:HS20/21/21XM/22,22V:HX5 to host the ESX3.5 U3/U5, ESXi4/4.1 and VSphere Server/Client 4.0/1, and VDI, VLAN configuration modifications supporting VST were being used with Port channel. The USPV was shared between Mainframe and Open systems.

Client: Glaxo Smith Kline, Durham, NC

Duration: Jun 08 – Jan 09

Role: Storage Systems Architect, contract

Responsibilities:

* Architected and Engineered the DMX-4, SRDF-A, ESRS, ECC6.0 Technical Designs, Installation, and Implementation Planning,
* Migration planning using Open Migrator/Open Replicator and Replication Manager

Environment: HP/EVA-NetApp-DMX4, Avamar with NetApp backend and C class Blade switches using ESX3i

Client: New York Life, Flemington, NJ

Duration: Mar 07 – April 08

Role: AVP Storage System Architect, FTE

Responsibilities:

* Storage Domain expert for Architecture and Engineering, provided architecture and vendor selection for the following projects involving SAP, SMARTS, ECC6 upgrade, Vmware/VI3 adoption, NBUP 6.5.1, SUN 25K SFRAC, Lab Manager, Stage Manager, VDI/VDM, and design for NYL’s new innovations lab.

Client: Capital One, Richmond, VA

Duration: Nov 06 – Mar 07

Role: DSTS San Team member, IBM Global Services, contract

Responsibilities:

* Contracted for SAN projects focused on Oracle consolidation for their credit card services. Capital used both Clariion and FastT for storage to host HP, W2K/W2K3, Active Dir, and Linux. FastT storage used IBM DS4500/DS4800 and Storage Manager 9.19.
* Server migrations were occurring between their Ashburn, VA site and Plano Texas. DR was being tested between KDC/Richmond and Plano.

Environment: Their fabric was core/edge topology based on Brocade 24/48K switches. FastT storage used IBM DS4500/DS4800 and Storage Manager 9.19. For DR, Capital used R1 BCVs as the primary source for SRDF/AR. Experience with Open Migrator 3.8 Stormigrate utilites, PVlinks, SMdevices, and RDAC/AVT using mostly QLOGIC HBAs.

Client: Fannie Mae, Reston, VA

Duration: July 06- Nov 06

Role: SAN Support team, Restatement 2004, contract

Responsibilities:

* Provided SAN support for their EMC DMX800/1000/3000/DMX3 and, Hitachi 9570/9585/9200 arrays. Their 2 data centers contain approx 80+ Brocade 3800/4100 SAN islands with SUN hosts attached by LP9 Emulex cards.
* Upgraded microcode on HDS arrays to 065/165BR and EMC array microcode levels from 5670.94 to 5671.54.59.

Environment: The arrays were configured using DAMP3 and SYMCLI. Production databases were backed up with Veritas Net Backup using a STK 9840B tape SAN solution combined with BCVs (sync/split/mount) from EMCs DMX arrays automated through Autosys JIL. SRDF is implemented over its FCIP WAN network using CNT routers. Change control procedures used Remedy. ECC control center was used to send SNMP traps to NetCool.

Client: Winn-Dixie, Jacksonville, FL

Duration: June- July 06

Role: CDP Proof-of-Concept project, EMC resident, contract

Responsibilities:

* Provided support with Unisys to implement a remote application replication solution called Kashya (continuous data protection for a UDB database), the engines ran on Linux clustered servers in each data center, storage was on CX500/DMX1000

Environment: the engines ran on Linux clustered servers in each data center, storage was on CX500/DMX1000

Client: Wal-Mart, Bentonville, AR

Duration: June 05 – Jan 06

Role: EMC partner, Implementation Specialist, contract

Responsibilities:

* Migrated hosts (WINSERV/W2K/W2K3, Active Directory, HPUX, and AIX) from older Symmetrix 8500s to new DMX3000s between the NDC and SDC sites from the DGTC in Bentonville, AR.
* Provided 24/7 on-call service supporting Clariion Access Logix microcode release 14 Cx300/400/600/700, Symmetrix 8500 ,DMX2, DMX3, DMX4500 5567/68/70 code, Solutions Enabler 6.2 symcli version, ECC 5.2, Connectrix Manager 8.1/8.7, Cisco Fabric Manager 2.12d, Powerpath version 4.2, SRDF static/dynamic.

Environment: The customer had over 20,000 ports and 1500 hosts to manage. Heavily exposed to MDS 9509 class switches 2.12d software 1/2 Gbps FC module using 2 supervisors, Brocade 24000/48000 class switches, and McData Intrepid class ED-64 6064 Type Fibre Channel Directors. Clustering Technologies: MC Service Guard, HACMP, MSCS, VCS. VMware and LVMIO host solutions. LVM storage with HPs MirrorDisk/UX products with LVMs PV Links active/standby was used. The tendency was towards PVG strict distributed mirrored hosts and move away from native striped LVOLs which can’t be mirrored from MirrorDisk across Data Centers.

Client: SBS, Siemens Business Solutions

Duration: Oct 04 - Jan 05

Role: SAN Engineer, contract

Responsibilities:

* Contracted to provide EMC Control Center 5.2 functions for a large Financial thrift located in Seattle (WAMU) this included zoning, LUN masking, and storage allocation on Symmetrix and DMX.

Client: Discover Card Business Technology

Duration: May 04- Nov 04

Role: Systems Engineer, contract

Responsibilities:

* Contracted to be part of a team involved in migrating the Unix Production Credit Fraud detection application from older hardware and OS (M80, 4.33, DAS storage) to newer P650s with AIX 5.2 / 64bit using EMC SAN storage. This includes building a Contingency backup system offsite and testing newer Application updates on a Development server in the iLab.

Client: CSG Systems, Cable Services Group, Omaha, NE

Duration: Mar 97 - 2003

Role: System Engineer, FTE

Responsibilities:

* Recently installed Tivoli EM monitoring, TEC features, and customized IBM Resource models using Telamon notification for diagnostic correlation on both AIX and SUN platforms with Maryville Technologies.
* Configured Aix 5.2 on 2 IBM rack mounted 630/6C4s with 2 RIO expansion cabinets running DLPAR connected to our FAStT700 through a SAN Brocade switch by using a NIM master to load the resources over the network. The new systems are replacements for our production and development AIX S7A machines.
* Upgraded all Production/Test IBM servers at our Statement Print facility from AIX 4.3 ML9 to 5.1ML3 using NIM.
* Responsible for 2 Oracle Financials Production/Test environments P660/6H1 for Corporate Finance recently upgraded to 5.1ML3 using NIM alt\_disk\_migration. We are currently using OFA 8.1.7.4 and moving towards implementing Oracle 9i.
* Initially a member of the Systems Operations Support team, typical duties involve 24x7 support for over 500 Solaris Unix machines running our Cable billing software application, this includes the distribution of software quarterly upgrades to over 150,000+ end user clients. Troubleshooting WAN, LAN, firewall, and other communication issues as it relates to our billing application and its execution on the desktop.

Environment: CSG uses Tivoli Storage Manager v5.1, DB2, Infoprint Manager v4.1, Oracle 9i/11i, Easyspooler 5.3.12, and IBMs OnDemand v7.1 software in our Statement Print facility in Omaha and Florida.

Client: Swiss Life ( Rentenanstalt), Zurich, Switzerland

Duration: 1990 - 1997

Role: System Manager, FTE

Responsibilities:

* In 1994, the decision was made to begin testing SAP on the HP T500 server for our Finance dept. so my work expanded to SAP/R3 administration and implementation.
* Project experience has included the installation and configuration of a Web server using Apache for the group insurance department and Open View Net Manager for our Networking group.
* In 1993, the Group insurance division purchased a HP 9000/891 T500, Corporate Business Server, I was designated to be the Unix System Manager.
* In the area of security, conceptualizing and realizing unique UIDs for over 2000 users on over 80 AIX/HP unix systems integrating NFS principles under unix Disk Access for Windows NT3.5 on the desktop and linking into our legacy MF applications.
* Moved to open systems on Bull DPX/2 Unix machines running applications that interface with our Host systems.
* In 1990, a private banking application was purchased from Bank Leu in Genf for our Finance dept., a departmental DPS7 Bull host was chosen to run this application, where my duties included: systems administration, transaction monitoring, tuning, networking, and systems programming.
* Entered the systems support group in Zurich, as systems administrator on the Bull DPS6 hosts, which functioned primarily as servers to our regional agents throughout Switzerland.